

# **Perceptions of best practices for teaching literacy to Foundation Phase learners with blindness**

by

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## DECLARATION OF ORIGINALITY

I, Margaret Mabonga (student no 14363837), declare that the dissertation titled "**Perceptions of best practices for teaching literacy to Foundation Phase learners with blindness**", which I hereby submit for the degree Magister Educationis in Educational Psychology at the University of Pretoria, is my own work and has not previously been submitted by me for a degree at this or any other tertiary institution.



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Margaret Mabonga

**October 2024**



# ETHICAL CLEARANCE CERTIFICATE



**FACULTY OF EDUCATION**  
Ethics Committee

## RESEARCH ETHICS COMMITTEE

CLEARANCE CERTIFICATE	CLEARANCE NUMBER	UP 17/06/01 FERREIRA 22-02
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This Ethics Clearance Certificate should be read in conjunction with the Integrated Declaration Form (D08) which specifies details regarding:

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



# ETHICS STATEMENT

The author, whose name appears on the title page of this dissertation, has obtained, for the research described in this work, applicable research ethics approval. The author declares that she has observed the ethical standards required in terms of the University of Pretoria's Code of ethics for researchers and the Policy guidelines for responsible research.



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Margaret Mabonga

**October 2024**



# DECLARATION BY LANGUAGE EDITOR

11 September 2024



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To whom it may concern:

This certificate serves to confirm that I have proofread and edited the following research paper for English language usage:

**Best practices for teaching literacy to  
Foundation Phase learners with blindness**

by

**Margaret Mabonga**

for the degree

MASTER OF EDUCATION (MEd) in Educational Psychology

University of Pretoria

I confirm that I am a professional English language editor/proofreader with many years of experience in the field of academic proofreading and editing.

Yours sincerely



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## ABSTRACT

Teachers in South Africa have expressed a need for support and guidance to make informed pedagogical decisions that support learners with blindness. The aim of this study of limited scope was to explore and describe teachers' perceptions of best practices for teaching literacy to Foundation Phase learners with blindness. This study forms part of the continuing research on visual impairment at the Centre for Visual Impairment Studies (CVIS) at the University of Pretoria. I adopted an interpretivist paradigm and qualitative research approach to guide this study. As a guiding theoretical framework, I selected Koehler and Mishra's (2009) theory of technological, pedagogical and content knowledge (TPACK). I chose a case research study design, including Participatory Reflection and Action (PRA) activities, a focus group, audio-visual data, field notes and a research journal as data generation methods. I facilitated a focus group with three participants who are experienced teachers of Foundation Phase learners with blindness.

The findings of the study indicate that teachers teaching literacy to Foundation Phase learners with blindness conceptualise teacher knowledge such as teacher training and experience, teacher knowledge of braille codes and inclusion as prerequisites for best practices when teaching literacy. Moreover, braille literacy programmes and the CAPS curriculum are considered as important foundations when teaching literacy. The study of limited scope indicate that curriculum differentiation and adaptation is key to ensure the accommodation and meeting of learners individual learning needs. Additionally, the study emphasised important braille literacy resources that promote the use of best practices when teaching literacy to learners with blindness. Lastly, the study affirmed that teaching literacy to learners with blindness is interfaced with multiple challenges that inhibit the implementation of best practices, however, teachers are able to adapt their teaching practices and implement self-customised literacy resources to overcome resource-related challenges.

Based on the study findings, I recommend prioritizing enhanced, specialized teacher training that focuses on braille codes, inclusive strategies, and the adaptation of the CAPS curriculum to effectively address the unique learning needs of Foundation Phase learners with blindness. Furthermore, the development and dissemination of high-quality, readily accessible braille and topic-specific resources are crucial to support teachers in implementing best practices and overcoming the challenges they face. Finally, further research should explore and document the efficacy of teacher-developed, customized

resources to better understand how to support teachers in creating and utilizing these valuable tools.



## KEYWORDS

- ❖ Best practices
- ❖ Foundation Phase
- ❖ Learners with blindness
- ❖ Literacy
- ❖ Teachers



## LIST OF ABBREVIATIONS

<b>ALA</b>	Auditory Learning Approach
<b>ANA</b>	Annual National Assessment
<b>APA</b>	American Psychological Association
<b>ASR</b>	Audio-supported reading
<b>BLA</b>	Balanced Literacy Approach
<b>CAPS</b>	Curriculum and Assessment Policy Statement
<b>CK</b>	Content knowledge
<b>CVIS</b>	Centre for Visual Impairment Studies
<b>DBE</b>	Department of Basic Education
<b>DOE</b>	Department of Education
<b>ECC</b>	Expanded Core Curriculum
<b>FAL</b>	First Additional Language
<b>GDE</b>	Gauteng Department of Education
<b>IAPB</b>	International Agency for the Prevention of Blindness
<b>ICD</b>	International Classification of Disease
<b>ICT</b>	Information and Computer Technology
<b>LDP</b>	Language Development Programmes
<b>LLP</b>	Literacy Learning Programme
<b>LMA</b>	Learning Media Assessment
<b>NCS</b>	National Curriculum Statement
<b>PBL</b>	Problem-based learning
<b>PCK</b>	Pedagogical content knowledge
<b>PK</b>	Pedagogical knowledge
<b>PRA</b>	Participatory Reflection and Action
<b>PIRLS</b>	Progress in International Reading Literacy
<b>RTI</b>	Response to intervention
<b>SANBS</b>	South African National Council for the Blind
<b>SIAS</b>	Screening Identification Assessment and Support
<b>SSA</b>	Statistics South Africa
<b>TK</b>	Technological knowledge
<b>TPACK</b>	Technological Pedagogical and Content Knowledge
<b>UDL</b>	Universal Design for Learning
<b>UNESCO</b>	United Nations Educational, Scientific and Cultural Organization
<b>UP</b>	University of Pretoria
<b>VI</b>	Visual Impairment
<b>WHO</b>	World Health Organisation



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# CHAPTER 1 - INTRODUCTION TO THE STUDY

## 1.1 INTRODUCTION AND RATIONALE OF THE STUDY

An estimated 10% of South Africans experience some form of visual impairment according to Addo et al. (2021). Brown et al. (2013) affirm that visual impairment can vary from low vision to total blindness and that it affects all domains of development by limiting access to visual instruction and communication with peers. In addition, visual impairment is regarded as a loss of eyesight that affects visual perception, visual field and colour.

Visual impairment can result from traumatic events such as congenital or progressive conditions, as well as natural diseases that cannot be adjusted through refractive measures such as contact lenses, spectacles, medication, or surgery (Ferreira et al., 2020). To this end, Ferreira et al. (2020) indicate that while visual impairment manifests itself in different ways, learners with visual impairment can learn in encouraging school environments where the required resources and support are available.

As part of the broader research project within the Centre for Visual Impairment Studies (CVIS) at the University of Pretoria, Ferreira et al. (2020) explored teachers' needs, challenges and expectations in the teaching of learners with visual impairment during one of the initial studies (Manis, 2020). The findings of the initial study (Manis, 2020) confirmed teachers' limited understanding of visual impairment, its causes, possible preventive and instructional strategies, how to accommodate learners with visual impairment through the use of curriculum adaptation and curriculum differentiation, as well as the screening and teaching of these learners (Ferreira et al., 2020).

In an initial study which explored teachers' needs, challenges, and expectations when teaching learners with visual impairment as part of a broader research project within the Centre for Visual Impairment Studies (CVIS), Ferreira et al. (2020) confirmed teachers' limited understanding of the causes of visual impairment (Manis, 2020). Additionally, possible preventive and instructional approaches, the accommodation of learners with visual impairment using curriculum differentiation and adaptation, and the screening and teaching of these learners were also highlighted as challenges (Ferreira et al., 2020).

Teachers' limited skills and knowledge, resource constraints relating to assistive devices such as hard copy braille textbooks, workbooks, and braille printer were also identified as a challenge when teaching learners with visual impairment. Fish- Hodson and Khumalo (2015)

confirm the need for support and guidance on best teaching practices for learners with blindness in the Foundation Phase. Venketsamy and Sibanda (2021) affirm that best practices promote meaning-making and equip Foundation Phase learners with support instruction in literacy components such as vocabulary, comprehension, phonics and phonemic awareness.

This study of limited scope explored and described teacher perceptions regarding best practices for teaching literacy to Foundation Phase learners with blindness. In addition, my study is aimed at informing the teaching practices of future teachers who will teach literacy to Foundation Phase learners with blindness. My study of limited scope was furthermore aimed at expanding the available knowledge base within the CVIS by exploring teachers' perceptions on best practices for teaching literacy to Foundation Phase learners with blindness.

Brown et al. (2013) indicate that inadequate experience, training and support negatively affect teachers' attitudes towards the teaching of learners with blindness, while Mag et al. (2017, p.5) emphasise that "a lack of teacher training in facilitating the learning of students with disabilities is a barrier to individuals being able to succeed in education".

Alden (2016) furthermore affirms that teachers have limited knowledge regarding teaching literacy to learners with blindness, which may negatively affect these learners' development in terms of ICT skills and the utilisation of braille devices. As such, Donohue (2018) highlight the need to implement comprehensive training programmes and complementing these with specialised support teams that offer hands-on training and practical skills to support teachers when teaching literacy to learners with blindness.

## **1.2 PURPOSE OF THE STUDY**

The purpose of my study was to explore and describe teachers' perceptions of best practices when teaching literacy to Foundation Phase learners with blindness. I specifically explored how teachers conceptualised best practices for teaching literacy to Foundation Phase learners with blindness. I furthermore aimed to describe which resources may support the identified best practices and which challenges may inhibit these best practices when teaching literacy to Foundation Phase learners with blindness. In this study of limited scope, I also sought to add to the existing knowledge base within the CVIS at the University of Pretoria by addressing some gaps in literature on best practices for teaching literacy to Foundation Phase learners with blindness.

Teachers' experiences and perceptions can assist in identifying best practices when teaching literacy to Foundation Phase learners with blindness. In this study of limited scope, I therefore aligned to a qualitative research method which incorporated Participatory Reflection and Action (PRA) activities through which the teachers engaged in data generation based on their perceptions and experiences.

There is a limited understanding of the specific best practices utilized by teachers when instructing literacy to Foundation Phase learners with blindness, particularly within the South African context. While teacher experiences and perceptions are critical for identifying effective strategies, there is a gap in the existing literature regarding how teachers conceptualize these best practices, what resources they find supportive, and what challenges they encounter in implementing them. This lack of in-depth knowledge hinders the development of targeted teacher training, resource allocation, and policy implementation aimed at improving literacy outcomes for young learners with blindness.

### **1.3 RESEARCH QUESTIONS AND OBJECTIVES OF THE STUDY**

My study was guided by the following primary research question: *What are teacher's perceptions of best practices for teaching literacy to Foundation Phase learners with blindness?*

The subsequent secondary research questions were formulated to address the primary research question:

- ❖ How do teachers conceptualise best practices when teaching literacy to Foundation Phase learners with blindness?
- ❖ Which resources may promote best practices when teaching literacy to Foundation Phase learners with blindness?
- ❖ Which challenges may inhibit best practices when teaching literacy to Foundation Phase learners with blindness?

Based on the research questions, the objectives of the study are:

- ❖ To explore and describe how teachers conceptualize best practices for teaching literacy to Foundation Phase learners with blindness.
- ❖ To identify and describe the resources that teachers perceive as supportive in promoting best practices for literacy instruction of Foundation Phase learners with blindness.

- ❖ To identify and describe the challenges that teachers encounter in implementing best practices when teaching literacy to Foundation Phase learners with blindness.
- ❖ To contribute to the existing knowledge base within the Centre for Visual Impairment Studies (CVIS) at the University of Pretoria regarding effective literacy instruction for Foundation Phase learners with blindness.

## **1.4 WORKING ASSUMPTIONS**

I conducted this study based on the following working assumptions:

- ❖ Teachers have knowledge of best practices in teaching literacy to Foundation Phase learners with blindness.
- ❖ Teachers are familiar with the resources required to teach literacy to Foundation Phase learners with blindness.
- ❖ Teachers can effectively use the required resources to teach literacy to Foundation Phase learners with blindness.
- ❖ Teachers have experienced challenges related to the teaching of literacy to Foundation Phase learners with blindness.
- ❖ Teachers have solutions and alternative strategies available to implement when they experience challenges during the teaching of literacy to Foundation Phase learners with blindness.

## **1.5 CONCEPT CLARIFICATION**

The following section clarifies the main concepts that guided this study of limited scope.

### **1.5.1 Teachers**

Teachers are professional individuals involved in facilitating knowledge and skills to learners through the use of different teaching practices and approaches (Rajagopalan, 2019). The Department of Basic Education (DBE, 2011), indicates that a teacher is described as a school-based educator primarily tasked with the duty of instructing learners in a classroom (South African Schools Act, 1996; National Education Policy Act, 2006; Sayed & Kanjee, 2013). In the present study, teachers refer to individuals who teach literacy to Foundation Phase learners with blindness at a school for the blind in Pretoria, Gauteng.

## **1.5.2 Perceptions**

Perception refers to the process of awareness or understanding of sensory information through the three stages of selection, organisation and interpretation (Qiong, 2017).

Otter et al. (2013), define perception as a process of obtaining information from the world around us through cognitive processes involving the five senses. Perceptions also consist of views, opinions and knowledge arising from prior experience (Pickens, 2005). In this study, perception refers to teachers' perceptions on best practices for teaching literacy to Foundation Phase learners with blindness.

## **1.5.3 Best practices for teaching**

Best practices are defined as a framework of useful and tested teaching approaches rooted in research and utilised to achieve effective results (Brondyk & Searby, 2013). In addition, best practices are described as the possible precursors to rules and principles of practice aimed at improvement and to influence positive action (Martínez-Moyano, 2005). In this study, best practices refer to effective teaching methods that teachers utilise when teaching literacy to Foundation Phase learners with blindness.

## **1.5.4 Foundation Phase literacy**

Foundation Phase literacy refers to literacy applicable to learners from Grade R to Grade 3; it also includes the development of letter formations and phonemic awareness, as well as reading and writing skills (DOE, 2007). The Curriculum and Assessment Policy Statement (CAPS), indicates that the Foundation Phase forms the basis for further learning being instilled in learners (DBE, 2011). As part of this study of limited scope, Foundation Phase literacy includes the teaching of literacy to learners with blindness from Grade R to Grade 3 at a school for the blind in Pretoria, Gauteng.

## **1.5.5 Foundation Phase learners**

Foundation Phase learners refer to learners in Grade R to Grade 3, with a specific focus on the teaching and learning of literacy within the South African school context as part of this study of limited scope (DBE, 2014). For the purpose of the present study, Foundation Phase learners with blindness refer to Grade R to Grade 3 learners aged between 5 and 9 years old, who attend a school for the blind in Pretoria, Gauteng.

### **1.5.6 Blindness**

Blindness is defined as a lack of vision or the inability to see (WHO, 2022) and is classified by a visual acuity of less than 20/400 (Bourne et al., 2021; Abdul Hussein & Abdul Hussein, 2023). This form of vision loss cannot be corrected with spectacles, contact lenses, surgery or medical therapy and has a negative consequence on the overall development of the individual with blindness (Brown et al., 2013). Blindness covers a broad spectrum of visual disability, including impairment which interferes with daily functioning activities such as reading and writing, as well as walking and driving. In this study, blindness describes complete blindness resulting in functional restrictions and decreased capacity of learners taught by teachers to perform daily activities.

## **1.6 THEORETICAL FRAMEWORK**

Koehler and Mishra's (2009) theory of technological, pedagogical and content knowledge (TPACK) (Koehler & Mishra, 2009) was applied in this study of limited scope. Koehler and Mishra's theory (2009) of technological, pedagogical and content knowledge is based on Shulman's (1986) theory of pedagogical content knowledge (PCK). In building on Shulman's theory (1986), Mishra and Koehler (2006) considered the role of technology and its relationship to PCK in alignment with advances that have been made regarding the use of technology in the classroom context.

Koehler and Mishra (2009) describe TPACK as a framework that can be utilised to ensure the effective teaching of concepts, pedagogical methods and knowledge through technology in an interactive and integrated manner. The framework is aimed at addressing challenges that teachers face in teaching with technology, as well as addressing problems faced by learners during the learning of different concepts. Kao and Mzimela (2019) affirm that using technology requires the development of knowledge on pedagogical practices related to planning, implementing and assessing teaching interventions.

The framework emphasises the importance of teachers having pedagogical knowledge relating to the design and use of appropriate teaching strategies that are compatible with different learning needs, learner readiness and interests, as well as learner profiles in the form of curriculum differentiation to ensure effective teaching (Koehler & Mishra, 2009).

In the field of education, the concept of TPACK is a valuable and structured framework which assists by outlining the essential knowledge that teachers should have to competently incorporate technology into their teaching practices (Koehler et al., 2013; Herring et al.,

2016). TPACK is also useful in providing a foundation for teachers to seamlessly integrate technology with literacy teaching methodologies within the classroom setting.

While the study focuses on braille literacy, TPACK provides a valuable lens through which to understand the complex interplay of knowledge required for effective teaching in this context. Although technology may not be the primary driver, it still plays a role in supporting braille literacy, such as through assistive devices and digital braille resources. More importantly, TPACK's emphasis on the integration of content, pedagogy, and technology allows us to analyse how teachers synthesize their understanding of braille codes (content), their instructional strategies (pedagogy), and the available technological tools to create meaningful learning experiences for Foundation Phase learners with blindness. Specifically, TPACK allows for an examination of how teachers adapt their pedagogical knowledge to include specialised tactile learning strategies, integrate braille literacy content, and utilize any available technological support, thus providing a holistic framework for understanding their teaching practices.

## **1.7 PARADIGMATIC PERSPECTIVES**

In the following sections, I introduce the paradigmatic perspectives. In Chapter 3, I provide a detailed description of each of these perspectives.

### **1.7.1 Epistemological paradigm**

In this study, I utilised an interpretivist paradigm. Terre Blanche et al. (2006) indicate that an interpretive paradigm aims to clarify the subjective reasons and meanings that support social actions while considering the context. Williams (2020) highlights that interpretivism assumes that participants are responsible for the creation of knowledge and meaning in any social world or phenomena, thereby interpreting knowledge and reality from multiple realities. According to Creswell (2013), interpretivism creates an opportunity for the researcher to understand the unique nature of the phenomenon through observation and descriptive means rather than generalisation.

Based on the unique features of interpretivism, the present study was not aimed at generalising the findings, but to ensure that the findings are transferable to similar contexts, thus presenting a gap for future research studies when teaching of literacy to Foundation Phase learners with blindness (Frechette et al., 2020).

In exploring and describing teachers' perceptions on best teaching practices for teaching literacy to Foundation Phase learners with blindness, the interpretive approach

(Tomaszewski et al., 2020) guided the direction of the study on how teachers make meaning in the teaching of literacy to learners with blindness. This meaning was facilitated through the researcher as an instrument of research allowing for an exploratory and descriptive outcome in alignment with the aim of the study (Merriam & Grenier, 2019).

### **1.7.2 Methodological approach**

For the present study, I utilised a qualitative research approach. According to Creswell and Poth (2016), when researchers conduct a qualitative research study, they make assumptions regarding the nature of reality by embracing the existence of multiple realities among research participants to report on their different perspectives. Wagner et al. (2012) indicate that a qualitative research approach involves understanding people's social and cultural contexts in alignment with their experiences as they encounter them, thereby creating narrative stories of their experiences in human and subjective terms.

Green and Thorogood (2018) confirm that a qualitative research method is justified when the research is aimed at understanding participants' perspectives, exploring the meaning attached to a phenomenon, and gaining a deeper understanding of processes related to the phenomenon in question. A qualitative research approach facilitated the exploration of teachers' multiple realities in teaching literacy and provided participants' insights into meanings and interpretations regarding the teaching of literacy to Foundation Phase learners with blindness (Lichtman, 2023).

## **1.8 OVERVIEW OF THE RESEARCH METHODOLOGY**

In this section, I introduce the research methodology. I present a more detailed discussion in Chapter 3.

### **1.8.1 Research design**

For the present study, I utilised an instrumental case study research design. Stake (2005) indicates that a case study design is regarded as a purpose-driven, integrated and bounded system and should be understood from an interpretive, empirical and holistic perspective. According to Stake (2005), an instrumental case study focuses on an issue by selecting a confined case, such as an individual or group, and utilises it to explain the issue based on special interest and gaining understanding. In addition, a case study design highlights events regarding the case and generates data through vivid descriptions, which are analysed and narrated in a sequential manner (Cohen et al., 2018).

As indicated previously, I utilised a case study research design as it allowed for the exploration and description of the case in the context of real-time, as well as for its adaptability to a wide range of methodological strategies, such as PRA activities, focus groups and observation within the context of these activities (De Vos et al., 2011). The case study design furthermore created an exploration and understanding of how participants conceptualised best practices for teaching literacy to Foundation Phase learners with blindness and the identification of resources utilised in literacy teaching. It furthermore highlighted the challenges experienced when teaching literacy to Foundation Phase learners with blindness.

### **1.8.2 Selection of participants**

In the present study of limited scope, I utilised the convenience and purposive method to select participants. Purposive selecting of participants was used to select three female teacher-participants from the conveniently selected school for learners with visual impairment and blindness forming part of the broader project.

Selection criteria for the purposive selection of participants specified that participants should be teachers currently teaching literacy to Foundation Phase learners with blindness; they should possess at least five years of teaching experience and their participation should be voluntary. They were moreover required to share their knowledge of best practices for teaching literacy to Foundation Phase learners and had to provide their informed consent before participating in the study of limited scope (Cohen et al., 2018; Andrade, 2021).

### **1.8.3 Data generation and documentation**

Cohen et al. (2018) indicate that researchers can utilise multiple methods, including participant observation, interviews, reflective journals and field notes, as well as visual and audio recordings to generate and document data. Creswell (2007) affirm that different data generation methods can be utilised in a case study, such as document analysis and PRA. As part of this study, I utilised multiple data generation and documentation methods. These included PRA activities, a focus group, participant observation, audio-visual recordings, field notes and a reflective journal.

In the present study of limited scope, I used PRA activities (Ferreira & Ebersöhn, 2011) to engage with the participants so that I could obtain understanding into their perceptions of teaching literacy to Foundation Phase learners with blindness. PRA activities allowed participants to own the research process and ensured coordinated action in defining their

challenges, as well as proposing solutions in the teaching of literacy to Foundation Phase learners with blindness (Chambers, 2008). I furthermore created a collaborative platform allowing the participants to discuss questions related to the conceptualisation of best practices, resources that promote these best practices and any challenges that could inhibit best practices for teaching literacy to Foundation Phase learners with blindness (Ferreira et al., 2020).

DeWalt and DeWalt (2011) describe participant observation as a method used by researchers to get involved in the activities, events and interactions of a group in order to attain knowledge about their experiences, opinions and life routines. In the context of this study, observation was conducted in alignment with the interaction process to foster meaningful engagement in discussions with the participants. Through participant observation I was able to spend enough time and build rapport with the study participants, which contributed to the sufficient collection of data for the present study (Robey & Taylor, 2018).

As part of the present study, I compiled field notes in which I recorded my observations and comments about participants' non-verbal communication in situ, as well as away from the field (Cohen et al., 2018). In addition, I also audio-recorded the data generation progression and took photographs to ensure a trustworthy data documentation process for transcription purposes. Finally, to ensure transparency in the study, I utilised a reflective journal to explore and acknowledge my own experiences, values and positions, as well as the potential influence thereof during the data generation process and in the presentation of the study findings, as highlighted by Ortlipp (2008).

#### **1.8.4 Data analysis**

As part of this study of limited scope, I utilised inductive thematic analysis. Braun and Clarke (2019) indicate that thematic analysis allows the researcher to engage in the systematic identification and organisation of data to gain understanding into patterns of meaning in the data set. Inductive thematic analysis was therefore considered suitable for the present study, as it allowed me to make sense of the shared meanings and experiences of the participants in alignment with the research questions regarding the best practices for teaching literacy to Foundation Phase learners with blindness.

In conducting inductive thematic analysis, I followed six steps as indicated by Braun and Clarke (2022). During the first step, I familiarised myself with the data by reading the information a few times. Secondly, codes were logically generated for phrases, sentences,

and paragraphs aligned with the data features (Campbell et al., 2021). I subsequently searched for themes in the data set by consolidating the codes and comparing them to identify any similarities, differences, relationships and patterns in the data and noting reflections and ideas to deepen the analysis process. During the fourth step, I reviewed any potential themes to check their relation to the extracted codes and the whole data set (Byrne, 2022). Next, I defined and named the themes, while also identifying sub-themes for each theme to ensure these were clearly described. During the final step, I compiled the research findings in a research report (Braun & Clarke, 2022).

## **1.9 ETHICAL CONSIDERATIONS**

According to Schenck et al. (2010), ethics refer to norms and values that guide moral behaviour. Cohen et al. (2018) affirm that ethical considerations apply to both the participants and the researcher. In this study, ethical considerations were applied to ensure the study was conducted ethically and that participants' rights were not violated (Pietilä et al., 2020). Hammersley and Traianou (2012) indicate that ethical considerations include minimising harm, maintaining respect and autonomy and protecting privacy, as well as offering reciprocity and treating participants equitably.

As part of the present study of limited scope, informed consent was secured from the teachers (n=3), their participation was voluntary, furthermore teachers had the right to withdraw from participating in the study at any point time (Babbie, 2020). The teachers were furthermore guaranteed anonymity and confidentiality by ensuring that their names were not used in the study. In addition, the generated data was only accessible to the research team for the purpose of generating research findings as part of the broader research project. Finally, no harm to participants was expected to emanate from this study. However, in the event of any emotional or physical harm being experienced by participants, it would be proactively managed by ensuring that they were protected and referred to a psychologist as indicated by Hammersley and Traianou (2012).

To ensure compliance and alignment with ethical guidelines pertaining to the research study, I requested for consent by applying for approval from the Gauteng Department of Education (GDE) and the Ethics Committee at the Faculty of Education at the University of Pretoria (UP). I furthermore obtained permission for the teachers to participate in the study from the school principal. To ensure safety and confidentiality of the research data, all documents were coded and saved using passwords, while all hard copies of research evidence were stored in well secured storage cupboards (Grant, 2017).

## **1.10 QUALITY CRITERIA**

For the present study, I used the following quality criteria: credibility, transferability, dependability, confirmability, and authenticity to contribute to the trustworthiness of the study (Lincoln, 1985). To ensure credibility and authenticity of the research findings, I maintained continuous engagement with the participants, as well as member checking (Stenfors et al., 2020). This assisted the participants to identify with the research findings in that it represented their experiences. To ensure dependability of the research, triangulation across the team of researchers was maintained.

Confirmability of the participants' responses was also a critical element of the research in order to prevent my possible influence on the research findings in terms of my interests, motivations, biases and perspectives (Lincoln, 1985). The research findings were audited by a dedicated team of researchers, as well as by my research supervisor to ensure confirmability of the findings. As such, the processes of continuous engagement with the participants, research triangulation and auditing of the research findings, contributed to ensuring the trustworthiness of the current study.

## **1.11 OUTLINE OF THE CHAPTERS OF THE DISSERTATION**

In Chapter 1, I provided the background to the research regarding teacher's perceptions of best practices of teaching literacy to Foundation Phase learners with blindness. I outline the purpose of the study, its rationale, research questions, methodology and ethical considerations. Chapter 2 consists of my discussion of the relevant literature and the TPACK used in the present study of limited scope. In Chapter 3, I present the research process, which includes the research methodology, selection of participants, data generation and documentation, as well as the data analysis, quality criteria and ethical consideration adhered to. In Chapter 4, I provide a comprehensive analysis of the results and findings against the background of the literature review and in Chapter 5, I present the conclusions and recommendations of my study.

## **1.12 CONCLUSION**

In Chapter 1, I outline a roadmap of my study by providing the background of the study, the rationale and context of the research study. Following this, I introduce the purpose and research questions of the study. I define the important concepts, introduce the theoretical framework and paradigmatic perspectives, and briefly describe the research methodology

of the study. I lastly introduce the ethical considerations and quality criteria adhered to in this study of limited scope.



## CHAPTER 2 - LITERATURE REVIEW

### 2.1 INTRODUCTION

In Chapter 2, I explore literature related to the concept of blindness. I also discuss the teaching of literacy to Foundation Phase learners with blindness and consider best practices for teaching literacy to Foundation Phase learners with blindness. I furthermore focus on resources required for teaching literacy to learners with blindness and the challenges of teaching literacy to Foundation Phase learners with blindness. I conclude Chapter 2 with a discussion about the study's theoretical framework.

### 2.2 OVERVIEW AND UNDERSTANDING OF THE CONCEPT OF BLINDNESS

In present section, I discuss the definition of blindness, including the global and national prevalence of blindness.

#### 2.2.1 Defining blindness

Visual impairment is a loss of visual capacity which impacts visual acuity, visual field and colour in the eyes (KV & Vijayalakshmi, 2020). According to Young et al. (2019), visual impairment refers to a vision impairment that has a negative impact on an individual's educational performance even when corrected. This term encompasses both partial vision loss and complete blindness.

The World Health Organisation (WHO, 2022) states that visual impairment is classified into two main groups, namely distance vision impairment and near vision impairment. Distance vision impairment comprises mild, moderate and severe blindness ranges, while near vision impairment comprises visual acuity less than six. In this context, "six" represents a standard measurement of near vision clarity. Therefore, "less than six" indicates a level of near vision impairment where an individual's ability to see close-up objects is significantly reduced compared to normal near vision. Essentially, if a person's near vision is measured, and they cannot see the detail that a person with normal near vision can see, at a standard close distance, then their near visual acuity is less than six. Visual impairment can be caused by either natural disease or trauma, or by congenital and degenerative conditions. It can neither be corrected through refractive means such as spectacles or contact lenses, nor through medication or surgery (Yekta et al., 2022).

According to Vashist et al. (2017), definitions of blindness have been categorised into two main types, namely functional definitions related to disability, and measurement-based

definitions that focus on visual acuity (VA) and visual field. As such, the International Classification of Disease 11 (ICD-11, 2018) classifies blindness as a visual acuity of less than 3/60 (Silveira & Cantle Moore, 2018; Nuzzi et al., 2024). Blindness is classified as a disability because it poses significant difficulties such as the inability to perform any work that requires vision (Vashist et al., 2017) or the acquisition of literacy skills which include listening, speaking, writing and reading (Naidoo et al., 2015; The National Joint Committee on Learning Disabilities, 2007).

Mosca et al. (2015) assert that blindness can potentially affect the motor, play, cognitive, social and communication skills of young children since their typical development occurs in relatively limited interaction with their environment. As such, early intervention of developmental difficulties is required to assist blind learners with their language and communication development. According to Mosca et al. (2015), children with blindness, as well as those affected by additional impairments, may require assistance from speech or language therapists.

### **2.2.2 Global and national prevalence of blindness**

Research indicates that socio-economic status plays a key role in the prevalence of blindness. This is due to the fact that people in lower socio-economic communities, face financial constraints, limited access to primary healthcare services and a lack of vision screening awareness (Kulkarni et al., 2024). Improved access to primary healthcare services, such as general practitioners, optometrists, and pharmacists for the purpose of eye screening, as well as the relevant preventative and treatment programmes, was found to contribute to a lower prevalence of blindness among learners (Gilbert et al., 2017; Surrati et al., 2022). In South Africa, which is a low- to middle-income country with a prevalence of approximately 85% of visually impaired individuals, such services are also essential (Xulu-Kasaba & Kalinda, 2022).

The WHO (2022) oversees global and regional assessments of visual impairment and blindness. In 2010 an estimated 285 million people worldwide were visually impaired, with 39 million being blind and the rest experiencing low vision. The WHO (2019) reports that currently approximately 2.2 billion people are living with visual impairment or blindness globally, predominantly in low- and middle-income countries. A significant portion, namely about 1 billion of visual impairment or blindness cases, is attributed to preventable or avoidable causes such as cataracts, glaucoma, and refractive errors (WHO, 2022). In 2015, an estimated 1.14 million children were living with blindness globally. More recent data cited

by Magakwe et al. (2022) indicate that 19 million children are visually impaired or blind, with 17.5 million of them having low vision, and 90% living in Africa. These statistics highlight the considerable impact of visual impairment or blindness, emphasising the need for preventative measures and accessible eye care, particularly in low-income regions.

According to Bourne et al. (2017), the most common causes of visual impairment are cataracts, glaucoma, trachoma, refractive errors and macular degeneration (Lopez Ulloa et al., 2021). Additionally, Xulu-Kasaba and Kalinda (2022) indicate that according to the WHO figures reported in 2021, Sub-Saharan Africa is among the poorest regions in the world with the highest prevalence figures for visual impairment compared to other regions and other developing countries where cataracts, glaucoma, diabetic retinopathy and refractive errors are the most prevalent. Sithole (2016) highlights that almost 80% of these cases are treatable or preventable through proper medical care and interventions, including access to primary healthcare services. Xulu-Kasaba and Kalinda (2022) further indicate that early visual screening and diagnosis at a primary health level can alleviate blindness and visual impairment challenges experienced in Southern Africa. Afarid et al. (2020) affirm that equitable access to primary healthcare has been shown to have a positive impact on preventing the risk factors to and causes of blindness.

According to Statistics South Africa (2014), its 2011 census results which measured disability prevalence utilising the six domains of functioning, namely hearing, seeing, communication, concentration and remembering, self-care and walking, blindness was the most prevalent type of disability at 32.1%. Research studies further found that 1.7% (approximately 1 million people) of the 32.1% had severe levels of blindness, of which the majority were from disadvantaged areas, such as under-developed rural areas (Botha, 2021). However, a recent report by Statistics South Africa (2022), titled "Profiling Socio-economic Status and Living Arrangements of Persons with Disabilities in South Africa, 2011-2022," highlighted variations in disability prevalence based on different assessment methods. The report, which utilised three models, namely broad, severity, and United Nations (UN) measures, indicated a decline in disability rates in South Africa across all three measures when comparing the period between Census 2011 and 2022 (Statistics South Africa, 2022).

Before delving into teaching strategies, it's crucial to understand the profound impact of visual impairment, both generally and within learning contexts. Visual impairment significantly affects daily life, limiting independence, mobility, and social interaction (WHO, 2022). In educational settings, it can impede access to visual learning materials, hinder the

development of crucial skills, and lead to academic underachievement (Corn, 1989). Diagnosis of visual impairments is typically conducted by ophthalmologists or optometrists. Ophthalmologists, medical doctors specializing in eye health, can diagnose and treat a wide range of eye conditions, while optometrists, trained to examine the eyes and visual system, primarily focus on refractive errors and visual function assessment (American Academy of Ophthalmology, 2023). Diagnostic procedures may include visual acuity tests using Snellen or near vision charts, refraction to determine the need for corrective lenses, and comprehensive eye examinations to assess ocular health and identify underlying pathologies. These experts utilize specialised equipment and standardised procedures to accurately evaluate visual function and determine the nature and extent of any impairment.

## **2.3 TEACHING LITERACY TO FOUNDATION PHASE LEARNERS WITH BLINDNESS**

In the present section, I discuss the understanding of the concept of literacy, the prerequisites for teaching literacy to Foundation Phase learners with blindness, factors to consider when teaching literacy to Foundation Phase learners with blindness, and the role of teachers when teaching literacy to Foundation Phase learners with blindness.

### **2.3.1 Understanding the concept of literacy**

According to Frankel et al. (2016), literacy is a process involving reading, writing and oral language in order to construct, extract, integrate and analyse meaning by way of interacting with multimodal texts in a social context. This definition highlights key factors of understanding literacy, including productive (speaking, writing) and receptive (listening, reading) processes in social practice contexts and school settings. Ferreira et al. (2020:43) assert that literacy is the ability to write, read and utilise numbers, which is a prerequisite skill required to function effectively in the fourth industrial revolution. The Department of Education (DBE, 2011) defines basic literacy as the ability to interpret, create, identify understand and communicate (Venketsamy & Sibanda, 2021). French (2013) affirms that literacy involves integrating speaking, reading, writing and listening skills for learning and communication purposes.

Literacy learning arises as a result of meaningful interaction and experiences with a wide range of texts and materials, including digital technologies and events. Wilkinson et al. (2001) furthermore indicate that literacy is exhibited through the effective and purposeful utilisation of reading and writing abilities to achieve necessary and desired literacy-related tasks in any given setting. According to Ferreira et al. (2020), literacy is considered a critical

skill for blind learners since a lack of literacy skills impedes their interaction and meaning making with the world and other individuals. Additionally, equipping Foundation Phase learners with literacy skills enables learners with blindness to develop skills to ensure academic success, personal growth and optimises their full participation in community and society (Ferreira & Manis, 2022).

According to Majorano et al. (2021), there is a significant link between the initial literacy abilities of young children during preschool and their subsequent reading and writing proficiencies in primary school. Whitehead and Wilkinson (2008) emphasize the fact that literacy teaching involves the use of effective teaching practices that are delivered through quality teaching. As such, quality teaching of learners with blindness requires teachers to possess the necessary knowledge and understanding of blind learners' educational needs, as well as their diverse backgrounds, including their community contexts, to support and motivate them in developing cultural, linguistic and social knowledge. Moreover, progression in acquiring literacy is not only shaped by learners' early capabilities, but also by factors such as language attributes and educational approaches that are employed by teachers in the classroom (Majorano et al., 2021).

Literacy encompasses three distinct levels, namely emergent, basic/academic, and functional (Wilkinson et al., 2001; Spira et al., 2005; Brown, 2014). Basic or academic literacy involves the development of formal reading and writing skills, enabling individuals to comprehend and produce written texts for educational purposes. Functional literacy, on the other hand, refers to the ability to apply literacy skills in real-life situations, such as reading instructions or filling out forms. Emergent literacy spans from birth until the child is able to grasp conventional reading and writing skills that are set during the Foundation Phase of learning (Chen & Dote-Kwan, 2018). Venketsamy and Sibanda (2021) affirm that during the Foundation Phase, fundamental literacy skills are not yet fully mastered and require continued support and guidance from teachers (Tani & Ghaemi, 2011). Emergent literacy skills unfold through a series of events that lead to gradual transformation in a child (Louden et al., 2005) which entails more than acquiring basic reading and writing skills (Nugent et al., 2016). This foundational stage includes the development of oral language, phonological awareness, and print awareness, all of which are crucial for later literacy development.

