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**THE PSYCHO-EDUCATIONAL EXPERIENCES OF BLIND LEARNERS
IN A RURAL SCHOOL**

by

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**A minor dissertation submitted in partial fulfillment of the
requirements for the degree**

Master of Education (Educational Psychology)

in the Faculty of Education

UNIVERSITY
at the
JOHANNESBURG

UNIVERSITY OF JOHANNESBURG

SUPERVISOR: PROF. J. PILLAY

30 November 2015

DECLARATION

I, Ms Anna Mabina, hereby declare that the study entitled: **The psycho-educational experiences of blind learners in a rural school**, is my own original work. I further declare that this study was not submitted for examination before and that all the sources that were consulted were duly acknowledged.

Signature:

Date:

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ACKNOWLEDGEMENTS

I wish to express my sincere appreciation and thanks to the following people:

- My husband, Dimakatso and my two lovely daughters, Mahlodi and Khomotso, for your constant encouragement and support shown for the past two years.
- My mom, Jermina, for always listening to me in times of need.
- My supervisor, Professor Jace Pillay for helping me do out my utmost best through your words of encouragement and support.
- My colleague, Dr Macalane Malindi, for your unwavering support and encouragement, by pushing me where I thought I could not go.
- Khomotso Bopape of *Let's Edit* (Pty) Ltd, for editing this dissertation.
- Dr Helen Dunbar-Krige and Dr Tumi Diale, this journey could not have been easy without your emotional support.
- Limpopo Department of Education, for granting me permission to conduct my study.
- My participants, for sharing your world with me.

Above all, many thanks go to God Almighty for His abundant Mercy and Grace throughout this journey. Without Him, this project would not have been the success that it now is.

ABSTRACT

It is estimated that worldwide, up to 1.4 million children below the age of 16 are blind. South Africa has a high prevalence of children with blindness, and the majority of children with blindness subsist in rural areas where health care facilities lack. Researchers and mental health care professionals do not know yet what the psycho-educational experiences of blind learners in rural schools in South Africa are. The twofold aim of this study was to explore and describe the psycho-educational experiences of blind learners in a rural school and to provide psycho-educational guidelines for supporting blind learners in rural schools.

This was a phenomenological, qualitative study located within Bronfenbrenner's bio-ecological theoretical framework. The paradigm of this study was the social constructivist research paradigm, since the researcher intended to explore how the participants constructed their experiences and meaning within their social contexts.

The researcher used semi-structured individual interviews, a focus group interview, as well as document analysis as data collection methods. The unit of analysis comprised four boys who participated in individual interviews and six boys who took part in the focus group interviews. The boys had been sampled purposely. Inductive content analysis was used to process the data. In this regard, the researcher applied open coding, axial coding and developed themes after classifying the emerging codes.

The findings from this study were two-pronged, namely, psychological experiences as well as educational experiences. In the psychological domain, the findings show that the participants were subjected to social stigma and had positive self-concepts and hopes for the future. In the educational domain, the findings show that there were academic challenges and pressing needs for academic support. The implications of the findings are that much needs to be done to support the blind learners in rural schools so as to enhance their psychological well-being and academic performance.

Keywords: visual impairment; disability; blindness; psycho-educational; rural schools; bio-ecological theory

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CHAPTER 1: OVERVIEW AND RATIONALE OF THE STUDY

1.1 INTRODUCTION

Disability is a worldwide phenomenon that affects an individual's functional domains. People with disabilities are faced with developmental challenges that affect their normal functioning and, therefore, making them prone to vulnerability. Blindness as part of visual impairment impacts negatively on the individual's psychological well-being and academic performance. This study will focus on the psycho-educational challenges faced by blind learners in a rural special school. Chapter 1 presents the orientation of the study, research question and aim, concept clarification, theoretical framework underpinning the study, research designs and methods, trustworthiness, ethical issues, and demarcation of the study. This chapter concludes by summarising the content of the study.

1.2 ORIENTATION OF THE STUDY

Among the types of disabilities in South Africa, visual impairment, including blindness and partial sightedness, is the largest disability, accounting for 9.4% of the total (Statistics South Africa, 2012). This study will focus on blindness as part of visual impairment. According to Sacharowitz (2005, p. 140), blindness refers to "visual acuity of less than 3/60 or corresponding field loss to less than 10 degrees in the better eye with best possible correction." The Department of Basic Education (DBE, 2014) regards learners with a visual acuity of 6/60 also as legally 'blind'.

It is estimated that out of 285 million people who are visually impaired worldwide, 39 million are blind (Pascolini & Mariotti, 2012). The World Health Organization (WHO, 2012) reports that Africa has the highest prevalence of blindness of 5.89 million, the major causes in Africa being cataracts, trachoma and glaucoma (Lewallen & Courtright, 2001). In South Africa, 0.7% of the population is blind, and 50% of blindness is due to cataracts (Kluever, 2006). According to Oduntan (2005), Census 2005 showed that 268 902 people in Limpopo Province are disabled, with 2.43% having visual impairment.

The major causes of blindness among school children in Limpopo Province are cataracts, glaucoma and nystagmus (Oduntan, Ramudzuli & Madu, as cited in Sacharowitz, 2005). A cataract refers to “an opacity or cloudiness of the lens of the eyes, sometimes present at birth”, and glaucoma refers to “a disease in which there is damage to the optic nerve, through increased pressure from the fluid within the eye, resulting in reduced visual acuity and loss of peripheral vision” (Francis & Clark, 2003, p. 4). Nystagmus refers to “an involuntary oscillation of the eye, especially when the child concentrates on near-vision activities” (Landsberg, Kruger & Swart, 2011, p. 367).

An educational study by Mabaso, Oduntan, and Mpolokeng (2006) on refractive status of primary school children in Mopani District, Limpopo Province, found that blind learners’ inability to read what is written on the chalkboard deprives them of an opportunity to participate in class, and on that account, their academic performance is affected. Likewise, Fraser and Maguvhe (2008) state that blind learners are unable to collect information from subjects requiring observation due to lack of vision. Their reliance on learning extends to hearing, touch and the use of Braille (Greany, Tobin & Hill, as cited in Davis & Hopwood, 2002). Psychologically, blind learners experience behavioural and emotional problems due to their inability to observe non-verbal behaviour of sighted learners (Pinquart & Pfeiffer, 2012). The Royal National Institute for the Blind (2012) states that visual impairment impacts negatively upon blind learners’ psychological well-being, especially their self-esteem and confidence. Landsberg et al. (2011) advocate the inclusion of disabled learners in mainstream classrooms, but as Pagliano (2006) recommends, teachers should have a specialist qualification to enable them to deal with blind learners effectively (Oduntan et al., as cited in Sacharowitz, 2005).

In South Africa, disadvantaged communities in rural areas, such as in Limpopo Province, do not have proper access to eye care services due to poor economic status, lack of transport, level of literacy, lack of awareness, and traditional beliefs, thus making blind people more prone to vulnerability (Oduntan et al., as cited in Sacharowitz, 2005). Consequently, the education of blind learners is affected, since 80% of learning takes place through visual pathways (Staffordshire Learning Net, 2014). Therefore, blind

learners depend on tactile and auditory senses for their learning. For example, Presley and D'Andrea (2009) point out that teachers are faced with a challenge of teaching blind learners to use technology that expresses information visually and involves the use of sight. This would explain why the intensive training of teachers of blind learners on the use of assistive technology is so significant. Technology and Natural Sciences are difficult to learn, since they require the use of vision, and this leads to blind learners having no interest in learning them. Learners who are blind perform poorly in Science, Technology, Engineering and Mathematics due to brailled materials which are not of good quality (Rosenblum & Hertzberg, 2011). Smothers (2011) contends that successful teaching of science to blind students is determined by the use of real objects, models and tactile graphics because they enable them to create mental images of what is being learnt. In this regard, blind learners are likely to experience psychological and educational challenges due to their disability.

1.3 RESEARCH QUESTION AND AIM

The main research question for this study is:

What are the psycho-educational experiences of blind learners in a rural school?

The aim of this study is twofold:

- to explore and describe the psycho-educational experiences of blind learners in a rural school
- based on the findings, to provide psycho-educational guidelines for rural schools with blind learners

1.4 CONCEPT CLARIFICATION

1.4.1 Disability

There are several definitions that are used in different contexts. For the purpose of this study, disability will refer to limited ability of a person to carry out normal tasks as a result of an impairment (Brown, 2007).

1.4.2 Visual impairment

Visual impairment (VI) refers to “a significant functional loss of vision that cannot be corrected by medication, surgical operation, or ordinary optical lenses such as spectacles” (Department of Health, Hong Kong Society for the Blind, 2008, p. 1). The Individuals with Disabilities Act (IDEA, as cited in Reidmiller, 2003, p. 26-27) defines visual impairment for educational services as “any condition that exists even with the best correction and treatment, which adversely affects the individual’s educational performance.”

1.4.3 Blindness

Blindness is defined in different ways by different authors depending on its context. According to Sacharowitz (2005, p. 140), blindness refers to “visual acuity of less than 3/60 or corresponding field loss to less than 10 degrees in the better eye with best possible correction.” As earlier mentioned, the Department of Basic Education (DBE, 2014) regards learners with a visual acuity of 6/60 also as legally ‘blind’. Furthermore, blindness, according to Hatlen (2000, p.15), refers to individuals who “use tactual and auditory senses as their primary avenues for gathering information”. For the purpose of this study, blindness is described as the lack of visual perception which cannot be corrected with glasses or contact lenses (Grote-Garcia, 2011).

1.4.4 Psycho-educational

To understand the meaning of psycho-educational, one has to first understand what psycho-education means. However, there is no clear definition of psycho-education. Ivey and Simek-Downing (1987, as cited in Saunders, 2009, p. 13) define psycho-education as “a model that is directed at the prevention of mental health problems and towards the development of human potential.” On the other hand, Mulligan (2010) refers to psycho-education as the information given to individuals about the symptoms, causes and how to get help, with respect to an illness they present with. In the context of this study, the psycho-educational field involves psychological and educational factors determining emotional well-being and academic success (Exner, 2003).

1.4.5 Rural school

There is no universal definition of rural due to its complexity. Rural refers to a community at least 10 miles or 16 kilometres from an urban area where there are some commercial activities, with reasonable but not immediate access to basic amenities (Muula, 2007). The word “rural” refers to ‘... sparsely populated areas in which people farm or depend on natural resources, including the villages and small towns that are dispersed through these areas. In addition, they include the large settlements in former homelands, created by the apartheid removals, which depend for their survival on migratory labour and remittances’ (Government of South Africa, 1997, p. 1). This is a commonly used definition in South Africa. For the purpose of this study, a rural school will refer to a school in a rural area which does not have access to basic services such as clean running water, electricity, computers, internet, libraries and laboratories, and parents do not pay school fees due to their socio-economic status (Gardiner, 2008).

1.5 THEORETICAL FRAMEWORK

The theoretical lens through which this study will be conducted is Bronfenbrenner’s bio-ecological systems model, a multidimensional perspective which emphasises interaction between a child’s development and systems within the social context (Bronfenbrenner, 2005).

According to Shaffer and Kipp (2007), the bio-ecological systems theory is concerned with the interdependence and interacting relationships between individuals and groups. Context, process, time and the individual’s attributes are interacting dimensions which play a pivotal role in the development of the child. The bio-ecological systems theory helps researchers to identify and conceptualise the multi-system factors influencing the child’s development (Lewthwaite, 2011).

To understand the psychological and the educational experiences of blind learners in a senior phase in a rural special school in Limpopo Province, it is very imperative that one has to understand the systems with which they interact. Blind learners are individuals whose development is shaped by the interaction of the nested systems within the social

context. Learners' systemic interaction with their families, peers, schools and communities enables them to construct their realities (Pillay, 2011).

The four nested systems within which the child develops are the microsystem (family, school and peers with proximal interaction), the mesosystem (the interaction between the microsystems), the exosystem (laws and policies indirectly affecting the child), and the macrosystem (beliefs, values, and social and economic structures). The four systems interact with the chronosystem (time dimensions) (Donald, Lazarus & Lolwana, 2010; Landsberg et al., 2011).

The use of the bio-ecological systems theory in this study is to help the researcher to understand how blind learners' psychological and educational development is shaped by the environment in which they live.