Whitehead and Wilkinson (2008) affirm that learners' success in learning literacy depends on teachers' knowledge and use of technologies. Moreover, in comparison to children with normal vision who acquire this process by observing others using written language and then attempting to mimic those actions, blind children require direct guidance and intervention

from parents (Ferrell, 2011) and teachers. This includes exposure to literacy materials to ensure that their literacy skills are developed in a proactive and intentional manner (Wilkinson et al., 2001).

### **2.3.2 Prerequisites for teaching literacy to Foundation Phase learners with blindness**

According to Lamb (1996), teaching oral language, reading and writing skills is a key prerequisite to teaching literacy to blind learners (Cooper & Nichols, 2007). Phonological awareness, reading accuracy and reading comprehension abilities are closely related in children with blindness (Erickson et al., 2007). Learners whose ability to read is below their grade level, tend to have delays in understanding sound structures involving language at the phonemic level; they therefore struggle to apply that knowledge during reading. According to Erickson et al. (2007), research indicates that school-aged children with blindness display inconsistent and unpredictable phonological awareness skills.

A study, for example, revealed that while learners with blindness could perform at an appropriate age level on phonemic deletion tasks including competence in spelling real words, they encountered difficulties when faced with more complex literacy tasks and phonemic awareness. There is also a notable reading rate gap between learners with blindness and their sighted peers; the extent of this disparity is connected to their level of visual acuity (Erickson et al., 2007).

According to Phala and Hugo (2022), mastering reading is a crucial language skill for learners during their early years in school, specifically during the Foundation Phase. Reutzel and Cooter (2012) affirm that reading plays a vital role in enabling learners to comprehend the content and messages conveyed in written and printed materials. Moreover, reading serves as a fundamental tool for communication and language development, facilitating the exchange of thoughts, ideas, and information (Phala & Hugo, 2022).

According to Donohue and Bornman (2014), inclusive education principles are significant in the teaching of learners with blindness. They highlight that the basis for the adoption of inclusive education policies in South Africa was motivated by various obstacles. These include teachers' attitudes and their inadequate preparedness regarding skills to teach learners with blindness, as well as a lack of clear guidance on policy implementation in the education system. According to Skae et al. (2020), research studies indicate that for inclusion to be successful, teachers need to have adaptable personalities, as well as attitudes that reflect a sense of ownership for learners and a belief that all learners including learners with blindness have the potential to learn. Kuyini and Desai (2007) affirmed these

findings, suggesting that successful outcomes in inclusion depend on the development and sustenance of positive attitudes (Kuyini et al., 2018), as well as increasing knowledge through teachers' professional development.

Skae et al. (2020) furthermore indicate that teachers are more receptive to teaching disabled learners, including those with blindness, when they are afforded the necessary special education training, and if they can collaborate and are supported by other key special education stakeholders. Akbayrak and Douglas (2022) highlight a departure from past efforts aimed at capacitating teachers with knowledge and skills using competency-based models (Douglas et al., 2011) to the importance of equipping teachers with the prerequisite skills to implement inclusive education policy, including training and support interventions to ensure that teachers can function optimally in mainstream schools to meet diverse population needs in the 21st century. As such, the implementation of inclusion policy in education hinges on the abilities and attitudes of teachers (Donohue & Bornman, 2014) in creating equal access to a literacy curriculum that meets the learning needs of learners with blindness.

### **2.3.3 Factors to consider when teaching literacy to Foundation Phase Learners with blindness**

Ensuring the promotion of equal access to learning opportunities through reasonable accommodation of learners with blindness is an important factor to consider (Le Fanu et al., 2022). According to Mitchell (2015), reasonable accommodation refers to adjustments made by teachers in the classroom or schools to ensure that all learners have equal access to learning opportunities and resources regardless of their diverse needs or disabilities. Blindness can have a significant impact on learners' ability to learn literacy skills such as writing and reading. As such, teachers play a major role in providing tailored accommodations to meet learners' specific learning needs. This involves tailored adjustments such as large print materials, braille, audio recordings, and assistive technology devices (Sefotho et al., 2020).

According to Marin (2014), inclusive practices in the classroom benefit all learners through promoting a sense of belonging by reducing the stigmatisation of learners with disabilities. To promote reasonable accommodation of learners in the classroom, the Department of Basic Education mandates schools to provide reasonable accommodation through its Inclusive Education Policy.

A wide range of strategies and tools are available to support teachers when teaching literacy to Foundation Phase learners with blindness (Blankenship, 2008; Hirst, 2024). These include the use of larger fonts for the printing of teaching materials, providing audio description alternatives for visual materials, using tactile materials, and ensuring proper lighting in the classroom. Douglas et al. (2011) affirm the importance of using teaching strategies such as tactual or auditory formats to ensure the reasonable accommodation of blind learners.

Allman et al. (2014) assert that to accommodate learners with blindness in the classroom, certain helpful adjustments can be made, such as altering classroom organisation and layout, using different or contrasting colours, making pathways in strategic areas of the classroom such as the teacher's desk, resource area and writing board. Blind learners can additionally be provided with assistive devices such as braille and screen readers to assist learners in interacting with digital material by creating access to curriculum information (Douglas et al., 2011). Teachers' commitment to individualised accommodations demonstrates support for inclusive education and aligns with research findings that reasonable accommodations improve academic outcomes and inclusive learning environments (Marin, 2014).

The Department of Education (2011) advocates the use of an Expanded Core Curriculum (ECC) (Akbayrak & Douglas, 2022) when teaching literacy to Foundation Phase learners with blindness. This is to ensure that in addition to the general curriculum, learners with blindness are exposed to an extra curriculum that supplements the development of learners in areas such as independent living skills, social interaction, orientation, mobility, and the use of braille, tactile symbols, social skills and auditory skills among others (Virginia Public Schools Guidelines, 2017). According to Fast (2019), direct instruction of learners with blindness in the ECC includes the use of braille, visual efficacy assistive technology, tactile symbols, auditory skills, and social skills among others.

A study conducted by Mabasa-Manganyi (2023), highlights factors that influence Foundation Phase teachers in the choice of teaching approaches and strategies, including teachers' feelings and reasoning, teachers' content knowledge, reflective teaching, lesson planning and knowledge of inclusive teaching pedagogy. Examples of these teaching strategies include the use of direct instruction (Rose, 2010), whole-class instruction (Florian, 2017) and differentiated instruction that addresses the individual learning needs of learners with blindness (Chen & Dote-Kwan, 2021). Additionally, co-teaching, peer tutoring, learner selected work and the teaching of social skills (Mabasa-Manganyi, 2023) serve as critical

examples of value adding teaching strategies. Richards and Armstrong (2015) confirm that pedagogy and curriculum are valuable tools for teachers when teaching learners, including learners with blindness.

Venketsamy and Sibanda (2021) indicate that teachers should use different strategies and techniques such as evidence-based, balanced approach, play-based, problem-based and reciprocal approaches to teach literacy during the Foundation Phase. Douglas et al. (2011) affirm the use of evidence-based interventions such as print and braille, and assessing the needs of learners with blindness (Bruce et al., 2018; Stewart et al., 2022), including curriculum adaptation and differentiation (Kaiser & Herzberg, 2017). Douglas et al. (2011) further affirm the importance of utilising evidence-based interventions and the adoption of a two-pronged approach when teaching learners with blindness. These should address learners' emerging literacy skills such as phonics, reading speed, spelling, comprehension and vocabulary, including the use of contracted or uncontracted braille (Swenson, 2008), as well as functional skills (Wilkinson et al., 2001) such as emotional and social development, mobility and independence and the use of ICT (Wiley et al., 2013).

Using assistive technology is an important strategy for teaching literacy to learners with blindness during the Foundation Phase. Assistive technology is described as any system, item of equipment that is acquired through commercial and customised means aimed at increasing, maintaining or improving functional capabilities of learners with blindness (Al-Zboon, 2020). Examples include technology such as screen readers, magnification software and refreshable braille displays, as well as information and communication technology such as smartphone applications. These can assist learners with participation in classroom activities, as well as to gain access to digital texts thus supporting them in acquiring information to further improve their writing and reading skills (Mulloy et al., 2014; Lang et al., 2021).

According to Al-Zboon (2020), a literature review revealed that providing learners with blindness with assistive technology is an ethical practice which should be provided in a collaborative way to ensure that learners achieve their learning goals, and enhance their productivity and independence (Wojcik & Douglas, 2012), thus contributing to their quality of life. Kitchener and Anderson (2011) and Ajuwon et al. (2016) indicate that assistive technology services should be rendered in alignment with learners' individual preferences to uphold ethical principles of autonomy, freedom of action and justice and fairness.

According to Nugent et al. (2016), the use of balanced teaching approaches should be coupled with experiential activities, such as the use of tangible hands-on experiences which have been found to promote teaching and learning of literacy. The value of utilising evidence-based teaching strategies, such as the balanced approach, the play-based, problem-based and reciprocal approaches to teach literacy during the Foundation Phase, is affirmed by Goldberg and Goldenberg (2022), who indicate that in recent years it has become an accepted concept that the right instruction contributes to almost 95% of all first and second grade learners' ability to read irrespective of their oral language abilities.

When teaching literacy to learners with blindness, Foundation Phase teachers can partner with special education teachers, occupational therapists, speech therapists and other health professionals in collaborative tasks, such as Individual Education Programme (IEP) planning, as well as instruction, assessment and behaviour management through shared input and responsibility (Florian, 2017). Teachers can moreover collaborate with different stakeholders by coordinating regular and timeous communication, such as providing feedback on learner needs, compiling progress reports, facilitating meetings and ensuring that any feedback from different stakeholders is incorporated into classroom activities and utilised in supporting the adaptation of learning materials as required (DBE, 2011). Collaborative learning can also be implemented by encouraging learners to collaborate in pairs or small groups in the classroom (Laal & Laal, 2012) to promote social interaction, teamwork and peer learning among blind learners, including their sighted peers (Le et al., 2016).

## **2.4 BEST PRACTICES FOR TEACHING LITERACY TO FOUNDATION PHASE LEARNERS WITH BLINDNESS**

Ferrell (2006) asserts that teachers who teach literacy to Foundation Phase learners with blindness are required to use best practices based on empirical evidence. These include different literacy teaching approaches and instructional pedagogies such as stepping stones to literacy and writing strategies (Kamei-Hannan et al., 2012). Erickson and Hatton (2007) confirms that evidence-based teaching approaches are a valuable and effective pedagogy in teaching literacy to learners with blindness.

According to Ferrell (2006), best practices must be based on a scientific method and be duplicated in multiple settings by different investigators and its results should consistently lead to a well-defined conclusion. Morrow and Gambrell (2011) affirm that teachers who teach literacy to learners with blindness should have inclusive knowledge based on

evidence-based best practices. The best practices should additionally foster meaning-making and equip learners with support instruction in literacy components such as comprehension, vocabulary, phonics and phonemic awareness (Venketsamy & Sibanda, 2021).

Koenig and Holbrook (2000) suggest that a key feature of a best practice approach when teaching literacy is the belief that both braille and print are equally valuable mediums for teaching reading and writing to learners with blindness. Ferrell (2006) indicates the effectiveness of using braille and other braille tools when teaching literacy. According to Corn and Koenig (2002), some best curriculum intervention practices when teaching literacy, consist of eleven areas. These are braille literacy skills for learners with print literacy skills; aural reading, live-reader skills and listening; emergent literacy skills; utilisation of optical devices in distance environments; use of optical services in near environments; integrated use of visual skills; beginning print literacy skills; beginning literacy in dual media; intermediate and advanced print; keyboarding and word processing skills; and technology skills (Douglas et al., 2009; McLinden et al., 2020).

#### **2.4.1 The use of contracted or uncontracted braille**

According to Swenson (2008), findings of the Alphabetic Braille and Contracted Braille (ABC) Study on the early introduction of contractions indicate a correlation with stronger reading skills for learners with blindness. As such, when teaching literacy to learners with blindness during the Foundation Phase, it is important for teachers to focus on basic reading processes (Nugent et al., 2016) and vocabulary knowledge (Meirim et al., 2010) including the braille code (Kao & Mzimela, 2019). Ferrell (2006) identified a number of best practices as being effective when teaching literacy, including the use of braille and braille readers.

Ferrell (2011) determined that braille readers were better equipped to process oral information compared to large type readers. Additionally, reading braille with the left hand was found to be more beneficial as compared to using the right hand (McLinden et al., 2020). The use of drill and practice when teaching braille furthermore contributed to increased reading achievement, fewer reading errors, improved comprehension (Luckner et al., 2016) and faster oral and silent reading rates. Ferrell (2006) moreover observed that factors such as poor braille quality slowed down reading rates and accuracy, while braille reading comprehension decreased in instances where learners were exposed to different stimuli which required high levels of attention from learners with blindness. Nugent et al. (2016)

confirm the benefits of utilising braille and other technological tools (Mulloy et al., 2014; Stewart et al., 2022) in teaching literacy to learners with blindness.

#### **2.4.2 Teaching emerging literacy skills**

According to Johnstone et al. (2009), the discrepancy in reading ability contributes to a noteworthy achievement gap between learners with blindness and those without disabilities. Gompel et al. (2004) indicate that teaching literacy to learners with blindness during the Foundation Phase lays the foundation for promoting the academic success of learners with blindness, which assists in bridging the achievement gap between learners with blindness and their sighted peers. Ferreira et al. (2020) affirm that the achievement gap between learners with blindness and sighted learners is attributed to factors such as limited access to grade-level teaching materials and learning experiences facilitated by assistive technology, including assessment methods that do not adequately address blind learners' specific needs.

Majorano et al. (2021) moreover highlight that Foundation Phase teachers play an essential role in supporting learners to learn basic literacy skills. Literacy skills are crucial for successful reading and writing at the primary level of schooling and further contribute to academic success (Venketsamy & Sibanda, 2021). Imparting critical skills such as phonological awareness, phonological memory, manipulation of language units, word retrieval and production, as well as expression of ideas and the coordination of visual and motor processes, are important during Foundation Phase teaching (Majorano et al., 2021). Douglas et al. (2011) have additionally identified three key components of reading, namely reading speed, accuracy and comprehension. Gompel et al. (2004) confirm that learners with blindness encounter challenges in reading, particularly in terms of speed and accuracy compared to their sighted peers.

Ferrell et al. (2014) indicate that literacy skills, such as reading and writing, are essential for ensuring the academic achievement and social inclusion of learners with blindness. In support of these findings the Department of Education (2011) highlights that teaching literacy as a First Additional Language (FAL) during the Foundation Phase should include aspects of shared reading, guided reading and reading loud, as well as vocabulary instruction in its Curriculum and Assessment Policy Statement (CAPS). According to the Department of Basic Education's "Teaching Reading in the Early Grades" handbook, teaching of literacy during the Foundation Phase should focus on providing learners with

foundations of basic literacy, reading and writing through a programme called Literacy Learning Programme (LLP) (DOE, 2008).

The core elements of the literacy programme include reading and writing focus time, listening and speaking, as well as writing, which include additional languages (DBE, 2011). The programme supports teachers in teaching basic literacy skills during the Foundation Phase and enforces the regular use of these skills to ensure that learners become competent readers and writers. The programme allocates an hour a day to reading and writing, which focuses on language aspects such as phonics and vocabulary development (DBE, 2008; Meirim et al., 2010), spelling, grammar, sentence work and punctuation.

### **2.4.3 Use of literacy teaching approaches**

According to Johnstone et al. (2009), the utilisation of the multisensory approach has been widely accepted as conducive and effective when teaching learners with blindness during the Foundation Phase. The multisensory approach allows the accommodation of learners' different learning styles through the incorporation of a variety of teaching approaches (Neumann et al., 2012). These include the use of different senses which ensure that learners with blindness are exposed to a variety of experiential activities involving the use of their hands (Nugent et al., 2016). Baines (2008) highlights that the multisensory approach is a teaching strategy that engages learners through a variety of senses, such as touch, hearing, and sight. Obaid (2013) asserts that this approach is valuable in language learning and literacy such as that of relationships between symbol and sound and recognition of words. This includes tactile methods such as tracing letters on soft and rough surfaces, using manipulatives to build words, and incorporating music and movement into literacy lessons (Ferrell et al., 2014).

Van Staden and Purcell (2016) furthermore indicate that spelling development is multifaceted in nature and is affected by learners' linguistic and cognitive skills. These include working and long-term memory, rapid automatised naming, phonological processing, orthographic awareness, semantic knowledge, mental images and morphological awareness. As a result, the multisensory approach is particularly effective for blind learners since they rely more heavily on their other senses such as touch and hearing to learn (Chen & Downing, 2006).

Neumann et al. (2012) indicate that using multisensory methods in children's learning and education, aligns with Piaget's theory of cognitive development. In this theory it is proposed that knowledge is built through sensorimotor activities that allow learners to utilise multiple

senses during the learning process. Chen and Dote-Kwan (2021) furthermore indicate that combining multisensory approaches (Morgan, 2019) with strategies such as differentiated instruction, adapted material and tools, as well as the use of auditory and tactile cues (Chen & Downing, 2006), can assist learners with blindness to identify important information and structure in written text through structured reading programmes. According to Johnstone et al. (2009), the use of step-by-step instructions and repetition, build reading skills when the phonics-based program is utilised. The use of other suitable reading systems can also empower blind learners to develop literacy skills and build their confidence to become independent readers and writers.

The multisensory approach incorporates the use of kinaesthetic learning, which involves physical body movements aimed at enhancing learning and memory retention (Neumann et al., 2012). Baines (2008) affirms that this approach allows learners to engage in activities that stimulate their senses and encourages them to physically interact with learning materials reinforcing their understanding of the subject matter. For example, a multi-sensory approach might involve listening to audio recordings, engaging in hands-on activities, and practicing movements related to the learning material (Morgan, 2019).

According to Chen and Downing (2006), learners with blindness require tactile information that they can access through the use of touch with not only their hands but also other parts of their bodies. Neumann et al. (2012) indicate that tactile learning allows learners to explore the learning materials thus enhancing the development of their early literacy skills. Touch furthermore provides a fragment of the whole and allows learners to use a series of tactile impressions to ensure understanding of what their sighted peers can see (Neumann et al., 2012; Chen & Downing, 2006).

Zhou et al. (2011) point out that Braille instruction as a tactile writing system, enables learners to read and write using their sense of touch. This can be supplemented with auditory instruction (Obaid, 2013), the use of assistive technology tools and tactile illustrations, such as raised lettering, to assist learners in learning letter recognition and spelling, as well as understanding the meaning of words and sentences (Marsh et al., 2021).

The Auditory Learning Approach (ALA) is a strategy used to provide learners with access to high-quality audio resources that enhance their learning experiences (Cox & Dykes, 2001; Devine, 2016). The approach involves teaching learners with blindness to use auditory input, which assists the learners in acquiring knowledge and skills through verbal descriptions and sound effects, including other auditory cues to better understand concepts and information

(Cabual, 2021; Chen & Dote-Kwan, 2021). This approach is valuable in teaching literacy to learners with blindness during the Foundation Phase as these learners present with fewer incidental opportunities to learn from their environment. The use of auditory input supports learners to compensate for their lack of visual input through the use of their auditory abilities, thus allowing them to create mental images that correspond with words and comprehension of verbal language (Cox & Dykes, 2001; Mulloy et al., 2014).

Jackson (2021) highlights that technological advances in the 21<sup>st</sup> century have facilitated the development and use of audio-supported reading, which is a combination of refreshable Braille and text to speech screen-reading technology. This has paved a way for learners with blindness to interact with text resulting in improved reading rates and reading comprehension. Jackson (2021) further affirms that auditory learning can be enhanced by using a variety of techniques such as providing verbal descriptions of visual materials, using auditory cues to indicate changes in content or direction, and incorporating music or sound effects and the use of other technological tools (Ashraf et al., 2017) to reinforce learning. Ferrell et al. (2014), points out that the auditory learning approach can be combined with interactive activities that involve listening and responding to auditory cues, such as following directions or identifying sounds.

According to Cox and Dykes (2001), teachers can use recordings of stories, lessons, or other instructional materials, and supplement these with verbal descriptions or explanations (Edirisinghe et al., 2022) as required, to teach literacy including the Foundation Phase of learning. Combining this approach with the use of tactile materials such as Braille, textured surfaces, and manipulatives to support learning, can improve reading and writing skills including the development of spatial awareness and motor skills of learners with blindness (Devine, 2016; Alotaibi et al., 2020).

## **2.5 RESOURCES REQUIRED FOR TEACHING LITERACY TO LEARNERS WITH BLINDNESS**

Teachers who teach literacy to Foundation Phase learners with blindness require adequate, relevant and specific classroom resources to support the teaching process. According to Zhou et al. (2011), some of the key resources that teachers utilise in the classroom to cater for the unique learning needs of learners with blindness', include Braille materials, tactile materials, audio books, assistive technology tools, and large print materials, among others. Siu and Morash (2014) indicate that assistive technology plays an important role in educating learners with blindness and further assists them in their daily lives and in creating

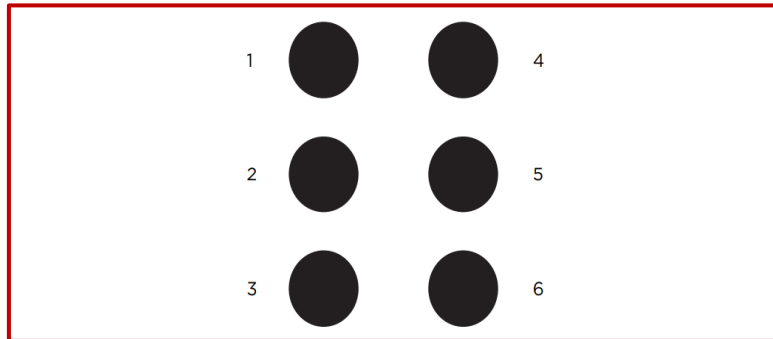
employment opportunities (Zhou et al., 2011). Johnstone et al. (2009) affirmed that teachers who teach learners with blindness have previously utilised a wide variety of tools to assist them in teaching these learners. Some of the tools include low technology aids such as handheld magnifiers and slates and stylus to write braille (Swenson, 2008), as well as high-technology devices such as braille printers, computer screen magnifiers, and screen reading software.

### 2.5.1 Braille system and braille materials

Braille, a system of raised dots that can be read by touch, is commonly used by learners with blindness (Sacks et al., 2009; Sefotho et al., 2020). Braille functions as a tactile symbolic system whereby raised dots are strategically positioned to form distinct patterns. These patterns consist of six dots that are numbered (see Figure 2.1) and can be arranged in multiple ways, resulting in 63 unique combinations known as cells. The cells are used to represent numbers, letters of the alphabet and contracted forms of words (Carney et al., 2003; Toussaint & Tiger, 2010).

**Figure 2.1**

*Example of braille cell*

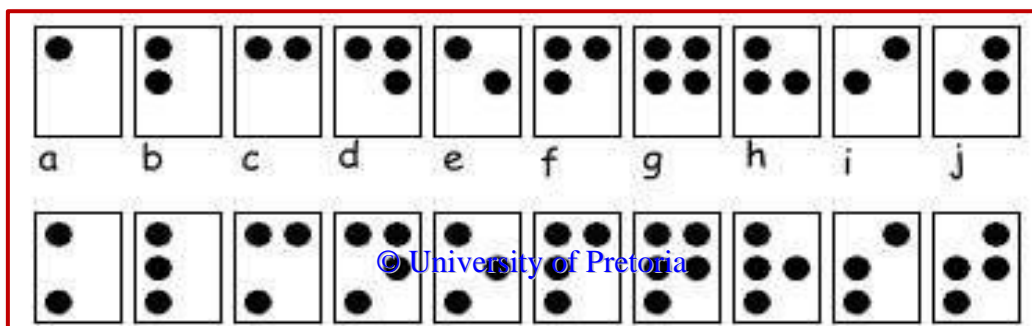


*Note: Sefotho et al. (2020)*

Braille materials such as books, charts, flashcards and worksheets, can be used to teach Foundation Phase learners with blindness how to read and write (Zhou et al., 2011). This includes the teaching of literacy skills such as the Braille alphabet (see Figure 2.2), letter recognition, spelling, and word formation (Roe et al., 2014; Stewart et al., 2022).

**Figure 2.2**

*Braille Alphabet*



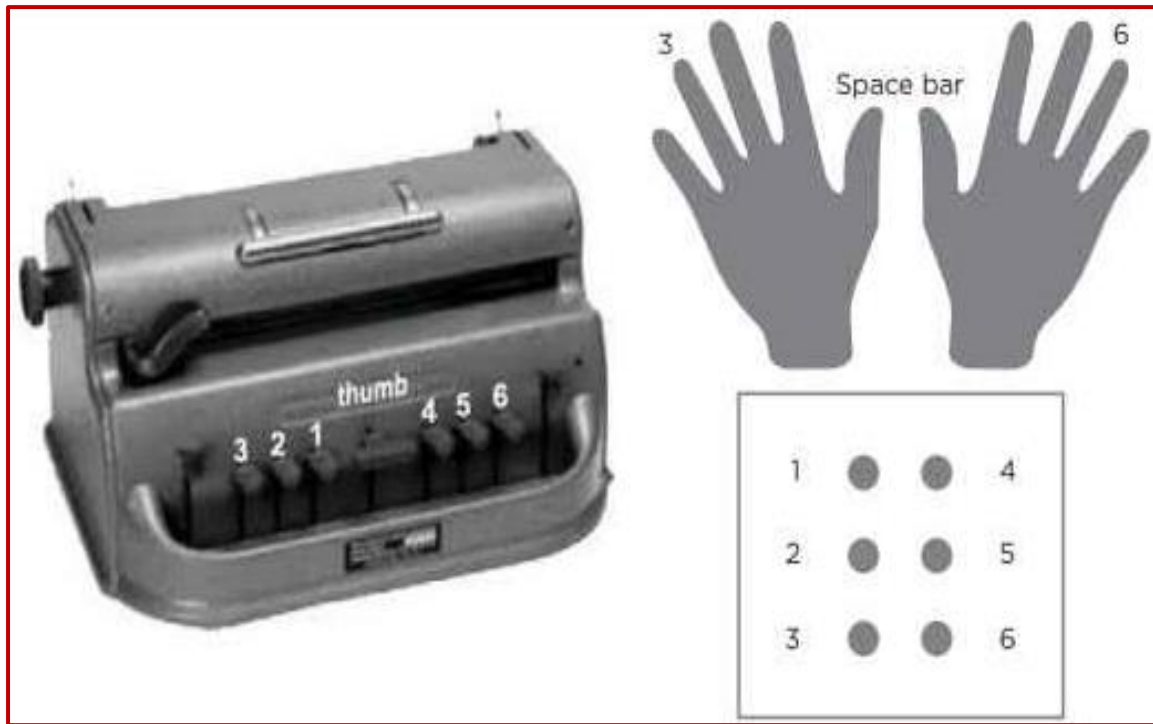
*Note:* Sefotho et al. (2020)

A Perkins Braille Writer is a valuable tool that can be used by teachers who teach literacy to Foundation Phase learners when developing teaching materials (Carney et al., 2003; Sefotho et al., 2020). The Mountbatten Pro Brailier has been found to be a critical technological tool for equipping blind learners in the Foundation Phase with early reading and writing skills (Cooper & Nichols, 2007).

According to Kao and Mzimela (2019), Foundation Phase learners with blindness in Grade R are not excluded from developing their emergent literacy, and pre-reading skills. These e-skills form the basis for developing ongoing reading skills thus providing learners with an opportunity to develop their self-esteem and overall independence. As such, the use of braille and other Braille-related materials form an important part of teaching literacy to Foundation Phase learners with blindness (Hoskin et al., 2024). An example of a braille machine is shown in Figure 2.3.

**Figure 2.3**

*Perkins Braille*



*Note: DBE (2013)*

### **2.5.2 Audio books**

Audio books are sound recordings of books where the complete text is read out aloud and can thus be listened to by learners with blindness (Luckner et al., 2016). According to Carney et al. (2003), learners with blindness can also use audio books to recognise and understand spoken language. Barclay et al. (2010) furthermore confirm that audio books offer an alternative method for accessing written text for learners with blindness that are unable to read printed materials. Foundation Phase teachers can also use audio books in combination with Braille readers to communicate stories, poems and other relevant literary texts that assist in improving active listening and comprehension skills for learners with blindness (Carney et al., 2003; Devine, 2016).

### **2.5.3 Tactile materials**

Tactile materials are objects that can be touched and felt by learners with blindness (Phutane et al., 2022). Tactile materials can be used to teach Foundation Phase learners with blindness how to recognise shapes, letters and words through touch, which supports the use of Braille in teaching literacy (Devine, 2016). Examples of tactile materials include raised line drawings, 3D models, and textured materials. These materials provide tactile

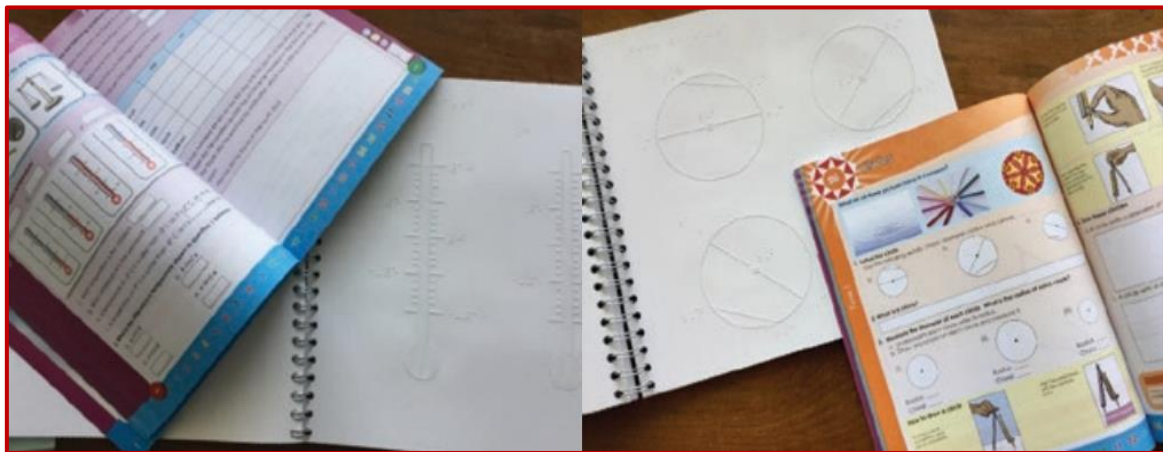
cues that enable learners to conceptualise abstract concepts such as letters, words, and sentences (Chen & Downing, 2006; Vita & Kataoka, 2014; Phutane et al., 2022).

#### 2.5.4 Large print materials

Teaching literacy to Foundation Phase learners with blindness requires a range of specialised classroom resources that cater to their unique and diverse learning needs. In addition to braille materials, audio books, tactile materials, and assistive technology, specialised resources also include large print materials printed in easy to read large fonts. Large print materials include books, worksheets, flashcards and posters that can be used to support learners with low vision in the Foundation Phase (Zhou et al., 2011). Large print materials enable learners with low vision to read comfortably while improving their visual tracking skills by reducing eye strain (Carney et al., 2003). Figure 2.4 below is an example of print and Braille workbooks used.

**Figure 2.4**

*Print and braille workbooks*



*Note: Sefotho et al. (2020)*

## 2.6 CHALLENGES RELATED TO THE TEACHING OF LITERACY TO FOUNDATION PHASE LEARNERS WITH BLINDNESS

In the present section I discuss challenges related to the implementation of inclusive education, including challenges related to the actual teaching of literacy to Foundation Phase learners with blindness.

### 2.6.1 Challenges related to the implementation of inclusive education

According to Mabasa-Manganyi (2023), there are several challenges that teachers have to interface with on a daily basis in the implementation of an inclusive education policy. One

major challenge that teachers face in South Africa are the high levels of diversity present in the classroom and more especially in rural Foundation Phase classrooms. Due to learners with disability presenting with different cultural, ethnic, religious and socio-economic status, as well as different levels of blindness, they have different learning and academic needs (Mabasa-Manganyi, 2023). Teachers have further expressed experiencing difficulty in implementing inclusive education policy due to a lack of relevant teaching skills and training, particularly in the application of different techniques and strategies for teaching some subject areas (Walton, 2017).

According to Brydges and Mkandawire (2017), a challenge linked to the lack of specialised training, is the shortage of specialised materials for learners with disability. School infrastructure is furthermore viewed as not being accessible or accommodating to learners with disability, while teachers lack appropriate skills to teach learners with blindness including the implementation of strategies for curriculum adaptation and differentiation (Donohue & Bornman, 2014; Chen & Dote-Kwan, 2021). Furthermore, learners sometimes rely on their peers for tutoring assistance, which suggests that the school system fails in fully implementing inclusive education. Walton (2017) indicates that a lack of university standardised programmes including inclusive education content are a major barrier in the implementation of inclusive education both internationally and in South Africa.

Assessment is stated as a challenge for teachers as they lack the assessment skills, while assessment is also perceived as not being fair to learners with disabilities (Douglas et al., 2009). As such, Majoko (2019) recommends competencies for inclusive education, such as differentiation of instruction, screening and assessment, collaboration, classroom and behaviour management. Malan (2018) moreover suggests a framework of teacher competencies for teaching learners with blindness. This entails knowing the learner, facilitating transition from home to school, providing appropriate access to literacy, ensuring curriculum access in a blindness-friendly environment, employing sensory methodology and motivating teachers to be holistic and inspirational enablers.

Teachers' attitudes are furthermore highlighted as a challenge. Many teachers express that teaching learners with blindness is frustrating and time consuming, while being further complicated by serious resource constraints (Ferreira et al., 2020; Walton et al., 2019), as well as irrelevant teaching materials across all grades, including hardcopy Braille textbooks, workbooks and braille printers (Luckner et al., 2016). According to Ferreira et al. (2020), teachers who teach learners with blindness should be equipped and supported with appropriate competencies, skills and teaching resources during teacher training.

Additionally, teachers require knowledge and competence regarding the use of subject-specific teaching methods and accessible technology, as well as the relevant pedagogical approaches for teaching learners with blindness. Andrews et al. (2021) affirm that teachers are overwhelmed by various challenges which include a lack of teaching resources and overcrowded classrooms, including a lack of relevant skills and knowledge to respond to diverse learner needs including those of learners with blindness.

## **2.6.2 Challenges related to classroom-based teaching of literacy to Foundation**

### **Phase learners with blindness**

Several challenges persist in teaching literacy to learners with blindness, including a lack of empirical research on specific instructional practices, psycho-social aspects of literacy instruction such as self-esteem, social isolation, motivation (Dawn, 2018), and addressing the unique needs of learners with blindness (Luckner et al., 2016). A 2018 study conducted by the University of Pretoria that explored the needs, challenges and expectations of teachers who teach learners with blindness, revealed pertinent challenges that teachers encounter in this position (Ferreira et al., 2020). Bornman (2017) affirms that teachers who teach learners with blindness require the necessary skills and competencies for inclusion, such as pedagogical, professional, social and personal skills.

Ferreira et al. (2020) have indicated that the use of irrelevant traditional teaching methods such as lecturing, listening and observation are a good example of a critical teacher training and qualification gap. Additionally, a lack of knowledge and understanding of the content of the White Paper 6: Special Needs Education (2001) and the SIAS process for learners with blindness has been highlighted as a major challenge. Walton (2017) indicates that teachers have raised concerns that they lack understanding of blindness issues, especially the identification of some of its signs and symptoms, its causes and preventive measures, and screening and accommodation of learners in the classroom, as well as the teaching and assessment of learners.

Research indicates that learners with blindness also face personal challenges when learning literacy, including struggling with reading, comprehension and written expression regardless of good decoding skills (Corn & Koenig, 2002; Erickson et al., 2007). As a result of a lack of visual cues, learners with blindness face challenges with comprehension which result in significant discrepancies between learners with blindness and their sighted counterparts.

According to Corn and Koenig (2002), learners with blindness may also struggle with phonological awareness and comprehension, which can potentially affect their ability to read

and spell words. As such, teachers who teach literacy to learners with blindness, have the responsibility of ensuring that they understand diverse learner needs and challenges to effectively accommodate these by using different teaching strategies, approaches and activities in the classroom (Barclay et al., 2010).

Luckner et al. (2016) further indicate that research pertaining to language and communication of learners with blindness is still emerging, while there is also conflicting evidence that children with blindness experience language delays. As a result, educational professionals support the implementation of teaching strategies that support learners with blindness in acquiring literacy skills (Ferrell, 2011). Assistance such as non-verbal cues and the expansion of spoken language, as well as using concrete objects to explore, short and simplified sentences to follow instructions, and the use of songs, rhymes, and questions to facilitate learners' understanding can further support learners with blindness (Luckner et al., 2016).

## **2.7 THEORETICAL FRAMEWORK FOR THE STUDY**

In compiling a theoretical framework for the study, I utilised Koehler and Mishra's (2009) theory of technological, pedagogical and content knowledge (TPACK) based on Shulman's Theory (Koehler & Mishra, 2009). In this section, I discuss the main concepts of the TPACK theory and framework. Herring et al. (2016) state that the development of learners is facilitated through the transmission of knowledge from the teacher to the learner and the creation of knowledge by the learner as facilitated by the teacher. Teachers who teach learners with blindness additionally need to integrate content, pedagogical and technological knowledge through their understanding of literacy knowledge and the use of inclusive education and teaching approaches and practices, as well as the utilisation of relevant technologies in the teaching of reading and writing.

As indicated, the theory by Koehler and Mishra on TPACK is based on Shulman's theory (1986) of pedagogical content knowledge (PCK), which further incorporates the role of technology in teaching and learning (Koehler & Mishra, 2009). Koehler and Mishra (2009) affirm that TPACK is a valuable theoretical approach to teaching with technology as it requires an understanding of the representation of concepts using different technologies and the constructive use of pedagogical techniques to teach content. It furthermore facilitates knowledge of what makes concepts easy or difficult to learn and how technology can assist in addressing some of the challenges learners face. Learners' prior knowledge

and theories of epistemology is taken into consideration and applied to further build on existing knowledge or develop new epistemologies.

In the present study of limited scope, I utilised the TPACK framework to integrate teachers' expertise (Koehler & Mishra 2009) in literacy content, pedagogy and technology in teaching literacy to Foundation Phase learners with blindness. According to Lanbon et al. (2020), teaching learners with blindness requires teachers to make pedagogical choices that will enable them to overcome the challenges they face in this regard. McDonald and Rodrigues (2016) indicate that teaching literacy requires teachers to possess exceptional instructional pedagogical skills to enable them to effectively teach learners with blindness.