1.6 RESEARCH METHODOLOGY

Qualitative research allows for in-depth analysis of data (Joubish, Khurram, Ahmed, Fatima, & Haider, 2011) and provides insight into the experiences of blind learners in the senior phase (Henning, Van Rensburg & Smit, 2004). According to Berg (2007), qualitative techniques will help the study to elicit in-depth information about the lived experiences of the blind learners. Denzin and Lincoln (2003, p. 5) state, "qualitative researchers study things in their natural settings, attempting to make sense of, or to interpret, phenomena in terms of the meanings people bring into them."

This study will use a phenomenological research design because its purpose is to investigate and understand the lived experiences of the participants in the study (Leedy & Ormrod, 2010). According to Creswell (2007, p. 57), "a phenomenological study is a study that describes the meaning of the lived experiences of a phenomenon or concept for several individuals." In this regard, the researcher will look at the psycho-educational experiences of blind learners in a rural special school for the blind and try to find out what their experiences mean to them.

A social constructivist paradigm will be used, since it focuses on the construction of experience and social meaning to the social context by individuals. The assumptions in

this paradigm are that individuals want to understand the world they interact with and construct meaning to their experiences (Creswell, 2009). In this manner, the researcher will try to investigate how blind learners in a special school in rural Limpopo Province understand the community they interact with. According to De Vos, Strydom, Fouche, and Delport (2011), a social constructivist approach encourages active involvement of participants throughout the process of the study. Although active participation improves the results of the study, De Vos et al. (2011) point out that this may affect the study due to an elevated number of withdrawal and dominance by some participants.

1.7 SAMPLING

To understand and describe the lived psycho-educational experiences of blind learners, qualitative research requires the researcher to do purposive sampling of the participants, settings, events and activities to be used when collecting data (Maree, 2007). Purposive sampling was done because the participants had an important role to play in the study (Remler & Van Ryzin, 2011). According to Creswell (2009), purposefully sampled participants and site enable the researcher to have a clear understanding of the problem and the research question.

A rural special school for the blind in Vhembe District in Limpopo Province was purposively selected for this study. The criteria used for the selection of participants are as follows: Participants should be diagnosed as legally blind; they should be in a special school for blind learners in rural Limpopo Province; and they should be willing to describe their psycho-educational experiences to allow the researcher to gain an understanding of what their experiences mean to them.

1.8 DATA COLLECTION

Data was collected from a rural special school for blind learners in Vhembe District. Qualitative research requires the researcher to collect data using interviews. Maree (2007, p. 87) states, "an interview is a two-way conversation in which the interviewer asks the participant questions to collect data and to learn more about the ideas, beliefs, views, opinions and behaviours of the participants." This author further points out that the aim of interviews in qualitative research is to obtain detailed information that will

help the researcher to understand how participants construct social reality from their own experiences. For the purpose of this study, questions asked in the interviews allowed the blind learners in a rural special school to explain to the researcher what their psycho-educational experiences mean to them. Furthermore, the researcher refrained from using personal experiences about blindness during the interviews by bracketing. According to Leedy and Ormrod (2010), bracketing refers to the suspension of the researcher's preconceived ideas about a phenomenon studied. The researcher had preconceived ideas that blind learners have low self-esteem as a result of their impairment.

Xitsonga was used as a language for the interviews because it is a home language for the school, and it was to be translated into English by a professional translator. Semi-structured individual interviews were conducted with four blind learners. According to Kumar (2011), semi-structured interviews are useful for collecting in-depth information. Moreover, De Vos et al. (2011) point out that through semi-structured interviews, the researcher is able to obtain unexpected information that may be vital to the study. Focus group interviews were conducted with six blind learners. Focus group interviews refer to interviews conducted with a group of participants who may not know one another but who share the same experiences (Terre Blanche, Durrheim & Painter, 2006). Interviews were conducted until the point of data saturation.

Document collection was used as another tool of collecting data for the purpose of triangulation. According to Maree (2007), documents collected should contain written information that will enable the researcher to explore and describe the lived experiences of participants. Documents such as learning support provided for the learners, referral forms and minutes of case conferences will be analysed in order to obtain available information at schools, which will give an indication of psychological and educational experiences of blind learners in a rural school.

1.9 DATA ANALYSIS

Data was analysed by means of content analysis, using the steps in Creswell (2009), which are dealt with in detail in Chapter 3. Participants' responses were transcribed verbatim, with notes and codes written in the right-hand margin. Transcripts of all interviews and notes from documents collected were read to identify the meaning of units. A list of codes was made, and such codes were categorised. From the categories, themes were derived and used to discuss the findings.

1.10 TRUSTWORTHINESS

Lincoln and Guba (1985) state the following strategies that are used to evaluate the worth of a study, which are discussed in detail in Chapter 3:

Credibility was obtained through triangulation of data collection methods. Data was collected through different methods, namely, individual interviews, focus group interviews and document analysis. The actual words of participants will be used (Krefting, 1991).

Transferability was achieved through collecting adequate and enough description of data from the blind learners so that the results can be transferred to other contexts (Babbie & Mouton, 2001).

Dependability was achieved by triangulating research methods and a dense analysis of data on the psycho-educational experiences of blind learners in order to allow the study to be repeated by other researchers (Shenton, 2004).

Confirmability was attained through triangulation of data collection methods that were described in full, reflexivity, and data audit to indicate possible bias (Shenton, 2004).

1.11 ETHICAL ISSUES

It is imperative for a researcher to follow ethical principles when conducting research. Code of ethics for professional and academic associations is the conventional format for moral principles (Denzin & Lincoln, 2003). Informed consent was considered as one of the basic ethical guidelines. Informed consent ensures protection of the participants'

rights during data collection (Creswell, 2009). Voluntary participation was emphasised, and there was a verbal agreement between the participants and the researcher, witnessed by parents. Parents were involved in the consenting of blind learners' participation in the study (refer to appendix E)

Participants were allowed to withdraw from the study without any negative consequences. The participants' information will be kept confidential and private. The researchers should observe confidentiality and by so doing, "the researcher allows the participants to retain ownership of their voices and exert their independence in making decisions" (Creswell, 2009, p. 90). According to Denzin and Lincoln (2003, p. 218), "confidentiality must be assured as the primary safeguard against unwanted exposures." Respect for the research site was maintained to avoid disturbance after the study. Another ethical issue considered is ensuring that there is no harm, discomfort and embarrassment associated with the participants' involvement in the study.

1.12 DERMARCATION OF THE STUDY

Chapter 1

This chapter presents an overview and rationale of the study. It presents the research design and methods used to collect data. The research question and aims of the study are shown. It further provides an outline of the theoretical framework underpinning the study, ethical issues to be considered, as well as clarification of concepts used in the study.

Chapter 2

This chapter provides a literature review relevant to the study. This review helped the researcher to identify recurrent themes, issues and concepts associated with the study. The focus of this review is on the international and South African perspectives on blindness. This chapter also discusses the theoretical framework underpinning the study.

Chapter 3

This chapter provides a detailed discussion of the research design and the methods for data collection and data analysis. It also encompasses the ethical guidelines and trustworthiness of the study.

Chapter 4

This chapter presents an analysis of the data collected. It discusses the findings based on the themes identified from the research results.

Chapter 5

This chapter provides a summary of the findings of the research inquiry. It explores the limitations of the study, as well as the recommendations which will serve as guidelines for rural schools with blind learners.

1.13 CONCLUSION

This chapter has outlined the orientation of the study. The main research question and aims have been stated. Concepts pertaining to the study have been clarified. A brief overview of the theoretical framework underpinning the study has been provided. It briefly introduced the research design and methods of data collection relevant to the study. Ethical issues and demarcation of the study have been outlined. The next chapter will focus on literature and the theoretical framework underpinning the study.

CHAPTER 2: LITERATURE REVIEW

2.1 INTRODUCTION

The preceding chapter gave an introduction and background to the study. This chapter provides a literature review that is relevant to the understanding of educational and psychological challenges faced by blind learners in a rural special school for the blind. It reviews international and South African perspectives on blindness and how they impact on the psychological well-being and educational performance of blind learners. This review is intended to shed light on how the researcher should approach the main research question. It will also help the researcher to identify recurrent themes, issues and concepts associated with the study. Its goal is to integrate the research outcomes and to identify central issues related to blindness. The theoretical framework underpinning this study will be explained.

2.2 BLINDNESS

According to Sacharowitz (2005, p. 140), blindness refers to “visual acuity of less than 3/60 or corresponding field loss to less than 10 degrees in the better eye with best possible correction.” The Department of Basic Education (DBE, 2014) views learners with a visual acuity of 6/60 also as being legally ‘blind’. Blindness describes the lack of visual perception which cannot be corrected with glasses or contact lenses (Grote-Garcia, 2011). According to the World Health Organization, there are three levels of blindness which include severe low vision (less than 5% of vision), near total blindness (less than 2% of vision) and total blindness (no perception of light) (Kemp, 1981; Vaughan, 1998, as cited in Walker, 2008). This study focused on the level of total blindness.

According to Smothers (2011), blindness is classified into two types: congenital and adventitious. Congenital blindness refers to loss of vision before or at birth, and adventitious blindness refers to vision loss after birth. Tuttle and Tuttle (2004) state that blindness leads to limitations from moving through the environment, from controlling the

environment in a variety of experiences, which impact largely on the individual's life and independence. The international perspective on blindness is discussed next.

2.2.1 International perspective on blindness

According to Walker (2008, p. 6) "blindness is viewed as a burden to both the individual and the entire world". According to Saw et al. (2003), blindness is a worldwide problem that affects the economic, social and health sectors of both developed and developing countries. It is estimated by the World Health Organization that out of 45 million people who are blind worldwide, 90% of them live in poor communities (Mashige, Martin, Cassim, Ramklass & Esterhuien, 2011). The above study further revealed that 60% of blindness globally is treatable, while only 20% is preventable.

It is estimated that 1.4 million children less than the age of 16 years worldwide are blind, of which most are living in the sub-Saharan African and Asian countries. It is further estimated that about half a million children become blind every year worldwide, almost one child per minute (Gnyawali, Shrestha & Upadhyay, 2012; Demisse and Solomon, 2011). Similarly, the World Health Organization (2012) reports that Africa has the highest prevalence of blindness and among the 5.89 million blind people, the major causes being cataracts, trachoma and glaucoma (Lewallen & Courtright, 2001).

Lewallen and Courtright (2001) point out that half of blindness in Africa is due to cataract, while approximately 2.2 million people are blind due to trachoma. A cataract refers to "an opacity or cloudiness of the lens of the eyes, sometimes present at birth", and glaucoma refers to "a disease in which there is damage to the optic nerve, through increased pressure from the fluid within the eye, resulting in reduced visual acuity and loss of peripheral vision" (Francis & Clark, 2003, p. 4). Learners with cataract experience obscure vision, as well as reduced colour discrimination, while learners with glaucoma face mobility challenges, as well as obscure vision on both near and distant objects (Francis & Clark, 2003). Trachoma refers to an infectious, chronic inflammation of the mucous membranes of the eyes and is characterised by swelling of the eyelids, sensitivity to light, and eventual scarring of the conjunctiva and cornea of the eye (Landsberg et al., 2011).

Demissie and Solomon (2011) reported that most studies conducted in schools for the blind in different countries revealed that the major causes of blindness in Africa are avoidable. It is reported that Ethiopia has the highest prevalence of blindness in the world, contributing to 2.7% of the total blindness worldwide. However, being one of the first countries in sub-Saharan Africa to support VISION 2020, Ethiopia managed to establish VISION 2020 National Committee for the Prevention of Blindness, which led to the availability of eye care services (Demissie & Solomon, 2011). Mashige et al. (2011) claim that glaucoma and diabetes are more prevalent worldwide and that if they go unnoticed due to lack of accessibility and non-affordability of eye care services, they are likely to lead to loss of vision.

The main causes of blindness in developed countries are age-related cataracts, glaucoma, macular degeneration (Vaughn, 1998, as cited in Walker, 2008). Studies by Morales, Martinez and Wu (2011) reveal that blindness in Costa Rica is caused by congenital and genetic factors. These factors are crucial, since they are difficult to avoid and treat. It is imperative that eye disorders that may lead to blindness be diagnosed and treated in time because if ignored, they affect the child's learning abilities (Deshpande & Malathi, 2011). Similarly, Arif and Mehboob (2014) recommend the availability of eye screening in schools to help with early diagnosis of treatable causes of blindness such as refractive errors. Furthermore, Mashige et al. (2011) emphasise the importance of public awareness of eye care services in order to support the VISION 2020 initiative to eradicate avoidable blindness, thereby mentioning Australia as an example of a country which has embarked on public health programmes which intend to promote the use of available eye care services by the public.