According to the TPACK framework, teachers who teach literacy to Foundation Phase learners require knowledge in three key areas. These are literacy content knowledge (CK), which is premised on the understanding of literacy concepts and how these relate to learners' development; pedagogical knowledge (PK) which involves knowledge of how to design and implement effective instructional strategies for learners with blindness; and technological knowledge (TK) which pertains to knowledge on how to select and use relevant and appropriate technologies to support literacy teaching (Herring et al., 2016). The TPACK framework supports the alignment of teaching practices to the use of technology. This results in teachers embracing the use of technology in teaching, including the use of other relevant technologically oriented resources.

According to Kao and Mzimela (2019), the TPACK framework is a valuable tool in facilitating an understanding and analysis of the integration of technology when teaching literacy to Foundation Phase learners with blindness. The framework considers the dynamic relationship and interaction between content, pedagogy and technology (Koehler & Mishra, 2016) when teaching literacy to Foundation Phase learners. Ball et al. (2008) indicate that the TPACK framework provides a valuable perspective on the knowledge that teachers require to ensure effective teaching of literacy as an emerging skill during the Foundation Phase of teaching. It moreover highlights the role of pedagogical knowledge in supporting teachers' understanding of essential teaching strategies, approaches and best practices that are vital in facilitating the teaching of literacy skills to learners with blindness (Ball et al., 2008). It is furthermore founded on the important role played by technology (Koehler & Mishra, 2009), such as the use of braille and other Braille tools as a best practice and effective strategy when teaching literacy to Foundation Phase learners with blindness (Kao & Mzimela, 2019).

## 2.8 CONCLUSION

In this chapter, I presented a literature review focused on the teaching of literacy to Foundation Phase learners with blindness. I discussed existing knowledge literature, highlighting both known and unknown aspects. I furthermore explored key research findings regarding teachers' experiences of best practices, resources and challenges when teaching literacy to Foundation Phase learners with blindness. I also discussed the theoretical framework of the study, using the TPACK framework to explain the interconnected concepts of teaching with technology, thus providing a systematic view of literacy instruction to learners with blindness.



## CHAPTER 3 - RESEARCH DESIGN AND METHODOLOGY

### 3.1 INTRODUCTION

In this chapter, I provide a detailed discussion of the paradigmatic perspectives, research design and other methodical decisions made in support of the study's research questions. I conclude this chapter by focusing on the quality criteria and ethical considerations adhered to during this study of limited scope.

### 3.2 PARADIGMATIC PERSPECTIVES

As part of this study of limited scope, I utilised an interpretivist qualitative research approach. I combined this with an instrumental case-study design aimed at understanding teachers' perceptions of best practice when teaching literacy to Foundation Phase learners. In the following section I discuss the utilisation of the interpretivist approach and qualitative research method.

#### 3.2.1 Epistemological perspective

According to Ryan (2018), an interpretivist approach implies that knowledge and truth is subjective and historically and culturally founded on the basis of people's lived experiences (Mapp, 2008), as well as their own understanding (Yüksel & Yildirim, 2015). Williams (2020) highlights that an interpretivist paradigm implies that both participants and observers are responsible for generating knowledge and meaning in any social world or phenomena, thereby interpreting knowledge and reality from multiple perceptions. As such, an interpretive approach is aimed at clarifying the subjective reasons and meanings that support social actions, while considering the context (Terre Blanche et al., 2006).

An interpretive approach adopts a relativist perspective signifying that reality is only understandable through socially generated means with no single shared reality (Ryan, 2018). This highlights the suggestion that people's perceptions are based on multiple realities such as social reality, culture, norms, understanding and definition of the situation which inevitably define their actions (Krauss, 2005).

According to Creswell (2013), interpretivism creates an opportunity for researchers to understand the unique nature of the phenomenon through exploratory, observational and descriptive means rather than generalisation. Based on its unique features, the current study was not aimed at generalising the findings, but rather to ensure that the findings are

transferable to similar contexts. It therefore presents a gap for future research studies relating to teaching literacy to Foundation Phase learners with blindness (Babbie & Mouton, 2010).

In exploring and describing teachers' experiences, opinions and beliefs on best teaching practices for teaching literacy to Foundation Phase learners with blindness, the interpretive approach guided the direction of this study on how teacher-participants make meaning (Zohrabi, 2013) in the teaching of literacy. This meaning was facilitated through myself (the researcher) as an instrument of research allowing for an exploratory and descriptive outcome in alignment with the aim of the study (Merriam & Grenier, 2019).

The interpretivist approach denotes that knowledge of reality is socially constructed by human nature; the same humans are the participants of the present study (Flick, 2014), hence they shape the researcher's outcomes and no natural science is involved. As such, the researcher utilised teachers' experience and knowledge to obtain insight into the teaching of literacy to Foundation Phase learners with blindness.

### **3.2.2 Qualitative research approach**

For the present study, I employed a qualitative research approach. According to Creswell (2007), when conducting a qualitative research study, researchers make assumptions about the nature of reality by embracing the existence of multiple realities among research participants to report on their different perspectives. Wagner et al. (2012) indicate that a qualitative research approach involves understanding people's social and cultural perspectives in alignment with their experiences as they encounter them, thereby creating narratives of their experiences in human and subjective terms. Green and Thorogood (2004) confirm that a qualitative research method is justified when the study is aimed at understanding participants' perspectives, exploring the meaning attached to a phenomenon, and gaining a deeper understanding of processes related to the phenomenon in question.

According to Levitt et al. (2017), qualitative research is inductive and generally allows the researcher to explore insights and meanings in a given study. In the present study, I explored teachers' insights and meanings about perceptions regarding best practices for teaching literacy to Foundation Phase learners with blindness. These insights helped me to achieve a deeper understanding of the study and enabled me to interpret the meanings of the information provided by the teacher-participants. This approach furthermore allowed me to use purposive sampling, a participatory reflection and action (PRA) workshop, a focus group, field notes, participant observation, audio-visual recordings and a reflective journal

(Gopaldas, 2016). I chose a qualitative research approach for this study because it allowed me to provide a high level of participant involvement, which facilitated the exploration of teachers' experiences (Creswell, 2013).

In qualitative research, the researcher aims to gain a thorough, clear and contextually rooted understanding of the phenomenon within a natural setting (Nicholls, 2009; Malagon-Maldonado, 2014). Qualitative researchers furthermore prioritise close engagement with the people and contexts under study (Cypress, 2019). The strengths of qualitative research lie in the researcher's commitment to maintain transparency and accountability throughout the study. This ensures that readers can follow the researcher's decision-making and analytical methods from start to finish.

By consistently reflecting on decisions related to research elements, clarity and responsibility are upheld throughout the research process, highlighting the importance of transparency, accountability, and reflexivity (Kalu & Bwalya, 2017). Additionally, qualitative research presents challenges and dilemmas throughout its various stages, including topic selection, the literature review, setting selection, participant rights protection, research methodology and research design choices, as well as data collection, management, and analysis. As such, when exploring teachers' perceptions of best teaching practices while teaching literacy to Foundation Phase learners with blindness, I had to interface with all these challenges including confronting my own values, as well as those held by the participants (Cypress, 2019).

### **3.3 RESEARCH METHODOLOGY**

In this section, I provide an in-depth discussion of the research design and the selection of participants and the research site.

#### **3.3.1 Research design**

I utilised an instrumental case study, which included participatory reflection and action (PRA) principles as part of the study. Stake (2005) indicates that a case study research design should be viewed as a purpose-driven, integrated and bounded system, which can be understood from an interpretive, empirical and holistic perspective. According to Stake (2005), an instrumental case study focuses on an issue by selecting a confined case, such as an individual or group, and utilises it to explain the issue based on special interest and gaining understanding. In addition, a case study design highlights events in terms of the

case and generates data through vivid descriptions, which are analysed and narrated in a sequential manner (Cohen et al., 2018).

I chose a case study research design because it allowed for the exploration and description of the case in the context of real-time (Yin, 2014). I moreover selected a case study due to its adaptability to a wide range of methodological strategies such as PRA activities, focus groups, participant observation, interviews, reflective journals, field notes, and audio-visual recordings within the context of these activities (De Vos et al., 2011).

Baxter and Jack (2008) moreover indicate that a case study design provides the researcher with a solid understanding of the phenomenon under study and provides in-depth information that helps to answer the research questions in a qualitative research. The case study design provided insight (Kekeya, 2021) into how teacher participants conceptualised best practices for teaching literacy to Foundation Phase learners with blindness. It furthermore allowed for the identification of resources utilised in literacy teaching, and highlighted challenges experienced during the teaching of literacy to Foundation Phase learners with blindness.

Utilising a case study design in the qualitative research method provided me with an opportunity to explore the phenomenon using a variety of sources, including peer reviewed sources (Yin, 2014). The case study design furthermore enabled me to explore the phenomenon from an individual perspective and to use simple to complex interventions invented by myself, such as creating relationships, communities and programmes (Yin, 2012). In addition, utilising a case study design allowed me to set the boundaries of the study. Yin (2012) indicates that a case study allows the researcher to implement boundaries to prevent mistakes through what is known as binding, using time and place, context and definition, including activity and times.

Binding has helped me to keep my study within reasonable scope (Stake 2005), which is the exploration of teachers' perceptions of the best practices when teaching literacy to Foundation Phase learners with blindness. Despite the fact that there are other research designs, such as explanatory and descriptive designs, I decided to use a case study to gain reliable insight into the phenomenon and to formulate suggested solutions to the perception of the best practices regarding teaching literacy to Foundation Phase learners with blindness (Schoch, 2020).

### **3.3.2 Selection of research site and participants**

De Vos et al. (2011) state that selecting participants involves utilising a small number of units of the population as a part of the total population. In the present study, I selected a convenience and purposive group of participants based on their uniqueness. This research project aims to explore effective literacy teaching strategies for learners with blindness, specifically focusing on the emergent literacy stage. I furthermore used a purposive selection of participants to select three teachers from the conveniently selected school for learners with blindness that forms part of a broader research project within the CVIS. The CVIS, or Centre for Visual Impairment Studies, is dedicated to supporting educational research for individuals with visual impairments. As such, purposive selection relied on the researcher's judgement in selecting a sample composed of characteristics representative of the population for the study. Convenience selection was based on easy access and availability of the participants (Etikan, 2016). The selected school, located within close proximity to the University of Pretoria, provided a practical setting for conducting observations and interviews with experienced teachers working with blind learners.

Selection criteria for the purposive selection of participants specified that teacher-participants should be teachers who are currently teaching literacy to Foundation Phase learners with blindness, and that they should have at least five years of teaching experience. Additionally, teacher-participants additionally had to be willing to voluntarily participate in the proposed study to share their knowledge of best practice regarding teaching literacy to Foundation Phase learners with blindness, and to give informed consent before participating in the study (Cohen et al., 2018).

### **3.4 DATA GENERATION AND DOCUMENTATION**

Cohen et al. (2018) indicate that researchers can utilise multiple methods including participant observation, focus groups, reflective journals and field notes, including audio-visual recordings when conducting a qualitative research study. Creswell (2007) add that different data generation methods can be utilised in a case study, including document analysis and PRA. As part of the present study, a multiple data generation and documentation approach was utilised and included a PRA workshop, a focus group, participant observation, audio-visual recordings, field notes and a reflective journal (Deggs & Hernandez, 2018).

In this study of limited scope, I utilised a focus group to collect data from the three female participants teaching literacy to learners with blindness. According to Gill and Baillie (2018),

focus groups present a way of collecting data whereby the participants get together in a group and the researcher provides guidance or asks questions pertaining to a certain topic.

Focus groups are beneficial for data collection due to their effectiveness and cost-efficiency. They gather insight from a well-organised group of participants in a socially-orientated environment where interaction among stakeholders allows for diverse perspectives, languages, beliefs, and values to emerge (Gundumogula, 2020). This interaction stimulates discussions that prompt participants to reassess their own experiences and viewpoints. Open-ended questions facilitate the sharing of perceptions and beliefs that may be overlooked in structured questionnaires (Masadeh, 2012; Rosenthal, 2016).

Researchers can adjust their inquiries in real-time, enabling deeper exploration of relevant topics (Tümen Akyildiz & Ahmed, 2021). A disadvantage when using focus groups in qualitative research is their limited ability to generalise findings to the broader population (Masadeh, 2012). Although they capture diverse views and beliefs, they may not accurately represent how these are distributed across the larger population. Moreover, focus groups can face challenges in thoroughly exploring complex individual perspectives and ideas (Okoko, 2023).

In embarking on the topic under study, I secured responses from the teacher-participants by making audio recordings, writing notes and taking photographs among other required activities (Krueger & Casey, 2014). In the present study, I managed to get together teacher-participants with similar backgrounds and experiences to assist me in achieving the outcomes of the study. In addition to the focus group, I also made use of PRA activities, which were used to engage with the teacher participants and facilitating a workshop with a group of teachers to gain insight into their perceptions and attitudes. PRA activities allowed participants to own the research process thus ensuring coordinated action in defining their challenges and proposing solutions for the teaching of literacy to learners with blindness in the Foundation Phase (Chambers, 2007).

A collaborative platform was furthermore created for myself and the participants to utilise visual methods such as charts, as well as other methods such as brainstorming and discussions about questions related to the conceptualisation of best practices and resources that promote best practices, as well as any challenges that inhibit best practices for teaching literacy to Foundation Phase learners with blindness (Ferreira et al., 2020).

Musante and DeWalt (2010) describe participant observation as a method for researchers to get involved in the activities, events and interactions of a group thus attaining knowledge

about their experiences, opinions and daily routines. In the context of the present study, observation was conducted in alignment with the interaction process to foster meaningful engagement in discussions with the teacher-participants.

As part of the study, field notes (Phillippi & Lauderdale, 2018) were also compiled. Field notes, which serve multiple purposes, primarily assisted in creating detailed and comprehensive descriptions of the study environment, interactions, interviews, focus groups, and capturing valuable contextual information from documents (Phillippi & Lauderdale, 2018). The field notes reflected my observations and comments about participants' non-verbal communication in situ, as well as away from the field (Cohen et al., 2018). The data generation process was audio-recorded, while photographs were used to ensure a trustworthy data documentation process for transcription purposes (Southall, 2009).

Finally, to ensure transparency during the study, I utilised a reflective journal to explore and acknowledge my own experiences, values and positions and their potential influence during the data generation process and in the presentation of the study findings (Ortlipp, 2008; McGrath, 2021). According to Bruno and Dell'Aversana (2017), the use of a reflective journal allows researchers to connect theory with practice and to integrate various aspects of themselves such as their personal, social, cognitive, emotional, and professional functions. This has become a recognised and valuable method for cultivating and overseeing researchers' reflective practice as it allows researchers to document reflection-in-action (Göker, 2016). Using a reflective journal assisted me in developing my reflective practice skills by acknowledging beliefs, behaviours, assumptions and actions that may influence the outcomes of my research study (Hibbert & Cunliffe, 2015).

### **3.5 DATA ANALYSIS AND INTERPRETATION**

According to Flick (2014), data analysis plays a crucial role in qualitative research as it has a significant impact on the outcomes of every research study. Furthermore, there are different approaches to conducting data analysis. Punch (2009) indicates that there are three primary elements that constitute qualitative data analysis, namely data reduction, data display, and drawing and confirming conclusions.

As part of the present study, I utilised inductive thematic analysis to analyse teacher-participants' actions, voices and documents. According to Clarke and Braun (2017), thematic analysis allows the researcher to engage in the systematic identification and organisation of data to gain insight into patterns of meaning in the data set. Naeem et al.

(2023) affirm that thematic analysis is a research technique employed to uncover and interpret patterns or themes within a data set, often resulting in new insights and understanding. Nowell et al. (2017) point out that a lack of focus on relevant and rigorous thematic analysis can affect the credibility of the research process.

According to Maguire and Delahunt (2017) the qualitative researcher is normally referred to as the research instrument, as their ability to describe, comprehend and interpret perceptions and experiences is crucial for uncovering meaning in specific contexts and situations (Maguire & Delahunt, 2017). Inductive thematic analysis utilises inductive analytic techniques. It involves reviewing textual data and identifying and coding emerging themes within the content (Naeem et al., 2023). As such, inductive thematic analysis was considered suitable for the current study. It allowed me to make sense of the shared meanings and experiences of the teacher-participants in alignment with the research question on the best teaching practices for teaching literacy to Foundation Phase learners with blindness.

In conducting thematic analysis, I followed six specific steps, as indicated by Braun and Clarke (2012). The first step involved making myself familiar with the data by reading it a few times. Secondly, I logically generated codes for phrases, sentences, and paragraphs aligned with the data features. I subsequently searched for themes in the data set by consolidating the codes. I then compared codes to identify any similarities, differences, relationships and patterns in the data and noting reflections and ideas to deepen the analysis process (Terry et al., 2017). During the fourth step, I reviewed any potential themes to check their relation to the extracted codes and the whole data set. I subsequently defined and named the themes, while sub-themes were also identified for each theme to ensure that these were clearly described. I concluded by compiling the research findings in a research report (Braun & Clarke, 2022).

### **3.6 QUALITY CRITERIA**

According to Polit and Beck (2014), the trustworthiness of a study is subject to the level of assurance in the data, the way findings are interpreted and the methods employed to guarantee the quality of the study. In the current study, I established authenticity, dependability, credibility, transferability and confirmability. Northcote (2012) proposes the use of guiding principles aimed at assisting novice researchers based on an interconnected overview of different quality criteria utilised in qualitative research. These principles include the contributory nature of the research in advancing of knowledge on theory and practice in

a particular field, such as the teaching of literacy to Foundation Phase learners with blindness, the rigour and defensibility of the research, its credibility and affective nature.

### **3.6.1 Credibility**

The most crucial factor in the trustworthiness of a study and the reliability of its findings, is its credibility (Cope, 2014). Methods employed to establish credibility encompass extended involvement with participants, continuous observation where applicable, discussions with peers for feedback, verification with study participants, and maintaining reflective journals (Connelly, 2016).

To establish credibility and authenticity of the research findings, I ensured continuous engagement with the teacher-participants through member checking (Johnson et al., 2020) and debriefing (Treharne & Riggs, 2015). This allowed the participants to identify with the findings of the research and to represent their experiences. I ensured a rich description of the teacher-participant's responses through comprehensive interpretation to evaluate and facilitate the naturalistic transferability (Guba & Lincoln, 1994) and applicability of the research findings to other contexts (Treharne & Riggs, 2015).

### **3.6.2 Dependability**

To ensure dependability of the research, triangulation across the team of researchers was maintained (Flick, 2011; Janis, 2022). According to Chowdhury (2015), the concept of dependability deals with trust in the trustworthiness of a qualitative research study, such as exploring perceptions of best practices in teaching literacy to Foundation Phase learners with blindness. In the current study, I was actively involved in building trust as the study unfolded to ensure reflexivity (Anney, 2014; Banks et al., 2023).

I maintained trust among participants but also felt trustworthy while executing the present study (Marshall & Rossman, 2014). I furthermore ensured dependability by providing a detailed and thorough documentation of the study's processes such as the research design and its implementation, data collection and reflective appraisal of the study (Shenton, 2004) thus allowing future researchers to replicate the study (Kalu & Bwayla, 2017; Nyirenda et al., 2020).

Working with other members thus provided a firm habit that created trust in the study. I worked with other members to provide trust in the present study by sharing notes and engaging in member-checking discussions to get different views and experiences about the study (Chowdhury, 2015). Dependability was achieved by using other researchers to read

and respond to the field notes and their interpretation, which is known as tacit reality of the study (Polit & Beck, 2014).

In addition to the above, there is always the potential for researcher bias in a qualitative research study due to its interpretive nature. However, I overcame any such eventuality by monitoring the influence of my own values and beliefs in the present study (Chowdhury, 2015). The dependability issue was furthermore addressed since I was able to communicate my own research, thus creating another level of trust in the study (Amankwaa, 2016).

### **3.6.3 Confirmability**

Confirmability of the teacher-participants' responses was also a critical element of the research to control the researcher's influence on the research findings in terms of interests, motivations, biases and perspectives (Lincoln, 1985). To ensure confirmability, the study findings were audited by a dedicated team of researchers and research supervisor. Schwandt (2014) indicates that confirmability refers to a research study's objectivity or degree of neutrality in the research study. As such, I ensured confirmability of the study by making sure that the findings of the study represent a true reflection of the participants' opinions and experiences rather than the researchers' motivations, interests and social-desirability bias (Kyngäs et al., 2020).

According to Nyirenda et al. (2020, p.2), reflexivity refers to the recognition and acknowledgment of how one's personal beliefs and experiences can have an impact on various aspects of the research process, including the way participants respond, how data is gathered, interpreted, analysed, and ultimately presented. In the present study I aimed to explore the teachers' perceptions of best practices that can be applied by future teachers when teaching literacy to Foundation Phase learners with blindness. The teachers shared their experiences and views regarding teaching literacy to learners with blindness, which were crucial in the current research (Treharne & Riggs, 2015).

### **3.6.4 Transferability**

According to Nyirenda et al. (2020), transferability can be referred to as generalisability, which means that the research's findings can be applicable to other research settings or contexts. In the current study, transferability was achieved by describing the research assumptions to ensure understanding of the perceptions of best practices on teaching literacy to Foundation Phase learners with blindness. Transferability pertains to the applicability of the research findings to different settings, while its usefulness depends on

the readers' own judgment in assessing how relevant those findings are to their specific circumstances (Polit & Beck, 2014).

Amankwaa (2016) indicates that researchers can enhance a research study's transferability by offering a comprehensive and elaborate portrayal of the setting, geographical location, and individuals involved in the research. In the present study, I maintained transparency in the data analysis methods which assisted in establishing the credibility of the research. The present study additionally presented a naturalistic and engaging representation, which provided sufficient context and sought to enlighten and connect with the research audience (Leung, 2015).

### **3.6.5 Authenticity**

Connelly (2016) indicates that authenticity in research refers to the degree to which researchers accurately and comprehensively represent various aspects of reality and effectively portray the lives of participants. Schwandt et al. (2007) argue that authenticity enhances trustworthiness by questioning how interpretations are formed and evolve. Qualitative research influences both researchers and participants, potentially reshaping their understanding of truths. Authenticity furthermore emphasises diverse value systems and perspectives, acknowledging that these evolve through interaction.

Authenticity additionally highlights the importance of considering participants' voices, diversity, and empowerment, fostering mutual respect and collaborative truth construction among researchers and participants. According to Johnson and Rasulova (2017), authenticity includes examining participants' statements, such as their testimonies, and maintaining audit trails that track how participants' understanding of their own world and appreciation for perspectives outside their stakeholder group develop. This also involves documenting the researcher's evolving subjectivity throughout the research process.

In the present study, I ensured authenticity of the study by selecting suitable individuals to participate in the study. The sampling technique involved the selection of teachers teaching literacy to Foundation Phase learners with blindness with the relevant experience. The sample contributed to a comprehensive representation of the teachers' experiences (Polit & Beck, 2014). The authenticity principle allowed me to place significant emphasis on evaluation of the research study's ability to integrate teacher-participants' values and perspectives while also empowering them to enhance their circumstances.

### 3.7 ETHICAL CONSIDERATIONS

According to Schenck et al. (2010), ethics refer to norms and values that guide moral behaviour. Cohen et al. (2018) affirm that ethical considerations apply to both the researcher and the participants. To ensure that the present study was conducted ethically and that the rights of the teacher-participants were not violated, I applied ethical considerations (Johnson et al., 2020). Hammersley and Traianou (2012) indicate that ethical considerations include factors such as respect and autonomy, protecting privacy, offering reciprocity and treating participants equitably, as well as minimising harm.

In the present study ethical considerations were especially significant due to its in-depth nature of conducting a focus group with teacher-participants. Obtaining consent involved ensuring that it was given voluntarily, that participants fully understood what was being asked of them, and that they were competent to consent (Webster et al., 2013). For participation in the research study, I ensured that teacher-participants were well-informed about the research, understood the information provided, and had the freedom to choose whether to participate or decline (Mirza et al., 2023). Teachers' agreement to participate in the study was moreover obtained only after thoroughly explaining the research process to them and securing permission and approval from the University of Pretoria's ethical committee, the Gauteng Department of Education and the school governing body (Sikes & Piper, 2010).

In my study, informed consent was secured from the teacher-participants through written informed and signed consent. Participation was voluntary, and teacher-participants had the right to withdraw from participating in the study at any given time (Babbie, 2020). To maintain anonymity and confidentiality, teacher-participants' names and identities were not disclosed during data collection, analysis, or reporting of the study's findings (Webster et al., 2013).

Data analysis occurred concurrently with data collection, and I independently transcribed and analysed the data. At the same time, the generated data was only accessible to the research team for cross-checking during data analysis and it was used to generate research findings as part of the broader research project. Finally, due to the nature of the present study, no issues of harm were expected to emanate from the study. However, in the event that any issues were experienced, these were proactively managed by ensuring that teacher-participants were protected from any form of emotional or physical harm and by referring them to a psychologist if necessary as indicated by Rolfe (2006).

### 3.8 CONCLUSION

This chapter started with an introduction, followed by the study's philosophy, which adopted the use of interpretivism. This background assisted me in gaining insight to the problem under study. I proceeded to adopt the current study's purposive sampling method, which allowed me to collect data from the teacher-participants to provide in-depth information regarding the topic under study. I furthermore outlined the data generation methods, utilising a focus group which incorporated the use of field notes, charts, audio-recordings and photographs.

I additionally discussed how the data collected was recorded, transcribed and analysed, using thematic analysis; I ultimately shared it with the research team who form part of the broader research project for member checking purposes. I furthermore discussed the quality criteria adhered to during the study to ensure credibility, dependability, confirmability, transferability and authenticity. I concluded by outlining the ethical considerations for the current study, namely minimising harm and ensuring respect for and autonomy of the participants including the protection of their rights.



## CHAPTER 4 - RESULTS OF THE STUDY

### 4.1 INTRODUCTION

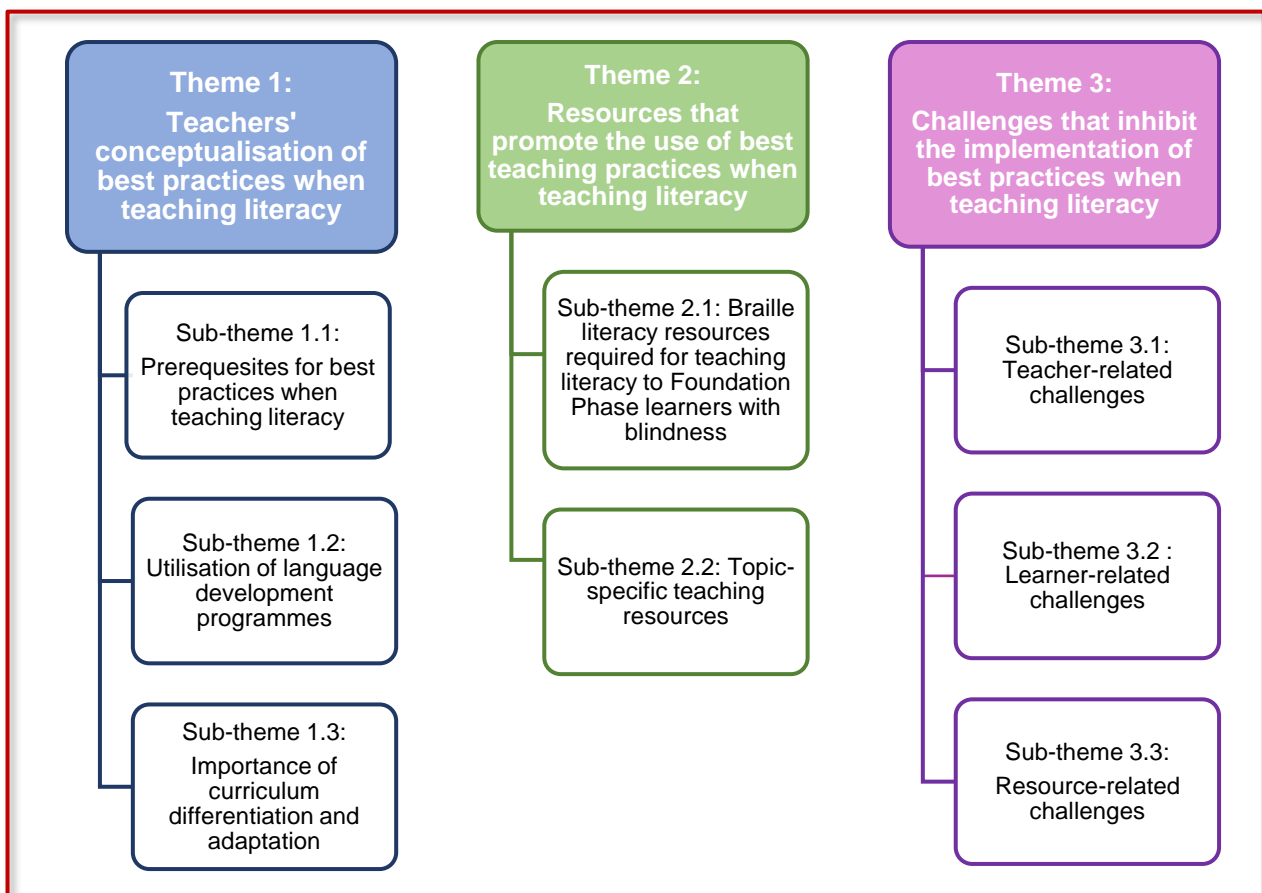
In this Chapter, I present the resulting findings of my study of limited scope in terms of three themes and related sub-themes that emerged during the data analysis and interpretation. I then discuss the research findings of this study of limited scope against the background of existing literature on teacher perspectives of best practices for teaching literacy to Foundation Phase learners with blindness.

### 4.2 RESULTS OF THE STUDY

In this section, I discuss the results of the study by outlining the three themes and relevant sub-themes identified during the thematic data analysis.

**Figure 4.1**

*An overview of the themes and sub-themes of this study.*



#### 4.2.1 Theme 1: Teachers' conceptualisation of best practices when teaching literacy

Theme 1 has three sub-themes that highlight teachers' conceptualisation of best practices when teaching Foundation Phase learners with blindness. Sub-theme 1.1 presents the prerequisites for best practices when teaching literacy. Sub-theme 1.2 presents the utilisation of language development programmes as a best practice for teaching literacy. Sub-theme 1.3 presents the importance of curriculum differentiation and adaptation as a best practice for teaching literacy to Foundation Phase learners with blindness.

**Table 4.1**

*Inclusion and exclusion criteria for Theme 1*

	INCLUSION CRITERIA	EXCLUSION CRITERIA
<b>Theme 1: Teachers' conceptualisation of best teaching practices when teaching literacy</b>		
<b>Sub-theme 1.1:</b> Prerequisites for best practices when teaching literacy	Data regarding essential knowledge and skills required to effectively apply best practices	Data referring to strategies and resources required to implement best practices
<b>Sub-theme 1.2:</b> Utilisation of Language Development Programmes	Data referring to language development programmes that support the teaching of literacy to Foundation Phase learners with blindness.	Data referring to teacher knowledge of braille codes.
<b>Sub-theme 1.3:</b> Importance of curriculum differentiation and adaptation	Data referring to the use of curriculum differentiation and adaptation to support the teaching of literacy to Foundation Phase learners with blindness	Data referring to teacher training and experience, and language development programmes as best practices for teaching literacy to Foundation Phase learners with blindness

##### 4.2.1.1 Sub-theme 1.1: Prerequisites for best practices when teaching literacy

The participants mentioned that there are fundamental best practices that inform the teaching of literacy to Foundation Phase learners with blindness. Teachers agreed that teacher knowledge and experience formed an important part of the teaching of literacy to

Foundation Phase learners with blindness. Participant 1 stated: *“Point one in terms of best practices, would be as a teacher, you need to be competent in knowledge, know what you are going to assess and then start the teaching”* (PRA activities, Participant 1, line 19-24). Participants were of the view that learners benefit by being taught by someone who is knowledgeable and experienced in teaching learners with blindness. The fundamental knowledge-based best practices indicated by the participants were indicated as teacher training and experience, teacher knowledge of braille codes, and teacher knowledge of and implementation of inclusion policy.

Participants indicated that having the relevant teacher training and experience is a best practice when teaching literacy to Foundation Phase learners with blindness. Participant 2 explained: *“You can’t have a general teaching degree and you learn the basics...but there is still so much training that needs to be done for the teacher herself before you can even start teaching... because in my fourth year, I applied to go do a practical...”* (PRA activities, Participant 2, line 33-44). Participant 3 further stated: *“I do not understand why our teaching students are not exposed to specialised schools. I mean this is where the difference comes in. If they have exposure, then obviously they can learn more, they can be better trained”* (PRA activities, Participant 2, line 45-49).

Participant 1 elaborated as follows: *“Because right now it’s really difficult having teachers that their heart is not, they are not special needs teachers (PRA activities, Participant 1, line 56-58) So, if they have more exposure... they feel they can actually do this. If there is better teacher training in terms of exposing them first, it will prepare them for later. And that will obviously have an effect on best practices”* (PRA activities, Participant 1, line 59-63). Participant 3 added: *“And that’s why at our school especially, we are very strict on our training for braille teachers, all our teachers from Grade R to the Grade 12 teachers have to have the Grade one braille”* (PRA activities, Participant 3, line 10-13).

Participants furthermore indicated that teachers who teach Foundation Phase learners with blindness need to have knowledge of braille codes. Participants emphasised that for best practices and to be an effective teacher, you have to be adequately prepared to teach learners with blindness. Participant 1 stated: *“So for best practices and to be effective, there needs to be preparation....the teacher needs to know braille, the teacher would need to know the...the steps from the beginning to the end of teaching them braille”* (PRA activities, Participant 3, line 297-300). Participant 1 additionally stated: *“Everybody writes that exam, and then from Grade 4 to Matric. And then us braille teachers we do the Grade two contracted braille. So, we do the English... both languages, English and Afrikaans because*

*Afrikaans its different from English” (PRA activities, Participant 1, line 15-18). Participant 3 added: “And that’s why our school especially, we are very strict on our training for braille teachers, all our teachers from Grade R to Grade 12 teachers have to have the Grade one braille” (PRA activities, Participant 3, line 10-13).*

Participants perceived teachers’ knowledge and experiences on braille literacy as critical in equipping learners with the relevant oral work skills, such as listening and speaking. Additionally, braille literacy skills were perceived as providing a basis for the attainment of important skills such as writing and reading during the Foundation Phase of learning. Participant 3 explained: *“So also depending on the children in the class for instance, I start, they only start writing on the braille machine end of term two, beginning of term three....So the first two terms are usually, it’s a lot of oral work and its more listening and speaking so that everything they do is practical, they don’t read or write like that , we have a reading program that we do start with, but I think the biggest thing would be that the blind learners are a little bit behind the curriculum. Their time is less to get things done in that year....from Grade two and three, it almost levels out because now they know the braille” (PRA activities, Participant 3, line 94-101).*

Participants further indicated that to ensure effective teaching of learners with blindness, classes are kept small to ensure that all learners’ needs are adequately met in the classroom.

Participant 2 stated: *“We have between 7 to 10 learners per class. We can’t have big classes. That’s why I prefer to have a class assistant, but that’s not always the case. We are fortunate if that happens, but yes, so, but also the ratio for a blind learner is one to five blind” (PRA activities, Participant 2, line 202-204). Participant 1 affirmed: “Yes, keeping the class small helps, we build good relations with learners” (PRA activities, Participant 1, line 205-206). Participant 3 indicated: “I agree, especially with lack of braille resources” (PRA activities, Participant 3, line 207).*

Participants perceived knowledge of the inclusion policy and the inclusion of learners with blindness as an important factor in promoting social justice and the accommodation diverse learners in the classroom. Participant 1 stated: *“I think for us, for me personally, the biggest thing would be that they do much more about inclusion, which is great right? We are all for inclusion” (PRA activities, Participant 1, line 30-31). Participant 1’s statement about the important role played by inclusive education highlighted participants’ value of equality in the classroom and the overall importance of creating access to the Foundation Phase*

curriculum to learners with blindness. Participant 3 indicated: *“More especially with our blind learners, inclusion is key”* PRA activities, Participant 3, line 32). Participant 2 affirmed: *“Yes, the Department of Education is particular about inclusion”* (PRA activities, Participant 3, line 33).

#### **4.2.1.2 Sub-theme 1.2: Utilisation of language development programmes**

In this Sub-theme the teaching of Braille literacy and the incorporation of the CAPS curriculum to teach literacy skills emerged as part of language development programmes for teaching literacy to Foundation Phase learners with blindness. Participants indicated that language development programmes are perceived as a best practice when teaching literacy to Foundation Phase learners with blindness.

Participants stated that teaching literacy skills empowers learners with blindness with skills to speak, listen, read and write. Teachers further indicated that the assessment of learners forms an important part of teaching literacy. Participants affirmed that language development programmes are an important part of teaching literacy to learners with blindness during the Foundation Phase. Participants further stated that the teaching of Braille literacy runs concurrently with the CAPS curriculum and is taught from Grade one.

Participants highlighted the following regarding the teaching of braille to learners with blindness. Participant 1 stated: *“Well before they start to read and write, okay, they have to be introduced to the braille code as a whole* (PRA activities, Participant 1, line 143-144)*.....so this is our braille cell. This is what the braille cell looks like”* (PRA activities, Participant 1, line 145-1146) This participant elaborated as follows: *“So for the braille cell what I do is stick it on the table with prestik because it’s easy, they like to play with things and it does move around. The whole idea with braille is that its fixed* (PRA activities, Participant 1, line 148-150). In addition, this participant added: *“they first pack it, normally we start packing it in a pattern. They do this in Grade R as well. So, they would just, normally we would go, take your finger, take the hand. Place it normally onto the holes, so that they can get a feel for what it feels like and know where everything is”* (PRA activities, Participant 1, line 155-159).

Participants further emphasised the importance of teaching braille literacy by means of alphabet letters to Foundation Phase learners with blindness. Participant 2 said: *“What we do now is we start reading the alphabet first before we do numbers, because the numbers are difficult. So we start with the basics. And in grade one we switched up the alphabet because our braille alphabet runs concurrently with the books that they start reading. So you*

*can't give them a letter that they don't know, you can't get them to read it before they have practiced it. We don't say A, B, C, D. So we call it A for Apple. What I would do with them it's very, it's a one-on-one thing"* (PRA activities, Participant 2, line 179-188).

Participant 2 further explained: *"If we have to start with A or the apple, I would tell them first.. we go A for Apple, then apple for A. Then we say that A for apple is dot one. Then they go A for Apple is a dot one. I show them an example on here first, and from there on they practice themselves. This is also explained for reading directionally, right? We start from here to there.. at the top to the bottom. We never go backwards"* (PRA activities, Participant 2, line 189-195). Participant 2 concluded: *"This is how we practice all our readers, all the numbers, the plus, the minus, equals...to any new braille concept in grade one, the uncontracted braille that they learn. Grade two and three we don't do this, unless there is a learner that comes into Grade two or three that didn't have braille training beforehand in Grade one. Then its adapted for the teacher. She uses her curriculum and this, but this is more for the Grade ones"* (PRA activities, Participant 2, line 195-201).

Participant 1 indicated: *"Concurrently with all of this, we now do a readiness, we call it a readiness book. Where they not only learn how to read braille, but where they learn how to do book handling and care, where they learn directionality, finding the place on a page. There is certain ways that we do that because if you lose your space in a reading book, you can easily just quickly use your guide scan"* (PRA activities, Participant 1, line 210-214). Participants also indicated that by the end of Grade one, Foundation Phase learners with blindness are expected to have mastered reading skills. Participant 2 stated: *"At the end of grade one they have to be able to read their own assessments. So language and mathematics. They must read their own things at the end of the year in grade one. That's the reading book."* (PRA activities, Participant 2, line 245-247). Participants stated that once learners are able to read on their own, they make a transition from packing letters and writing it on the braille machine. Participant 3 mentioned: *"So once they are done with the reading, we have....where is Woody? Oh okay. So this guy, Woody, Woody allows for the transition between packing the letter and writing it on the braille machine, because when you see it like this, its different than having to write it, because yeah, its like this, but the writing is like this horizontal"* (PRA activities, Participant 3, line 254-258).

Participant 1 additionally indicated: *"Here they have their braille machine in front of them. We've now obviously done with finger exercises on the braille machine. Also, in here there are 17 exercises for finger strength, and knee that you have to do before you could start with the normal writing posture, you know, shoulder strength, all of that, because it does get tiring*

*and the braille machine is not easy to press.* (PRA activities, Participant 1, line 263-267). Participant 1 elaborated: *“The child sits on that side. We always sit on this side...the learner packs the letter/s on the braille machine* (PRA activities, Participant 1, line 273-275); *“...also specific fingers specific keys* (PRA activities, Participant 1, line 283) *and individual fingers left from right ...very important directionality”* (PRA activities, Participant 1, line 284). This participant added: *“You’ll see from Grade two, from Grade one the writing is slow, but from Grade two they just go”* (PRA activities, Participant 1, line 295-296).

Participant 1 further elaborated and emphasised: *“The only thing that’s added on with the braille is that they start learning contractions...what is contractions?..... its braille shortened. So instead, if you had to type out a book and you had to do it in braille, if you didn’t contract the words you would end up with... for example.....7000 pages of a book because there is only so many words that can fit on a page”* (PRA activities, Participant 1, line 106-110). The participant continued: *“The book is thick because the braille is raised so it does thicken the book. So, there are certain words and phrases and sounds that are contracted...So it’s like shorthand.”* (PRA activities, Participant 1, line 111-113). Participant 3 added: *“Remember they also take the whole alphabet again from A to Z....and now they put something in front. We call it the letters one sign. And then A is one, B is two....and those things make the things...make it more difficult when you teach a braille learner.”* (PRA activities, Participant 3, line 124-127). Participant 1 further added: *“Yeah, that is it, and, and in our school, not one teacher is reading it with their fingers...we read it with our eyes, it’s difficult for us to read it because we can see, so if our sentence is tightened like this. We read it with our eyes.”* (PRA activities, Participant 1, line 128-132).

#### **4.2.1.3 Sub-theme 1.3: Importance of curriculum differentiation and adaptation**

Participants indicated that curriculum differentiation and adaptation is an important factor when teaching literacy to learners with blindness. Participants perceived that the teaching of language to learners with blindness requires the utilisation of concrete experiences which assist learners to learn and understand language. Additionally, participants highlighted that teachers have to explore different ways to ensure that learners participate in braille literacy activities.

To ensure curriculum differentiation and adaptation, participants indicated that learners in their classrooms are separated according to their visual impairment levels, namely partially sighted and learners with blindness. Participant 1 stated: *“So, at the school we’ve separated our visually impaired, partially sighted learners and our braille learners. Okay, this is*

*because the grade one braille learners run, it's like a separate curriculum to teach where they learn braille first because this is the way they read and write. Right? So, they have to learn the braille first before we can start doing anything, because they need to know what the braille is, and what the letter looks like and what the number looks like. So, it's almost, it runs concurrently with the CAPS curriculum for the braille children especially”* (PRA activities, Participant 1, line 78-83).

Participants indicated that separating learners allows the acknowledgement of learner differences, and differentiating the curriculum in alignment with individual learning needs of each learner. Participant 1 indicated: *“So, they are probably a term behind, whereas the partially sighted children... Grade one children they start immediately.....When we take the grade ones in the braille section, they take a little bit longer to catch up with the curriculum”* (PRA activities, Participant 1, line 83-86). Participant 2 pointed out: *“The partially sighted kids...this is the font speaker, the adjustments here....its like a mainstream school, but its just the font is different and they have got TVs”* (PRA activities, Participant 2, line 102-104).

Participants expressed that it is important to evaluate learners' needs and to develop a unique tailored programme to meet those learning needs. Participant 2 added: *“Yes, learners with blindness need teaching that involves hands-on experiences”* (PRA activities, Participant 2, line 103-104). Participant 3 agreed: *“For learners with blindness, they need good models. You see? Separating our learners helps in structuring class activities for our different learners”* (PRA activities, Participant 3, line 87- 89).

#### **4.2.2 Theme 2: Resources that promote the use of best practices when teaching literacy**

In Theme 2, I discuss the resources identified by the teacher participants required for best practices when teaching literacy to Foundation Phase learners with blindness. Sub-theme 2.1 presents braille literacy teaching resources required for the teaching of literacy. Sub-theme 2.2 presents the topic-specific teaching resources for teaching literacy.

**Table 4.2**

*Inclusion and exclusion criteria for Theme 2*

	<b>INCLUSION CRITERIA</b>	<b>EXCLUSION CRITERIA</b>
<b>Theme 2: Resources that promote the use of best practices for teaching literacy</b>		
<b>Sub-theme 2.1:</b> Braille literacy resources for teaching Foundation Phase learners with blindness	Data referring to braille literacy resources that support the teaching of Foundation Phase learners with blindness.	Data referring to resources that align with topic-specific teaching resources.
<b>Sub-theme 2.2:</b> Topic -specific teaching resources	Data referring to resources that align with topic-specific teaching resources.	Data referring to braille-specific literacy teaching resources supporting the teaching of Foundation Phase learners with blindness.

**4.2.2.1 Sub-theme 2.1: Braille literacy resources required for teaching literacy to Foundation Phase learners with blindness**

Participants indicated that tactile teaching materials are used to teach Foundation Phase learners with blindness how to recognise letters, words, and shapes through touch. Examples of tactile materials include raised line drawings, 3D models and textured materials that provide tactile cues enabling learners with blindness to conceptualise abstract concepts such as letters, words and sentences. Participants confirmed that they use resources such as the braille cell, braillette board/peg board, braille reading book (see pictures on Appendix E, Photograph 6, 7 and 8), earphones for computers and other topic-specific teaching aids.

In this regard, Participant 1 explained: *“We call them peg boards. So, we have got a steel one and then a wooden one. Now the wooden one is for the learners whose fine motor skills and the touch haven’t been developed enough for them to feel the smaller holes here.”* (PRA activities, Participant 1, line 173-176). Participant 1 added: *“The only difference is that the fonts are big and they use a TV. There aren’t any adjustments, nothing is adjusted. Resources that we have to do for them. The RTC things that they use, it’s literally the, the screen is bigger, so they use the same graphs as the other same schools and just make sure that the font is clear, that the pictures are clear, that it’s not like, you know, like them to see, but we, but the braille adaptations are royal. That is the real issue. And it’s much more difficult to do it in for, for maths”* (PRA activities, Participant 1, line 134-140).

Participant 2 further explained: *“...here they have their braille machines in front of them, (PRA activities, Participant 2, line 263) So the complete alphabet consists of six, either from like to six, made up of something in a denomination, different combinations. Yes, numbers, letters”* (PRA activities, Participant 2, line 291-294). Participant 2 continued: *“So this book basically just teaches, it prepares them for reading. I can put it like that. This book is not a reading book; it's just a book with a simple pattern... that they follow, so their fingers can get used to the braille on a paper as well”* (PRA activities, Participant 2, line 216-219).

Participant 3 further added: *“So for the braille cell, what I do is I stick this onto the table with prestick because it's easy, they like to play with things and it does move around. The whole idea with braille is, is that it's fixed. But for them, it plays on their mind. Okay, so we, we stick it down. This is on their table like this. Okay. Now we have to learn how the braille cell works. Okay. So when you, when we, we stopped, yes. They first pack it, normally we start packing it in a pattern. They do this in grade R as well. They start with this in Grade R”* (PRA activities, Participant 3, line 148-154).

#### **4.2.2.2 Sub-theme 2.2: Topic-specific teaching resources**

Participants indicated that listening, speaking, reading and writing skills form part of the CAPS curriculum during the Foundation Phase of learning. As such the participants confirmed the use of topic-specific resources when teaching these literacy skills. Participants affirmed that they utilise the Braille Teaching Booklet/Guide (see Appendix F), Braille literacy readers, Vocabulary Programme books, Language Programme books and Braille literacy readers (see pictures on Appendix E, Photograph 5, 9, 10, 11 and 12). In this regard, Participant 1 stated: *“So this book basically just teaches, it prepares them for reading. I can put it like that. This book is not a reading book. It's just a book with a simple pattern that they follow. So their fingers can get used to the braille on a paper as well”* (PRA activities, Teacher 1, line 216-219). Participant 1 further indicated: *“We do a readiness, we call it a readiness book, where they not only learn how to read braille, but where they learn how to do book handling (PRA activities, Teacher 1, line 210-211).*

Participant 1 continued as follows: *“So with pre-reading it's very interesting”* (PRA activities, Teacher 1, line 224-226) *“it's our hand movement book. Yeah. So this is the pre-reading book that you use”* (PRA activities, Teacher 1, line 234-236). Participant 2 further explained: *“They must read their own things at the end of the year in Grade one. That's the reading book.”* (PRA activities, Participant 2, line 245-246). Participant 1 furthermore stated: *“The*

*only thing that's added on with the braille is that they start learning contractions...what is contractions?..... its braille shortened"* PRA activities, Teacher 1, line 106-107).

#### **4.2.3 Theme 3: Challenges that inhibit the implementation of best practices when teaching literacy**

In Theme 3, I discuss the identified challenges that inhibit the implementation of best practices when teaching literacy to Foundation Phase learners with blindness. The challenges include time challenges, lack of teacher knowledge and training, lack of teaching resources, lack of parental involvement, the visual orientation of the CAPS curriculum, language inadequacy and a lack of stimulation for learners, including multiple disabilities experienced by learners.

Sub-theme 3.1. presents teacher-related challenges experienced by teachers when teaching literacy. Sub-theme 3.2 highlights learner-related challenges experienced by teachers who teach literacy and Sub-theme 3.3 focuses on resource-related challenges experienced by teachers who teach literacy.

**Table 4.3**

*Inclusion and exclusion criteria for Theme 3.*

	<b>INCLUSION CRITERIA</b>	<b>EXCLUSION CRITERIA</b>
<b>Theme 3: Challenges that inhibit the implementation of best practices when teaching literacy</b>		
<b>Sub-theme 3.1:</b> Teacher-related challenges	Data referring to teacher-related challenges experienced by teachers teaching literacy to Foundation Phase learners with blindness	Data referring to learner-related and resource-related challenges.
<b>Sub-theme 3.2:</b> Learner-related challenges	Data referring to learner-related challenges experienced by teachers teaching literacy to Foundation Phase learners with blindness	Data referring to teacher-related and resource-related challenges supporting the teaching of learners with blindness.

	INCLUSION CRITERIA	EXCLUSION CRITERIA
<b>Sub-theme 3.3:</b> Resource-related challenges	Data referring to resource-related challenges experienced by teachers teaching literacy to Foundation Phase learners with blindness.	Data referring to teacher-related and learner-related challenges supporting the teaching of learners with blindness.

#### **4.2.3.1 Sub-theme 3.1: Teacher-related challenges experienced by teachers when teaching literacy**

Participants perceived teacher-related challenges as factors that inhibit the implementation of best practices when teaching literacy to Foundation Phase learners with blindness. Participants indicated that teachers who teach literacy to Foundation Phase learners should have the relevant personal attributes to teach learners with blindness. Participants perceived a lack of passion and commitment to teaching learners to blindness as a challenge in their school.

Participant 1 stated: *“Because right now it’s really difficult having teachers that their heart is not, they are not special needs teachers”* (PRA activities, Participant 1, line 56-57). Participant 1 added: *“If they have exposure, they feel they can actually do this. If there is better teacher training in terms of exposing them first, it will prepare them for later. And that will obviously have an effect on best practices”* (PRA activities, Participant 1, line 58-59). Participant 2 agreed: *“Yes, as a teacher you need to be adaptable to the classroom environment”* (PRA activities, Participant 2, line 60-61) *“Passion is key. Yes. Otherwise it’s difficult to last in teaching”* (PRA activities, Participant 3, line 62-63).

Participants further indicated that a lack of teacher training is a major challenge for teachers who teach learners with blindness. Participants additionally expressed that a general teaching degree is not sufficient when teaching learners with blindness. Participant 2 stated: *“You can’t have a general teaching degree and you learn the basics”* (PRA activities, Participant 2, line 33). Participant 3 agreed: *“I do not understand why our teaching students are not exposed to specialised schools. I mean this is where the big difference comes in.....”*(PRA activities, Teacher 3, line 48-49).

#### **4.2.3.2 Sub-theme 3.2: Learner-related challenges**

Participants indicated that teachers experience learner-related challenges when teaching Foundation Phase learners with blindness. These challenges are perceived as inhibiting the

implementation of best practices when teaching literacy. Participants perceived that learner-related-challenges include factors such as the lack of language and stimulation of learners, the CAPS curriculum is too visually oriented and challenges with multiple disabilities.

In this regard, Participant 3 indicated: *“But I think the biggest challenge would be that the blind learners are a little bit behind the curriculum. Their time is less to get things done in that year....from Grade two and three, it almost levels out because now they know the braille”* (PRA activities, Teacher 3, line 94-101). Participant 1 affirmed that: *“the language is not there, the fingers are not properly stimulated”* (PRA activities, Participant 1, line 120). Participant 2 stated: *“We still need teachers in specialised schools. We’ve got deaf children, we’ve got blind children, we’ve got all this. So, our teachers come in and we are grateful for them. But there is still so much training that needs to be done for the teacher herself”* (PRA activities, Participant 2, line 34-37).

In addition, Participant 3 indicated: *“So when you do your practicals, it’s not, you’re not dead set that you have to do this for the rest of your life. So because now you have someone that, that doesn’t really want to do this and they don’t like adaptations and this is not for them...Maybe I would rather teach at the deaf school. I didn’t like braille that much but I like the sign language. So, something like that. If you, if you get exposure to it, then you can decide better on where you should be, because right now its difficult having teachers that their heart is not...they are not special needs teachers and it’s difficult”* (PRA activities, Participant 3, line 51-58).

Participant 1 furthermore stated: *“The language is not there, the fingers are not properly. And remember in braille you use both hands, So both hands must be strong, strong, And that is the starting point. That is why it’s so difficult for us in grade one”* (PRA activities, Participant 1, line 120-122). Participant 2 agreed: *“Shoulder strength, all of that, because it does get tiring and the braille machine is not easy to press”* (PRA activities, Participant 2, line 266-267).

Participant 1 furthermore stated: *“It runs concurrently with the CAPS curriculum for the braille children especially. So they are probably a term behind, whereas the partially sighted Grade one kids they start immediately, they go in and they, you know, they go for it. When we take the Grade ones in the braille section they take a little longer to catch up with the curriculum”* (PRA activities, Participant 1, line 85-89). Participant 2 elaborated: *“We still need teachers in specialised schools. We’ve got deaf children, we’ve got blind children, we’ve got all this. So, our teachers come in and we are grateful for them. But there is still so much*

*training that needs to be done for the teacher herself”* (PRA activities, Participant 2, line 34-37).

To this end, participant 3 added: *“So when you do your practicals, it’s not, you’re not dead set that you have to do this for the rest of your life. So because now you have someone that, that doesn’t really want to do this and they don’t like adaptations and this is not for them. Maybe I would rather teach at the deaf school. I didn’t like braille that much, but I like the sign language. So, something like that. If you, if you get exposure to it, then you can decide better on where you should be, because right now its difficult having teachers that their heart is not.....they are not special needs teachers and its difficult”* (PRA activities, Participant 3, line 51-58).

#### **4.2.3.3 Sub-theme 3.3: Resource-related challenges**

Participants indicated that teachers experience resource-related challenges when teaching Foundation Phase learners with blindness. These challenges are perceived as inhibiting the implementation of best practices when teaching literacy. Examples indicated by the participants include a lack of training and assessment skills, a shortage of teaching resources, a lack of parental involvement and time challenges.

*Participant 1 stated: “What are you going to assess, and then you start with teaching, because the road to get there is the same, but the pace is much slower. And then you must cut everything to the bone and to make sure you adding weight again, you have to aim with your assessments”.* (PRA activities, Participant 1, line 25-28).

Participant 2 added: *“You can’t have a general teaching degree and you learn the basics. We still need teachers in specialised schools. We’ve got deaf children, we’ve got blind children, we’ve got all of this. So, our teachers come in and we are grateful for them. But there’s still so much training that needs to be done for the teacher herself before you can even start.”* (PRA activities, Participant 2, line 33-37). Participant 1 agreed: *“We should have brought a braille machine. We have one, but unfortunately its locked.”* (PRA activities, Participant 1, line 275-276); and *“Oh and this is homemade for parents who obviously cannot afford to buy”* (PRA activities, Participant 1, line 168).

Participant 1 furthermore confirmed: *“I hand these out to parents when they come in Grade one and they need to practice with their child. They can use this and they don’t have to buy expensive braille equipment, because it is expensive, unfortunately. We call them peg boards. So we have got a steel one and then a wooden one”* (PRA activities, Participant 1,

line 170-175). Participant 1 concluded: *“If you see ...look at our Grade R’s.... I am talking about the blind learners. Remember the parent doesn’t know how to stimulate the braille children”* (PRA activities, Participant 1, line 115-117).

## 4.3 FINDINGS

In this section, I discuss the similarities and inconsistencies of the findings in this study of limited scope against existing literature on teachers’ perceptions of best practices for teaching literacy to Foundation Phase learners with blindness.

### 4.3.1 Prerequisites for best practices when teaching literacy to Foundation Phase learners with blindness

Teachers indicated that knowledge components, such as teacher training and experience, teacher knowledge of braille codes and teacher knowledge of and the implementation of inclusion policies, such as teacher attributes are important factors in the implementation of best practices. Mncube et al. (2021) confirm the importance of literacy instruction for learners with blindness, aimed at fostering their proficiency in the language of instruction. Additionally, such teaching should essentially be rendered by qualified teachers to ensure the provision of literacy instruction that encompasses both braille and print literacy (Herzberg et al., 2017), to meet the needs of learners with blindness. Ferrell (2011) also highlighted the importance of equipping teachers with ongoing teacher training on the use of braille and low vision tools which have been shown to enhance reading speed, oral comprehension, and overall reading achievements.

Participants’ statements about the important role played by inclusive education when teaching learners with blindness, highlighted the importance of implementing inclusive education teaching practises that support access to the curriculum and promote the equity of learners in the classroom. According to Fast (2019), the lack of visual input for learners with blindness has implications in the teaching of literacy during the Foundation Phase because these learners require the use of experiential learning activities to effectively acquire literacy skills. As such, the utilisation of different senses such as smell, touch and movement allow the use of multiple inputs which promote the learning of literacy during the Foundation Phase of learning.

Learners with blindness additionally interface with limited learning opportunities, such as optimum interaction with other learners, as well as the means to observe everyday objects that affect their timeous engagement with new concepts, academic information, life skills

and interpersonal communication (Chen, 2014). It is important for teachers teaching literacy to create opportunities for learning by providing concrete, verbal, audible, and visual relatable examples (Annexure B, Figure 2) that learners can explore in the classroom context. Devine (2016) affirms the benefits of teachers providing real or actual object examples that learners can explore or interact with to facilitate an immersive learning experience through the use of smell, taste, touch and hearing.

Chen (2014) highlights that teachers have an important role to play in promoting inclusive practices that create access to the early childhood curriculum activities by engaging in actions that foster increased independence, interpersonal communication, appropriate behaviour, a positive self-image and self-care skills of blind learners. Ferreira et al. (2020) furthermore indicate that teaching strategies, such as curriculum adaptation and differentiation, altering the classroom environment and the use of best practices, ensure that learners with blindness are reasonably accommodated in the classroom. The results from this study, support these findings indicating the importance of implementing inclusive education practices in the classroom.

Teacher-participants in this study were of the view that the use of language development is a best practice for teaching literacy to learners with blindness during the Foundation Phase. The implementation of the braille literacy and the CAPS curriculums (DBE, 2011) was sighted as valuable examples. These findings affirm recommendations made by Venketsamy and Sibanda (2021) that the combination of skills development and whole language ensures optimum levels of literacy comprehension. Siaulys (2013) additionally indicates that a balanced approach to literacy development facilitates the learning of literacy through the utilisation of two or more teaching strategies, such as the multisensory approach and auditory learning approach.

The teacher participants in this study indicated that language development programmes, such as the braille literacy and the CAPS curriculums are key components of their literacy teaching. Furthermore, the teachers indicated that these programmes are run simultaneously and are taught from Grade one. The participants moreover affirmed that equipping learners with literacy skills empowers them with speaking, listening, reading and writing skills (DBE, 2011). Teacher-participants furthermore stated that the assessment of learners (DBE, 2014) forms an important part of teaching literacy.

According to the teacher participants, the literacy programme includes the use of language development programmes, such as the language programme, pre-reading programme,

vocabulary programme, and reading programme. The literacy programme additionally includes teaching Foundation Phase learners how to read letters and numbers, the braille cell using patterns, making use of two fingers and using dots, reading directionality (such as reading from top to bottom) and familiarising learners by playing games, as well as the provision of affordable braille for parents to practice with learners, such as steel and wooden deck boards.

Learners are furthermore taught the alphabet first and then numbers. After learning the alphabet, blind learners are taught reading, which includes reading preparation using a pre-reading programme, which teaches learners how to handle books using the hand movement book; this includes the use of a reading programme to teach learners to read with braille readers thus ensuring they can practice reading by using their fingers. Blind learners are expected to be able to read by the end of Grade one (DBE, 2008; 2011; 2017) and are also taught how to use both English and Afrikaans, as well as other local languages.

Once learners have mastered reading they transition to learn writing. Learners are taught writing by using Woody, a tool used as a transition from reading to writing. Occupational therapists and assistant teachers support learners during the teaching process especially with finger movements and remedial work. Teachers use teaching approaches such as the multi-sensory and auditory learning approaches as blind learners rely mostly on their senses and listening to learn. The participating teachers indicated that teaching activities should be fun and interesting; this can be achieved by using relatable examples that are concrete, tactile and verbal to enhance blind learners' learning experiences.

The participants' views are supported by Emerson et al. (2009), who indicated that the teaching of literacy to Foundation Phase learners with blindness should include teaching of reading processes and the braille code to ensure that emerging literacy skills are established (Kao & Mzimela, 2019) Literacy instruction should furthermore include teaching phonemic awareness and phonics, reading speed, vocabulary, spelling, comprehension (Nugent et al., 2016) and contracted or uncontracted braille.

Swenson (2008) indicates that findings of the ABC Braille study on the early introduction of contractions, indicate a correlation with stronger reading skills for learners with blindness. As such, when teaching literacy to Foundation Phase learners, it is important for teachers to focus on basic reading processes (Nugent et al., 2016) and vocabulary knowledge (Meirim et al., 2010) including the braille code. Meirim et al. (2010) affirm that teaching vocabulary or semantics is critical in the acquisition of reading comprehension skills.

Additionally, literacy teachers have the responsibility to conduct assessments and monitor learners' progress, as well as ensuring the utilisation of effective teaching strategies and techniques (Venketsamy & Sibanda, 2021), including the development of remedial teaching interventions when learners are falling behind.

However, in support of teachers, literature draws attestation to the role of teacher support to learners with blindness. Ferrell (2006) indicates that teachers who teach literacy to Foundation Phase learners with blindness are required to use best practices based on empirical evidence research, such as different literacy teaching approaches and instructional pedagogies including stepping stones to literacy and writing strategies (Kamei-Hannan et al., 2012). According to Ferrell (2006), best practices must be based on a scientific method, be duplicated in multiple settings by different investigators, and its results must consistently lead to a well-defined conclusion.

Morrow and Gambrell (2011) also affirmed that teachers teaching literacy to learners with blindness should possess inclusive knowledge pertaining to literacy development and that this should be grounded on evidence-based best practices. Furthermore, the best practices that teach literacy should foster meaning-making and equip learners with support instructions in literacy components such as comprehension, vocabulary, phonics and phonemic awareness (Venketsamy & Sibanda, 2021). The results from my study support these findings on the importance of inclusive knowledge and the utilisation of evidence-based best practices when teaching literacy to Foundation Phase learners with blindness.

In support of the above-mentioned findings, Koenig and Holbrook (1995) suggest that a key feature of a best practice approach when teaching literacy is the belief that both braille and print are equally valuable mediums for instructing reading and writing to learners with blindness. Furthermore, reading braille with the left hand was found to be more beneficial as compared to using the right hand. Ensuring the use of drill and practice when teaching braille, contributed to increased reading achievement, fewer reading errors, improved comprehension, and faster oral and silent reading rates.

Factors such as poor braille quality were found to slow down reading rate and accuracy, while braille reading comprehension decreased in instances where different stimuli were simultaneously competing for a learners' attention (Ferrell, 2006). Additionally, the participants noted that it is important to always use relatable examples such as concrete or verbal. Moreover, the participants indicated that when teaching blind learners, it is important to keep lessons interesting as learners rely on listening. These findings are affirmed by

Nugent et al. (2016), who indicate that concrete hands-on experiences have been found to promote learning and that during the Foundation Phase, learners can benefit from literacy experiences that involve well balanced experiential activities.

The participating teachers highlighted that in their classrooms, learners are separated according to their visual impairment levels, namely visually impaired, partially sighted and blind learners. They further affirmed that separating their learners allows them to acknowledge the uniqueness of their learners and to cater for individual learning needs by differentiating and adapting the curriculum to meet these needs. According to Chen and Dote-Kwan (2018) the Universal Design for Learning (UDL) framework enables the adaptation and differentiation of curriculum, instructional materials and tools to meet the unique learning needs of learners with blindness.

The utilisation of the UDL framework affirms the diversity of blind learners' needs, experiences, skills and abilities and further support the creation of an inclusive learning environment for learners with blindness (Meyer et al., 2014). Additionally, the framework promotes the holistic development of blind learners and contributes to high levels of literacy development. As such the separation of learners, and the provision of a separate curriculum for visually impaired, partially impaired and blind learners supports the importance of curriculum differentiation and adaptation to meet the unique learning needs of blind learners through the use of different teaching approaches, different resources and tools.

Accordingly, Majorano et al. (2021) indicate that there is a significant link between the initial literacy abilities of young children during preschool and their subsequent reading and writing proficiencies in primary school. The results propose that the progressions in acquiring literacy are shaped not just by early capabilities, but also by factors such as language attributes, educational approaches and clear understanding of learners' visual abilities (Majorano et al., 2021). Teacher participants indicated that effectiveness in teaching literacy skills should be supported by solid knowledge and understanding of literacy, a clear understanding of curriculum policy, different levels of blindness, the use of evidence-based approaches and the continuous development and training of teachers as affirmed by Venketsamy and Sibanda (2021).

#### **4.3.2 Resources that promote the use of best practices for teaching literacy to Foundation Phase learners with blindness**

In this study of limited scope, the findings indicate that teachers of learners with blindness utilise braille literacy resources and topic-specific teaching resources. The teacher

participants perceive these resources as a best practice that supports the teaching of literacy to Foundation Phase learners with blindness. The findings of the study furthermore confirm that teachers teaching literacy to Foundation Phase learners with blindness require adequate, relevant and specific classroom resources to support the teaching process. According to Kao and Mzimela (2019), the use of braille literacy resources and topic-specific resources support Foundation Phase learners with blindness in developing their emergent literacy and pre-reading skills. Furthermore, literacy skills such as reading provide learners with an opportunity to develop their self-esteem and overall independence. As such the use of Braille and other braille materials forms an important part of teaching and learning.

According to the participants, braille literacy resources include the use of the Braille system and braille books and other braille supportive tools such as the braille machine, earphones for computers and braille printers among others. The use of Braille system, braille machine and other braille supportive tools for braille learner is supported by Carney et al. (2003) who pointed out that the braille functions as a tactile symbolic system wherein raised dots are strategically positioned to form distinct patterns. These patterns consist of six dots that are numbered and can be arranged in multiple ways, resulting in 63 unique combinations known as cells. These cells are used to represent numbers, letters of the alphabet, and contracted forms of words.

Zhou et al. (2011) affirmed that braille materials such as books, charts, flashcards, and worksheets can be used to teach Foundation Phase learners how to read and write in braille and including the teaching of literacy skills such as letter recognition, spelling, and word formation. The findings of the study are corroborated by research studies indicating that tactile materials can be used to teach Foundation Phase learners with blindness how to recognise shapes, letters, and words through touch (Devine, 2016). Examples of tactile materials include raised line drawings, 3D models, and textured materials and provide tactile cues that enable the learners to conceptualise abstract concepts such as letters, words, and sentences (Chen & Downing, 2006).

The participants identified topic-specific resources, such as the teachers' braille teaching booklet, which clearly outlines the methods and steps for teaching reading and writing. The participant teachers also indicated that they use customised topic-specific resources, such as alphabet charts for reading and writing, Braillette boards/peg boards and braille cells made from egg boxes including braille reading books, Foundation Phase literacy readers, Vocabulary Program books and Language Program books.

These findings have been confirmed by Zhou et al. (2011), who point out that some of the key resources that teachers utilise in the classroom to teach literacy to blind learners cater for blind learners' unique learning needs and are designed to support the development of specific skills such as listening, speaking, reading and writing. These resources include braille materials, tactile materials, audio books and other assistive technology tools are important in the education of learners with blindness, benefiting their daily lives and creating future employment (Siu & Morash, 2014; Zhou et al., 2011).

The participants agreed that for the braille class to be viable and interesting, the resources must be readily available to ensure the inclusion of blind learners in the classroom. These findings are supported by Carney et al. (2003) who point out that tools such as Perkins Braillewriters are valuable resources in the teaching of literacy to Foundation Phase learners, which assist in the development of teaching materials (Carney et al., 2003). Additionally, participants believe that literacy teaching resources in the current study, confirm the findings of Swenson (2008) and Johnstone et al. (2009) that teachers of learners with blindness have historically utilised a wide variety of resources and tools to assist them in educating learners, such as slate and stylus to write braille, as well as high-technology devices such as braille printers, computer screen magnifiers, and screen reading software.

#### **4.3.3 Challenges that inhibit the implementation of best practices for teaching literacy to Foundation Phase learners with blindness**

The findings of this study indicate that teachers of learners with blindness experience various challenges that inhibit best practices in the teaching of Foundation Phase learners with blindness. Participants identified challenges including factors such as time constraints, the CAPS curriculum being too visually orientated, language inadequacy, exposure to social norms, inadequately educated educators, parent involvement and multiple disabilities, as well as the constant changing of outcomes and expectations.

The emerging challenges that inhibit the implementation of best teaching practices were clearly pointed out as being teacher-related, learner-related and resource-related. These findings reveal some prominent obstacles, including a lack of teacher knowledge and training, a shortage of teaching resources, a lack of parental involvement, time constraints, teaching learners with multiple disabilities, the CAPS curriculum being too visually oriented, language inadequacy, and a lack of stimulation of learners with blindness.

Participant teachers indicated that to effectively implement best practices, teachers must have specific values, qualities, knowledge, and skills. They highlighted essential attributes such as reflexivity, critical thinking, adaptability, and creativity as crucial for successfully teaching Foundation Phase learners with blindness. Additionally, personal qualities like patience, empathy, passion, integrity, sensitivity, and perseverance were deemed vital for understanding and embracing the unique challenges these learners face, while fostering an inclusive teaching environment. The participants indicated that teachers need to have a passion and be able to adapt to teaching learners with blindness. They furthermore highlighted that teaching braille literacy and the CAPS curriculum (DBE, 2011) require that learners with blindness should be equipped with the necessary knowledge, skills and values at each grade level. Meeting these requirements demand massive responsibility and commitment from Foundation Phase teachers.

The assessment of learners with blindness was additionally indicated as a challenge which requires a great deal of patience on the part of the teacher. The findings are in support of Ferreira et al. (2020), who assert that teachers experience frustration due to the wide range of challenges when teaching learners with blindness. Participants also indicated that learners enter the Foundation Phase knowing their home language, while teachers have to support learners in building the foundation of oral language including the development of literacy skills such as reading and phonics, and writing skills. As such, equipping learners with these critical skills is viewed as a challenge for teachers in the midst of other challenges such as learner and resource related challenges.

According to Manga and Masuku (2020), teachers in the Foundation Phase who work with learners with blindness need to be aware of the challenges that learners with blindness interface with when learning to read and write, and how to effectively use the required resources and tools to facilitate the teaching and learning process. As indicated by Morelle and Tabane (2019), teachers who teach literacy to blind learners may not have been previously exposed to specialised training during the course of their initial teacher education training. As such, ongoing training and support ensure that the learning needs of blind learners are met by creating access to quality literacy instruction (Manga & Masuku, 2020).

Key support requirements for teachers teaching learner's with blindness, include assistive technology, adapted materials, multisensory instruction, and collaboration with other stakeholders such as parents, braille transcribers, and vision specialists (Devine, 2016). Research indicates that the kind of support that is crucial for teachers who work with blind

learners, include assistive technology, specialist support from experts in blindness, specialist teachers, mobility specialists and rehabilitation specialists (Sefotho et al., 2020).

Another notable challenge indicated by the participants, is a lack of training to enable them to teach and assess blind learners. While the participants are qualified to teach, they pointed out that teacher training does not include equipping them with the skills to teach learners with blindness. Kaiser and Herzberg (2017) affirm that when initiating the teaching of learners with blindness, teachers need to assess learners' visual abilities and needs, to ensure that these are aligned to the teaching of different aspects of literacy, such as reading, writing, comprehension, and communication. Policy documents and guidelines such as the (DBE, 2014) and The Virginia Public Schools (2017) guidelines for working with learners with blindness highlight the importance of assessing the learning needs for learners with blindness. Majorano et al. (2021), affirms the value of assessing learners needs at an early age to ascertain learning needs and the identification of developmental delays related to language or reading. The assessment of learners' literacy skills is critical during the teaching process, as such, teachers should administer early and timeous assessments to ensure the prompt identification of challenges and guide the tailoring of the curriculum and materials to address learners' challenges.

Ferreira et al. (2020) affirm that assessment is a challenge for teachers as they lack relevant assessment skills. Majoko (2019) recommends competencies for inclusive education such as differentiation of instruction, screening and assessment, collaboration, classroom and behaviour management. Malan (2018) moreover suggests a framework of teacher competencies for teaching learners with blindness. These competencies entail knowing the learner, facilitating transition from home to school, providing appropriate access to literacy, creating access to literacy, ensuring curriculum access in an environment conducive for learners with blindness, employing sensory methodologies and inspiring teachers to be facilitators of literacy knowledge. In addition, the South African policy on Screening, Identification, Assessment and Support (SIAS) (DBE, 2014) serves as an assessment mechanism for teachers to identify learners with blindness, with the objective of ensuring that learners are afforded equitable access to early and individualised support within their individual educational contexts (Mokgolodi, 2020).

Teacher participants moreover indicated that learners with blindness often fall behind in their learning as a result of the braille literacy programme running concurrently with other curriculums such as the CAPS curriculum, which is perceived to be too visually oriented. The issue of the CAPS curriculum being too visually oriented was not pointed out in the

existing literature and no author agreed or refuted that learners with blindness are affected due to the curriculum running concurrently with other curriculums. The participants mentioned that due to the CAPS curriculum running concurrently with the braille literacy program, blind learners were left behind by the partially sighted learners by approximately a term. On the basis of the above-mentioned findings, it can be concluded that since the CAPS curriculum is too visually oriented, the partially sighted children are at an advantage because they can complete the curriculum on time, compared to the learners with blindness due to a lack of sight.

According to Zhou et al. (2011) large print materials such as books, flashcards, worksheets and posters can be utilised to teach Foundation Phase learners with low vision. Large print materials are moreover designed with large fonts which enable partially sighted or visually impaired learners to read printed material comfortably, while promoting learners' visual tracking skills by reducing eye strain (Carney et al., 2003; Siu & Morash 2014; Al-Zboon, 2020). As such, the CAPS curriculum caters for partially sighted learners' learning needs as opposed to those of blind learners. Participants further indicated that Foundation Phase learners with blindness experience language inadequacy and a lack of finger and hand stimulation. Participants additionally pointed out that the braille machine is not easy to press and it is sometimes not aligned to shoulder length; learners therefore find the machine strenuous to operate. However, there is no literature to support this notion as indicated by the teachers. However, research findings confirm that several challenges persist in teaching literacy to learners with blindness such as the lack of empirical research on the psychosocial aspects of literacy instruction (for example self-esteem, social isolation, motivation), and addressing the unique needs of learners with blindness. According to Corn and Koenig (2002), research indicates that learners with blindness face challenges in comprehension, reading and written expression regardless of good decoding skills.

Participants indicated that some of the learners with blindness present with multiple disabilities, including deafness. As such, they are interfaced with the responsibility of ensuring that learners who present with multiple disabilities are accommodated by using different teaching strategies, approaches and activities. These findings are supported by Manga and Masuku (2020), who affirm that learning takes place in multisensory ways such as the sense of sight and hearing. As a result, learners who are both deaf and blind require specialised services from a team of proficient professionals who are capable of creating suitable communication and learning experiences for these learners. Additionally, it is crucial to provide appropriate opportunities for communication and learning for deaf-blind learners,

as they rely on others to make language accessible to them. Participants expressed that they are required to facilitate the use various communication strategies in both the school and home environment to alleviate communication challenges for diverse learners.