The causes of blindness differ from one country to another, while they also vary from children to adults (Demissie & Solomon, 2011). The study conducted by Njuguna et al. (2009) in Kenya, Tanzania, Uganda and Malawi revealed that the major cause of blindness in children attending special schools for the blind in Eastern Africa is scar/phthisis. This is a condition caused by lack of vitamin A, use of unsafe traditional eye medicines and measles. However, measles immunisation in children has reduced the prevalence of avoidable causes of blindness resulting from vitamin A deficiency in

developing countries (Demissie & Solomon, 2011). A lack of access to health care services leads to a high incidence of blindness in the society. Research reveals that there is a high rate of blindness in rural communities as a result of their socio-economic status, with cataract being the major cause (Saw et al., 2003; Oye, Kuper, Dineen, Befidi-Mengue & Foster, 2006; Dandona & Dandona, 2001). What follows is a discussion of blindness within a South African context.

2.2.2 Blindness within South Africa

According to Statistics South Africa (2014), 1.5% of the population in South Africa is visually impaired, while 0.9% of the population aged five years and older is blind. South Africa has a high prevalence of blindness in rural areas than in urban areas due to lack of eye care services (Mabaso, 2012). The three major causes of blindness in South Africa are diabetes retinopathy, cataract and glaucoma. It is estimated that 8% of blindness in South Africa is caused by diabetes retinopathy (Mabaso & Oduntan, 2014). According to Sacharowitz (2005), approximately 80% of the population of South Africa depends on public health care services, while 20% of the population can afford eye care services accessed from private health care. This, according to the above study, puts the majority of the South African population at a disadvantage, since most of the eye care specialists are found in private practice. Although the South African Optometric Association is trying its best to bridge the gap between urban and rural eye care services, the main challenge that still exists in South Africa regarding eye care services is the shortage of ophthalmological manpower (Sacharowitz, 2005).

Access to eye care services differs from one province to another (Mabaso, 2012). Statistics South Africa (2014) reports that Free State Province has the highest proportion of people with blindness, while Limpopo Province has the lowest. Limpopo Province has 282 797 people who are disabled; 2.5% of people aged five years and older are visually impaired, while 0.9% of them are blind (Statistics South Africa, 2014). The major causes of blindness among school children in Limpopo Province are cataracts, glaucoma and nystagmus (Oduntan et al., as cited in Sacharowitz, 2005). According to Francis and Clark (2003, p. 5), nystagmus is “involuntary movement of the eyes that can cause fatigue when carrying out visual tasks.” Glaucoma is regarded as

the major cause of blindness among disadvantaged black communities due to inaccessibility and non-affordability of expensive medical treatment (Fadamiro, 2014). Lack of services in disadvantaged communities due to the above-mentioned barriers to eye care services may impact on the VISION 2020 initiative to get rid of avoidable blindness (Mashige et al., 2011).

Considering the above research, it becomes clear why blindness is prevalent in rural communities due to lack of proper health care services. Therefore, this implies that blind learners in rural schools are likely to experience psychological and educational challenges.

2.3 EDUCATIONAL EXPERIENCES

According to Cheatum and Hammond (2000), the individual makes sense of what he sees through vision, and if his vision has problems, the child's ability to learn is affected. Chu and Huang (2014) emphasise that visual impairment is one of the most persistent conditions that affects educational performance. Disadvantaged communities in rural areas, such as in Limpopo province, do not have proper access to eye care services due to poor economic status, lack of transport, level of literacy, lack of awareness, and traditional beliefs, thus making blind people more prone to vulnerability (Oduntan et al., as cited in Sacharowitz, 2005). Consequently, the education of blind learners is affected, since 80% of learning takes place through visual pathways (Staffordshire Learning Net, 2014; Chu & Huang, 2014).

2.3.1 Academic performance

Blindness has a negative impact on academic learning, therefore this limits the child's ability to learn like others (Friend, 2011). As a result, services are needed to help compensate for the blind child's limitations. Schools are not seriously concerned with a blind learner's educational achievement; therefore, they should be engaged in the provision of the tools and training to enable blind children to perform adequately like sighted learners (Schroeder, 2010). Academic performance of blind learners will be discussed in terms of literacy, mathematics and science.

2.3.1.1 Literacy

An educational study by Mabaso et al. (2006) on refractive status of primary school children in Mopani District, Limpopo province found that blind learners' inability to read what is written on the chalkboard deprives them of the opportunity to participate in class; as a consequence, their academic performance is affected. Their reliance on learning extends to hearing, touch and the use of Braille (Greany et al., as cited in Davis & Hopwood, 2002). Similarly, Schinazi (2007) emphasises that learning in blind children is more dependent on tactile and auditory senses. It is further confirmed by Francis and Clark (2003) that blind learners are unable to see the teacher's visual cues and written instructions; therefore, they recommend that teachers of blind learners should talk throughout their lessons to accommodate them. It is clear that blind learners whose teachers do not engage in tactile learning are likely to experience poor academic performance. Although Landsberg et al. (2011) emphasise the inclusion of disabled learners in the mainstream classrooms, Pagliano (2006) argues that teachers at schools with blind learners should have a specialist qualification to enable them to teach the blind learners effectively.

According to Dambudzo and Schulze (2013), blind children's reading difficulties impact negatively on their working rate and overall academic performance. Likewise, Francis and Clark (2003) point out that it takes long for blind learners to complete their reading and writing tasks due to the complexity of braille and therefore become easily fatigued by the end of the day. The above study recommends the need for extra time to support learners whose work is lacking behind. It is also confirmed by Royal National Institute for the Blind (RNIB) (2011) that the blind learners' inability to grasp visual concepts easily affects their working speed, and this serves as a barrier to participation and learning.

The learning experiences of learners with congenital blindness differ from those who were not born blind. A study by Schinazi (2007) reveals that students who are congenitally blind are more comfortable with their impairment because they feel that they do not miss anything they have ever seen before. However, "Those who had sight

for a while have a background of normal visual experiences and images on which to draw” (Westwood, 2009, p. 78).

A study by Grenier and Devaux (1997, as cited in Lipkowitz, 2000) reveals that blind learners who use braille perform better in grammar and language usage than sighted learners. However, lack of braille skills, as stated by Cooper and Nichols (2007), impacts negatively on literacy learning by blind learners. Learners who are blind and are attending special school require more support because they have delayed academic performance (American Foundation For The Blind, 1999, as cited in Lipkowitz, 2000). Therefore it is imperative that parents should work collaboratively towards assisting their learners with reading and writing, using braille books and talking books (Nadeem, 2015). In this regard, teachers and parents should be equipped with enough braille skills to enhance literacy in blind learners. This implies that children who receive adequate academic support from their teachers and family are likely to develop a positive attitude towards themselves and school (Nadeem, 2015). Learners who are blind encounter barriers in learning due to inadequate concept development, leading to poor academic performance (Westwood, 2009).

According to Francis and Clark (2003), lack of incidental learning for blind learners leads to incorrect concept development; therefore, for them to be able make meaningful connections between vocabulary and concrete objects, abstract ideas and body movement, they require help from teachers. It is recommended that the teaching of vocabulary and key concepts should be done by means of verbal explanations and concrete experiences through sensory approaches. On the contrary, a study conducted by Groenveld and Jan (1995, as cited in Lipkowitz, 2000) on low vision and blind students reveals that blind students do not experience difficulties in verbal concepts and auditory memory skills. Hence, it is also imperative to consider the blind learners’ competence in science and mathematics.

2.3.1.2 Science and Mathematics

Fraser and Maguvhe (2008) state that blind learners are unable to collect information from subjects requiring observation due to lack of vision. Blind students have an interest

in learning scientific skills and following science-related career paths like sighted individuals but are disadvantaged by the unavailability of appropriate graphical information, unfamiliarity of teachers with non-visual teaching methods and lack of blind role models in the science field (Beck-Winchatz & Riccobono, 2008). Fraser and Maghuve (2008) support this argument by stating that teachers who lack the competence to help blind learners acquire science skills tend to discourage them from doing science subjects. A lack of competence by teachers of the blind to teach science is mainly because many teachers at special schools possess general education qualification (Fraser & Maghuve, 2008; Norman, Caseau & Stefanich, 1998).

According to Smothers (2011), students who are congenitally blind have no visual memory of the physical world; therefore, their contact with the world is through tactile, auditory, olfactory and kinesthetic perception. The above author points out that successful teaching of science to blind students is determined by the use of real objects, models and tactile graphics because they enable them to create mental images of what is being learnt. Beck-Winchatz and Riccobono (2011) emphasise that lack of science education materials during primary and high school years is one of the major barriers in science education for blind students. The above authors further point out that it is the responsibility of teachers and parents to ensure that blind students have access to appropriate non-visual learning techniques to make scientific experiments and observations. This implies, “any curriculum that is not learner-based and learner-paced will hinder the blind and visually-impaired learner from learning and actively participating in the learning mediation to her or his full potential” (Fraser & Maghuve, 2008, p. 85). Studies by Jones, Minogue, Oppewal, Cook, and Broadwell (2006) further reveal that there are certain topics in science that are not easy to learn in that they require direct practice by blind learners, for example, cell structures and volcanoes.

Although there is not enough research on mathematics achievement in blind learners, some studies reveal that visually impaired learners achieve inadequately in mathematics than their sighted peers (Giesen, Cavanaugh & McDonnall, 2012). Poor performance in mathematics by blind learners results from lack of knowledge and skills by teachers of the blind (Ferrel, Buettel, Sebald & Pearson, 2006). Kamei-Hannan

(2009, as cited in Rosenblum & Hertzberg, 2011) points out that blind students encounter problems in Mathematics because of their inability to grasp information using their sight. A study by Cahill, Lineham, McCarthy, Bormans, and Engelen (1996) reveals that blind learners find it difficult to learn mathematical features such as graphs, tables and trigonometry; thus, this affects their academic performance in Mathematics. Furthermore, one of the most difficult aspects in Science and Mathematics is measurement, since it requires visual observation.

According to Kohanova (2006), the approach used by blind students to solve mathematical problems differs from that of sighted students, since they engage more in tactile learning and, therefore, perform more adequately in arithmetic than in algebra. Blind students prefer to use imagination of what can be touched and stored in their memory than what can be seen, and their performance in geometry is dependent on the adaptation to the environment which will enable them to make mental images (Kohanova, 2006). Students who are blind perform inadequately in Science, Technology, Engineering and Mathematics due to brailled materials which are not of good quality (Rosenblum & Hertzberg, 2011).

Blindness has a negative impact on academic development. Vision impairment and blindness interfere with academic learning; as a result, assistive technologies have been developed to limit barriers to learning in learners with blindness (Friend, 2011).

2.3.2 Assistive technology

The use of assistive technology plays a pivotal role in the learning process of visually impaired learners. Assistive technology refers to “any item, piece of equipment, or product system, whether acquired commercially off the shelf, modified, or customised, that is used to increase, maintain, or improve the functional capabilities of a child” (Mittler, 2007). It is also important that teachers should have more knowledge about the use of assistive technology for the blind in order for them to be able to provide learners with the required support. Scaffolding of instructions on the use of assistive technology is necessary to help the learners to master tasks with ease. The use of assistive technology enhances the learners’ ability to work independently (Kelly, 2008). According

to Bandura (as cited in Kelly, 2008), learners who use assistive technology are likely to develop self-worth. Mulloy, Gevarter, Hopkins, Sutherland, and Ramdoss (2014) add that blind learners who have access to assistive technologies find it easy to involve themselves in school activities.

Braille, as one of the assistive technologies for the blind, is regarded as the medium of reading and writing literacy for the blind learners (Nadeem, 2015). According to Klenk and Pufpaff (2011, p. 51), Braille is “a tactually based symbol set that corresponds to the Roman alphabet using a cell of 6 raised dots in a two by three pattern, particular dots in the cell are raised or left flat, depending on the symbol represented by that cell.” Blind learners whose cognitive function is inadequate are likely to experience problems with the use of Braille due to its complexity. However, it is of importance that blind learners be taught Braille skills earlier in school in order for them to have adequate academic achievement (Westwood, 2009). Blind learners whose teachers are not adequately trained to teach Braille are likely to experience poor academic performance (Kinash & Paszuk, 2007). Effective and efficient instruction on the use of Braille is required in order to help the blind students to acquire the necessary skills, which will give them access to curriculum comparative to their sighted peers (Klenk & Pufpaff, 2011). A study by Harrison (2006) reveals that teachers feel that parents of blind learners should be taught Braille skills in order for them to be able to help their children with homework as well as helping them to read and write with Braille in order to enhance their academic performance.

Although there is not enough research on the effectiveness of Tack TILE, it is also a recommended device that is used to assist blind students with tactile defensiveness to acquire Braille skills, especially those who had late onset blindness (Klenk & Pufpaff, 2011). Furthermore, Leff (2012) recommends the use of assistive computer technology as a means of improving the quality of blind individuals' life by providing social contacts which enable them to be on the same level as their sighted peers, and in this way, they feel empowered. According to Kinash and Paszuk (2007), the use of books on tape, talking computers and buddy reading may help to improve blind learners' academic performance. Similarly, the study on visually impaired students in a special school in

Nigeria by Adetoro (2012) reveals that a larger percentage of blind students preferred the use of talking books or audio materials to Braille for learning purposes, with the reasons that these devices make understanding better because they can be repeatedly played and are also not time-consuming as compared to Braille. However, the above study also revealed that a smaller percentage of blind students who preferred to use Braille to talking books argued that Braille helps to enhance their spelling.

School context also plays a role in the academic performance of blind learners; as such, the design of the school environment and the use of social cues by the school serve as barriers to learning for blind learners (Kinash & Paszduk, 2007). Collaborative measures by the Department of Education, private sector, communities and parents to make sure that teachers of the blind receive proper training will enhance the academic performance of blind learners (Fraser & Maghuve, 2008). It is of great importance to explore the psychological challenges faced by blind learners in order to find out how they impact on their learning and daily living.

2.4 PSYCHOLOGICAL EXPERIENCES

Blindness impacts on the psychological well-being of individuals. According to Mogks (2008, as cited in Leff, 2012), individuals who are blind present with psychological symptoms due to their inability to cope with their loss of vision. Leff (2012) emphasises that loss of sight is an overwhelming experience that leads to feelings of worthlessness and isolation by sighted peers.

2.4.1 Self-concept

When treated the same way as their sighted peers by their teachers, blind learners feel recognised and this boosts their self-concept (Dambudzo & Schulze, 2013). Lower level performance leads to low self-concept. Blind learners who feel good and confident about their general well-being have good academic performance (Dambudzo & Schulze, 2013).

It is not easy for blind people to adjust to their disability and research shows that “adjusting with blindness is not a fixed hierarchy of stages but rather a dynamic and fluid

process, never ending” (Tuttle & Tuttle, 2004, p. 56). Blind people need to have high self-esteem in order to enhance their adjustment process. For blind people to adjust better to their blindness, they have to go through seven phases, which are:

- trauma and physical or social phase (initial awareness of being blind)
 - mourning and withdrawal phase (grieving for the loss of vision)
 - succumbing and depression phase (analysis of the vision loss, resulting in depression)
 - reassessment and reaffirmation phase (review of one’s values and purpose, resulting in reconfirmation of the self)
 - coping and mobilisation phase (desire to cope with life as a blind person)
 - self-acceptance and self-esteem phase (recovery of self-esteem and confidence)
- (Tuttle & Tuttle, 2004)

Tuttle and Tuttle (2004) further posit that blind people who move with difficulty in the first four phases encounter low self-esteem, while those in the last three phases are likely to have a positive self-esteem. When blind people feel that they are not what they wish to be in life, they become psychologically and emotionally affected (Tuttle & Tuttle, 2004).

Micol Gonella (2014) cites researchers such as Dickerson et al. (1997) and Southall and Wittich (2012) who believe that common stereotypes on blindness which destroy self-esteem are the perceptions that blind individuals are incapable, feared, avoided, helpless, useless, pitiable, unapproachable and different. This implies that the above stereotypes are still prevalent and negatively affect the blind individuals' self-esteem. In this regard, Resendes (2004) emphasises that blind people who do not allow hardships they encounter as a result of their condition to stand in their way tend to have high self-esteem and become successful in life. Furthermore, Upton, Bush & Taylor, 1998 (as cited in Ben-Zur & Debi, 2005) contend that loss of vision results in blind individuals experiencing psychological difficulties such as lack of hope, depression, feeling of inferiority, as well as lack of self-acceptance

2.4.2 Stigma and discrimination

Social stigma on blindness is a hindrance to the blind in coping with their disability. Blind people encounter discrimination from different systems of life such as the school, family, peers and the general community (Resendes, 2004). Jezari (2012) further confirms that people who are blind are denied access to services by their social environment, including activities of governmental organisations, and this leads to them feeling marginalised and disempowered. Research shows that “blind individuals’ experiences, self-perceptions, and ideas about their selfhood and self-worth are heavily shaped by the social and political contexts in which they exist” (Jezari, 2012, p. 146). Blind individuals tend to feel uncomfortable with individuals who are sighted, and this affects their social and personal adjustment (Joseph, 2010).

The social life of blind people changes as a result of their loss of vision. The negative stigma by sighted people on blindness has a negative psychological impact on them. Blind people tend to feel unwanted and isolated, and this results in them feeling worthless (Micol Gonella, 2014). The negative stereotypes that society has on individuals with blindness impact negatively on them and they end up feeling discriminated and no longer having trust in the people they interact with. Stigma and discrimination result in minority stress. Minority stress is a compilation of stigma, internalised stereotypes, and actual experiences of discrimination (Meyer, 1995, as cited in Micol Gonella, 2014). According to Jezari (2012), stigma is one of the social factors that make the blind feel marginalised and disempowered. Furthermore, Allen and Birse (1991) contend that once the blind experience stigma, it becomes difficult for them to adjust easily with their disability, and this results in them failing to develop self-acceptance.

Studies by Jezari (2012) and Walker (2008) reveal that stigma on blindness has a negative effect on blind people because they tend to feel marginalised and oppressed by the society and, therefore, end up classifying themselves as having no say in the affairs of their environment. Consequently, they feel disregarded by the systems surrounding them. Blind individuals tend to experience feelings of anxiety and loss of confidence due to their inability to be in command of the surroundings (Steffens &

Berler, 1998 as cited in Ben-Zur & Debi, 2005). On the contrary, Resenders (2004) points out that blind people decide to isolate themselves from people in order to avoid feeling discriminated; however, the isolation they create results in them feeling lonely and detached from the general public. This view is further advocated by Shinazi (2007) who state that the reason why the blind decide to isolate themselves is the feeling that they do not fit with the environment of sighted individuals. In this regard, isolation Learners who feel isolated as a result of their blindness tend to drop out of school (Enright, Conyer, 1996, as cited in Walker, 2008).

2.5 THEORETICAL FRAMEWORK

The theoretical framework underpinning this study is Bronfenbrenner's bio-ecological systems theory. This theory is a multidimensional perspective that emphasises interaction between a child's development and systems within the social context (Bronfenbrenner, 2005). As a multidimensional model, the bio-ecological theory focuses on layers of interacting systems ensuing in the change, growth and development of a child, such as physical, biological, psychological, social and cultural (Nel, Nel & Hugo, 2012, p. 11). The bio-ecological systems theory helps researchers to identify and conceptualise the multi-system factors influencing the child's development (Lewthwaite, 2011).

Accordingly, Bronfenbrenner (2005) emphasises that the interactions, influences and interrelationships between the child and his environment play a crucial role in shaping lasting features of development. Development involves the continually changing biopsychological features of human beings (Bronfenbrenner, 2005). Central to the process of the child's development are four interacting dimensions, which are person factor (child or parent personality), process factor (types of interaction taking place in the family), context (families, schools or local communities), and time (changes over time in the child or environment (Donald et al., 2006, p. 40-41). Similarly, Bronfenbrenner (2005) points out that successful development is advanced by serious consideration of the child's personal attributes, the context in which the child develops, the processes experienced and the time at which development takes place.

The reason for using the bio-ecological systems theory is to understand and explore the impact that the interaction between the blind child and the surrounding systems has on his or her academic performance and psychological well-being. To understand the psychological and the educational experiences of blind learners in a rural special school in Limpopo province, it is imperative that one understands the systems with which they interact. Blind learners are individuals whose development is shaped by the interaction of the nested systems within a social context. Learners' systemic interaction with their families, peers, schools and communities enable them to construct their realities (Pillay, 2011).

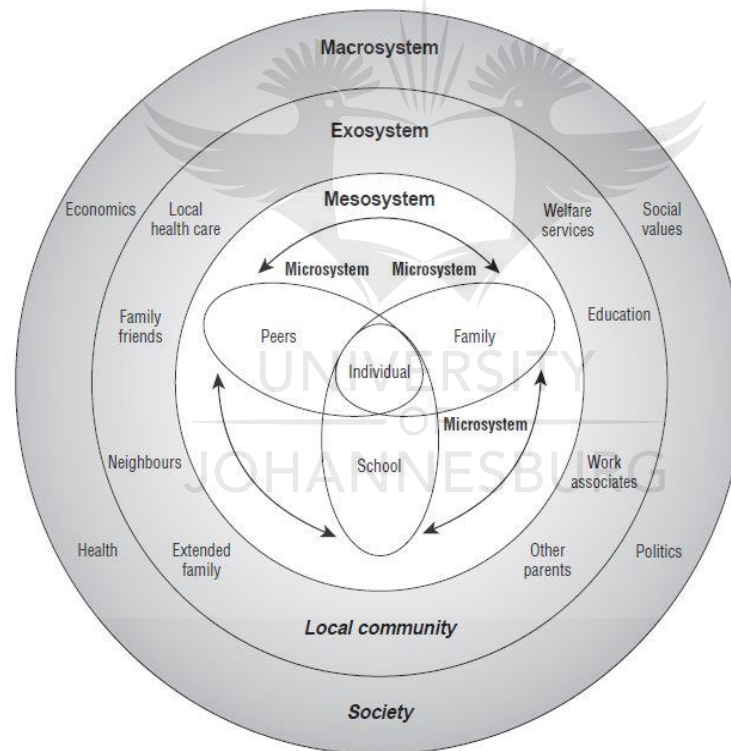


Figure 2.1: Bronfenbrenner's Bio-Ecological Model (Landsberg, Krüger & Nel, 2005, p. 11)

The four nested systems within which the child develops as shown in Figure 2.1 are the microsystem (family, school and peers with proximal interaction), the mesosystem (the interaction between the microsystems), the exosystem (laws and policies indirectly affecting the child), and the macrosystem (beliefs, values, and social and economic

structures). These four systems interact with the chronosystem (time dimensions) (Donald et al., 2006; Landsberg et al., 2011).

The above-nested systems are of great importance to this study. The child has immediate interaction with the microsystem, which plays a crucial role in shaping development. Parents, school, peers and church are closest to the blind child and have a role to play in his education and psychological well-being. This study intends to explore and understand the interaction between blind children and their microsystem and how this interaction impacts on their academic performance and psychological well-being.

Hess and Schultz (2008) emphasise a serious consideration on the importance of the mesosystem in the child's development. "Parents and teachers must interact with each other so that their independent interactions with the child communicate identical expectations about routines at home that can impact school performance" (Hess & Schultz, 2008, p. 58-59). In this regard, the interaction between the blind child's parents and the teachers is very important. This study aims to understand the role that parents and teachers play in supporting the blind child psychologically and educationally and how lack of support impacts on their psychological well-being and academic performance. The communication between the school and the family concerning the blind child's circumstances is vital. Similarly, Neal and Neal (2013) emphasise the need for regular meetings between the child's family microsystem and the school microsystem about the child's behaviour. It is also essential to consider the interaction between the blind children and their sighted peers in the school context as regards their attitudes and how this interaction impacts on the blind child's psychological well-being and academic performance.

The experiences of an individual are a product of larger social forces; that being the case, the social world has an impact on the child's development (Hess & Schultz, 2008). Societal views from the macrosystem on blindness influence development, thus impacting either positively or negatively on the academic performance and psychological well-being of the blind individual (Hess & Schultz, 2008; Neal & Neal,

2013). Consequently, the stigma and discrimination experienced by blind individuals from society is likely to affect them.

Although the child is not directly involved in the exosystem, what happens in this environment is influential in shaping development (Landsberg et al., 2011). Neal and Neal (2013) point out that educational policies can affect the child's experiences in the classroom and the school, ultimately leading to a change in the child's microsystem. Additionally, Hess and Shultz (2008) bring out that the context and the process in which the child develops are shaped by the policies made by the decision-making authority of pieces of legislation. Therefore, the psychological well-being and the success of blind individuals in their academic performance is determined by their exosystem. The parents' inability to afford assistive devices due to unemployment or poor salary ensuing from the social economic status of the community, lack of training of blind teachers and the government's inability to provide health care systems in rural communities are examples of the exosystem that indirectly affects the blind individual's process of development.