Teachers have to additionally collaborate with different stakeholders such a parents, caregivers, and health specialist including occupational therapists, to support learners with multiple disabilities to ensure effective teaching. Mabasa-Manganyi (2023) confirm the findings indicating that teachers who teach learners with blindness interface with challenges relating to high levels of diversity in the classroom, especially in the South African context. Learners additionally present with different levels of blindness and socio-economic status, as well as religious and cultural circumstances, which result in learners requiring different learning and academic needs. Walton (2016) asserts that teachers who teach learners with special needs have expressed difficulty in implementing inclusive education policy due to a lack of training and teaching skills, especially the application of teaching strategies and techniques for teaching learners with multiple disabilities.

Participants stated that while they lack adequate training to instruct learners with blindness, they also lack strategies to implement different approaches for adapting and differentiating the curriculum in the classroom. Participants perceived a lack of teaching resources such as braille machines and other braille materials. They moreover indicated that the accessibility and accommodation of school infrastructure for learners with blindness is perceived to be inadequate. These findings have been affirmed by Bridges and Mkandawire (2017), who indicate that while teachers lack specialised training, another major concern is that schools lack the necessary teaching materials for learners with blindness.

Participants additionally stated that learners with blindness have to incur huge learning expenses due to a lack of resources with some parents being unable to afford the expensive equipment used by learners with blindness. As such, participants expressed the need to develop their own customised teaching resources, such as pegboards and braille cells. According to Walton et al. (2019), teachers have expressed being overwhelmed by challenges such as the lack of teaching resources, overcrowded classrooms, and a lack of adequate skills and knowledge to respond to diverse learners and their learning needs. These challenges are further complicated by irrelevant and inadequate learning resources across all grades for teaching material such as hardcopy braille textbooks, workbooks and braille printers (Ferreira et al., 2020).

Participants also indicated a lack of parental involvement regarding learners with blindness. To adequately address the needs of learners with blindness, teachers must furthermore be aware of the risk factors that can contribute to blindness and understand their impact on a learner's typical development (Morelle & Tabane, 2019). Maguvhe (2015) agrees that there is insufficient involvement from various stakeholders, such as parents in providing the necessary assistance in the teaching and learning environment. According to Morelle and Tabane (2019), the effective integration of learners with blindness into mainstream classrooms significantly depend on teacher training, as well as the level of support that teachers receive, and their confidence in instructing learners with special learning needs such as learners with blindness.

To address the challenge of inadequate teacher support, the Department of Basic Education (DoE, 2005; DBE, 2020) has introduced teaching support for teachers with the aim of promoting inclusion in schools. However, not all schools provide this support for teachers, and some of those that are available do not have the required qualifications to address all learning challenges faced by blind learners. According Morelle and Tabane (2019), the teaching support programme is also negatively affected by language barriers and a lack of parental involvement which impact the achievement of teaching outcomes and academic achievement of learners.

A study conducted by Mthiyane and Ndebele (2021) affirmed various challenges faced by Foundation Phase teachers such as a lack of appropriate teaching resources (Manchaiah, 2016), which include braille textbooks, specialised software, and assistive devices which create access to teaching and learning for learners with blindness (Mthiyane & Ndebele, 2021). Mthiyane and Ndebele (2021) further indicate that while teachers of learners with blindness are prepared to teach the reading and writing of literary braille, qualifications for teaching reading in alignment with the standards and practices as recommended by the National Reading Panel Report (National Reading Panel, 2000) were questionable.

In summary, to support Foundation Phase teachers teaching literacy to learners with blindness, it is important to create access to and provide assistive technology (Ludlow, 2017), specialist support (Sefotho et al., 2020), accessible materials (Devine, 2016), ongoing professional development to develop their skills and knowledge in working with learners with blindness namely the use of assistive technology, how to adapt the curriculum, and how to support the emotional and social needs of learners (Chen & Dote-Kwan, 2021), including collaboration and networking opportunities such as sharing of resources, ideas, best practices and learning from one another (Sefotho et al., 2020).

Another important feature of supporting literacy development when teaching learners with blindness, is the provision of specialised instructional support (McDonnell et al., 2014). Ferreira et al. (2020) recommend that Foundation Phase teachers should work closely with specialists, such as speech and occupational therapists to ensure that learners with blindness receive the support they need to develop their language and communication skills. The support may involve interventions such as speech and language therapy, assistive technology training, and other forms of targeted assistance (Mason, 2014). In exploring teachers' perceptions regarding teaching of literacy to Foundation Phase learners with blindness, it is important to take cognisance of the impact of the implementation of inclusive education and the teaching of learners with blindness. The above-mentioned findings highlight the challenges teachers perceived as inhibiting the implementation of best practices when teaching literacy.

#### **4.4 CONCLUSION**

In the present chapter, I discussed the results and findings of this study of limited scope. I first explored how teachers conceptualise best teaching practices for teaching literacy to Foundation Phase learners with blindness. Secondly, I then explored the resources that promote the use of best practices for teaching literacy. Thirdly, I highlighted the different challenges that inhibit the implementation of best practices for teaching literacy. Lastly, I compared the findings of this study to existing literature regarding teacher perspectives on teaching and meeting the learning needs, as well as social justice needs of children with blindness.



# CHAPTER 5 - CONCLUSIONS AND RECOMMENDATIONS

## 5.1 INTRODUCTION

In this chapter, I conclude my study of limited scope by addressing the research questions formulated in Chapter 1. I furthermore provide an overview of the study's main findings. I subsequently discuss the potential contributions, challenges and limitations of the study and conclude the chapter with recommendations for practice, as well as opportunities for further research.

## 5.2 OVERVIEW OF PRECEDING CHAPTERS

In Chapter 1, I provided a general overview of the study by discussing the research background, as well as the rationale and context of this study. I explained the purpose and research questions of the study and clarified the key concepts. I furthermore introduced the theoretical framework and paradigmatic perspectives, and provided an overview of the research methodology employed for the study. I concluded the Chapter 1 by introducing the quality criteria and ethical considerations I adhered to.

In Chapter 2, I reviewed some of the existing literature relating to best practices for teaching literacy to Foundation Phase learners with blindness by highlighting both known and unknown aspects. I moreover explored key research findings on teachers' experiences regarding best practices, resources and challenges when teaching literacy to Foundation Phase learners with blindness. I subsequently discussed the theoretical framework of the study and utilised the TPACK framework to explain the interconnected concepts of teaching with technology.

In Chapter 3, I explored the paradigmatic perspectives, the research methodology, the quality criteria and the ethical considerations of the study. I also discussed the interpretivist paradigm and qualitative research approach, as well as the case study design, and the purposive and convenience sampling methods used. I furthermore discussed the data generation methods, PRA activities, focus group, audio-visual recordings, field notes and reflexive journaling. I concluded the study by focusing on the ethical considerations and quality criteria of this study of limited scope.

In Chapter 4, I presented the results and findings of this study of limited scope in alignment with the three themes and sub-themes identified through thematic analysis. The first theme

outlines teachers' conceptualisation of best practices for teaching literacy, the second theme focused on the resources that promote the use of best practices for teaching literacy, and theme 3 addressed the participants' perceived teacher-related, learner-related and resource-related challenges. Additionally, I discussed the findings of this study where I interpreted the results in relation to the background literature, further highlighting any similarities and differences.

## **5.3 CONCLUSIONS**

In the subsequent subsections, I discuss the conclusions of this study by addressing the primary research question and three secondary research questions formulated in Chapter 1.

### **5.3.1 Secondary research question: *How do teachers conceptualise best practices for teaching literacy to Foundation Phase learners with blindness?***

This study was aimed at exploring and understanding how teachers conceptualise best practices for teaching literacy to Foundation Phase learners with blindness. The results indicate that participants conceptualise prerequisite best practices for teaching literacy as teacher training and experience, teacher knowledge of braille codes and knowledge of inclusion policy. The results indicate that according to participants, the effective implementation of teaching literacy should be founded on a strong knowledge base about the subject matter, as well as appropriate teaching experience. Results moreover indicate that teacher participants believe that proper training, knowledge and skills, support teachers in applying best practices for teaching literacy to Foundation Phase learners with blindness.

The participants furthermore indicated that knowledge of braille codes and inclusion policy are important skills that guide teachers in accommodating learners in the classroom and equip them with literacy skills such as listening, speaking, reading and writing. Moreover, participants perceive braille literacy and the CAPS curriculum as the key components of a Foundation Phase programme for learners with blindness. These findings support research findings that a balanced approach to literacy development is advocated when teaching literacy as it supports the building of literacy skills and whole language development to ensure literacy comprehension (Majorano et al., 2021). The participants affirmed that the early introduction of contracted braille supports stronger reading skills for learners with blindness. The results furthermore support studies indicating that reading braille with the left hand is more beneficial compared to using the right hand, while drill and practice exercises have also been found to promote increased reading achievement.

Participants moreover highlighted that the use of pedagogical strategies such as drill and practice, problem solving, pairing tactile objects with auditory objects and descriptions, telling stories and playing games supported by braille and print, provide a rich literacy teaching environment for learners with blindness. The results of the study further indicate that participants consider curriculum differentiation and adaptation as a key to teaching learners with blindness. Participants also perceived that by assessing learners, teachers discover individual learners' unique learning needs; it further guides teachers on how to differentiate and adapt the curriculum, as well as teaching materials and tools to meet the individual learning needs of learners with blindness. The participants moreover indicated that they have separate curriculums for learners with partial visual impairment and blind learners, which allow the teachers to align their teaching to meet individual learner needs and to address blind learners' specific challenges, such as social interaction, mobility, orientation and independent living skills.

Teachers additionally highlighted that collaborating with other stakeholders, such as parents, occupational therapists, speech therapists and the Department of Basic Education, assist in alleviating different challenges experienced by learners with blindness. Lastly, participants indicated that teachers should ensure that the teaching of language is encompassed by exposing learners to active learning embedded in experiential teaching activities through the use a multisensory teaching approach.

### **5.3.2 Secondary research question: *Which resources may promote best practices in teaching literacy to Foundation Phase learners with blindness?***

This study was aimed at exploring and describing resources that may promote best practices when teaching literacy to Foundation Phase learners with blindness. The results indicate that braille literacy resources and topic-specific teaching resources promote the implementation of best practices. These include the use of the braille system, using pre-reading, reading and writing programmes. Additionally, braille tools such as the braille machine, braille books, braille printers, pegboards and earphones for computers, as well as other topic specific teaching aids were cited as crucial resources when teaching blind learners. These findings collaborated literature findings that the use of the braille code and early introduction of braille contractions, correlate with stronger reading skills when teaching learners with blindness.

Participants further indicated that braille literacy and topic-specific resources should accommodate learners' needs, consider different teaching settings and contexts and foster

experiential learning. The participants indicated that they utilise resources such as braille machines, braille printers, wood and metal braille boards, self-customised braille cells, peg boards, earphones for computers, braille pre-reading books, vocabulary programme books, language programme books and braille readers. These findings support research findings that the use of braille, braille cells and braille books function as tactile resources which support Foundation Phase learners in conceptualising abstract concepts, reading and writing with braille and equipping learners with literacy skills such as word formation, letter recognition and spelling.

### **5.3.3 Secondary research question: *Which challenges may inhibit best practices in the teaching of literacy to Foundation Phase learners with blindness?***

This study of limited scope was aimed at exploring and describing challenges that inhibit best practices in the teaching of Foundation Phase learners with blindness. The results indicate that participants provide a separate curriculum for partially sighted and blind learners, which creates teacher-related, learner-related and resource-related challenges. The main challenge as indicated by the participants, is that Grade 1 learners with blindness tend to fall behind in their coverage of the CAPS curriculum compared to their partially sighted peers due to the fact that the braille programme runs concurrently with the CAPS curriculum. As a result, participants highlighted that teachers teaching braille fall behind by about a term; as a result, they experience immense pressure to catch up with the curriculum to ensure they meet the requirements of the Department of Basic Education. However, the participants further indicated that as braille learners progress to Grade 2 and Grade 3 their curriculum levels out with their counterparts.

The results of this study indicate further challenges perceived by the participants, including the visual orientation of the CAPS curriculum, a lack of fine motor stimulation and coordination and language development challenges for learners with blindness. Braille books were moreover considered to be too thick resulting in the need to use contracted braille for certain words, phrases and sounds. Participants viewed all these challenges as having a negative impact on teaching learners with blindness. In addition, participants indicated a lack of parental involvement in finger and hand stimulation of learners, assisting with homework and practicing braille code. As a result, participants viewed the teaching of braille as time consuming. The results furthermore revealed that participants perceive learners' language skills as not well developed, resulting in learners showing an inability to use readers before practicing.

The results also indicate a lack of teacher knowledge and experience of teaching braille, which has a negative impact on the teaching of learners with blindness. Participants pointed out that there is a need to strengthen teacher knowledge through implementing ongoing training and professional development, including other relevant capacity building programmes to ensure the effective support of learners with blindness. The participants also indicated challenges such as limited braille equipment, the high cost of braille equipment, frequent changes in teaching and learning outcomes and a lack of understanding of visual impairment and blindness, as well as the fact that some learners with blindness present with multiple disabilities which negatively impact the teaching process.

Participants' reflections on the challenges and potential solutions support literature findings that affirm that teachers who teach learners with blindness experience challenges related to a lack of knowledge and training, a lack of resources, high levels of diversity present in the classroom, a lack of teacher competency for inclusion, such as personal, professional, social and pedagogical skills, as well as a lack of knowledge and understanding of the White Paper 6: Special Needs Education (2001) and the SIAS process for learners with blindness.

#### **5.3.4 Primary research question 1: *What are the perceptions of best practices for teaching literacy to Foundation Phase learners with blindness?***

This study was aimed at exploring and describing teachers' perceptions of best practices in teaching literacy to Foundation Phase learners with blindness. The study specifically explored how teacher participants conceptualised best practices for teaching literacy to Foundation Phase learners with blindness. It additionally described which resources may support the identified best practices and which challenges may inhibit these best practices when teaching literacy to Foundation Phase learners with blindness. The study was also aimed at contributing to the existing knowledge base within the CVIS at the University of Pretoria by addressing the gap in the literature on best practices for teaching literacy to Foundation Phase learners with blindness. A qualitative research approach was utilised which incorporated Participatory Reflection and Action (PRA); these are activities through which the teacher-participants engage in data generation based on their perceptions and experiences.

The interpretivist approach and PRA activities provided participants with an opportunity to share their knowledge and understanding of best practices utilised when teaching blind learners in their classrooms. Teachers' perceptions and experiences have been found to assist in the identification of best practices when teaching literacy to Foundation Phase

learners with blindness. I firstly addressed the primary research question followed by the secondary research questions to arrive at a comprehensive conclusion.

The results provide supporting evidence that the use of best practices for teaching literacy during the Foundation Phase must be based on prerequisites for best practices when teaching literacy; this includes teacher knowledge, language development programmes and curriculum differentiation and adaptation. The best practices utilised in teaching literacy should be based on appropriate teacher training and experience, teacher knowledge of braille codes, and inclusive knowledge based on inclusion policy. Additionally, the best practices should promote meaning-making and supporting learners with literacy components such as vocabulary, comprehension and phonics using both braille and print to teach reading and writing to learners with blindness.

According to teacher-participants, language developments programmes, such as braille and the CAPS curriculum form the foundation of teaching literacy to Foundation Phase learners with blindness. The results of this study moreover indicate that literacy skills such as speaking, listening, reading and writing should be taught using concrete or hands-on experiences with real objects, auditory objects and descriptions.

Teacher-participants pointed out that classrooms for learners with blindness should be literacy environments consisting of braille and print, which assist learners to understand and acquire language. The results indicate that language development programmes such as the pre-reading programme, vocabulary programme, language programme and reading Programme are a prerequisite in equipping learners with blindness with emerging literacy skills.

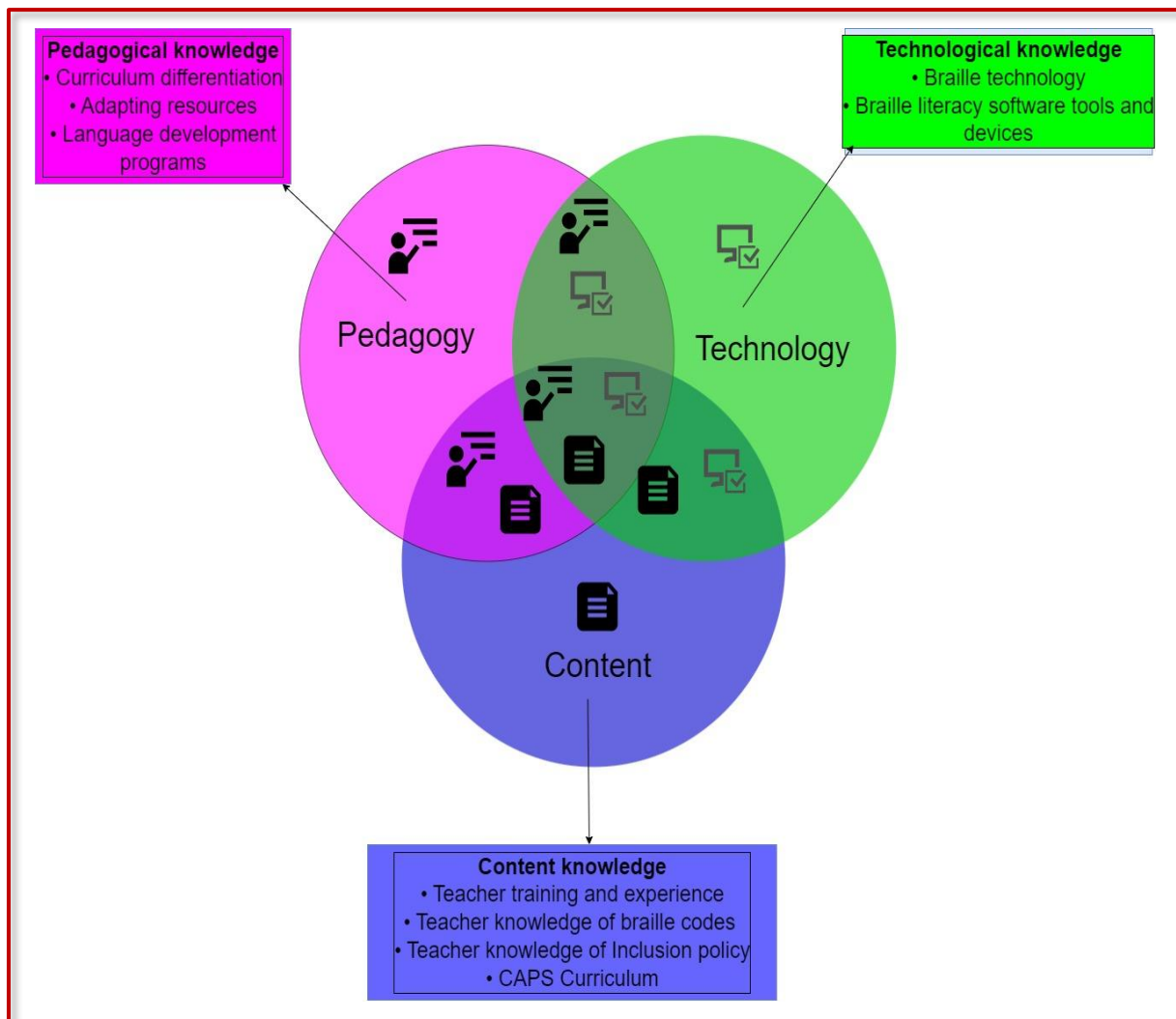
Teacher-participants affirmed that the teaching of phonemic awareness and phonics, vocabulary, spelling, reading speed and comprehension equip learners with critical language skills. Contracted or uncontracted braille furthermore assist learners with blindness in acquiring good reading skills. Reading braille with the left hand and using drill and practice when teaching braille has been found to benefit learners with blindness. The results also indicate that curriculum differentiation and adaptation enable teachers to adapt and differentiate the curriculum, instructional materials and tools to meet the individual learning needs of learners with blindness.

Participants' pedagogical content knowledge (PCK) was demonstrated through the emergence of their perceived prerequisites for best practices. These include teacher training and experience, teacher knowledge of braille codes, and teacher knowledge of inclusion

policy, as well as the utilisation of language development programmes, such as braille literacy, the CAPS curriculum, and the importance of curriculum differentiation and adaptation. The results are conceptualised in Figure 5.1 in alignment with Koehler and Mishra’s (2009) theory of technological, pedagogical and content knowledge (TPACK). The model considers the dynamic relationship and interaction between content, pedagogy and technology, as well as integrating teachers’ expertise in literacy content, pedagogy and the integration of technology when teaching literacy.

**Figure 5.1**

*The findings of this study in relation to Koehler and Mishra’s (2009) model*



#### 5.4 POTENTIAL CONTRIBUTIONS OF THE STUDY

While studies exploring teachers' perceptions of best practices for teaching literacy to Foundation Phase learners with blindness in the South African context remain nascent, this research significantly contributes to the existing body of knowledge. Firstly, this study

contributes to the theoretical understanding of inclusive education by providing context-specific insights into the challenges and strategies associated with teaching literacy to blind learners in a diverse setting. It highlights the need for theoretical frameworks that account for the unique socio-cultural factors prevalent in South Africa.

This research expands the limited empirical data on effective literacy instruction for Foundation Phase learners with blindness within the South African context. It addresses a gap in the literature by specifically focusing on teachers' perspectives and identifying context-relevant best practices. Furthermore, the study contributes to the ongoing research at the Centre for Visual Impairment Studies (CVIS) at the University of Pretoria, building upon their efforts to enhance educational support for visually impaired learners. By providing a view of the teachers perspective, it adds to the current research.

This study provides practical guidance for educators working with Foundation Phase learners with blindness. It offers valuable insights into effective teaching strategies and resources, addressing the identified gap in literature that often lacks phase-specific recommendations. The findings can inform the development of teacher training programs and resource materials, empowering educators to implement evidence-based practices.

By highlighting the specific challenges and resource needs within the South African context, this study can inform the development and refinement of educational policies related to inclusive education. The findings emphasize the importance of context-specific policy adaptations that address the unique needs of learners with blindness. Moreover, by supporting the CVIS and its advanced diploma in visual impairment, this work contributes to the capacity building of teachers, which is a key policy objective for improving educational outcomes. The study shows the need for policy to support teachers in the specific context of South Africa."

## **5.5 CHALLENGES AND POSSIBLE LIMITATIONS**

This study of limited scope posed some methodological limitations. The study comprised a limited sample size of participants of the same gender and from the same school. While the participants have a high level of experience in teaching literacy to Foundation Phase learners with blindness, it is noted that their shared context in terms of school had the potential to produce similar results as compared to a study with participants from a multi-

school context. This could have resulted in the findings of the study being less transferrable to different contexts.

This study, which adopted an instrumental case study design including participatory reflection and action principles conducted in a one three-hour workshop, potentially resulted in limitations of the study. Additionally, the focus group workshop data comprised a focus group and PRA activities to generate data that represented teachers' perceptions of best practices when teaching literacy to Foundation Phase learners with blindness. Moreover, the study was based on working assumptions, such as teacher knowledge of best practices in teaching literacy, familiarity with the resources required to teach literacy, teachers' ability to use the required teaching resources and experience of teaching challenges. It suggests solutions and alternative strategies available when challenges are encountered during the teaching of literacy to Foundation Phase learners with blindness. It must furthermore be noted that the focus group workshop was conducted in English and not in the participants' home language.

All the above-mentioned factors could have hampered participants' exploration and description of best practices and their clear articulation in English. It is worth noting that limitations pertaining to language aspects and interpretation could potentially affect the interpretation of tones in meaning as intended by the participants. Finally, the study encountered limitations linked to a lack of follow-up interviews with the participants as a result of financial and time constraints. While great efforts were made to promote the trustworthiness of the study, there is a potential that some individuals could interpret the subjective meaning as a limitation.

Future research should address the limitations of this study by employing a more robust and diverse methodological approach. Specifically, studies should expand sample size and diversity by including participants from multiple schools and varied backgrounds to enhance transferability. Researchers should consider mixed-methods designs, longitudinal studies, and multiple data gathering sessions to increase rigor. Prioritizing data collection in participants' home languages or providing professional translation services would mitigate language barriers, while incorporating follow-up interviews would clarify and expand upon initial findings. Employing triangulation techniques, clearly articulating researcher biases, and allowing participants to review transcripts would enhance trustworthiness. Future studies could also focus on evaluating the efficacy of specific teaching strategies and curriculum adaptations, providing a more detailed understanding of best practices for teaching literacy to Foundation Phase learners with blindness.

## 5.6 RECOMMENDATIONS

In this section, I provide recommendations for future research, practice and training.

### 5.6.1 Recommendations for future research

Based on the findings of this study of limited scope, I make the following recommendations for future research:

- ❖ Given the nascent nature of literature surrounding the teaching of learners with blindness, it is recommended that future researchers should be willing to engage with different stakeholders. These include policy makers, teachers, parents, occupational therapists, speech therapists and other health professionals to elicit wide-ranging information regarding their different roles and how these can be harnessed to close the current gaps and support the teaching of literacy to Foundation Phase learners with blindness.
- ❖ Research studies should additionally highlight evidence-based teaching strategies for teaching learners with blindness during the Foundation Phase to address the poor literacy levels experienced in the South African context, especially in rural schools.
- ❖ The scope of research can further be expanded through the monitoring and evaluation of inclusive education practices and teaching strategies to assess their effectiveness in the teaching of literacy to learners with blindness in diverse educational settings such as rural and urban areas.

### 5.6.2 Recommendations for practice

I recommend that the findings of this study be utilised in the development of strategies and training interventions that not only support the development of braille literacy skills, but also the overall implementation of the CAPS curriculum among teachers aspiring to pursue a career in teaching Foundation Phase learners with blindness. To enhance the efficacy of best practices when teaching literacy to Foundation Phase learners with blindness, it is recommended that teacher training programmes and other relevant support interventions be timorously and continuously implemented in alignment with the specific learning needs of learners with blindness.

Additionally, training interventions regarding the use of multiple teaching strategies; multiple-sensory approaches; the utilisation of stimulating, concrete and practical experiences such as the use of tactile symbols, fun activities, games, patterns and using technological tools,

is recommended to assist teachers in aligning learners' needs with literacy instruction and to ensure that teaching and learning outcomes are met. The Department of Basic Education should furthermore assist collaborative platforms to facilitate the exchange of knowledge and skills regarding the assessment of blind learners, as well as the development of affordable braille teaching resources and strategies for the implementation of inclusion policy in all schools.

Educational psychologists working with learners with blindness should support teachers in the development of customised teaching resources for learners with blindness. Educational psychologists should furthermore support learners with fine, as well as gross motor skills aimed at supporting finger and hand movements to support braille literacy skills.

### **5.6.3 Recommendations for training and development**

The findings of this study highlight the lack of training skills to teach learners with blindness. As such, it is recommended that training institutions develop and implement accredited professional development programmes for teachers to support them in the teaching of learners with blindness. Additionally, transfer of teaching skills should be facilitated through the implementation of hands-on job shadowing interventions in special schools to support pre-service and in-service training of teachers.

## **5.7 CONCLUDING REMARKS**

In the present study of limited scope, I explored teacher perspectives on the best practices when teaching literacy to Foundation Phase learners with blindness. This study of limited scope is part of a broader project and continuing research conducted at the Centre for Visual Impairment Studies (CVIS) at the University of Pretoria. The findings of the study indicate that teachers who teach literacy to Foundation Phase learners with blindness conceptualise teacher knowledge, such as teacher training and experience, teachers' knowledge of braille codes, and teachers' knowledge of inclusion as prerequisites for best teaching practices for literacy. Moreover, a braille literacy programme and CAPS curriculum are considered important programmes for teaching literacy.

The study moreover found that curriculum differentiation and adaptation is key to ensure accommodating and meeting learners' individual learning needs. The study highlighted important braille literacy resources, as well as topic-specific literacy resources that promote the use of best practices when teaching literacy to learners with blindness. Lastly, the study confirmed that teaching literacy to learners with blindness is interfaced with multiple

challenges that inhibit the implementation of best practices for teaching literacy. However, teachers remain able to adapt to the challenges and to implement self-customised literacy resources to overcome these challenges.



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# APPENDIX A: PERMISSION TO CONDUCT RESEARCH



## GAUTENG PROVINCE

Department: Education  
REPUBLIC OF SOUTH AFRICA


8/4/4/1/2

### GDE RESEARCH APPROVAL LETTER

<b>Date:</b>	03 November 2022
<b>Validity of Research Approval:</b>	08 February 2023– 30 September 2023 2022/504
<b>Name of Researcher:</b>	Mabonga MS
<b>Address of Researcher:</b>	No 38 Piketberg Equestria Estate Pretoria
<b>Telephone Number:</b>	072 141 5889
<b>Email address:</b>	
<b>Research Topic:</b>	Teachers' perceptions of best practices in literacy to foundation phase learners with visual impairment
<b>Type of qualification</b>	Masters
<b>Number and type of schools:</b>	1 LSEN School
<b>District/s/HO</b>	Tshwane North

**Re: Approval in Respect of Request to Conduct Research**

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

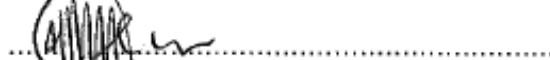

 03/11/2022

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

1. The letter would indicate that the said researcher/s has/have been granted permission from the Gauteng Department of Education to conduct the research study.
2. The District/Head Office Senior Manager/s must be approached separately, and in writing, for permission to involve District/Head Office Officials in the project.
3. **Because of the relaxation of COVID 19 regulations researchers can collect data online, telephonically, physically access schools, or may make arrangements for Zoom with the school Principal. Requests for such arrangements should be submitted to the GDE Education Research and Knowledge Management directorate.**
4. **The Researchers are advised to wear a mask at all times, Social distance at all times, Provide a vaccination certificate or negative COVID-19 test, not older than 72 hours, and Sanitise frequently.**
5. A copy of this letter must be forwarded to the school principal and the chairperson of the School Governing Body (SGB) that would indicate that the researcher/s has been granted permission from the Gauteng Department of Education to conduct the research study.
6. A letter/document that outlines the purpose of the research and the anticipated outcomes of such research must be made available to the principals, SGBs, and District/Head Office Senior Managers of the schools and districts/offices concerned, respectively.
7. The Researcher will make every effort to obtain the goodwill and cooperation of all the GDE officials, principals, and chairpersons of the SGBs, teachers, and learners involved. Persons who offer their cooperation will not receive additional remuneration from the Department while those that opt not to participate will not be penalised in any way.
8. Research may only be conducted after school hours so that the normal school program is not interrupted. The Principal (if at a school) and/or Director (if at a district/head office) must be consulted about an appropriate time when the researcher/s may carry out their research at the sites that they manage.
9. Research may only commence from the second week of February and must be concluded before the beginning of the last quarter of the academic year. If incomplete, an amended Research Approval letter may be requested to conduct research in the following year.
10. Items 6 and 7 will not apply to any research effort being undertaken on behalf of the GDE. Such research will have been commissioned and be paid for by the Gauteng Department of Education.
11. It is the researcher's responsibility to obtain written parental consent of all learners that are expected to participate in the study.
12. The researcher is responsible for supplying and utilising his/her research resources, such as stationery, photocopies, transport, faxes, and telephones, and should not depend on the goodwill of the institutions and/or the offices visited for supplying such resources.
13. The names of the GDE officials, schools, principals, parents, teachers, and learners that participate in the study may not appear in the research report without the written consent of each of these individuals and/or organisations.
14. On completion of the study, the researcher/s must supply the Director: Knowledge Management & Research with one Hard Cover bound and an electronic copy of the research.
15. The researcher may be expected to provide short presentations on the purpose, findings, and recommendations of his/her research to both GDE officials and the schools concerned.
16. Should the researcher have been involved with research at a school and/or a district/head office level, the Director concerned must also be supplied with a summary of the purpose, findings, and recommendations of the research study.

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

Kind regards



Mr. Gungani Mukatuni

Acting CES: Education Research and Knowledge Management

DATE: 03/11/2022

2

Making education a societal priority

**Office of the Director: Education Research and Knowledge Management**

7<sup>th</sup> Floor, 17 Simmonds Street, Johannesburg, 2001

Tel: (011) 355 0488

Email: Faith.Tshabalala@gauteng.gov.za

Website: www.education.gpg.gov.za



## APPENDIX B: INFORMED CONSENT (TEMPLATES)



Department of Educational Psychology

University of Pretoria

Date

Dear (Principal's name)

I, Margaret Mabonga, a MEd (Psychology) student at the University of Pretoria would like to request your permission to conduct a research study at (Name of school). As part of the requirements for completing my degree, I shall be conducting a research study on teachers' perceptions of best practices on teaching literacy to foundation phase learners with visual impairment. I cordially invite foundation phase teachers who teach literacy to participate in this study.

Currently there is limited literature on best practices for teaching literacy to foundation phase learners with visual impairment in South Africa. The study will be conducted as part of the Centre for Visual Impairment Studies (CVIS) at the University of Pretoria and aims to facilitate the sharing of foundation phase teachers' specialised knowledge and experiences in the field of teaching literacy to foundation phase learners with visual impairment in South Africa. The workshop that the teachers will participate in may be of value to them as they will generate ideas that could be implemented in their classrooms.

Foundation phase teachers are requested to participate in a 2-3 hour workshop where best practices for teaching literacy to foundation phase learners will be brainstormed and discussed. The workshop will be presented after school hours at your school towards the end of 2022 or the beginning of 2023, once ethical clearance has been obtained from the Faculty of Educations' Ethics committee. With your and the participating teachers' consent, photographs will be taken of the concept maps (spider diagrams and/or Venn diagrams) generated by the teachers as a means of documentation. Furthermore, audio recordings of the dialogues during the PRA activities and focus groups will be taken and later transcribed. In addition to

the workshop, the teachers will be requested to allow the observation of one of their literacy lessons for foundation phase learners with visual impairment.

For this study, participants will be selected based on the following criteria:

- All participants must voluntarily provide informed consent and must speak English
- All participants must be teachers who are currently teaching literacy to foundation phase learners with visual impairment
- All participants must have at least five years of experience in teaching literacy to foundation phase learners with visual impairment

Before agreeing to participate, the teachers will receive an informed consent letter which will contain all the relevant detail of the specific study. Before signing the consent letter, the participants will have the opportunity to ask any questions they may have pertaining to the study. All information obtained will be dealt with in a confidential way. Your school's and the teachers' identities will be protected by using pseudonyms when reporting the data. No information or identities will be disclosed to anyone outside the research team. In addition, I will ensure to inform the teachers that at any time they are able to withdraw from the study without any prior explanation, with no implications, and all data will be removed from the study. COVID-19 regulations will be adhered to during all interactions with the participants. No risks are foreseen, however, in the case of any such unfortunate event, it will be dealt with it in a professional, ethical and confidential manner.

Secondary Data Clause:

We would also like to request your permission to conduct the above- mentioned research at school and use the data, confidentially and anonymously, for further research purposes, as the data sets are the intellectual property of the University of Pretoria. Further research may include secondary data analysis using the data for teaching purposes. The confidentiality and privacy applicable to this study will be binding on future research studies.

COVID-19 Clause:

Due to COVID-19 and to minimise the spread of infection, the research may be conducted online or through various other media platforms.

No Award Clause:

Since your participation in the study is voluntary, please note that no participants will receive any monetary awards or awards in kind.

I would like to take this opportunity to thank you for your consideration of my research study at your school. Please feel free to contact me if you have any further questions or need assistance in this regard. If you are willing for this study to be conducted at (name of school), please sign the attached letter as declaration of your consent, i.e., that you participate willingly in this study, that you understand that you may withdraw at any time and that you give permission for photographs and audio-recordings to be taken during the activities.

Yours sincerely,

---

Margaret Mabonga  
Researcher  
072 141 5889  
bongumusamabonga@gmail.com

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Ms CJ Botha  
Supervisor  
082 074 9611  
karien.botha@up.ac.za



Faculty of Education

Fakulteit Opvoedkunde  
Letapha la Thuto

## PRINCIPAL' S CONSENT LETTER

By signing this consent form, I confirm that I have read and understood the information and have had the opportunity to ask questions. I understand that participation of the school is voluntary and that I am free to withdraw at any time, without giving a reason and without cost. I therefore voluntarily agree to allow foundation phase teachers to take part in this study.

\_\_\_\_\_  
Principal's signature

\_\_\_\_\_  
Date



Faculty of Education

Sakululeti Opvoedkunde  
Lefapha la Thuto

**Department of Educational Psychology  
University of Pretoria**

**Date**

Dear Participant

**Request to participate in a research project**

I am a MEd Psychology student at the University of Pretoria and invite you to participate in a research study situated within the Centre for Visual Impairment Studies (CVIS). Before you decide to participate in this study, it is important that you understand why the research is being conducted and what your participation will involve. Please take the time to read through the following information and ask for any clarity you may need.

**Purpose of the study:**

The purpose of the study is to explore and describe teachers' perceptions of best practices on teaching literacy to foundation phase learners with visual impairment. The proposed study aims to inform teaching practices of future teachers who teach literacy to learners with visual impairment. The research conducted will contribute to the existing knowledge base at the Centre for Visual Impairment Studies (CVIS) at the University of Pretoria by addressing the current gap in the literature about best practices for teaching literacy to foundation phase learners with visual impairment in South Africa.

**Research activities:**

If you decide to participate, you will be required to participate in a workshop that includes brainstorming activities and a focus group. The workshop will be between 2-3 hours long, presented after hours at your school, towards the end of 2022 or the beginning of 2023. In addition, you may be requested to allow the observation of one of your literacy lessons for foundation phase learners with visual impairment. Throughout, the research team will be making field notes, taking photographs of the spider diagram or Venn diagrams you generate, making audio-recordings during the focus group and observing all activities.

**Potential benefits of participation:**

By providing insight into your experiences and perceptions (as teachers) of best practices on teaching literacy to foundation phase learners with visual impairment, you will contribute to the knowledge base regarding visual impairment at the CVIS. The previous research conducted by the CVIS has contributed to the development of a postgraduate qualification in visual impairment, a study which aims to benefit future teachers. The activities and discussions that you participate in may also be of value and provide you with ideas to implement in your classroom.

**Risks:**

No risks are foreseen, however, in the case of any such unfortunate event, it will be dealt with in a professional, ethical and confidential manner.

**Confidentiality and anonymity:**

All information obtained will be dealt with in a confidential way. You and your school's identity will be protected. In addition, all recordings will be transcribed, and identities protected by using pseudonyms when reporting the data. No information or identities will be disclosed to anyone outside the research team.

**Voluntary participation:**

Your participation in this study is voluntary. You can decide whether to take part in this study or not. If you decide to take part, you are still free to withdraw from the study at any time without any given reason.