According to Pillay (2012), systems have a continuous change that corresponds to the child's ongoing process of self-change, renewal and development. As a result, the interaction of systems within the chronosystem influences development. Hess and Schultz (2008) add that patterns of change are influential to human development. In prehistoric societies, children with severe disabilities such as blindness were regarded as being abnormal and were therefore treated as outcasts (Engelbrecht, Kriegler & Booysen, 1996). However, with time, new policies were formulated, and children with disabilities were accepted and were given the right to normal school and home circumstances, normal respect from others, normal economic and environmental standards (Engelbrecht et al., 1996, p. 7). This ultimately led to disability being considered an integration between biological, individual and social perspectives (Landsberg et al., 2011), hence the Bronfenbrenner's bio-ecological systems theory. With the launch of VISION 2020 in 1999, there has been a drastic improvement in the control of blindness due to the availability of eye care services (Clare & Mohammed, 2008), and this implies that there will be a dramatic decrease in the prevalence of

blindness in the future. Therefore, the intention of using the bio-ecological systems theory is to explore and understand the phenomenon of blindness in terms of time and how time impacts on the development of blind children in special schools respecting their psychological well-being and educational performance.

2.6 CONCLUSION

The literature review has explored the phenomenon of blindness and its causes from an international perspective and in a South African context. It also looked at the psychological and educational challenges faced by blind learners. The theoretical framework underpinning this study, Bronfenbrenner's bio-ecological systems theory, was discussed. Regarding the knowledge gap, this literature review has helped the researcher to establish that there is no research on the psycho-educational experiences of blind learners in special schools in the Vhembe District in rural Limpopo province, hence this study. The following chapter will discuss the research design as well as the methods for data collection and data analysis.

CHAPTER 3: RESEARCH METHODOLOGY

3.1 INTRODUCTION

This chapter provides a detailed discussion of the research design and the research paradigm. It discusses methods used for data collection and data analysis. Moreover, it provides an in-depth discussion of the research aims of the study. The trustworthiness of the study and ethical considerations are also included in this chapter.

3.2 QUALITATIVE RESEARCH APPROACH

A qualitative research approach was chosen because it enables the researcher to understand the phenomenon studied, in real-life situations (Maree, 2007). Similarly, Denzin and Lincoln (2003, p. 5) contend, “qualitative researchers study things in their natural settings, attempting to make sense of, or to interpret, phenomena in terms of the meanings people bring into them.” Schram (as cited in De Vos et al., 2011) confirms that the main focus of a qualitative approach is the study and inquiry into meaning. Qualitative research allows for in-depth analysis of data (Joubish et al., 2011) and provides insight into the experiences of blind learners (Henning et al., 2004). According to Berg (2001), qualitative techniques will help the study to elicit in-depth information about the psychological and educational experiences of the blind learners in a rural special school for the blind. The researcher chose a qualitative approach in order to use qualitative data collection methods which she believes will provide rich descriptions and explanations of blind learners’ lived psycho-educational experiences.

According to Kumar (2011), a qualitative approach is categorised as unstructured because of its flexibility during the research process. A qualitative research approach was chosen because it enables the researcher to use an open-ended, inductive exploration of the psycho-educational experiences of blind learners in a rural school (Terre Blanche, Durrheim & Painter, 2006). Merriam (2002) asserts that qualitative inquiry enables the researcher to learn more about the lives and the context in which people live, in order to understand how they construct and interpret reality. In this regard, qualitative inquiry was found to be appropriate for this study because it allowed

the researcher to learn more about the psychological and educational experiences of blind learners in a rural special school for the blind and to understand how these participants construct reality. One of the characteristics of qualitative research is that it enables the researcher to explore and describe a phenomenon in a specific context (De Vos et al., 2011), thereby making it explorative, descriptive and contextual in nature (Lethale, 2008). With that in mind, the psychological and educational experiences of blind learners in a rural special school for the blind will be explored and described. These characteristics of qualitative research are discussed below.

3.2.1 Exploratory research

Terre Blanche et al. (2006) highlight that an exploratory study uses a flexible and inductive method to get new insights into a problem studied. Exploratory studies create approximate insights, new questions and hypotheses; therefore, they are planned in such a way that they allow the researcher to be open and flexible in the investigation process (Terre Blanche et al., 2006).

There are always reasons for a particular study. Babbie and Mouton (2001, p. 80) provide the following reasons for an exploratory study: to satisfy the researcher's curiosity and desire for better understanding, to test the feasibility of understanding a more extensive study, to develop the methods to be employed in a subsequent study, to explicate the central concepts and constructs of a study, to determine priorities for future research, and to develop new hypotheses about an existing phenomenon. Since little is known about the psychological and educational experiences of blind learners in a rural special school for the blind, the researcher aimed in this study to explore the lives and lived experiences of participants in order to gain new ideas. In the exploratory study, the researcher uses in-depth interviews and case studies to explore a phenomenon. This study has involved active use of face-to-face in-depth interviews and a focus group to explore the psychological and educational experiences of blind learners in a rural special school for the blind.

3.2.2 Descriptive research

The main aim of descriptive research is to precisely and accurately describe and document specific situations and events of a phenomenon of interest (Babbie, 2014; Marshall & Rossman, 2011; Terre Blanche et al., 2006). The researcher in this study has made use of semi-structured interviews and document analysis to describe the psychological and educational experiences of blind learners in a rural special school for the blind. Patton (1990, as cited in Sandelowski, 2000) suggests that descriptive research requires the use of purposive sampling because it allows the researcher to explore and describe the phenomenon by making use of participants who will bring to the study rich information. In this study, participants were purposefully sampled. Participants were blind learners from a rural special school for the blind and are in the senior phase of schooling. More focus in a descriptive study is on the description of actions, events, attitudes, beliefs, social structures and the processes involved in the phenomenon of interest (Marshall & Rossman, 2011). During the interviews, the researcher focused more on the attitudes and the belief systems of the society on blindness and how these impact on the psychological well-being and the academic performance of blind learners.

3.2.3 Contextual research

It is of paramount importance for a researcher to have knowledge and understanding of the context of the study. In this regard, Terre Blanche et al. (2006, p. 275) point out, “the meaning of human creations, words, actions, and experiences can only be ascertained in relation to the context in which they occur.” Similarly, Mischler (1986, as cited in Terre Blanche et al., 2007) emphasises that meaning has its roots in context. Babbie and Mouton (2001, p. 272) indicate, “It is only, so the qualitative researcher argues, if one understands events against the background of the whole context and how such a context confers meaning to the events concerned, that one can truly claim to understand the events.” Researchers need to consider context as a critical aspect of research. According to Neuman (2003), ignorance of social context by researchers results in distortion of the social meaning of the lived experiences.

Based on the foregoing discussion, the researcher in this study has considered the social context of the blind learners in order to understand their experiences and what they mean to them. The participants are blind learners in a special school for the blind. The school is in a village, in the Vhembe District, in the rural Limpopo province. Limpopo province is multicultural, and the three dominating languages/cultures are Sepedi, Xitsonga and Tshivenda. Although the school is in a village, there is access to health care services because of a nearby hospital. The school has a boarding facility, and learners do not have constant contact with their parents. Most of the parents of learners in this school are in Gauteng province for employment due to the economic status of the community where they come from.

3.3 RESEARCH DESIGN

For the purpose of this study, research design refers to “a set of logical arrangements from which prospective researchers can select one suitable for their specific research goals” (De Vos et al., 2011, p. 73). De Vos et al. further emphasise that the choice of research design is determined by the purpose of the study. In this regard, this study has used a phenomenological research design because its purpose was to investigate and understand the lived experiences of participants in the study (Leedy & Ormrod, 2010). This study is about the exploration and description of the psycho-educational experiences of blind learners in a rural special school.

Creswell (2009, p. 13) states that phenomenological research is “a strategy inquiry in which the researcher identifies the essence of human experiences about a phenomenon as described by participants.” According to Schram (2006, as cited in De Vos et al., 2011), the main focus of a phenomenological study is to describe the meaning that participants give to their real world. Researchers conducting a phenomenological study are more concerned about the participants’ natural settings when collecting data (De Vos et al., 2011).

Phenomenology can be described as a methodology and a philosophy. There is a link between methodology, philosophy and research (Byrne, 2001). This means that there must be a perfect alignment in the process from the beginning till the end. Methods of

data collection and data analysis in this study are linked to the research designed. Based on its philosophical orientation, a phenomenological study focuses on the search for meaning and essences of experiences through first-person accounts rather than measurements and explanations (Byrne, 2001). The philosophy of this study is that there is no single reality; therefore, each blind learner has his or her own interpretation of experiences of being blind. It is recommended that researchers should set aside their personal knowledge from life experiences in order to understand those of the participants (Creswell, 2009; Byrne, 2001; Denscombe, 2003; Leedy, 2010; Schram, 2006, as cited in De Vos et al., 2011). During the interviews, the researcher bracketed her preconceived ideas about blindness, and this made it easy for her to understand the psycho-educational experiences of blind learners. The researcher believed that blind people have low self-esteem, therefore are unable to cope with life due to their disability.

3.4 THE SOCIAL CONSTRUCTIVIST PARADIGM

The social constructivist paradigm was used in this study, since it focuses on the construction of experience and social meaning to the social context by individuals. The assumptions in this paradigm are that individuals want to understand the world they interact with and construct meaning to their experiences (Creswell, 2009). In this manner, the researcher investigated how blind learners in a rural special school in Limpopo province understand the community they interact with. According to De Vos et al. (2011), a constructivist approach encourages active involvement of participants throughout the process of the study.

3.5 SAMPLING

To understand and describe the lived psycho-educational experiences of blind learners, qualitative research requires the researcher to do purposive sampling of the participants, settings, events and activities to be used when collecting data (Maree, 2007). Purposive sampling was done because the participants have an important role to play in the study (Remler & Van Ryzin, 2011). Purposive sampling, according to Daniel (2012, p. 86) refers to “a sampling procedure in which elements are selected from the

target population on the basis of their fit with the purpose of the study and specific inclusion and exclusion criteria.” Creswell (2009) maintains that purposefully sampled participants and sites enable the researcher to have a clear understanding of the problem and the research question.

In this study, the researcher has purposefully sampled the participants who satisfy the requirements for participation and the needs for the study (Boeije, 2010). Units of analysis for this study are blind learners from a rural special school for the blind. The criteria used for the selection of participants are as follows: participants were already diagnosed as legally or totally blind; they were in the senior phase; they were in a rural school for blind learners; and were willing to describe their psycho-educational experiences, which allowed the researcher to gain an understanding of what their experiences mean to them. Participants were selected from the senior phase with the view that they have the characteristics that will meet the needs of the study in terms of in-depth information of psychological and educational experiences. Initially, the researcher aimed to involve both girls and boys in the study in order to explore the psychological and educational experiences of blind learners from different perspectives in respect of gender. However, only boys were interviewed due to a limited number of totally blind learners at the school. Most learners at the school are partially sighted. Tables 3.1 and 3.2 that follow show each participant’s profile and the school profile respectively.

Table 3.1: Participants’ profiles

Pseudonym	Grade	Age	Gender	Language	Participation	Family context
Mpho (adventitious blindness)	7	17	Male	Xitsonga	Individual interviews Focus group interviews Document analysis	Stays with his uncle and his grandmother. They depend on social grants.

Ntsako (adventitious blindness)	8	15	Male	Xitsonga	Individual interviews Focus group interviews Document analysis	Stays with sister and two brothers. They depend on social grants.
Nyiko (adventitious blindness)	8	16	Male	Xitsonga	Individual interviews Focus group interviews Document analysis	Stays with his mother and grandparents. Mother is employed.
Rhandzu (adventitious blindness)	8	18	Male	Xitsonga	Focus group interviews Document analysis	Stays with his mother and a brother. Mother is self-employed.
Thabo (adventitious blindness)	8	14	Male	Xitsonga	Focus group interviews Document analysis	Stays with his mother and a brother. Mother is unemployed.
Vhutomi (congenital blindness)	9	19	Male	Sepedi	Individual interviews Focus group interviews Document analysis	Stays with both parents and a brother. Father is employed.

Table 3.2: School profile

Name Pseudonym	Type	District	Province	Enrolment	Number of staff members	Context
Ithuteng	Special school for the blind with boarding facility	Vhembe District	Limpopo	82	12 (1 partially sighted and 1 totally blind)	Rural

Table 3.1 indicates that the participants' ages range from 14 to 19. The participants are in the senior phase. Five participants are adventitiously blind, while one is congenitally blind. The family contexts in the table reveal that most of the participants come from poor family backgrounds. Table 3.2 highlights that the school has an enrolment of 82 learners, of which some are partially sighted and others are blind. Two members of the staff are visually impaired; one is partially sighted and the other one is blind.