**Secondary data clause:**

We would also like to request your permission to conduct the above- mentioned research at school and use the data, confidentially and anonymously, for further research purposes, as the data sets are the intellectual property of the University of Pretoria. Further research may include secondary data analysis using the data for teaching purposes. The confidentiality and privacy applicable to this study will be binding on future research studies.

**No award clause:**

Since your participation in the study is voluntary, please note that no participant will receive any monetary award or award in kind. If you are willing to participate in this study, please sign the attached letter as declaration of your consent, i.e., that you participate willingly in

this study, that you understand you may withdraw at any time and you give permission for photographs and audio-recordings to be taken during the activities.

**COVID-19 clause:**

Due to COVID-19 and to minimise the spread of infection, the research may be conducted online or through other various media platforms.

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**Consent**

By signing this consent form, I confirm that I have read and understood the information and have had the opportunity to ask questions. I understand that my participation is voluntary and that I am free to withdraw at any time, without giving a reason and without cost. I therefore voluntarily agree to take part in this study.

**Full name of participant** \_\_\_\_\_

**Signature** \_\_\_\_\_

**Current grade you are teaching** \_\_\_\_\_

**Years' experience** \_\_\_\_\_

**Date** \_\_\_\_\_

**Researcher's signature** \_\_\_\_\_

**Witness' signature**.....\_\_\_\_\_

Yours sincerely

**Margaret Mabonga**  
(Researcher)  
Cell number: 072 141 5889  
E-mail: bongumusamabonga@gmail.com

**Ms C J Botha**  
(Supervisor)  
082 074 9166  
karien.botha@up.ac.za



## APPENDIX C: SAMPLE OF CODED TRANSCRIPTIONS

### 1.1.1 Theme 1: Teachers' conceptualisation of best practices when teaching literacy

Theme 1 has three sub-themes that highlight teachers' conceptualisation of best practices when teaching Foundation Phase learners with blindness.

Sub-theme 1.1 presents the prerequisites for best practices when teaching literacy. Sub-theme 1.2 presents the utilisation of language development programmes as a best practice for teaching literacy. Sub-theme 1.3 presents the importance of curriculum differentiation and adaptation as a best practice for teaching literacy to Foundation Phase learners with blindness.

**Table 4.2**

*Inclusion and exclusion criteria for Theme 1*

	INCLUSION CRITERIA	EXCLUSION CRITERIA
<b>Theme 1: Teachers' conceptualisation of best teaching practices when teaching literacy</b>		
<b>Sub-theme 1.1:</b> Prerequisites for best practices when teaching literacy	Data regarding essential knowledge and skills required to effectively apply best practices	Data referring to strategies and resources required to implement best practices
<b>Sub-theme 1.2:</b> Utilisation of Language Development Programmes	Data referring to language development programmes that support the teaching of literacy to Foundation Phase learners with blindness.	Data referring to teacher knowledge of braille codes.
<b>Sub-theme 1.3:</b> Importance of curriculum differentiation and adaptation	Data referring to the use of curriculum differentiation and adaptation to support the teaching of literacy to Foundation Phase learners with blindness	Data referring to teacher training and experience, and language development programmes as best practices for teaching literacy to Foundation Phase learners with blindness

#### 1.1.1.1 Sub-theme 1.1: Prerequisites for best practices when teaching literacy

The participants mentioned that there are fundamental best practices that inform the teaching of literacy to Foundation Phase learners with blindness. Teachers agreed that teacher knowledge and experience formed an important part of the teaching of literacy to Foundation Phase learners with blindness. Participant 1 stated: *“Point one in terms of best practices, would be as a teacher, you need to be competent in knowledge, know what you are going to assess and then start the teaching”* (PRA activities, Participant 1, line 19-24). Participants were of the view that learners benefit by being taught by someone who is knowledgeable and experienced in teaching learners with blindness. The fundamental knowledge-based best practices indicated by the participants were indicated as teacher training and experience, teacher knowledge of braille codes, and teacher knowledge of and implementation of inclusion policy.

Participants indicated that having the relevant teacher training and experience is a best practice when teaching literacy to Foundation Phase learners with blindness. Participant 2 mentioned: *“You can’t have a general teaching degree and you learn the basics.....but there is still so much training that needs to be done for the teacher herself before you can even start teaching.... because in my fourth year, I applied to go do a practical...”* (PRA activities, Participant 2, line 33-44). Participant 3 further stated: *“I do not understand why our teaching students are not exposed to specialised schools. I mean this is where the difference comes in. If they have exposure, then obviously they can learn more, they can be better trained”* (PRA activities, Participant 2, line 45-49).

Participant 1 elaborated and indicated: *“Because right now it’s really difficult having teachers that their heart is not, they are not special needs teachers (PRA activities, Participant 1, line 56-58) So, if they have more exposure... they feel they can actually do this. If there is better teacher training in terms of exposing them first, it will prepare them for later. And that will obviously have an effect on best practices”* (PRA activities, Participant 1, line 59-63). In addition, Participant 3 added: *“And that’s why at our school especially, we are very strict on our training for braille teachers, all our teachers from Grade R to the Grade 12 teachers have to have the Grade one braille”* (PRA activities, Participant 3, line 10-13).

Furthermore, participants indicated that teachers teaching Foundation Phase learners with blindness need to have knowledge of braille codes. Participants emphasised that for best practices and to be an effective teacher, you have to be adequately prepared to teach learners with blindness. Participant 1 stated: *“So for best practices and to be effective, there needs to be preparation....the teacher needs to know braille, the teacher would need to know the...the steps from the beginning to the end of teaching them braille”* (PRA activities,

Participant 3, line 297-300). In addition, participant 1 stated: *“Everybody writes that exam, and then from Grade 4 to Matric. And then us braille teachers we do the Grade two contracted braille. So, we do the English... both languages, English and Afrikaans because Afrikaans its different from English”* (PRA activities, Participant 1, line 15-18). Participant 3 added: *“And that’s why our school especially, we are very strict on our training for braille teachers, all our teachers from Grade R to Grade 12 teachers have to have the Grade one braille”* (PRA activities, Participant 3, line 10-13).

Participants perceived teachers’ knowledge and experience on braille literacy as critical in equipping learners with the relevant oral work skills such as listening and speaking. Additionally, braille literacy skills were perceived as providing a basis for the acquisition of important skills such as reading and writing during the Foundation Phase of learning. Participant 3 explained: *“So also depending on the children in the class for instance, I start, they only start writing on the braille machine end of term two, beginning of term three....So the first two terms are usually, it’s a lot of oral work and its more listening and speaking so that everything they do is practical, they don’t read or write like that , we have a reading program that we do start with, but I think the biggest thing would be that the blind learners are a little bit behind the curriculum. Their time is less to get things done in that year....from Grade two and three, it almost levels out because now they know the braille”* (PRA activities, Participant 3, line 94-101).

Participants further indicated that to ensure effective teaching of learners with blindness, classes are kept small to ensure that all learners’ needs are adequately met in the classroom.

Participant 2 stated: *“We have between 7 to 10 learners per class. We can’t have big classes. That’s why I prefer to have a class assistant, but that’s not always the case. We are fortunate if that happens, but yes, so, but also the ratio for a blind learner is one to five blind”* (PRA activities, Participant 2, line 202-204). Participant 1 affirmed: *“Yes, keeping the class small helps, we build good relations with learners”* (PRA activities, Participant 1, line 205-206). Participant 3 indicated: *“I agree, especially with lack of braille resources”* (PRA activities, Participant 3, line 207).

Participants perceived knowledge of the inclusion policy and the inclusion of learners with blindness as an important factor in ensuring social justice and accommodating the diversity of learners. Participant 1 stated: *“I think for us, for me personally, the biggest thing would be that they do much more about inclusion, which is great right? We are all for inclusion”* (PRA

activities, Participant 1, line 30-31). Participant 1's statement about the important role played by inclusive education highlighted participants' value of equality in the classroom and the overall importance of creating access to the Foundation Phase curriculum to learners with blindness. Participant 3 indicated: *"More especially with our blind learners, inclusion is key"* (PRA activities, Participant 3, line 32). Participant 2 affirmed: *"Yes, the Department of Education is particular about inclusion"* (PRA activities, Participant 3, line 33).

### 1.1.1.2 Sub-theme 1.2.: Utilisation of language development programmes

In this Sub-theme the teaching of Braille literacy and the incorporation of the CAPS curriculum to teach literacy skills emerged as part of language development programmes for teaching literacy to Foundation Phase learners with blindness. Participants indicated that language development programmes are perceived as a best practice when teaching literacy to Foundation Phase learners with blindness. Participants stated that the teaching literacy skills empowers learners with blindness with skills to speak, listen, read and write. Teachers indicated that language development programs are implemented with assistance from translators. Furthermore, teachers stated that teachers use concrete or relatable examples when teaching literacy especially because learners with blindness rely on listening to learn literacy. Teachers further indicated that the assessment of learners forms an important part of teaching literacy. Participants further stated that the teaching of Braille literacy runs concurrently with the CAPS curriculum and is taught from Grade one.

Participants highlighted the following on the teaching of braille to learners with blindness. Participant 1 stated: *"Well before they start to read and write, okay, they have to be introduced to the braille code as a whole (PRA activities, Participant 1, line 143-144).....so this is our braille cell. This is what the braille cell looks like"* (PRA activities, Participant 1, line 145-1146) This participant elaborated and said: *"So for the braille cell what I do is stick it on the table with prestick because it's easy, they like to play with things and it does move around. The whole idea with braille is that its fixed (PRA activities, Participant 1, line 148-150). In addition, this participant added: "they first pack it, normally we start packing it in a pattern. They do this in Grade R as well. So, they would just, normally we would go, take your finger, take the hand. Place it normally onto the holes, so that they can get a feel for what it feels like and know where everything is"* (PRA activities, Participant 1, line 155-159).

Participants further emphasised the importance of teaching Braille literacy by means of alphabet letters to Foundation Phase learners with blindness. Participant 2 said: *"What we do now is we start reading the alphabet first before we do numbers, because the numbers*

*are difficult. So we start with the basics. And in grade one we switched up the alphabet because our braille alphabet runs concurrently with the books that they start reading. So you cant give them a letter that they don't know, you can't get them to read it before they have practiced it. We don't say A, B, C, D. So we call it A for Apple. What I would do with them it's very, it's a one-on-one thing"* (PRA activities, Participant 2, line 179-188).

Participant 2 continued and explained: *"If we have to start with A or the apple. I would tell them first.. we go A for Apple, then apple for A. Then we say that A for apple is dot one. Then they go A for Apple is a dot one. I show them an example on here first, and from there on they practice themselves. This is also explained for reading directionally, right? We start from here to there.. at the top to the bottom. We never go backwards"* (PRA activities, Participant 2, line 189-195). Participant 2 concluded by saying: *"This is how we practice all our readers, all the numbers, the plus, the minus, equals ...to any new braille concept in grade one, the uncontracted braille that they learn. Grade two and three we don't do this, unless there is a learner that comes into Grade two or three that didn't have braille training beforehand in Grade one. Then its adapted for the teacher. She uses her curriculum and this, but this is more for the Grade ones"* (PRA activities, Participant 2, line 195-201).

Participant 1 indicated: *"Concurrently with all of this, we now do a readiness, we call it a readiness book. Where they not only learn how to read braille, but where they learn how to do book handling and care, where they learn directionality, finding the place on a page. There is certain ways that we do that because if you lose your space in a reading book, you can easily just quickly use your guide scan"* (PRA activities, Participant 1, line 210-214). Participants also indicated that by the end of Grade one, Foundation Phase learners with blindness are expected to have mastered reading skills. Participant 2 stated: *"At the end of grade one they have to be able to read their own assessments. So language and mathematics. They must read their own things at the end of the year in grade one. That's the reading book."* (PRA activities, Participant 2, line 245-247). Participants stated that once learners are able to read on their own they make a transition from packing letters and writing it on the braille machine. Participant 3 mentioned: *"So once they are done with the reading, we have....where is Woody? Oh okay. So this guy, Woody, Woody allows for the transition between packing the letter and writing it on the braille machine, because when you see it like this, its different than having to write it, because yeah, its like this, but the writing is like this horizontal"* (PRA activities, Participant 3, line 254-258). In addition, Participant 1 indicated: *"Here they have their braille machine in front of them. We've now obviously done with finger exercises on the braille machine. Also, in here there is 17 exercises for finger*

*strength, and knee that you have to do before you could start with the normal writing posture, you know, shoulder strength, all of that, because it does get tiring and the braille machine is not easy to press.* (PRA activities, Participant 1, line 263-267). Participant 1 elaborated and said: *“The child sits on that side. We always sit on this side...the learner packs the letter/s on the braille machine* (PRA activities, Participant 1, line 273-275); *“...also specific fingers specific keys* (PRA activities, Participant 1, line 283) *and individual fingers left from right ...very important directionality”* (PRA activities, Participant 1, line 284). This participant also said *“You’ll see from Grade two, from Grade one the writing is slow, but from Grade two they just go”* (PRA activities, Participant 1, line 295-296).

Participant 1 further elaborated and emphasised: *“The only thing that’s added on with the braille is that they start learning contractions...what is contractions?..... its braille shortened. So instead, if you had to type out a book and you had to do it in braille, if you didn’t contract the words you would end up with... for example.....7000 pages of a book because there is only so many words that can fit on a page”* (PRA activities, Participant 1, line 106-110). The participant mentioned: *“The book is thick because the braille is raised so it does thicken the book. So, there are certain words and phrases and sounds that are contracted...So it’s like shorthand.”* (PRA activities, Participant 1, line 111-113). Participant 3 also added: *“Remember they also take the whole alphabet again from A to Z....and now they put something in front. We call it the letters one sign. And then A is one, B is two....and those things make the things...make it more difficult when you teach a braille learner.”* (PRA activities, Participant 3, line 124-127). In addition, participant 1 said: *“Yeah, that is it, and, and in our school, not one teacher is reading it with their fingers...we read it with our eyes, it’s difficult for us to read it because we can see, so if our sentence is tightened like this. We read it with our eyes.”* (PRA activities, Participant 1, line 128-132).

### **1.1.1.3 Sub-theme 1.3.: Importance of curriculum differentiation and adaptation**

Participants indicated that curriculum differentiation and adaptation is an important factor when teaching literacy to learners with blindness. Participants perceived that the teaching of language to learners with blindness requires the utilisation of concrete experiences which assist learners to learn and understand language. Additionally, participants highlighted that teachers have to explore different ways to ensure that learners participate in braille literacy activities. To ensure curriculum differentiation and adaptation, participants indicated that learners in their classrooms are separated according to their visual impairment levels, namely partially sighted and learners with blindness. Participant 1 stated: *“So, at the school we’ve separated our visually impaired, partially sighted learners and our braille learners”*

*“Okay, this is because the grade one braille learners run, it’s like a separate curriculum to teach where they learn braille first because this is the way they read and write. Right? So, they have to learn the braille first before we can start doing anything, because they need to know what the braille is, and what the letter looks like and what the number looks like” “So, it’s almost, it runs concurrently with the CAPS curriculum for the Braille children especially”* (PRA activities, Participant 1, line 78-83).

Participants indicated that separating learners allows the acknowledgement of learner differences, and differentiating the curriculum in alignment with individual learning needs of each learner. Participant 1 indicated that: *“So, they are probably a term behind, whereas the partially sighted children... Grade one children they start immediately.....When we take the grade ones in the braille section, they take a little bit longer to catch up with the curriculum”* (PRA activities, Participant 1, line 83-86). Participant 2 indicated: *“the partially sighted kids...this is the font speaker, the adjustments here....its like a mainstream school, but its just the font is different and they have got TVs”* (PRA activities, Participant 2, line 102-104). Participants indicated that it is important to evaluate learners’ needs and to develop a unique tailored programme to meet those learning needs. Participant 2 stated: *“Yes, learners with blindness need teaching that involves hands-on experiences”* (PRA activities, Participant 2, line 103-104). Participant 3 agreed and stated: *“For learners with blindness, they need good models. You see? Separating our learners helps in structuring class activities for our different learners”* (PRA activities, Participant 3, line 87- 89).

### **2.2.2 Theme 2: Resources that promote the use of best practices when teaching literacy**

Theme 2, discusses the resources identified by the teacher participants required for best practices when teaching literacy to Foundation Phase learners with blindness. Sub-theme 2.1 presents braille literacy teaching resources required for the teaching of literacy. Sub-theme 2.2 presents the topic-specific teaching resources for teaching literacy.

**Table 4.3**

*Inclusion and exclusion criteria for Theme 2*

	<b>INCLUSION CRITERIA</b>	<b>EXCLUSION CRITERIA</b>
<b>Theme 2: Resources that promote the use of best practices for teaching literacy</b>		
<b>Sub-theme 2.1:</b> Braille literacy resources for teaching Foundation Phase learners with blindness	Data referring to braille literacy resources that support the teaching of Foundation Phase learners with blindness.	Data referring to resources that align with topic-specific teaching resources.
<b>Sub-theme 2.2:</b> Topic - specific teaching resources	Data referring to resources that align with topic-specific teaching resources.	Data referring to braille-specific literacy teaching resources supporting the teaching of Foundation Phase learners with blindness.

**2.2.2.1 Sub-theme 2.1: Braille literacy resources required for teaching literacy to Foundation Phase learners with blindness**

Participants indicated that tactile teaching materials are used to teach Foundation Phase learners with blindness how to recognise letters, words, and shapes through touch. Examples of tactile materials include raised line drawings, 3D models and textured materials which provide tactile cues that enable learners with blindness to conceptualise abstract concepts such as letters, words and sentences. Participants have confirmed that they use resources such as the Braille system and machine, braille printer, braille books, peg boards, earphones for computers and other topic-specific teaching aids. Participant 1 said: *“We call them peg boards. So, we have got a steel one and then a wooden one. Now the wooden one is for the learners whose fine motor skills and the touch hasn’t been developed enough for them to feel the smaller holes here.”* (PRA activities, Participant 1, line 173-176). Participant 1 stated: *“the only difference is that the fonts are big and they use a TV. There aren’t any adjustments, nothing is adjusted. Resources that we have to do for them. The RTC things that they use, it’s literally the, the screen is bigger, so they use the same graphs as the other same schools and just make sure that the font is clear, that the pictures are clear, that it’s not like, you know, like them to see, but we, but the braille adaptations are royal. That is the real issue. And it’s much more difficult to do it in for, for maths”* (PRA activities, Participant 1, line 134-140).

Participant 2 indicated: *“...here they have their braille machines in front of them (PRA activities, Participant 2, line 263), So the complete alphabet consists of six, either from like to six, made up of something in a denomination, different combinations. Yes, Numbers, letters”* (PRA activities, Participant 2, line 291-294). Participant 2 further stated: *“So this book basically just teaches, it prepares them for reading. I can put it like that. This book is not a reading book. It's just a book with simple pattern. That they follow. So, their fingers can get used to the braille on a paper as well”* (PRA activities, Participant 2, line 216-219). Participant 3 said: *“So for the braille cell, what I do is I stick this onto the table with prestick because it's easy, they like to play with things and it does move around. The whole idea was braille is, is that it's fixed. But for them, it plays on their mind. Okay, so we, we stick it down. This is on their table like this. Okay. Now we have to learn how the braille cell works. Okay. So when you, when we, we stopped, yes. They first pack it, normally we start packing it in a pattern. They do this in grade R as well. They start with this in Grade R”* (PRA activities, Participant 3, line 148-154).

#### **2.2.2.2 Sub-theme 2.2: Topic-specific teaching resources**

Participants indicated that listening, speaking reading and writing skills form part of the CAPS curriculum during the Foundation Phase of learning. As such the participants confirmed the use of topic-specific resources when teaching these literacy skills. Participants affirmed that they utilise Vocabulary Programme books, Language Programme books and Braille literacy readers (see pictures on Appendix E5 - E10). *Participant 1 stated: “So this book basically just teaches, it prepares them for reading. I can put it like that. This book is not a reading book. It's just a book with simple pattern. That they follow. So their fingers can get used to the braille on a paper as well”* (PRA activities, Teacher 1, line 216-219). Participant 1 indicated: *“we do a readiness, we call it a readiness book. Where they not only learn how to read braille, but where they learn how to do book handling (PRA activities, Teacher 1, line 210-211).*

Participant 1 continued and said: *“So with pre-reading its very interesting”* (PRA activities, Teacher 1, line 224-226) *“it's our hand movement book. Yeah. So this is the pre-reading book that you use”* (PRA activities, Teacher 1, line 234-236). Participant 2 said: *“They must read their own things at the end of the year in grade one. That's the reading book.”* (PRA activities, Participant 2, line 245-246). Participant 1 also stated: *“The only thing that's added on with the braille is that they start learning contractions...what is contractions?... its braille shortened”* PRA activities, Teacher 1, line 106-107).

### 3.3.3 Theme 3: Challenges that inhibit the implementation of best practices when teaching literacy

Theme 3, discusses the identified challenges that inhibit the implementation of best practices when teaching literacy to Foundation Phase learners with blindness. The challenges include time challenges, lack of teacher knowledge and training, lack of teaching resources, lack of parental involvement, the visual orientation of the CAPS curriculum, language inadequacy and lack of stimulation of learners, including multiple disabilities experienced by learners. Sub-theme 3.1. presents teacher-related challenges experienced by teachers when teaching literacy. Sub-theme 3.2. focuses on learner-related challenges experienced by teachers when teaching literacy and Sub-theme 3.3 on resource-related challenges experienced by teachers when teaching literacy.

**Table 4.4**

*Inclusion and exclusion criteria for Theme 3.*

	<b>INCLUSION CRITERIA</b>	<b>EXCLUSION CRITERIA</b>
<b>Theme 3: Challenges that inhibit the implementation of best practices when teaching literacy</b>		
<b>Sub-theme 3.1:</b> Teacher-related challenges	Data referring to teacher-related challenges experienced by teachers teaching literacy to Foundation Phase learners with blindness	Data referring to learner-related and resource-related challenges.
<b>Sub-theme 3.2:</b> Learner-related challenges	Data referring to learner-related challenges experienced by teachers teaching literacy to Foundation Phase learners with blindness	Data referring to teacher-related and resource-related challenges supporting the teaching of learners with blindness.
<b>Sub-theme 3.3</b> Resource-related challenges	Data referring to resource-related challenges experienced by teachers teaching literacy to Foundation Phase learners with blindness.	Data referring to teacher-related and learner-related challenges supporting the teaching of learners with blindness.

### 3.3.3.1 Sub-theme 3.1: Teacher-related challenges experienced by teachers when teaching literacy

Participants perceived teacher-related challenges as factors that inhibit the implementation of best practices when teaching literacy to Foundation Phase learners with blindness. Participants further indicated that teachers teaching literacy to Foundation Phase learners need to have the relevant personal attributes to teach learners with blindness. Participants perceived a lack of passion and commitment to teaching learners to blindness as a challenge in their school. Participant 1 stated: *“Because right now it’s really difficult having teachers that their heart is not, they are not special needs teachers”* (PRA activities, Participant 1, line 56-57). Participant 1 further stated: *“If they have exposure, they feel they can actually do this. If there is better teacher training in terms of exposing them first, it will prepare them for later. And that will obviously have an effect on best practices”* (PRA activities, Participant 1, line 58-59). Participant 2 agreed and stated: *“Yes, as a teacher you need to be adaptable to the classroom environment”* (PRA activities, Participant 2, line 60-61) *“Passion is key. Yes. Otherwise it’s difficult to last in teaching”* (PRA activities, Participant 3, line 62-63).

Participants further indicated that lack of teacher training is big challenge for teachers teaching learners with blindness. Additionally, participants expressed that a general teaching degree is not sufficient enough when teaching learners with blindness. Participant 2 stated: *“You can’t have a general teaching degree and you learn the basics”* (PRA activities, Participant 2, line 33). Participant 3 stated: *“I do not understand why our teaching students are not exposed to specialised schools. I mean this is where the big difference comes in.....”*(PRA activities, Teacher 3, line 48-49).

### 3.3.3.2 Sub-theme 3.2: Learner-related challenges

Participants indicated that teachers experience learner-related challenges when teaching Foundation Phase learners with blindness. These challenges are perceived as inhibiting the implementation of best practices when teaching literacy. Participants perceived that learner-related-challenges include factors such as the lack of language and stimulation of learners, the CAPS curriculum is too visually oriented and challenges with multiple disabilities. Participant 3 indicated: *“but I think the biggest challenge would be that the blind learners are a little bit behind the curriculum. Their time is less to get things done in that year....from Grade two and three, it almost levels out because now they know the braille”* (PRA activities, Teacher 3, line 94-101). Participant 1 affirmed that: *“the language is not there, the fingers are not properly stimulated”* (PRA activities, Participant 1, line 120). Participant 2 stated:

*“We still need teachers in specialised schools. We’ve got deaf children, we’ve got blind children, we’ve got all this. So, our teachers come in and we are grateful for them. But there is still so much training that needs to be done for the teacher herself”* (PRA activities, Participant 2, line 34-37).

In addition, participant 3 indicated: *“So when you do your practicals, it’s not, you’re not dead set that you have to do this for the rest of your life. So because now you have someone that, that doesn’t really want to do this and they don’t like adaptations and this is not for them....Maybe I would rather teach at the deaf school. I didn’t like braille that much but I like the sign language. So, something like that. If you, if you get exposure to it, then you can decide better on where you should be, because right now its difficult having teachers that their heart is not.....they are not special needs teachers and its difficult”* (PRA activities, Participant 3, line 51-58). Participant 1 stated: *“The language is not there, the fingers are not properly. And remember in braille you use both hands, So both hands must strong, strong, And that is the starting point. That is why it’s so difficult for us in grade one”* (PRA activities, Participant 1, line 120-122). Participant 2 agreed and said: *“Shoulder strength, all of that, because it does get tiring and the braille machine is not easy to press”* (PRA activities, Participant 2, line 266-267).

Furthermore, participant 1 stated that: *“It runs concurrently with the CAPS curriculum for the Braille children especially. So they are probably a term behind, whereas the partially sighted Grade one kids they start immediately, they go in and they, you know, they go for it. When we take the Grade ones in the braille section they take a little longer to catch up with the curriculum”* (PRA activities, Participant 1, line 85-89). Participant 2 elaborated and said: *“We still need teachers in specialised schools. We’ve got deaf children, we’ve got blind children, we’ve got all this. So, our teachers come in and we are grateful for them. But there is still so much training that needs to be done for the teacher herself”* (PRA activities, Participant 2, line 34-37). To this end, participant 3 said: *“So when you do your practicals, it’s not, you’re not dead set that you have to do this for the rest of your life. So because now you have someone that, that doesn’t really want to do this and they don’t like adaptations and this is not for them. Maybe I would rather teach at the deaf school. I didn’t like braille that much but I like the sign language. So, something like that. If you, if you get exposure to it, then you can decide better on where you should be, because right now its difficult having teachers that their heart is not.....they are not special needs teachers and its difficult”* (PRA activities, Participant 3, line 51-58).

### 3.3.3.3 Sub-theme 3.3: Resource-related challenges

Participants indicated that teachers experience resource-related challenges when teaching Foundation Phase learners with blindness. These challenges are perceived as inhibiting the implementation of best practices when teaching literacy. Examples indicated by the participants include lack of training and assessment skills, lack of teaching resources, lack of parental involvement and time challenges. *Participant 1 stated: “What are you going to assess, and then you start with teaching, because the road to get there is the same, but the pace is much slower. And then you must cut everything to the bone and to make sure you adding weight again, you have to aim with your assessments”.* (PRA activities, Participant 1, line 25-28).

Participant 2 added: *“You can’t have a general teaching degree and you learn the basics. We still need teachers in specialized schools. We’ve got deaf children, we’ve got blind children, we’ve got all of this. So, our teachers come in and we are grateful for them. But there’s still so much training that needs to be done for the teacher herself before you can even start.”* (PRA activities, Participant 2, line 33-37). Participant 1 agreed and said: *“We should have brought a braille machine. We have one, but unfortunately its locked.”* (PRA activities, Participant 1, line 275-276); and *“Oh and this is homemade for parents who obviously cannot afford to buy* (PRA activities, Participant 1, line 168).

Furthermore, participant 1 confirmed: *“I hand these out to parents when they come in Grade one and they need to practice with their child. They can use this and they don’t have to buy expensive braille equipment, because it is expensive, unfortunately. We call them peg boards. So we have got a steel one and then a wooden one”* (PRA activities, Participant 1, line 170-175). Participant 1 concluded: *“If you see....look at our Grade R’s.... I am talking about the blind learners. Remember the parent doesn’t know how to stimulate the braille children”* (PRA activities, Participant 1, line 115-117).



## APPENDIX D: REFLECTIVE RESEARCH JOURNAL

### Reflective journaling after the focus group workshop: December 2022

The workshop with teachers of learners with blindness was truly enlightening. The teachers were eager to share their experiences and driven by a deep passion for their students. They openly discussed what they considered to be the best practices for teaching literacy, and what stood out was their willingness to provide practical demonstrations of how they teach Braille. The variety of teaching resources they brought added depth to their demonstrations and explanations. Being able to interact with these materials first-hand made the data more tangible and allowed for meaningful engagement during the sessions.

The primary method for gathering data was through demonstrations and discussions, which gave both participants and facilitators to engage meaningfully. The resources and strategies the teachers shared were new to me and deepened my understanding of their passion for teaching, as well as the unique challenges they face in teaching blind learners. The teachers highlighted essential aspects I hadn't considered before, such as the critical importance of thoroughly understanding the curriculum, being able to differentiate the curriculum and adapting resources for learners while focusing on key objectives to ensure effective teaching.

The natural, open atmosphere fostered good rapport building and a clear understanding of the teaching knowledge on best practices shared by the teachers. The teachers showed good interpersonal relationships build on respect for each other. All these factors demonstrated that the teacher share meaningful relationships and a willingness to support each other, demonstrating both their solidarity and effective professional relationships. They seemed genuinely motivated by a desire to provide high-quality education to learners with blindness. While teachers acknowledged that Grade one braille learners often fall behind their partially sighted peers, the teachers exhibited confidence that these learners always seem to catch up by Grade 2. I was also impressed by the participants' commitment to teaching in an all-inclusive environment which is accommodating to learners with blindness, ensuring that both the teaching of literacy and the CAPS curriculum run smoothly despite the challenges of both programs running concurrently and presenting several challenges for the teachers.

## **Reflective Journal: January 2023**

In February 2023 I familiarised myself with the field notes collected during the focus group workshop. During this exercise I could already identify prerequisites for best practices when teaching literacy to Foundation Phase learners with blindness. The following observations were made in the notes. Teachers highlighted that they considered the following factors as key prerequisites when teaching literacy to learners with blindness:

### **Teacher knowledge**

Teacher knowledge was identified as key when teaching learners with blindness. The teachers expressed that teacher knowledge could essentially be acquired through means such as *teacher training and experience*. Additionally, *teacher knowledge of braille codes and inclusion policy* was considered a prerequisite for best practices. Participants also indicated teachers' attributes, values and beliefs such as passion, patience, empathy, perseverance support teachers in adapting to an environment teaching learners with blindness. (Teacher training and experience, knowledge of braille codes, inclusion policy)

### **Best Practices**

Best practices for teaching literacy were identified as the teaching of braille, use of language development programs such as pre-reading, reading, language and vocabulary. The CAPS curriculum was also identified as important and mandated by the Department Basic of Education to equip all Foundation Phase learners with listening, speaking, reading and writing skills. It was noted that even though braille literacy and the CAPS curriculum run concurrently it is effective to teach them braille skills to lay the foundation for blind learners to acquire emergent literacy skills such as reading and writing.

### **Curriculum differentiation and adaptation**

Curriculum differentiation and adaptation of teaching resources was indicated as a best practice for teaching literacy to Foundation Phase learners with blindness as it ensures that teaching supports the individual learning needs of learners with blindness. Participants indicated that they have to differentiate the curriculum for their blind learners and partially sighted learners. Furthermore, the differences in learner's visual impairment was perceived as requiring the use of different teaching strategies and teaching resources hence the need to adapt teaching resources. Participants perceived the CAPS curriculum as being too visually oriented resulting in learners with blindness falling behind.

## **Resources for teaching literacy**

Participants highlighted important resources for teaching literacy to learners with blindness such as the braille system and machine, braille printer, braille writer, braillette boards, braille cells including customised ones, earphones, computers, audio tapes, braille readers, braille teaching booklet, and language development program books and other tactile teaching resources.

## **Challenges that inhibit teaching**

Challenges for teaching literacy to Foundation Phase learners with blindness were identified and classified as being teacher-related, learner-related and resource-related. These included among others, lack of teacher training and experience, personal teacher attributes such as a lack of passion and commitment, lack of language development and stimulation among learners with blindness, multiple disabilities, lack of parental support, lack of resources, and time-related challenges linked to teaching and adapting resources.

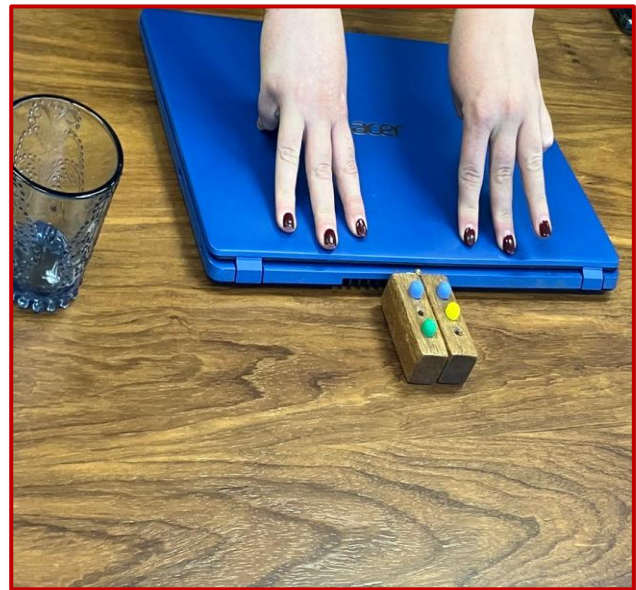
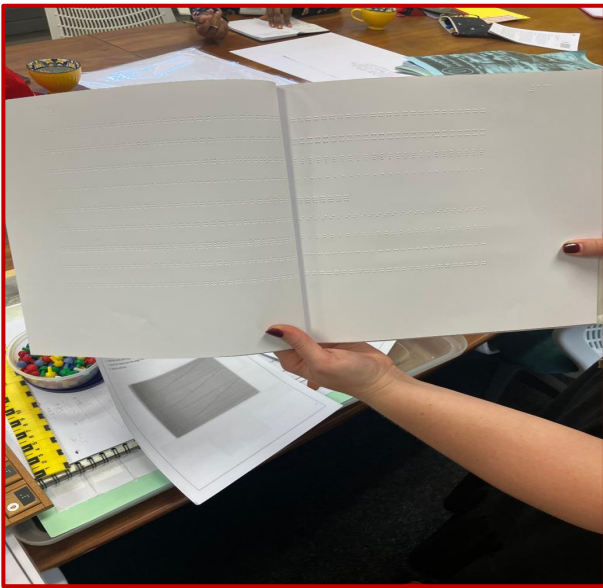
## **Reflective Journal: February 2023**

Following the exploration of my fieldnotes I was able to immerse myself in the data and identify some emerging themes linked to the study topic. While I found the process challenging and seemed to put it off for a while due to my other coursework commitments, when I eventually settled into familiarising myself with the data it became easier. It was also useful that I could embark on member checking with my colleagues to ease the challenge. This experience taught me the importance of planning and being able to adapt to the work at hand. This allowed me to respond positively to what I considered to be a novel experience for me as it was my first time being exposed to the uniqueness of teaching literacy to learners with blindness. The data analysis exercise has been a worthwhile exercise and has contributed significantly to my personal growth, and has been a great learning experience. The supervision and continuous support received during these sessions have empowered me with unique planning skills and further developed my patience and confidence to conduct data analysis. I have also learnt the importance of being aware of my own self-positioning when conducting research and that it requires that I be fully aware of myself and to constantly engage in self-reflection. The self-reflection exercise has been a valuable tool in developing my personal awareness and a growth mindset.