3.6 Data collection

The researcher got access to the research setting before collecting data. De Vos et al. (2011) maintain that accessibility to a research setting is a crucial factor to consider when conducting a qualitative study. In this respect, the researcher's entry into the research setting was accessed through the approval of the Limpopo Department of Education (refer to Appendix C on page 104). The gatekeeper for the school, as a research setting for this study, was the principal. A gatekeeper, according to Creswell (2009) and De Vos et al. (2011), is an individual who has the authority to provide the researcher access to the research site. The principal was provided with a concise proposal in order to highlight reasons for the choice of the site, activities the researcher and the participants would engage in, and how the school would benefit from the study.

In this study, the methods used for data collection were semi-structured individual interviews, focus group interviews and document analysis, and were congruent with the

research design of phenomenology. According to Mills and Birks (2014), the use of multiple techniques for data collection provides triangulation. Triangulation “entails collecting material in as many different ways and from as many diverse sources as possible, and can help researchers to home in on a better understanding of a phenomenon by approaching it from several different angles” (Terre Blanche et al., 2006, p. 287).

Shaffir and Stebbins (1991, as cited in De Vos et al., 2011) emphasise that in order for a researcher to gain more understanding of the participants’ experiences and what they mean to their real world, the participants’ own language should be used when collecting data. Regarding this, Xitsonga was used as a language for the interviews because it is a home language for the participants, and it was translated into English by a professional translator. All three techniques used for data collection, semi-structured interviews, focus group interviews and document analysis are next discussed in detail.

3.6.1 *Semi-structured individual interviews*

Semi-structured individual interviews were conducted with four blind learners in the senior phase. Participants were informed about audio recording and note taking during the rapport-building process. Interviews were audio recorded for the purpose of transcription. Audio recording is a mechanism that enables the researcher to replay the recordings in order to pick up important information from the responses by participants during the interviews, and it also allows a researcher to pay more attention to the conversation as it unfolds and provides more information than the written one (Davies, 2007). However, notes were taken in conjunction with recording in order to describe the impressions and observations (Boeije, 2010).

According to Kumar (2011), semi-structured interviews are useful for collecting in-depth information. Further, De Vos et al. (2011) point out that through semi-structured interviews, the researcher can obtain unexpected information that may be vital to the study. In semi-structured interviews, each participant is asked the same questions, and they also allow the researcher to use probes in order to dig deeper for rich information (Ryan & Bernard, 2010). Probe entails “a technique employed in interviewing to solicit a

more complete answer to a question, it is a nondirective phrase or question used to encourage a respondent to elaborate on an answer” (Babbie, 2014, p. 510). According to Ryan and Bernard (2010), probing is a means of obtaining in-depth information in an interview.

An interview guide with a list of questions under specific topics were asked (refer to Appendix F on page 111). Topics covered in the interview guide were based on psychological, social and educational experiences of blind learners. The researcher ensured that all topics were covered by asking some questions using a range of probing. One of the advantages of face-to-face interviews is that they provide the researcher an opportunity to clarify questions (Ryan & Bernard, 2010). With respect to this, the researcher clarified all questions to the participants, and this led to the provision of valuable information about the experiences of blind learners in a rural special school for the blind.

3.6.2 Focus group interviews

Focus group interviews were conducted with six learners in the senior phase. Interviews were conducted until the point of data saturation. Focus group interviews refer to interviews conducted with a group of participants who may not know one another but share the same experiences (Terre Blanche et al., 2006). The researcher built rapport with the participants in order to allow them freedom to express their feelings fully and honestly in a trusted context (Pillay, 1996). The participants were asked broad and semi-structured questions which were asked in the individual interviews, in order to allow them to provide more information on their experiences as blind learners in a group context. According to Maree (2007), focus group interviews allow the researcher to understand group dynamics such as gender, ethnicity, and the cultural context of participants.

Similar to the semi-structured individual interviews, the focus group interviews were also audio-recorded for the purpose of transcription. Questions asked in the focus group interviews were based on the psychological, social and educational experiences (see attached Appendix F on page 111 for the interview guide). There is a relationship

between the blind learners' social experiences and their psychological well-being, therefore the interview guide included questions based on the social experiences.

3.6.3 Document analysis

Document analysis was used as another tool to collect data for the purpose of triangulation. According to Maree (2007), documents collected should contain written information that will enable the researcher to explore and describe the lived experiences of participants. Likewise, De Vos et al. (2011) emphasise that the focus on document analysis should be on written documents that contain information on the phenomenon of study. Document analysis is a convenient technique for data collection because it is easily accessible and saves time of transcribing, as it is already written (Creswell, 2009; Terre Blanche et al., 2006). However, it is imperative to note the following disadvantages of document analysis: first, it may sometimes not be easy to access documents; it may not be easy to find the information one is looking for; some information contained in documents may be incomplete; and lastly, there is no guarantee of accuracy and authenticity (Creswell, 2009). De Vos et al. (2011) postulate that it is difficult to access official documents due to ethical issues on confidentiality

Documents requested were learners' profiles and minutes of case conferences. In the learners' profiles, the researcher was expected to look at evidence of learning support provided for blind learners, their progress reports, referral forms, as well as any other information that indicates the psychological well-being and the academic performance of blind learners. Documents received were the performance schedules. The school did not provide the researcher with minutes of case conferences or any other document which contained information about the psychological well-being of the participants due to ethical reasons beyond the researcher's control. The management of the school felt that the privacy of the learners should be respected, therefore the school was unwilling to divulge any confidential information.

3.7 Data analysis

Data was analysed by means of content analysis. According to Leedy and Ormrod (2010, p. 144), content analysis refers to "a detailed and systematic examination of the

contents of a particular body of material for the purpose of identifying patterns, themes, or biases.” The researcher identified individual themes and collective themes which were integrated into major themes. Therefore, the researcher used the steps in Creswell (2009, p. 185-190) to analyse data as described in the next subsection.

3.7.1 Individual and focus group interviews

The first step involves the organising and preparation of data. The researcher transcribed the audio recorded interviews verbatim, writing notes on the margins. In the second step, the researcher thoroughly read through all the transcription from both the individual and the focus group interviews, checking if the information makes sense. The third step involves detailed analysis of data in the form of coding. Coding entails “the process whereby raw data is transformed into standardised form suitable for machine processing and analysis” (Babbie & Mouton, 2001, p. 640). In coding, the researcher took the text data collected during the individual and focus group interviews, and identified units of meaning in the form of open coding. Open coding refers to “the creation of certain categories pertaining to certain segments of text” (Babbie & Mouton, 2001, p. 499). The corresponding patterns from units of meaning were grouped together into categories. The topics were abbreviated as codes and written next to matching segments. Topics that relate to each other were put together. Themes were generated and explored. These themes served as the main findings of the study. The themes were used to create headings in the findings chapter. Lastly, the themes were discussed and interpreted in a narrative form, and this can be viewed in the results chapter.

3.7.2 Document analysis

In analysing documents, the researcher made use of the documents provided by the school. The participants’ performance schedules were read, and the researcher checked the participant’s performance in each learning area and made notes. A table was created to indicate the main findings on the academic performance of each participant, and the information was used to supplement the main themes from the interviews (refer to Table 4.1 on page 48).

3.8 TRUSTWORTHINESS

Lincoln and Guba (1985) state the following strategies that are used to evaluate the worth of the study:

Credibility refers to the extent to which the realities constructed by participants match with those ascribed to them (Babbie, 2014). Credibility was ensured through triangulation of data collection methods that are well established in qualitative research and that have been proven to be successful (Shenton, 2004). Data was collected through different methods, namely, individual interviews, focus group interviews and document analysis. During the individual and focus group interviews, different questions were asked until data saturation occurred. The actual words of participants were used (Krefting, 1991). The researcher further bolstered the credibility of the study by describing the experiences of the participants as perceived by the subjects themselves (Pillay, 1996). Shenton (2004) emphasises that in order to strengthen the credibility of the study, the researcher should use strategies that will encourage honesty in participants. In this respect, participation in the study was voluntary; thus, the participants were free to express their thoughts and to elicit detailed information on their lived experiences as blind learners through the use of probes. Interviews were conducted to the point of data saturation, and the participants' responses were tape-recorded and transcribed verbatim.

Transferability refers to the point to which the findings of a study can be generalised or transferred to other contexts (Babbie & Mouton, 2001). In this study, transferability was achieved through purposive sampling of participants and collection of adequate and enough description of data from the blind learners so that the results can be transferred to other contexts (Pillay, 1996; Shenton, 2004; Babbie & Mouton, 2001). The researcher also strengthened transferability by providing adequate information about the context in which the study was conducted and the detailed description of the phenomenon under investigation (Shenton, 2004). Nevertheless, it is imperative to note that this study is not concerned with generalisation of the findings, rather, it is aimed at providing a comprehensive understanding of the psycho-educational experiences of blind learners.

This implies that the reader can be able to transfer the results and conclusions in this study within closed boundaries.

Dependability refers to the extent to which the study provides readers with proof that similar findings can be produced if the study is repeated with the same participants and in the same context (Babbie & Mouton, 2001). Dependability was achieved by triangulating research methods and a dense analysis of data on the psycho-educational experiences of blind learners to allow the study to be repeated by other researchers (Shenton, 2004).

Confirmability refers to the extent to which the findings are the results of the focus of the study and not the researcher's biases (Babbie & Mouton, 2001). Confirmability was attained through triangulation of data collection methods (use of focus group interviews, individual interviews and document analysis), reflexivity (notes and audio recording), and data audit to indicate possible bias (Shenton, 2004; Pillay, 1996). The actual words of the participants were quoted.

3.9 ETHICAL CONSIDERATIONS

It is imperative for a researcher to follow ethical principles when conducting research. Proper procedures were followed to gain access to the research site. The researcher was granted ethical clearance by the Ethics Committee of the Faculty of Education at the University of Johannesburg to conduct research (refer to Appendix B on page 103). The researcher applied for permission to conduct the study at a special school for the blind from the Limpopo Department of Education (refer to Appendix C on page 104). The ethical clearance approval from the university was attached to the application in order to provide a brief proposal of the study. The approval from the Limpopo Department of Education was handed to the gatekeeper, the principal of the school, and the researcher was able to access the research site. The principal also received a brief proposal about the study (refer to Appendix D on page 106). Respect for research site was maintained in order to avoid disturbance after the study.

This study is about understanding the lives of children. Therefore, the researcher took into account the Children's Act to ensure that their rights are protected. Code of ethics

for professional and academic associations is the conventional format for moral principles (Denzin & Lincoln, 2003). Informed consent was considered as one of the basic ethical guidelines. Informed consent ensures protection of the participants' rights during data collection (Creswell, 2009). In this regard, parents and participants were given consent and assent forms to sign. These forms contained information such as the reason for the study activities that participants are going to engage in, how they were going to benefit from the study, and that their participation was voluntary; with that said, they were allowed to withdraw at any time they felt they did not want to continue with being part of the study, without any negative consequences.

Voluntary participation was emphasised, and there was a verbal agreement between the participants and the researcher, witnessed by parents who signed the consent forms (refer to Appendix E on page 107). Participants are required to provide their personal information that may be revealed to other people who may need it for professional purposes (Babbie, 2014). Therefore, those who did not take part voluntarily may be reluctant to share their personal information with the researcher. The school was also involved in the consenting of blind learners' participation in the study. The principal read and explained the consent forms to the participants, since they are not written in braille and the participants could not read for themselves.

Participants were informed that any information provided will be kept confidential and private. As stated earlier, the researcher observes confidentiality, and thus "...allows the participants to retain ownership of their voices and exert their independence in making decisions" (Creswell, 2009, p. 90). According to Denzin and Lincoln (2003, p. 218), "confidentiality must be assured as the primary safeguard against unwanted exposures." Regarding this, the researcher explained to the participants that their real names will not be linked to data and that the tapes used for recording will either be kept in a safe place or be destroyed after the study. Furthermore, it was clearly made known to the participants that no one will have access to their personal information except the researcher and the supervisor.

Another ethical issue considered is ensuring that there is no harm, discomfort and embarrassment associated with the participants' involvement in the study. Babbie

(2014) maintains that no individual taking part in a study should be harmed, even though their participation is voluntary. The researcher guaranteed that no participant will incur any injury during the study. The participants were informed that the research techniques used will not cause any physical harm to them and that the researcher will avoid activities that will evoke psychological trauma (Pillay, 2014). Therefore, appropriate data collection methods were used. However, it was also clarified to the participants that contingency measures would be taken in case participants are harmed psychologically.

It is of utmost importance for researchers to take into cognisance the contextual and cultural factors of the participants. Schenk and Williamson (2005, as cited in Pillay, 2014) emphasise that researchers should respect the participants' cultural norms by using culturally acceptable and gender-sensitive research activities. In this regard, the participants were informed that all the activities involved will not ignore their culture and context and that they were at liberty to voice it out if any activity was against their cultural beliefs.

3.10 CONCLUSION

This chapter has provided a discussion of the research aims, qualitative research approach, research paradigm and methods for data collection and data analysis. Trustworthiness and ethical considerations employed have been explored. The following chapter will present and discuss the findings of the study.

CHAPTER 4: FINDINGS

4.1 INTRODUCTION

In this chapter, the data analysis process will be described as discussed in Chapter 3. Data will be presented and discussed according to the themes that emerged during the process of content data analysis. Each theme will be discussed in detail and will be illustrated by means of the participants' voices from the interviews which were transcribed verbatim, as well as information from document analysis. The discussion of themes will integrate the data collection methods.

4.2 DATA ANALYSIS

The process of data analysis implemented in this study was discussed in Chapter 3. Data was analysed using content analysis. Henning et al. (2004) submit that qualitative content analysis is a convenient method of analysing data, especially for beginner researchers, since it is easily accessible and operates on one level of meaning. Qualitative content analysis methods were used to discuss the themes which emerged from data regarding the psychological and educational experiences of blind learners in a rural special school for the blind. Refer to appendices G on page 116 and H on page 126 for an example of how data collected from the focus group interviews, individual interviews and document analysis was coded and analysed.

Figure 4.1 that follows is a summary of the steps followed during data analysis. The semi-structured individual interviews and the focus group interviews were audio recorded. All the interviews were conducted in Xitsonga. They were transcribed and translated into English. The English version was given to a Xitsonga speaking colleague to check if both versions were consistent with one another. This was meant to improve the trustworthiness of the study. The researcher read the transcript repeatedly in order to immerse herself into data. This process of immersion increased the researcher's understanding of data. Open coding was done by labelling sections of data. The codes

were listed and examined to observe similar codes and those that belong together. Corresponding codes were grouped together to generate themes. The researcher verified the information from the participants in order to increase trustworthiness. Data was discussed and interpreted in chapter five.

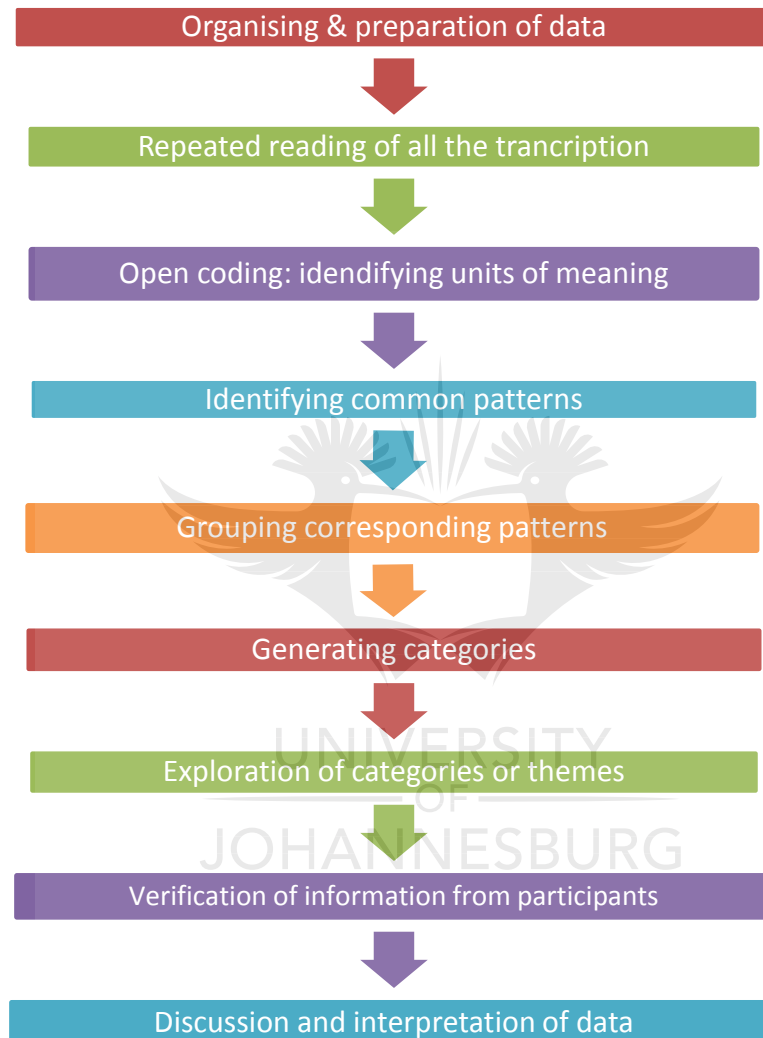


Figure 4.1: The steps used in the process of data analysis Adapted from: Creswell (2009)

4.3 MAJOR THEMES AND SUB-THEMES

The process of data analysis was discussed in the previous section. This section presents an overview of the dominant themes that emerged from the data collection methods used in this study. Each theme is dealt with in detail, and the voice of the participants has been used to support the ideas. All data collection methods were

integrated by means of indicating where each participant's voice came from, as well as where each theme emerged. Table 4.1 represents the psychological and educational themes that emerged from the process of data analysis.

Table 4.1: Major themes and sub-themes

	Major themes	Sub-themes
Psychological Experiences	4.3.1.1 Social stigma	<ul style="list-style-type: none"> ▪ Discrimination by society
	4.3.1.2 Positive self-concept	<ul style="list-style-type: none"> ▪ Self-acceptance
		<ul style="list-style-type: none"> ▪ Self-confidence and self-esteem
	4.3.1.3 Future aspirations	<ul style="list-style-type: none"> ▪ Optimism
<ul style="list-style-type: none"> ▪ Future careers 		
Educational Experiences	4.3.2.1 Academic challenges	<ul style="list-style-type: none"> ▪ Use of assistive technology
		<ul style="list-style-type: none"> ▪ Difficulties with certain subjects
	4.3.2.2 Need for academic support	<ul style="list-style-type: none"> ▪ Teacher support
		<ul style="list-style-type: none"> ▪ Peer support
		<ul style="list-style-type: none"> ▪ Family support
	<ul style="list-style-type: none"> ▪ Government support 	

4.3.1 Psychological experiences

The three themes that emerged from the process of data analysis include social stigma, self-concept and future hopes. These themes are shown in Table 4.1 and will be discussed below.

4.3.1.1 Social stigma

The findings of this study revealed that blind learners in a rural context encounter negative social stigma from the sighted community that they interact with due to their

disability, and this affects their psychological well-being. This is evidenced by the sub-theme that follows.

Discrimination

Discrimination seems to be a challenge that blind learners experience as a result of their disability. It would appear as if the blind learners are discriminated against by the people in their communities. According to the findings, society has the belief that blind people cannot be successful in life. This is evident in the individual interviews when Nyiko responded to the question of discrimination by saying:

“When I walk around the village...some people discriminate against me ... it’s obvious ... and sometimes when I am walking around ... eh ... I hear people laughing at me ... some people don’t talk to me nicely. When they greet me ... I can hear that their tone is not polite ... They are being sarcastic. They tell me that I will never be successful ... things like that.”

This is further supported by Ntsako in the focus group interviews who said:

“In my village ... some people don’t understand us. They think that as blind people we are nothing. They sometimes think that we are blind, and we will never be successful in life ... so they become disappointed when I tell them what I do at school ... which is what they also do. They ask me how I know such information because I am blind.”

Some of the participants indicated that they feel bad when they are not treated well by members of the community. Vhutomi, in the individual interviews, also expressed how he feels when he is discriminated against: *“Ah ... my community ... people call me names as I walk around the village. You will hear some of them saying ‘sefofu’ [the blind] as I pass by. Sometimes I feel bad when they call me like that. I know I am blind, but it disturbs when people remind me you of something you know. I keep quiet and tell myself that there is nothing I can do. Sometimes I tell my parents and they comfort me. My parents tell them to leave such people alone because they can’t understand me.”*

Discrimination by society is further corroborated by Thabo in the focus group interviews who said: *“I only have problems with the children on the street ... who always tease me*

as I walk around. They walk in front of me and try to block the way. Sometimes they ask me to tell them what they are holding in their hands ... and sometimes they give me a screwdriver and they say it's a sweet. So, I end up hitting them because they make a fool out of me." This reveals some form of violent response by blind learners when they encounter challenges.

Communities in the rural areas do not allow the blind to take part in community activities, and some participants appear to accept it. This is evident in the response by Thabo in the focus group when he said: *"They don't allow us to take part in the community activities ... they only allow those who have sight ... so it means we are useless."*

Nyiko confirmed this in the focus group interviews by saying:

"I sometimes don't feel bad about it ... eh ... because they think that they won't gain anything from us ... but I feel that they are losing, because if they could allow us to participate we would help our community. Maybe the reason they don't involve us ... is because they don't have the facilities we can use."

Even though most participants complain about the discrimination by society, Rhandzu mentioned in the focus group that members of his community treat him with dignity and respect: *"In my village ... people treat me well. They treat me in a very special way. They invite me to their parties ... and when I am there, they treat me like a VIP [very important person]. Yes ... I feel comfortable."*

4.3.1.2 Self-concept

Regardless of the blind learners feeling socially stigmatised, they still have a positive self-concept. Three sub-themes that emerged from the major theme of self-concept are discussed below.

Self-acceptance

The findings of the study reveal that regardless of their disability, blind learners appear to have accepted their condition of being blind. This self-acceptance is evidenced by

Thabo in the focus group interviews, when he said: *“I don’t feel bad. I have accepted my condition. I have realised that if I don’t accept the way I am ... I will be disturbed mentally and end up with stress. For now I feel good ... I am sharp [I am fine in a township language]. If I don’t accept myself ... I will end up having many diseases ... and ... I will die”*

This was further supported by Vhutomi in the focus group interview when he said:

“For me ... being blind is just like any other condition. I feel I am just like any other person. According to me ... it does not mean that if you are blind, you don’t have a life to live. I can do things even though I am blind.”

Rhandzu’s response in the focus group interviews also confirmed this: *“I feel good about my condition ... I can do things that sighted people can do ... I don’t stress myself.”*

This view is further corroborated by Nyiko in the focus group interviews:

“Ah ... me ... being blind is not a problem to me. I am able to move on with my life. There is no difference between the person who is blind and the person who is sighted. I am able to achieve things that have value in my life. Sometimes it depends on how you are gifted ... but you know what ... I don’t see any difference. Of course ... the only difference is sight ... but we have many things like the sighted people ... even though we can’t see. We can walk like they walk ... we go to school like they do.”

Furthermore, Mpho laughed during the group interviews and said: *“To be blind is not the end of the world ... life goes on ... yes ... I don’t feel bad because I can’t see like other people.”* The findings further revealed that it is not easy for blind people to accept their disability. There is a need for adjustment.

The view mentioned is confirmed by Mpho in the individual interviews:

“Yes ... of course ... it took me a long time to accept that it, but after I realised that I am not the only person who is blind ... I started accepting myself. Being at the school for

the blind has helped me a lot ... it has helped me to feel strong because I am not alone.”

Self-confidence and self-esteem

Despite them being disabled, the blind learners appear to have a reasonable level of self-confidence and self-esteem. This is evidenced by Nyiko in the individual interviews:

“Ah ... there is nothing I can't do to tell you the truth. I am just like the sighted learners. There is nothing in life they can do ... which I can't do ... as long as I can be able to achieve something at the end ... and I know I can achieve what I want.”

Support for the foregoing view was given by Ntsako in the focus group interviews:

“I can do things that sighted people can do. I can even do better than them ... and I don't actually feel bad ... and I don't look down at myself ... I am also a human being. A sighted person can only see ... but is unable to use other senses perfectly like I do. I can hear sounds from far ... than he does.”

This is corroborated by Nyiko in the individual interviews:

“Ah ... there is a lot I like about myself ... in fact ... I like myself ... I am able to motivate people. I know myself and I am able to explain to people my condition and how I manage to cope with life. I am able to show people my talent. I don't like looking down at myself and other people I always want to see myself happy ... oh ... I just love myself naturally ... I love myself very much.”