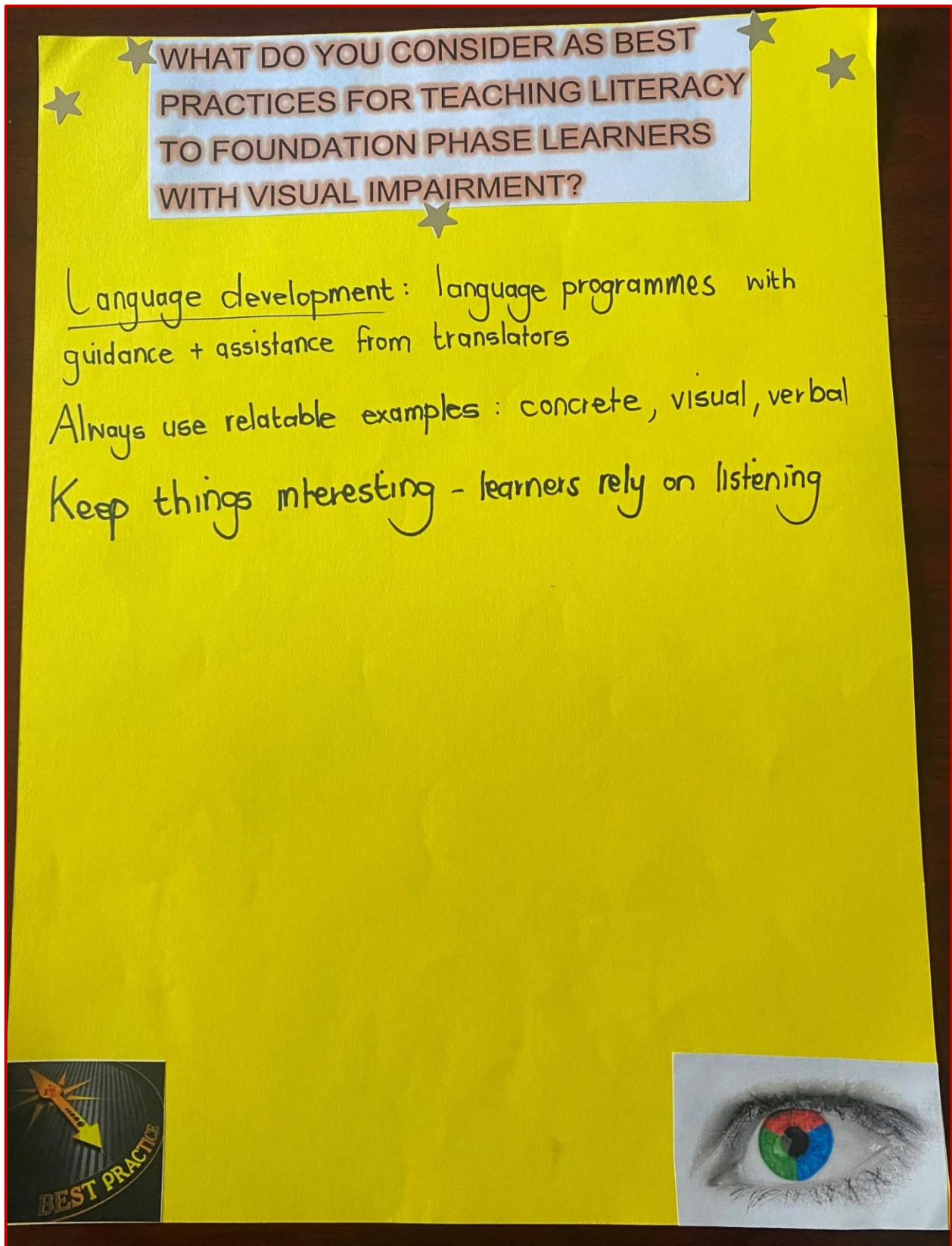
## APPENDIX E: PHOTOGRAPHS

Photograph 1: Teacher Focus Group Workshop/Meeting



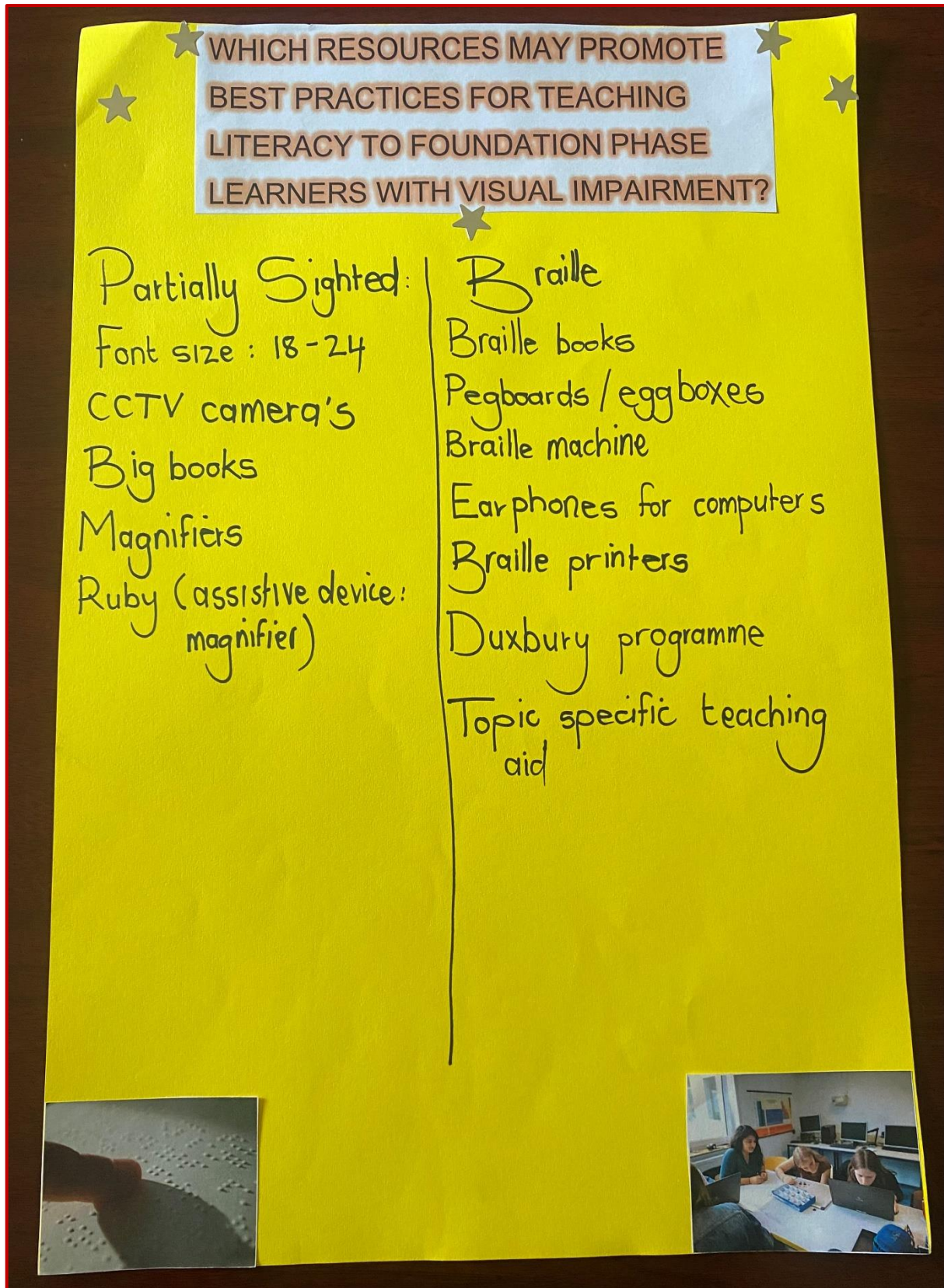
**Teachers' Focus Group Meeting**

## Photograph 2: Best Practices Poster



**Best Practices Poster - Focus Group**

### Photograph 3: Resources Poster





**Resources Poster - Focus Group**

Photograph 4: Challenges Poster

★ WHAT CHALLENGES MAY INHIBIT BEST PRACTICES IN THE TEACHING OF LITERACY TO FOUNDATION PHASE LEARNERS WITH VISUAL IMPAIRMENT? ★

Time  
Too visually orientated (CAPS)  
Language inadequacy  
Exposure to social norms  
Uneducated educators  
Parent involvement  
Multiple disabilities  
Outcomes / expectations changing constantly



**OPPORTUNITIES**

- 81% of visual impairment could be avoided if diagnosed and treated early
- 1.4 million children could benefit from vision rehabilitation
- US\$102 billion could be saved with appropriate eye care services

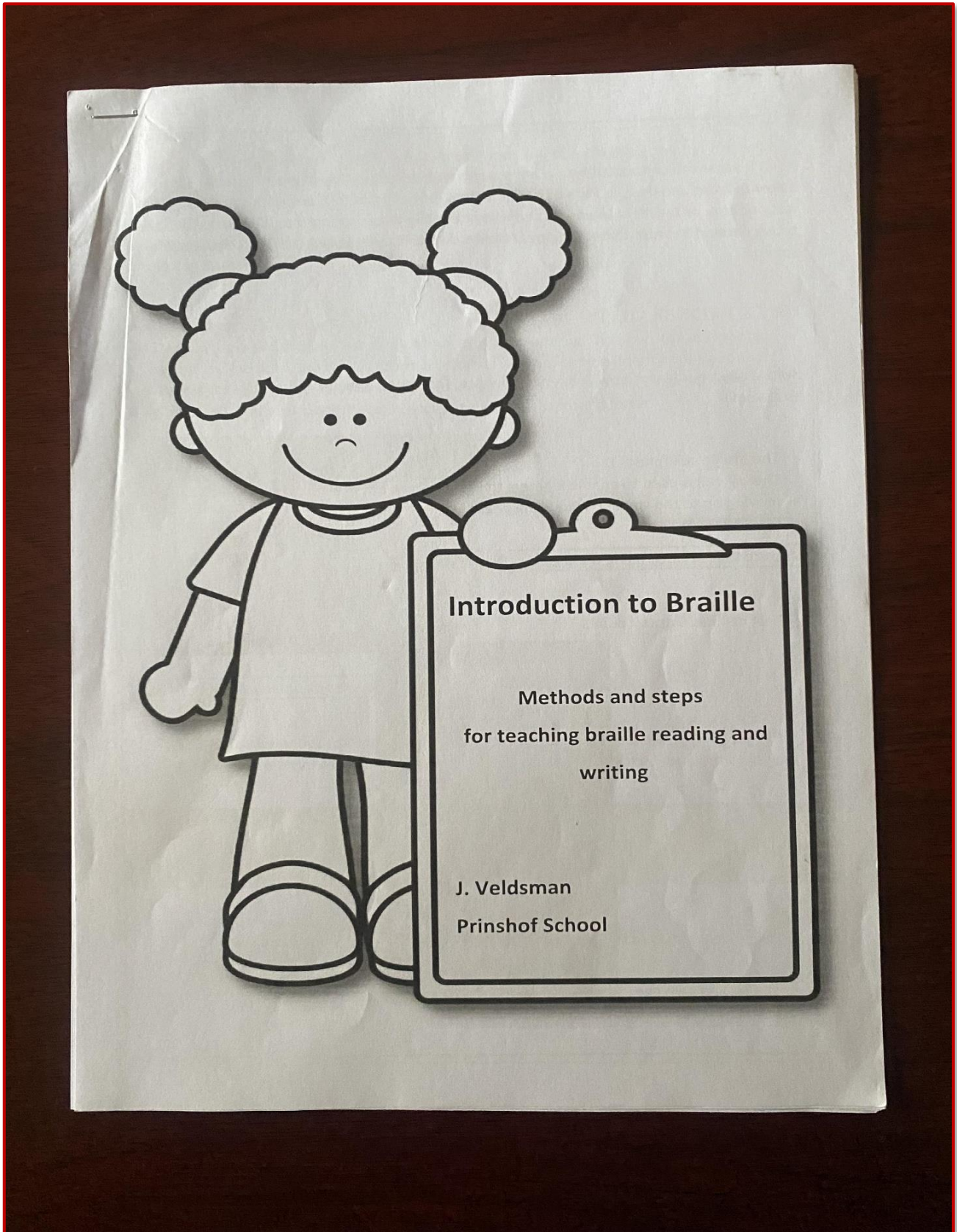
**ACTION**

- Assess the possibility of eye care services
- Identify needs and gaps
- Provide high-quality and affordable eye care services to all
- Inform people about eye disease prevention and care
- Educate about importance of regular eye exams

I ♥ MY EYES

Challenges Poster - Focus Group

**Photograph 5: Braille teaching booklet/ guide**

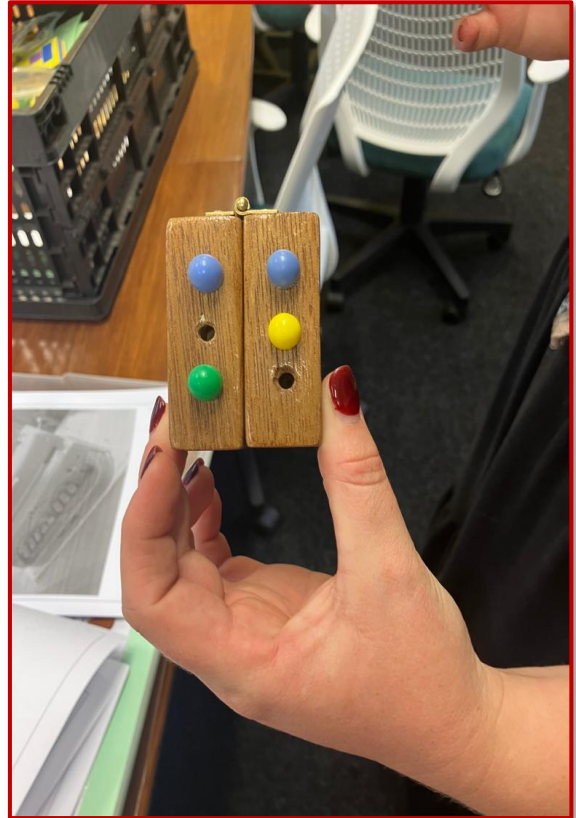


***Teachers' Braille Teaching Booklet Cover***

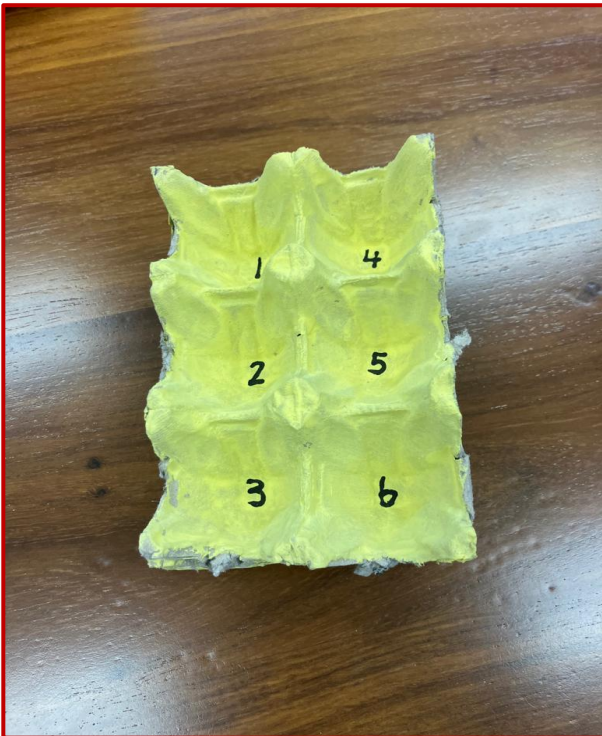
**Photograph 6a, 6b, 6c, 6d: Braille cell examples**



**6a. Plastic braille cell**



**6b. Woody braille cell**

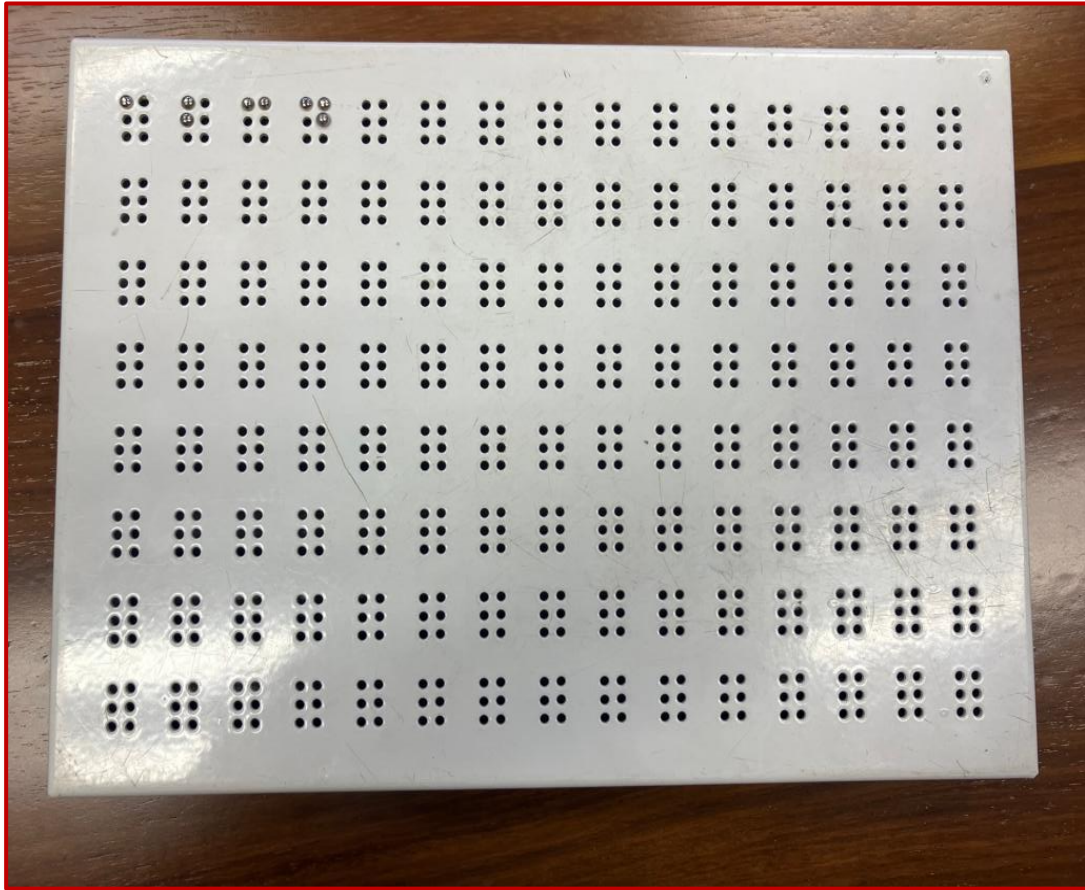


**6c. Egg box customised braille cell**

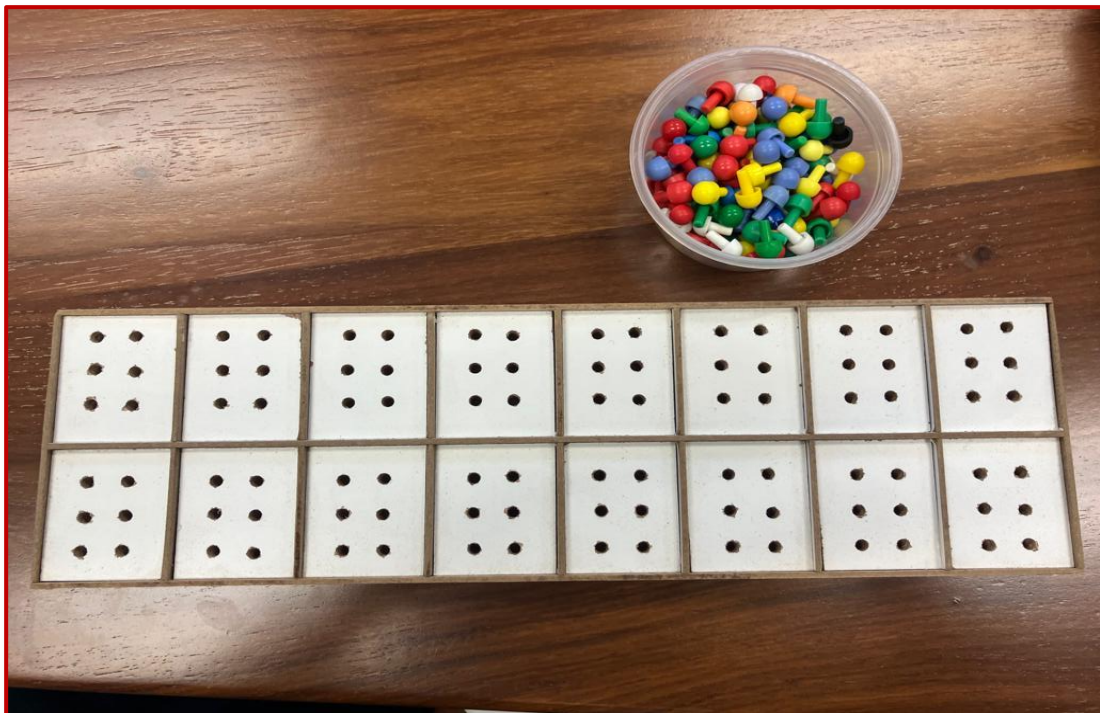


**6d. Egg box customised braille cell**

## Photograph 7a and 7b: Braillette Board/Peg Board

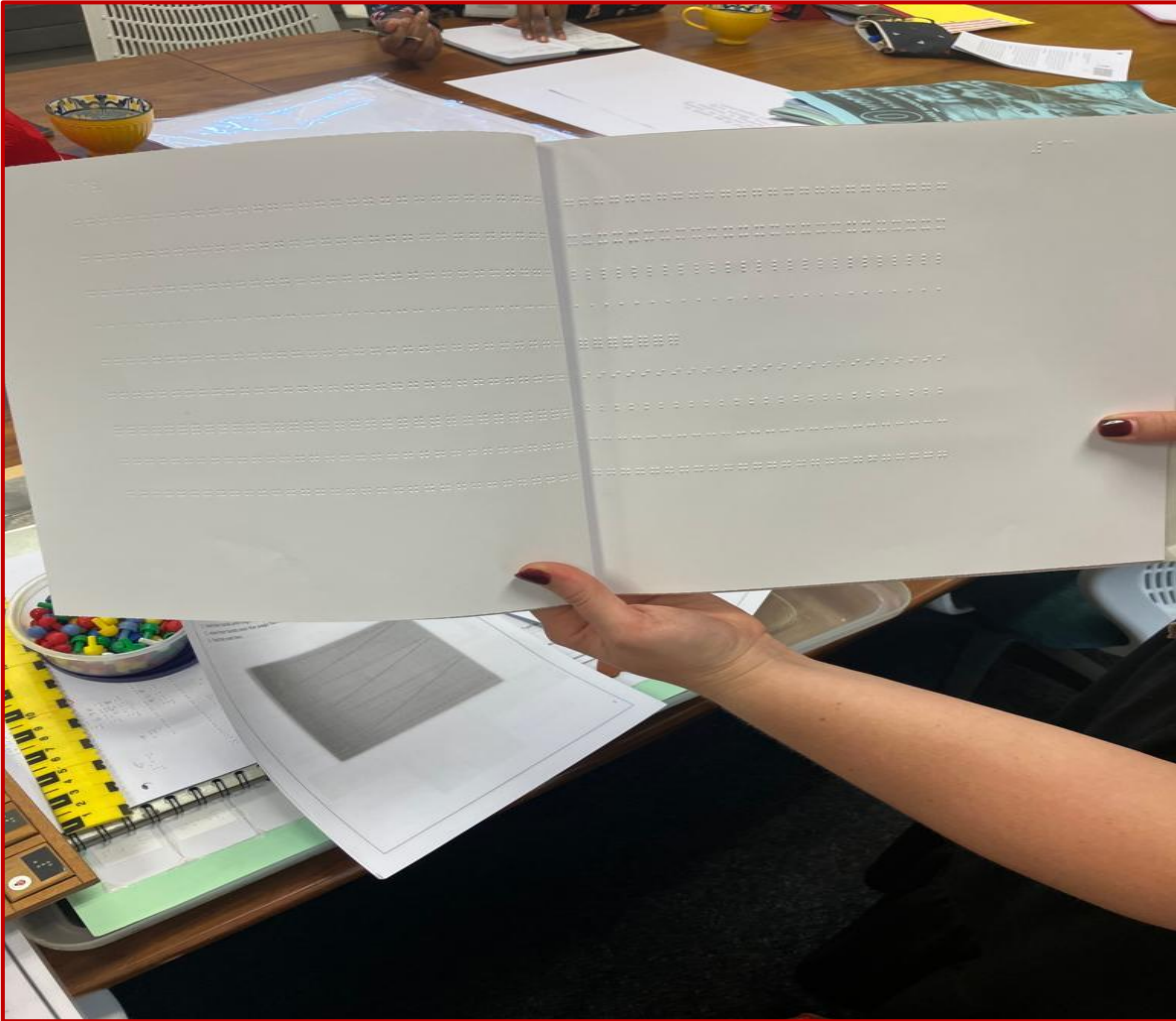


***7a. Braillette Board/Peg Board - Pin***



***7b. Braillette Board/Peg Board - Coloured pins***

## Photograph 8: Braille Reading Book

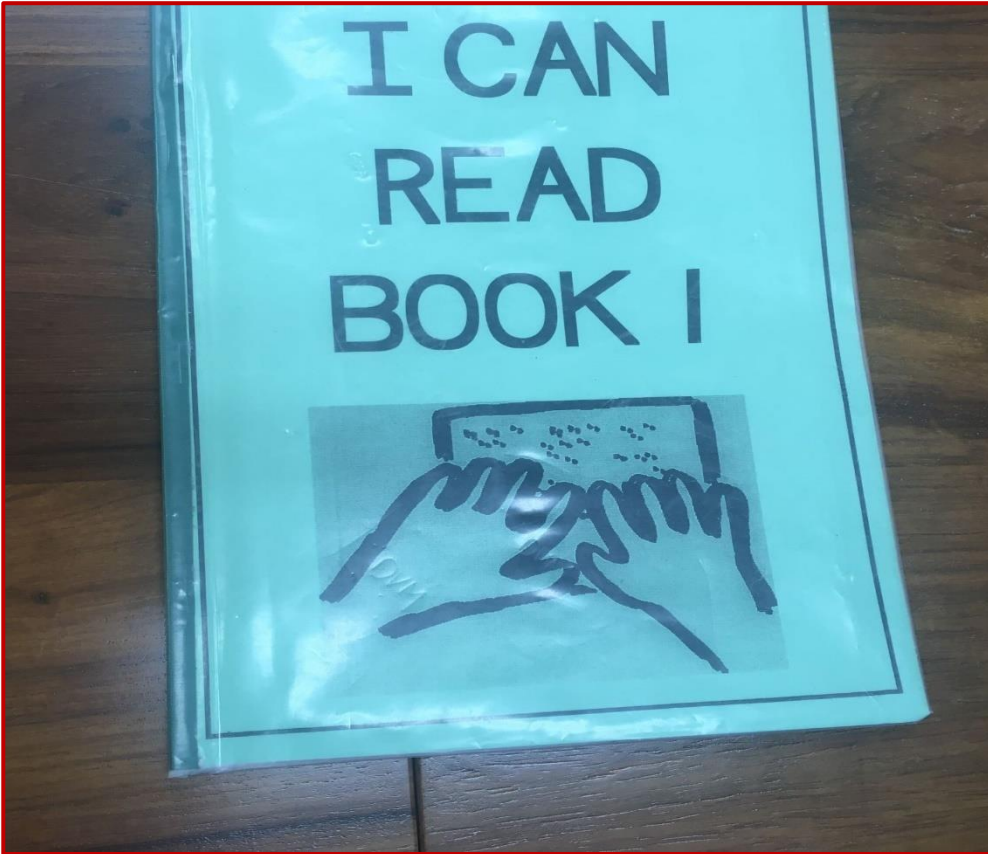


***Braille Reading Book***

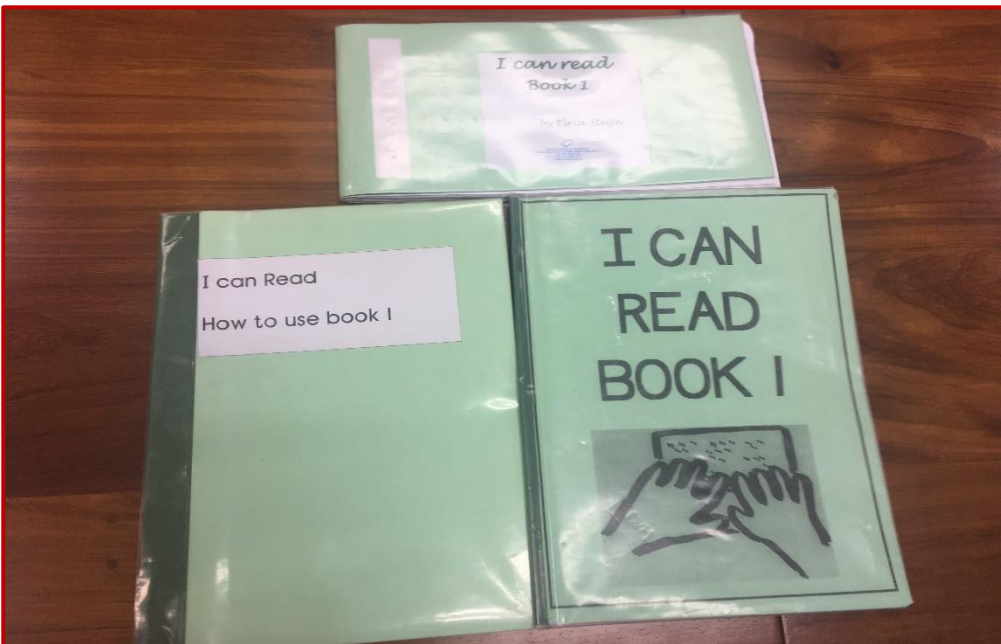


***Braille reading demonstration***

**Photograph 9: Resources - Braille Literacy Reader - Book 1**

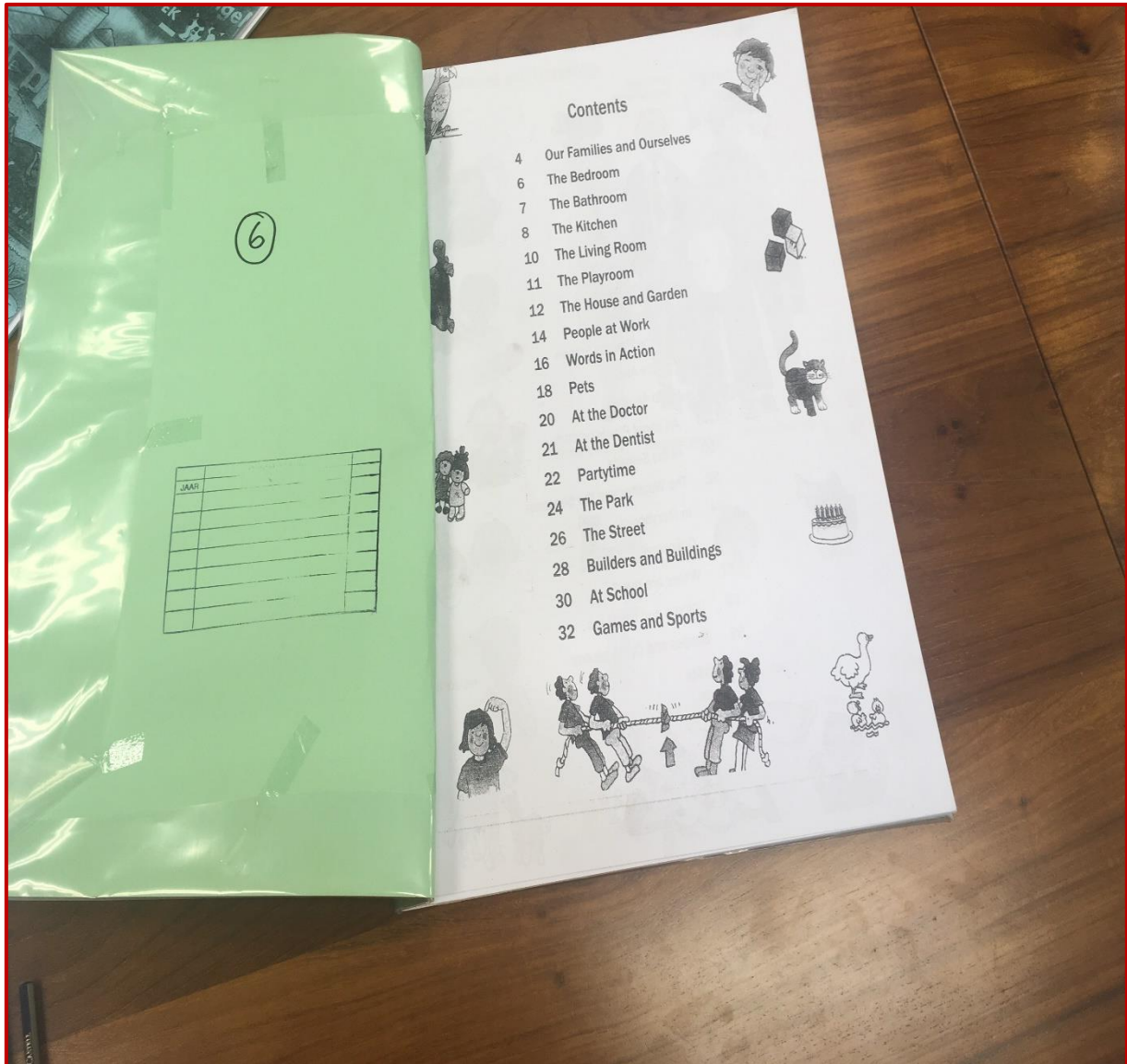


***I can Read - Book 1***



***I can Read Book 1 Set - Book, Guidelines and Braille Book***

**Photograph 10: Braille reader - Table of Contents**



***I can Read Book 1 - Table of Contents***

**Photograph 11: Vocabulary Program Books**



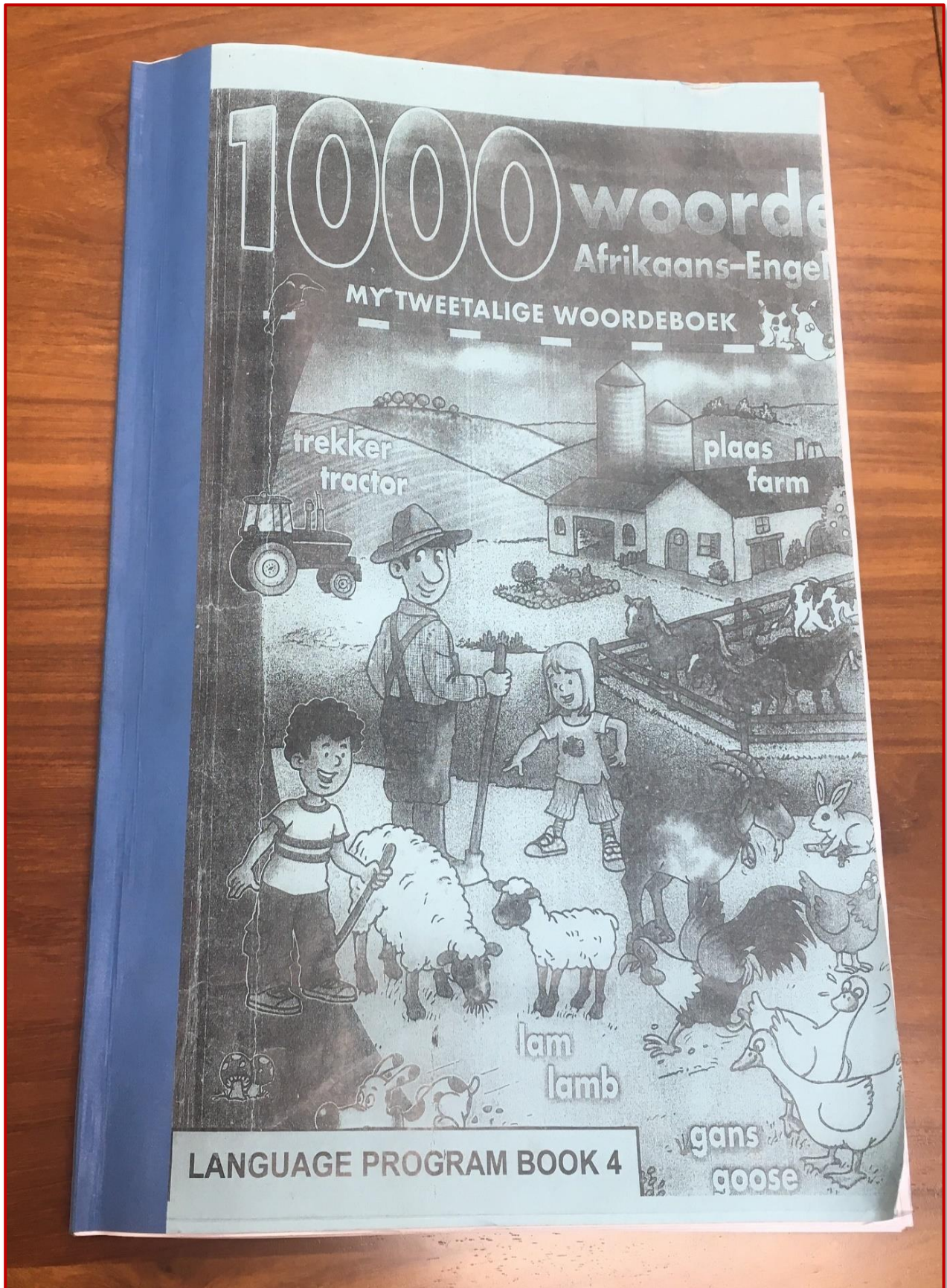
**Vocabulary Program Book Examples**

Photograph 12: Language Program Book 3



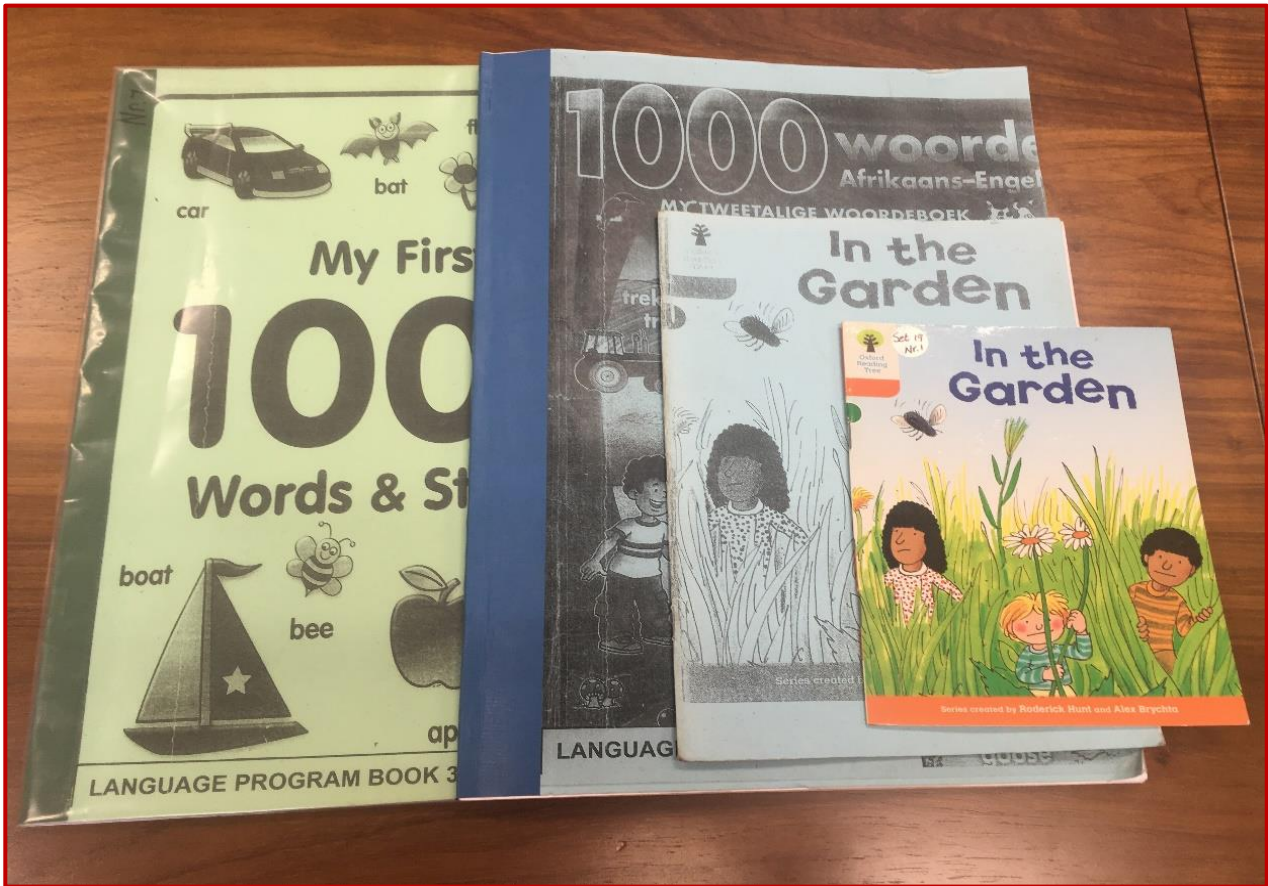
**Language Program Book 3**

Photograph 13: Language Program Book 4



Language Program Book 4

Photograph 14: Language Program Book Examples



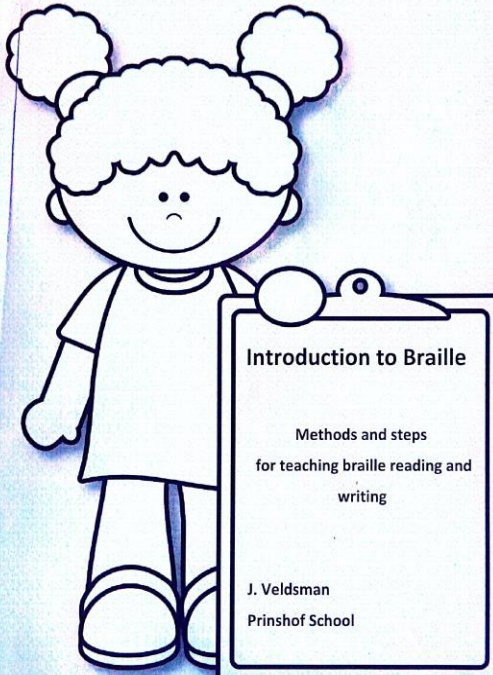
## Photograph 15: Resources - Alphabet Chart



**Alphabet Chart**



# APPENDIX F: BRAILLE TEACHING BOOKLET-GUIDE



**Introduction to Braille**



Methods and steps  
for teaching braille reading and  
writing

J. Veldsman  
Prinshof School

Here are the steps to follow in preparation to reading

**Step 1**


- Take the two index fingers of the learner and place them on the first pattern. Ensure that the fingers are flat and not pointed, pushing down on the braille. **The index fingers are always together, never apart.** Let the learner fold the rest of his/her fingers away.



- The left reads, the right leads – I use this saying when I start “reading” with the learners so that by the time they actually start reading, it is ingrained that when the left finger feels the letter the mouth must say it. The right finger is just to help you stay in a straight horizontal line and to tell you when the line is at an end.

**Step 2**

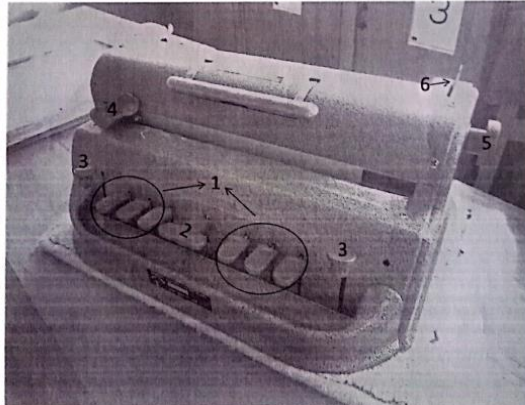
- Hold the learner’s hands and direct them in the right direction (remember to tell the learner that we read from left to right). Move at a reasonable speed.



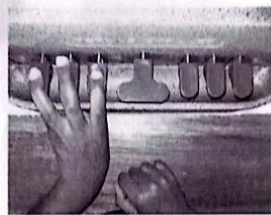
Woody is first used to ‘pack’ the sound and then opens up to show the learner what keys will be used to write the sound.


The Perkins braille writer




**Exercise 3**  
Left three fingers – dot / point 1, 2, 3



**Exercise 4**  
Right three fingers – dot / point 4, 5, 6

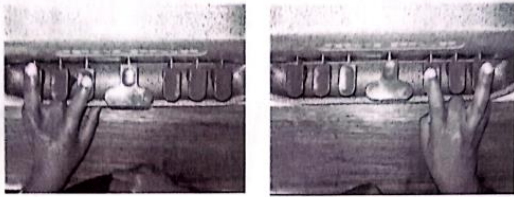


**Exercise 5**  
Index fingers on both hands – dot / point 1 and 4



**Exercise 12**

Index and ring finger of each hand – dot / point 1, 3 and then dot / point 4, 6



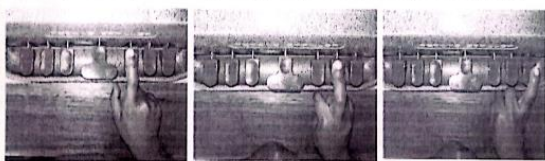
**Exercise 13**

Use the left hand fingers to press each key – dot / point 1, then dot / point 2, then dot / point 3

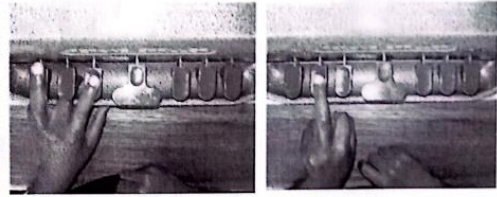


**Exercise 14**

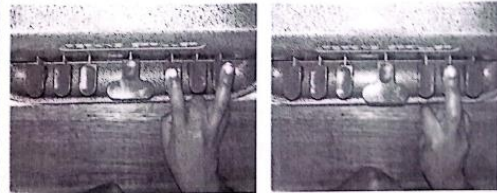
Use the right hand to press each key – dot / point 4, then dot / point 5, then dot / point 6



Swapping fingers: left hand – first dot / point 1, 3 then dot / point 2



Swapping fingers: right hand – first dot / point 4, 6 then dot / point 5



After the exercises have been completed, the learner is now ready to start formal work. Each letter of the alphabet can now be taught to the learner.

The sounds are taught in the following order:

ENGLISH

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

AFRIKAANS

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

For a learner the concept of braille is a scary but also exhilarating new one. Learners are eager to learn and use the Perkins braille writer. However, before any of this can take place, it is our duty as teachers to ensure that they have the finger strength as well as the delicate touch needed in order to produce neat braille dots and to be able to read at a reasonable speed.

**\*LET'S TALK BRAILLE\***

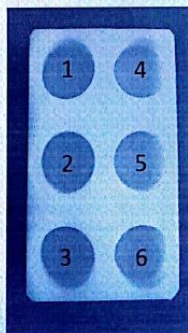
Before a learner learns how to read and write, they need to be introduced to braille code as a whole.

**> The braille cell (plastic)**

The big cell is used to enable learners to identify each dot in a cell. This is used before moving on to the smaller cells, like a pegboard.

**Steps to follow when using the braille cell**

1. A cell has 6 dots / points

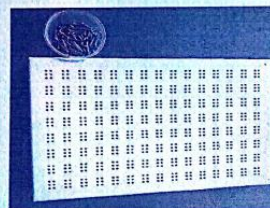


2. Let learners familiarise themselves with the location of each dot / point in the cell.
3. Ask the learner to identify random dots / points in the cell.

Once learners understand and know all the dots / points on a braille cell you can move on to the pegboard.

**> The Pegboard (Braillette Board)**

This is a tool used to help learners with reading and 'writing'. It allows the learner to memorise the dots / points that form a letter as well as reading (identifying) a sound. The pegboard is made up of lines of braille cells (much smaller than that of the big plastic cell) and uses pegs that are placed in each cell to form a letter.



**Steps to follow when using the pegboard**

1. Discuss what dot / point in a cell the letter is made up of e.g. "a" is dot / point 1.
2. Give the learner an example in the first cell and let the learner copy until the line is finished.



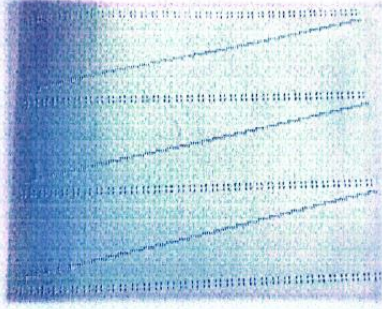
3. Follow step 1 and 2 for all new sounds to be learnt as well as punctuation and mathematical symbols.

READING

As the learner is just at the beginning of his/her journey on reading the first few reading exercises are simply to ensure that the learner uses his/her hands correctly.

The book "I AM READY" is not a reading book but more of a preparation book. To the children they are simply dot patterns which are pleasant to feel, but at the same time teaches them how to:

1. hold their hands and fingers in the correct way (fingers always together),
2. move their hands over the page horizontally and
3. find the next line.



3

**Step 3**

- Once at the end of the line, move the learner's hands back over the patterns (remember to emphasize that we don't read backwards) to the start and then down to the next line.

**Step 4**

- Repeat steps 2 and 3 with the learner for the rest of the page.

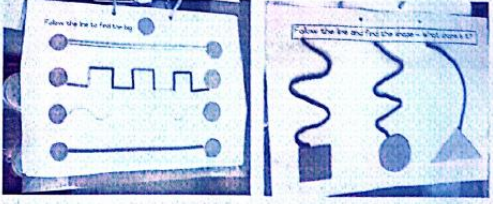
After the completion of this book the learner is now ready to start reading.

**\*\*NB** If it becomes clear to you that, while reading, a learner keeps on telling you that he/she can't feel the braille or it becomes clear that the learner struggles to identify which point they are 'feeling', it might be because the touch receptors in the fingers are not yet fully developed.

Stimulation of the tactile sense needs to be done in order to assist the learner to develop better discrimination to feel the dots.

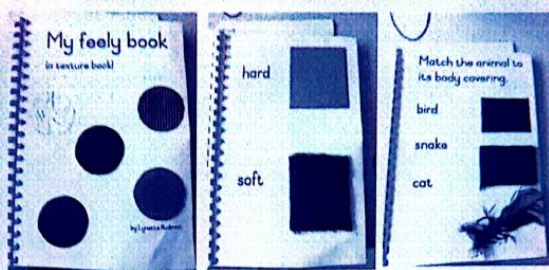
Exercises include:

- ✓ Following a 'road' on paper made by string or wool.




5

✓ Identifying different textures (silk, wool, etc.) AVOID SANDPAPER



✓ Picking up small beads or seeds (one by one)



**Important things to remember**


1. Hands must be washed and thoroughly dried before reading.
2. Don't scratch the braille (this is one of the reasons the fingers should be flat on the page and not pointed).
3. Don't press too hard on the braille as this will flatten the braille and make it unreadable.

6

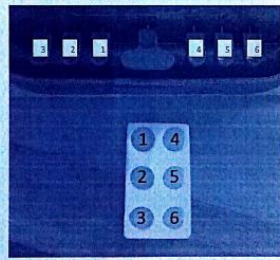
WRITING

**Meet woody**

Woody is a special friend. He allows for the transition between packing the sound on the pegboard to writing it on the braillewriter.



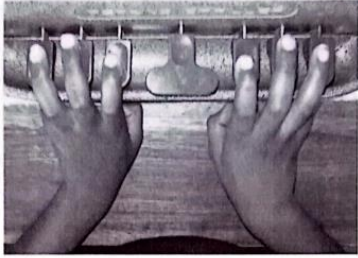
When looking at the braille cell the cells are vertical, but for writing, the cells (keys on braillewriter) are horizontal.



7

1. Keys 1 – 6

We use only the index, middle and ring finger of both hands to press the keys (point 1 – 6).



2. 'Space bar'

The outside of the thumbs are used to press the space bar.

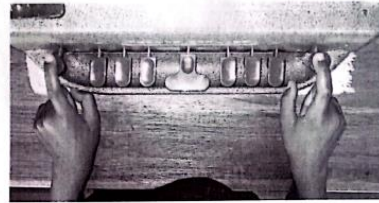


I tell the learners that the thumbs are lazy and want to sleep the whole time, that is why they are on their sides. This prevents the learners from pressing any other buttons when making a space.

3. 'Backspace' and 'enter'

The index fingers are used for pressing 'backspace' and 'enter', as the pinky isn't strong enough on its own.

- o The younger learners don't usually use the 'backspace' key, they move the pen back manually instead.
- o I tell learners that the 'enter' key is used when the car hoots at the end of the road, telling you it wants to go back and drive on a new road.



4. Moving the car (pen)

When reaching the end of the paper, a bell will sound. I then tell learners that the car has hooted and is telling you that it is at the end of the road. The car then needs to be returned (dragged) back to the start so it can drive again on a new road.

5. Wheels on the side of the braille machine

The wheels must always be turned away from the learner (upwards) until they can't be turned anymore.

6. Clip to lift the wheel inside the braille machine

I normally don't let the learners insert paper as this is a whole other process to be learnt.

Learners can, in preparation, make sure that the clip is lifted so as to save some time for the teacher to insert the paper.

Here are the steps to follow in preparation of writing

Most people are right handed, but in the braille alphabet most dots are made using the left hand. It is therefore clear that the left hand needs special practice.

It is easier to press down all three fingers of either hand then to press down a single finger. This is why a lot of exercises should be given for only one or two fingers to be used at a time.

By following the given exercises, the learner will strengthen not only his/her fingers, but will also familiarise him/herself with the braillewriter. These exercises should be done before attempting to write.

Exercise 1

Space – practise using the thumbs to make spaces



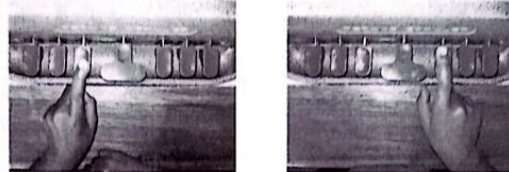
Exercise 2

Braille cell – all six fingers (correct fingers on the keys)



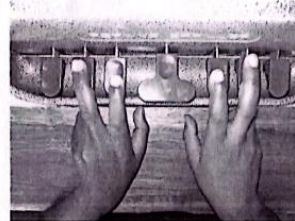
Exercise 6

Index finger of each hand – dot / point 1 and then dot / point 4



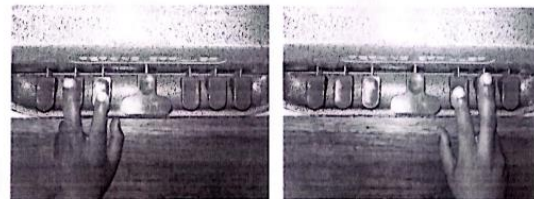
Exercise 7

Index and middle fingers of both hands – dot / point 1,2,4,5



Exercise 8

Index and middle finger on each hand – dot / point 1, 2 then dot / point 4, 5



**Exercise 9**

Middle finger of both hands – dot / point 2, 5



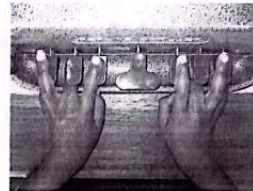
**Exercise 10**

Ring finger of both hands – dot / point 3, 6



**Exercise 11**

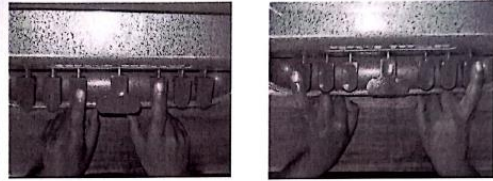
Index and ring finger of both hands – dot / point 1, 3, 4, 6



14

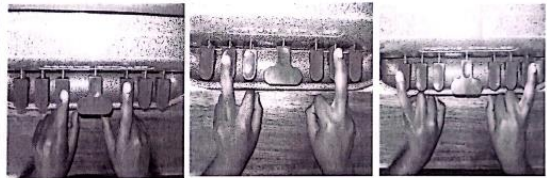
**Exercise 15**

Top and bottom – dot / point 1 and 4, then dot / point 3 and 6



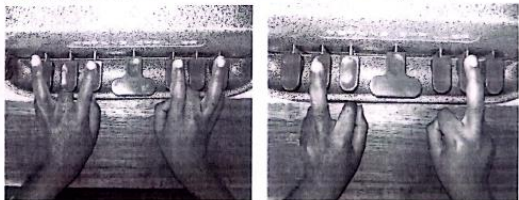
**Exercise 16**

2-2 fingers (steps down) – dot / point 1 and 4, then dot / point 2 and 5, then dot / point 3 and 6



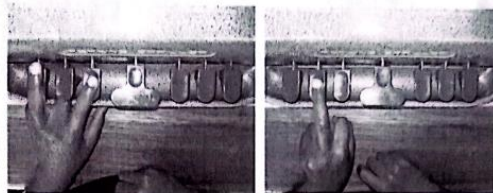
**Exercise 17**

Swapping fingers: both hands – first dot / point 1, 3, 4, 6 then dot / point 2, 5

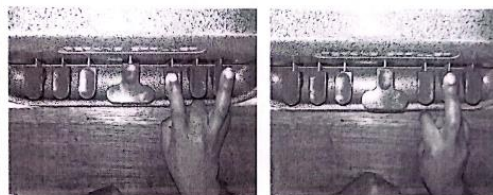


16

Swapping fingers: left hand – first dot / point 1, 3 then dot / point 2



Swapping fingers: right hand – first dot / point 4, 6 then dot / point 5



After the exercises have been completed, the learner is now ready to start formal work.

Each letter of the alphabet can now be taught to the learner.

The sounds are taught in the following order:

ENGLISH

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

AFRIKAANS

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

17

**Important things to remember!**

1. The six fingers used for writing must always be kept lightly on the keys, slightly bent and relaxed. Both thumbs are touching the space bar.
2. Fingers that are used must be pressed down firmly and quickly, immediately returning to a bent, relaxed position.
3. Hands should never be flung up into the air after having finished a letter.
4. Rhythmic patterns can be practised to the sound of music, clapping or tapping.

LEARNING AND TEACHING

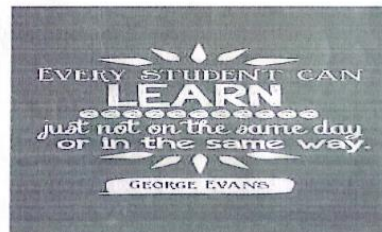
Teaching braille is a one-on-one task.

The teacher must sit with each learner individually, for each task or exercise, to ensure that the correct manner for reading and writing is learnt.

Care must be taken to not discourage slow pupils.

While you are busy working with one learner, provide the other learners with exercises to keep themselves busy. This can include:

- ✓ stringing beads
- ✓ sorting shapes
- ✓ building puzzles
- ✓ making patterns on the pegboard
- ✓ activity books



18



## APPENDIX G: DATA ANALYSIS - PARTICIPANT CODING

### 1 Data analysis - participant coding

2 "what we are doing, the focus is really gonna be on what you think from your  
3 experiences, based practices for teaching mathematics or literacy to learners with  
4 visual impairments. I think that's come from us seeing that there's literature that, you  
5 know, talks about different strategies, but we wanna know specifically in South  
6 Africa, in your school, in your context, what is really working well and best for you."

7 She has, I have experience of partially sighted learners, but it's very old. I was there  
8 20 years ago and she was there for two, three years? No.

9 So our knowledge is more braille Okay. Thank you. No, that's great.

10 **It's a mindset.** You have to have **language**. And that's why at school especially, we  
11 are **very strict on our training for the braille teachers, for the teachers, strict on**  
12 **our bra training, all our teachers from grade R to the grade 12 teachers have to**  
13 **have the grade one**, not grade one, but we've got grade one braille, which is the  
14 Uncontracted Braille.

15 Everybody writes that exam, and then from grade four to metric, and then us braille  
16 teachers, we do the **grade two contracted braille**. Then it's the whole contracted  
17 offer. So we do the **English both languages**. Both languages, it's Afrikaans and it's  
18 English because Afrikaans It's different from English.

19 Yes. So, so, so you will say, if, if I can say, **say point number one in terms of best**  
20 **practices**, would be as a teacher, you need to be competent in knowledge in terms  
21 of extremely well because. Before you can't understand exactly what they want and  
22 exactly what way you want to end with your children.

23 You can't teach prayer because then you must know about, this is where I must end.  
24 Now I must start to backwards. Even make sure what all you exceed, **you have to**  
25 **know what are you going to assess, and then you start with teaching**, because  
26 the road to get there is the same, but **the pace is much slower**. And then you must  
27 cut everything to the bone and to make sure you adding weight again, **you have to**  
28 **aim with your assessments**.

29 You can get, but the **pace of the policy**. They can do much more than you can do,  
30 but we aim at the same place. I promise you better than you. I think for us, for me  
31 personally, the biggest thing would be they go on about **inclusion**, which is great,  
32 right? **we all for inclusion**.

33 It's great. **You can't have a general teaching degree and you learn the basics.**  
34 We still need **teachers in specialized schools**. We've got deaf [00:36:00] children,  
35 **we've got blind children**, we've got all of this. So our teachers come in and we are

36 grateful for them. **But there's still so much training that needs to be done for the**  
37 **teacher herself before you can even start.**

38 I think, I think the **practical, do practical practicals**, if students come to us, she's  
39 one of, she was one of them. If they come when they see what is supposed to be  
40 done, then understand and then they stay when they go.

41 Because **in my fourth year, I applied to go do practical**, so for me, and my and  
42 two friends. So we went there for our fourth, our **third term practicals**, and then  
43 after that I was like, okay, this is where I want to be. So just the exposure, because  
44 it's not on the list, the principal wasn't on the list.

45 That's the one thing I have a problem with. I told our director that we should talk to  
46 the, um, our office **because I cannot understand why are our teaching students**  
47 **not exposed to specialized schools**. I mean, this where the different comes in. If  
48 they have exposure, then **obviously they can learn more, they can be better**  
49 **trained and also its**, for some people, like we are teachers at our school that  
50 teaches the special needs, but it's not, where they are meant to be. I understand. No.  
51 So **when you do your practicals**, it's not, you're not dead set that you have to do  
52 this for the rest of your life. So because now you have someone that, that doesn't  
53 really want to do this and they don't like the adaptations and this is not for them.

54 Maybe I would rather want to teach at the deaf school. I, **I didn't like the braille that**  
55 **much, but I like the sign language**. So something like that. If you, if you get  
56 exposure to it, then you can decide better on where you should be, **because right**  
57 **now it's really difficult having teachers there that their heart is not, they're**  
58 **also, they're not special needs teachers and it's, and it's difficult**.

59 Okay, **so if we have more exposure, then we can almost like have a sifting**  
60 **process** then you can, you can have the ones that, that they feel they can actually  
61 do this. They can be there. Exactly. And, and that will also, if, if I can, if there's better  
62 teacher training in terms of exposing them first, it'll prepare them later.

63 And that will obviously **have an effect on based practices**.

64 Just show you mathematics. So this is, this is a mathematics. Oh, you math. Sorry.  
65 That's, so this is our braille number line. Yeah. Okay. Cause we obviously can't have  
66 it on the table. So this is what it looks like. They've, obviously, when we start with  
67 this, they've now learned the, so this is the numbers. Yeah.

68 Confusion. Much more than the P will be in the D and then yes, the sister. The order  
69 in which the English and science are taught for English and Afrikaans, can we have  
70 a copy of?

71 Okay. So I think if we can just, do you prefer to do both equally in terms of questions  
72 or when we first want to do numeracy in then literacy, we split. I think that would be,  
73 yeah. Then, yeah, then we can say, **okay, literacy, this is what we do.** Then we,  
74 we do that. Okay. And with which one do you prefer? Literacy or numeracy. for what  
75 now? [00:42:00] Oh, **we can start with literacy and, okay. Literacy.**

76 Yes. They can immediately start learning how to read numbers and the letters and  
77 the normal alphabet that they learn in grade one, whereas the braille learners that  
78 come in, so we've, at the school, we've separated our visually impaired, partially  
79 sighted learners and our braille learners.

80 Okay, this is because the grade one braille learners run, it's almost like a separate  
81 curriculum to teach where they learn braille first because this is the way they read  
82 and write. Right? So they have to learn the braille first before we start doing  
83 anything, because they need to know [00:03:00] what the, what braille is and what  
84 the letter looks like and what the number looks like.

85 So it's almost, it runs concurrently with the CAPS curriculum for the Braille children  
86 especially. So they are probably a term behind where are partially sighted, grade one  
87 kids, they start immediately, they go in and they, you know, they go for it. When we  
88 take the grade ones in the brow section, take a little bit longer to catch up with the  
89 curriculum.

90 So that's probably the biggest challenge we currently have with because they do  
91 tend to, to fall behind. However, at the same time, we still have to keep up with the  
92 requirements from the department to make sure that the curriculum coverage is what  
93 it's supposed to be at the end of each term.

94 So also depending on the children in the class for instance, I start, they only start  
95 writing on the brown [00:04:00] machine, end of term two, beginning of term three.  
96 So the first two terms are usually, it's a lot of oral work and it's more listening and  
97 speaking so that everything they do is practically they don't read or write like that, we  
98 have a reading program that we do start with, but I think the biggest thing would be  
99 that the blind learners are a little bit behind the curriculum. So their time is less to get  
100 things done in that year from grade two and grade three. It almost levels out because  
101 now they know the braille.

102 The only thing that's added on with the braille, so the partially assigned kids go on as  
103 well, this is the font speaker, the adjustments there, it's like a mainstream school, but  
104 it's just the font is different and they've got TVs. That's about the only thing. The  
105 braille kids then from grade two and grade three at levels out a bit.

106 The only thing that's added on this, they start learning contractions. What is  
107 [00:05:00] contractions? So it's braille shortened. So instead, if you had to type out a  
108 book and you had to do it in braille, if you didn't contract the words, you would. 7,000

109 pages of a book because there's only so many words that can fit on a on a live piece,  
110 you know?

111 And it also, the book is thick because the braille is raised, so it does thicken the  
112 book. So they, there are certain words and phrases and sounds that are contracted.  
113 So it's like shorthand or shirt, abbreviation, all things. Sorry, just say again. When did  
114 they do the contractions? Because I was first learn braille.

115 Yeah, I understand. I want to go completely. I want to go a little bit back. If you see,  
116 look at our grade R's now I talk about the blind learners. Remember the parents  
117 doesn't know how to stimulate the Braille children, so that is one of the things that  
118 keep them behind. [00:06:00] And there are a lot of great blind children that come  
119 into grade one no stimulation.

120 The language is not there, the fingers are not properly. And remember in braille you  
121 use both hands, So both hands must strong, strong, And that is the starting point.  
122 That is why it's so difficult for us in grade one. But remember, we do the whole CAPS  
123 curriculum, like it is, it will finish and we write on.

124 Remember they take the whole alphabet again from A to J. This was Jay, and now  
125 they put something in front. We call it the letters one sign, And then A is the one and  
126 B is two, and those things makes it more difficult. That's why it stay so, and, and  
127 there's one very important thing if you teach, teach a braille learner.

128 Yeah, that is, and, and in our, in, in our school, not one teacher is reading it with their  
129 fingers.

130 We read it with our eyes. It's too difficult for us to edit it because I, because we can  
131 see, so if [00:08:00] our sentence is on tightened like this. So we read it with our  
132 eyes.

133 They leave the partially sighted because that will also make it. Easier for today  
134 because it's so many sighted is really the only difference there is that the fonts are  
135 big and they use a TV. There aren't any adjust, nothing is adjust. Resources that we  
136 have to do for them. The RTC things that they use, it's literally the, the screen is  
137 bigger, so they use the same graphs as the other same schools.

138 Just make sure that the font is clear, that the pictures are clear, that it's not like, you  
139 know, like them to see, but we. , but the braille adaptations are royal. That is the real  
140 issue. And it's much more difficult to do it in for, for maths. Maths is the real  
141 challenge. Language, yes. But math is still, we will, you will see most of the  
142 operators is as, as

143 Okay. **Well before they start to read and write, okay, they have to be introduced**  
144 **to the braille code as a whole.** Now, there's also, in a way, includes mathematics,

145 right? No. They need to learn how to count, especially on this. **So this is our braille**  
146 **cell. This is what the braille cell looks like.** I'm just gonna sit here cause I, me  
147 take.

148 You can have this, thank you so much. Okay. **So for the braille cell**, what I do is I  
149 stick this onto the table with pret stick because it's easy, they like to play with things  
150 and it does move around. The whole idea was braille is, is that it's fixed. But for  
151 them, it plays on their mind. Okay, so we, we stick it down. This is on their table like  
152 this. Okay. **Now we have to learn how the braille cell works.** Okay. So when you,  
153 when we, we stopped, yes. **They first pack it, normally we start packing it in a**  
154 **pattern. They do this in grade R as well. They start with this in grade R.**

155 It's just a, just a basic right. So they would just, **normally we would go, take your**  
156 **finger, take the hand. Place it normally into the holes, just so they can get a**  
157 **feel for what it feels like and know where everything is.** And then we start by  
158 counting. **So braille obviously consists of six dots. So then we teach them**  
159 **there's dot one, we have do two, then three, then four, then five, and then six**  
160 **and one.**

161 **Now we start learning direction.** Right, because now we need to know, we have,  
162 on this side, we've got 1, 2, 3. On the other side. We've got 4, 2, 6. Okay. Then what  
163 I do is they, **I just familiarize or let them familiarize themselves and then we**  
164 **start playing a game.** So show me. Dot five show me dot six, show me one. Show  
165 me one and two. You know, so we do a bit of a number thing, you know, going there,  
166 so, and obviously trying to **make it fun.**

167 We break it down small and now this is, this is literally just small we have, Oh, and  
168 then we, **this is homemade for parents who obviously can't afford buy.**

169 So this is a normal ear box that looks like a grandson. So I just paid mindful fun.  
170 When I give it to the parents. I hand these out to the parents so that when they come  
171 **in grade one and they need to go home and practice with their child.** They can  
172 use this and **they don't have to go and buy expensive braille equipment** because  
173 it is expensive, unfortunately. We have, rail board, deck board. We call them **deck**  
174 **boards.** So we've got a **steel one** and then we have a **wooden one.** Now the  
175 wooden one is for the learners whose, fine motor and the touch hasn't been  
176 developed enough for them to feel the smaller holes here. Okay. **From here on, we**  
177 **start learning. The alphabets.** Okay, so you actually, sorry, start first with a bit of  
178 numeracy background

179 So then from here on. What **we do is now we start reading the alphabet. We start**  
180 **with the alphabet first before** we do numbers, because the numbers are difficult.  
181 Well, it becomes difficult when you have the added number sign in. **So we start with**  
182 **the basics. And in grade one we switched up the alphabet because our, the**  
183 **braille alphabet runs concurrently with the books that they start reading.**

184 So you can't give them a letter that they haven't, don't, or that they don't know, you  
185 can't get them read it before they've practiced it. So from here on, if we had to start  
186 with, say, the Afro apple, we don't, we call it the, the children alphabet. We don't say  
187 A, B, C, D. **So we call it the Afro apple.** What I would do with them is it's a very, it's  
188 a one-on-one thing.

189 So then from here on what we do, If we have to start with the **A or the app, I would**  
190 **tell them first E we go A for apple, they say app for Apple. Then we say that**  
191 **apple for apple is a dot one. Then they go Apple for apple is a dot one. From**  
192 **there on, we then dot one. I show them an example on here first, and from**  
193 **there on they packet themselves.**

194 This is also explained **for reading directionality, right?** We start from here to there  
195 at top to bottom. We never go backwards. So we incorporate it. This is how we  
196 practice all our readers, all the numbers, the plus, the minus that is equals to any  
197 **new braille concept in grade one**, uncontracted braille that they learn.

198 We do what here? **Grade two and grade three don't use this.** Okay? And this,  
199 there's a learner that comes into **grade two or three that didn't have braille**  
200 **training** beforehand in grade one. **Then it's adapted for the teacher.** , she uses  
201 **her curriculum and in this**, but this is more **for the grade ones.**

202 How **many children do you usually have per class** and we try your **between**  
203 **seven and 10.** We can't have the classes. That's why I. And we prefer to have a  
204 **class assistant**, but that's not always the case. We fortunate if that happens, but  
205 yes, so, but also the ratio for a blind learner is one to five blind. Actually, I remember  
206 when I used to work there at school, it was four point something, and I can imagine it  
207 must be a lot more for a blind learner, work out what.

208 It's called the **Brailleit board**, but we call it a **PEG board because you use pigs.**  
209 It's just board.

210 Okay. **Concurrently with all of this**, now we do a **readiness**, we call it a **readiness**  
211 **book.** Where they not learn how to read braille, but where they learn how to do book  
212 handling and care, where they learn directionality, finding the place on a page.  
213 There's certain ways that we do that because if you lose your space in a reading  
214 book, you can easily just quickly your guide scan.

215 They can't do that. They'll have to start from the top again and read all that down and  
216 that takes time. So this book basically just teaches. , it prepares them for reading. I  
217 can put it like that. This book is not a reading book. It's just a book with simple  
218 pattern. That they follow. So their fingers can get used to the braille on a paper as  
219 well.

220 Cause it's different obviously from a steel, and a plastic pig than it used to the braille  
221 on a paper. It's a completely different sensation. So from here on, again, it's just a  
222 **few steps that teaches them to hold the book. We find our space. What do our**  
223 **fingers do?** How our hands together.

224 What pre-reading. **Pre-reading**, yes. Let the fingers, the differences between like  
225 some of the lines of three dots and some of places, spices, et cetera. It's very  
226 interesting. It's basically just to see that if the child does go over where it's not the  
227 same. There's, there's a different, **like here where the braille changes**

228 to see if they **recognize the change in the braille**. It's gonna be difficult to take  
229 fingers. No, I left. Put the fingers. You can take a picture. Basically change, change  
230 the lines to see, and you can immediately see. in their, **their finger movements and**  
231 **how the finger goes, where they picked up on a change, they'll stop and you**  
232 **can, it's almost like a thinking.**

233 And then they go on. So you can see it registers, so you can, **can see where they**  
234 **picked up on the changes**. So we don't read in this book. This is our **hand**  
235 **movement book**. Yeah. So this is, this is the, **the pre-reading**. This is the **pre-**  
236 **reading book that you use. To prepare them** for me so that by the time they get a  
237 book, it's not.

238 And would you say this is also to prepare them for numeracy? yes. It does involve,  
239 because I mean, if we do have the worksheets that eventually they get printed out to  
240 three, depending on the class. This all depends on the class. **I started reading with**  
241 **my kids this year, term one, because they were able to, sometimes you can tell**  
242 **within the first two weeks the kind of class that you're going to have**, whether  
243 you're gonna start later with things or whether you can push them to start.

244 So it really depends on the child. . But yes, it does from university as well. They have  
245 to eventually, **at the end of grade one, they have to be able to read their own**  
246 **assessments, So mathematics and language. They must read their own things**  
247 **at the end of the year in grade one**. Yeah. Okay. That's the reading book.

248 We have a, I can, I'll give you this book that you can go. We have thanks. We have,  
249 examples of **how to strengthen the fingers** and how to, you know, if a **child tells**  
250 **you that they're struggling to read, it might not be that the braille is unclear**. It  
251 might be that the fingers aren't developed, you know that the touch is not developed  
252 and what to do and how to develop that.

253 Luckily for us, we have **occupational therapists that assist us**, so if I identify, she  
254 can keep extra, you know, **remedial on that now for the writing**. So once they're  
255 **done with the reading, we have, where is Woody?** Oh, okay. So this guy, **Woody,**  
256 **Woody allows for the transition between packing the letter and writing it on the**  
257 **braille machine because when you see it like this, it's different than having to**

258 **write it, because yeah, it's like this, but the writing is like this horizontal.** Yeah.  
259 So it changes. So this guy, so if they, if, if we had to learn how to say they had to do,  
260 **the N Let's do the N.** Okay. So if you [00:28:00] had to, I hope it doesn't, you can, I'll  
261 take each step. Okay. So if we have the N like this, okay, so now **they pack the N**  
262 **on here.**

263 **Here they have their braille machines in front of them. We've now obviously**  
264 **done finger exercises on the braille machine.** Also in here there's **17 exercises**  
265 **for finger strength, strength and knee that you have to do before you could**  
266 **start with the normal writing posture,** you know, **shoulder strength,** all of that,  
267 **because it does get tiring and the braille machine is not easy to press.**

268 So **once they've now learned all of that.** We now have to learn **how to run.** But  
269 now the braille machine, this is like this, and then the **braille machine is all**  
270 **vertically. We go from vertical to horizontal.** So yeah, they've not packed the in.  
271 So what I would do is, I think I'm just gonna stand up can i, if this is, sorry, I'm just  
272 gonna use that. No, that's fine.

273 So, The child sits on that side. We always on this side up rail upside down. So we on  
274 this side, **the learner has now packed the letter.** This is **an N right braille**  
275 **machine over here, keys for the braille machine over here. They should have**  
276 **brought a braille machine. We have one,** but unfortunately it's locked. And we  
277 don't have to close.

278 We'll just pretend. But you are the child and you're setting a front. Now you've  
279 packed the N for me. Okay, now you have your keys over here. So this is key one  
280 dot two dot three like this. Then you have four, five, and six like this. Okay? These  
281 are the keys that you now have to press, but now. This is what it's, it's like on here,  
282 okay?

283 Also, **specific fingers, specific keys. So exercises like this to write.** I forgot.  
284 Individual, **individual fingers left from right.** Very important **directionality,** things  
285 like that. Okay, so **we do finger exercises like this.** Very specifically, **only this**  
286 **finger can touch key one, only this finger, key two, only this one.**

287 I must do it the wrong way around key three. Then on your right hand, this is key  
288 four, key five and key six. **You can't cross your finger.** Yes. Because if you had to  
289 write something that entails, say, a one and a three here, now you have to stretch  
290 your fingers like this. They've got tiny fingers. , I have to stretch like this, and then  
291 you've got, say two here. So a finger, a key, we don't swap out. **So the complete**  
292 **alphabet consists of six, either from like to six, made up of something in a**  
293 **denomination, different combinations.**

294 Yes, Numbers, letters, mathematics, all the way. They do. They do. They're  
295 amazing. They really, they, **you'll see from grade two, the grade ones, the writing**  
296 **is a bit slow, but from grade two they just go.**

297 **So for basic practices to be effective, they need to be preparation.** Sure. While  
298 **your teacher would need to know braille, the teacher needs to know braille, the**  
299 **teacher would need to know the, the steps from the beginning to the end of**  
300 **teaching them braille.** You can't come in there and maybe start with the writing.

301 Like we said earlier, you can't do the writing because it changes, the **writing pattern**  
302 **changes completely.** So you write it like that, but then when you read it again Yes,  
303 when you write it, yeah. You type it like this, but on the paper it comes out like this  
304 again. So if it's a, it's a whole. You have to change.