Vhutomi, in a focus group interview, confirmed this view:

“Because ... eh ... every person ... I mean ... I can walk like any other person ... they wash clothes and I can wash clothes ... they can cook ... I can cook. I see myself as a normal person. There is nothing I can't do except that I can't see.”

The blind learners' ability to share information with sighted peers and the belief that they are competent in what they know boost their self-confidence and self-esteem because they realise that they can help other people, especially the sighted. This is clear in

Mpho's response in the focus group interviews: *"I am proud of myself. I am a person who likes sports ... I know a lot about sports. When I am with my friends, they always ask me about the latest news in sports ... for example ... they ask me about the new players signed by Kaizer Chiefs [South African soccer team]. I tell them because I always listen to the news on radio ... so ... they end up relying on me for new information in sports."*

The aforementioned view is corroborated by Nyiko in the individual interviews:

"I have more information about politics. I tell my friends about political parties ... such as DA [Democratic Alliance] and their new leader Mmusi Maimane ... information about ANC [African National Congress] and what happened to Malema of EFF [Economic Freedom Fighters' president]. I also tell them about the currencies ... eh ... for example ... I tell them about the rand against the dollar and the rand against the euro, and when it is good or bad."

Self-confidence is further evidenced by Rhandzu's response when asked in the group interviews about how he helps his family: *"...most of my family members are unable to operate the music system even though they can see. I know how to play CDs ... like Sarafina [name of a political music album] CD. I know how to identify different CDs ... eh ... these CDs have different lines. I am able to feel the lines and the types of line on each CD differ ... some have straight lines and some do not have lines ... yes ... yes."*

It appears the participants' positive self-esteem is reinforced by the emotional support they receive from their teachers and families. This is evidenced by Mpho in the focus group: *"My family helps me to travel to places I am not familiar with. They always encourage me not to look down at myself because I am blind. They tell me that there are things I can do better even though I can't see."*

4.3.1.3 Future aspirations

The positive thinking that the blind learners have inspires them to have passion for their future ambitions. The findings of this study revealed that blind learners have great future

aspirations. This is evidenced by the manner they show optimism and the knowledge they have about the careers they intend to pursue in the future.

Optimism

It was found that the participants are confident that their future will be successful. This optimism was clearly evident in the individual interview when Vhutomi said: *“No ... I think I will have a brighter future like other people. I see myself doing well in my studies. I perform better like all learners who are like me and the ones that are partially sighted ... eh ... here at school. So ... my life will never be bad.”*

Likewise, Mpho confirmed this in the group interviews by stating: *“Our future will not be bad ... all we need is to have good resources to prepare us for our future careers. We need to know how to use them so that we can be able to use them in the future.”*

When asked how he feels about discrimination by the society in the individual interviews, Nyiko said: *“I don’t care about them ... I know I will be successful one day.”* Optimism is further corroborated by Ntsako’s response in the individual interviews when asked if he thought his future would be bad as a result of his blindness: *“My future won’t be bad. I think I will be successful in life ... eh ... my condition won’t stop me from achieving what I want to achieve ... I know what I want in life.”*

Future careers

The sub-theme of future careers emerged from both the individual and the focus group interviews. It appears that the feeling of optimism drives them towards clear decision-making as far as their future careers are concerned.

It appears that entrepreneurship is one of the career trajectories that blind learners intend to follow, as evidenced by Thabo in the focus group interviews: *“I want to be a successful businessman. I want to go to university to study for business so that I can come and help people in my village. We always hear about people who are blind ... and are successful in life ... so ... this is going to be possible with us.”* It is clear that blind learners would like to follow careers that will enable them to serve their rural communities. This is evident in Ntsako’s response in the focus group: *“I want to do law*

or social work... I want to solve people's problems. Some people go to jail because they don't have lawyers who will help them solve their problems. I also want to help people who have problems in the village ... those who don't have places to stay and food to eat."

Role modelling also has an impact on blind learners' career paths. This is apparent in Vhutomi's response in the individual interview: *"I want to be a social worker or a lawyer or radio presenter. I like helping people who are poor. Some of the people who are suffering don't know where to go when they need help ... so ... I want to help them. I also like to present on radio. I was think I can inspire many people if I can be a radio presenter. In fact ... I have the desire to see myself continuing with my studies and find a job ... and be like Steve Kekana [South African blind attorney, a lecturer and a musician]. He is blind and has a job...so I want to be like him."*

Based on the above evidence, it is clear that blind learners in a rural school intend to follow career trajectories such as entrepreneurship, social work and law as the dominating fields. Considering the careers mentioned by all the participants interviewed, it is clear that the blind learners understand what their future ambitions are and that they have reasons for their choice of careers.

4.3.2 Educational experiences

The two main themes which emerged from the process of data analysis are academic challenges and need for academic support. These themes are discussed below.

4.3.2.1 Academic challenges

Blindness limits the learners' ability to learn like their sighted peers due to a number of reasons stated in the discussion of the sub-themes below.

The use of assistive technology

The use of assistive technology is very important in the enhancement of learning in learners with blindness. However, there are a number of challenges related to it. The

findings of this study revealed a number of challenges that serve as barriers to learning and inadequate academic achievement.

It was found that the blind learners use Braille and talking calculators to enhance their literacy and mathematic skills. However, the study revealed that the available assistive technology is not advanced, therefore affects their learning. This is evident in Mpho's response in the individual interviews when he was asked about the assistive technology he uses in Mathematics and Science:

"We use Braille ... but ... this Braille does not help us so much. We can't draw all the shapes in Maths using this Braille we have at school ... it does not have everything ... you can't draw a shape like ... for example ... a circle." This is further supported by Ntsako in the focus group interviews: *"I can do well with Braille ... but the problem is ... when it comes to drawings ... I struggle to draw graphs in Maths. The Braille we are using is old."*

Likewise, Nyiko's response about the availability of assistive technology confirmed that the available assistive technologies at schools are not reliable: *"Here at school ... we use a grade 1 Braille ... foundation phase ... plain Braille. It does not have contractions ... like grade 2. Grade 2 has contractions. For example ... when it comes to angles ... in fact shapes ... you find that it is a shape with six sides ... you can't do it with this Braille. The Braille we use can do rectangles and squares. You can't draw a circle with the Braille that we use here."* When asked about talking calculators, he said: *"Yes ... the talking calculators we have ... don't have 'the square root' ... There is only times [multiply], divide by, plus, minus ... that's all."*

The inadequate skills among learners in using assistive technology in the classroom are also a challenge that was revealed by the findings of the study. This is manifest in the individual interviews where Vhutomi responded: *"Yes, I can use Braille. I use it to write in all learning areas ... but ... I am very slow because of my hands. I try to work fast and when I try to work fast ... I make mistakes. My teachers are very patient with me. I try hard to complete my task on time. I think ... I still need more practice."*

Furthermore, when Ntsako was asked in the individual interviews if he knew how to use Braille effectively, he said: *“I can say ... yes ... but I think we need a teacher who will teach us better. It seems we don’t have one here at our school. I take long to complete my work when I use Braille because I think I don’t know it very well.”*

On the contrary, some participants feel that they have acquired Braille skills and that they can work independently: *“Our teachers taught us well. I know how to use Braille. They first taught us ... eh ... the pins, and once you have mastered the pins, they teach you how to write your name using the pins. When they see that you are able to write your name ... they teach you how to read using your fingers”* (Thabo, in the focus group interviews).

According to the findings, the participants believe that their inadequate academic performance is due to insufficient assistive technology. This is clearly confirmed by Nyiko in the individual interviews when he responded to a question on the use of talking calculators: *“...but we don’t use the talking calculators every day because the school does not have enough ... it’s just a few of them. Sometimes Maths periods come at the same time ... and you will find that the other learners in the other classes are using them.”*

Likewise, Vhutomi’s response in the individual interviews supports the above finding: *“No ... we don’t use them because the school has just a few of them ... and we don’t have our own calculators. Only the partially sighted learners use calculators. If we need to use them, we must first buy the batteries. The school borrows us without the batteries.”*

When asked about the availability of Braille in the individual interviews, Ntsako said: *“No ... we don’t have our own ... we share. The school does not have enough machines [Braille]. We always wait for others to finish ... that’s why we don’t finish our work on time.”* He further said in the focus group interviews: *“The other problem in Maths is that we don’t have our own talking calculators ... and it is difficult to do Maths without a calculator. The school does not have enough talking calculators.”*

Even though resources are insufficient, those that are available are not in good condition as revealed by the findings. Most of the participants in the focus group interviews complained about the poor condition of the Braille that they use. This is evidenced by Rhandzu's response in the group interviews: *"It seems there are many machines here ... but ... we share ... because a lot of them are not in good condition. They are broken. From Grade 1 to Grade 12 ... we share seven Braille machines. Even those seven are not in good conditions. They are just 'skorokoros' [they are broken]."* This sentiment is supported by Thabo in the focus group: *"Yes ... they are 'skorokoros' ... they stuck while you are busy, and you have to wait for the other learner to finish so that you can borrow. They repair them every day."*

Lack of resources at school would mean that parents should assist by buying the necessary resources for their children. Unfortunately, the findings revealed that parents are unable to afford to buy assistive technologies for their children. This is evident in the response by Vhutomi in the individual interviews:

"Ehm ... it is because they are sold at one place and this place its far ... and ... I don't have money to afford to buy it where it is sold. It is also expensive. Even if my parents wanted to buy it, they may not afford it ... and even if they had money ... they won't know where to buy it because it not found in the shops that they know. They must have money to travel to Gauteng to buy it ... because they say it is somewhere in Gauteng."

This foregoing feeling is supported by Nyiko in the individual interviews: *"No ... it's difficult for them to find these calculators. The school orders them. These calculators are very expensive, and they are not found around ... my parents won't afford them. The school orders them from Pretoria. My parents don't have any knowledge about the South African Council for the Blind ... they only know about the school issues."*

This is further corroborated by Thabo in the focus group interviews: *"Our parent won't afford to buy us the talking calculators because they are expensive. It seems one costs two fifty [R250] ... the normal calculator is one eighty [R180] and we get ours at two fifty [R250] ... no ... they are expensive."*

Difficulties with certain subjects or learning areas

Despite them having indicated their favourite learning areas, it would appear that the blind learners experience difficulties with certain subjects or learning areas due to them being practical and needing sight. Participants' responses revealed that Technology and Natural Sciences are difficult to learn. This is evident in the response by Nyiko in the individual interviews: *"Technology is my least favourite subject. There is nothing I understand when they teach. Everything they teach needs too much sight ... a lot of them. They talk about a lot of tools...I don't even have interest in this subject."*

A similar view is shared by Mpho: *"Eish ... Technology. This learning area has lot of drawings. The Braille that we use is not advanced ... eh ... and we can't draw with it ... and again ... this learning area has lot of things that I can't see and I will never do or use them in my whole life. I don't think it is necessary for us to do Technology. The teachers talk about screwdrivers and other tools. I don't think it is good for me."*

Along the same line of thought, this view is also corroborated by Ntsako in the individual interviews: *"Ok ... Technology is all about engineering stuff. I don't like this subject. I won't be able to become an engineer ... things done in engineering need people who have eyes [sight]. I don't have a gift in engineering."*

When asked about how they do experiments in Natural Sciences, the participants explained that their teachers explain all the necessary steps, and they end up following the processes by mere listening. However, in their responses, they expressed their frustrations in this learning area. This is evident in Ntsako's response in the individual interviews:

"Eh ... N.S [Natural Sciences] and Technology are my least favourite subjects. They are both practical subjects. There is the part called ... 'matter and materials' in N.S. I am unable to understand it even if they can explain to me. They teach us about particles. I can't see what they are talking about and I have never seen that before ... so it becomes difficult for me to understand."

The above point about experiments in Natural Sciences is supported by Mpho in the individual interviews: *“We don’t do them. The teacher does the experiments, and he explains them. Some of the things we have to imagine them.”*

Even though the teachers try to use concrete materials for the blind learners to understand parts of Natural Sciences, some participants seem to feel that enough is not being done; therefore, they become less interested. This point is clear in what Thabo said:

“I don’t enjoy attending Technology and Natural Sciences periods ... I don’t know why they teach us this subject ... because they know that we can’t see. The teachers ... sometimes bring us things that we can touch ... the tools ... but it is all the same ... because ... for me it’s just a waste of time.”

It became clear in the participants’ responses that unavailability of books that are written in braille is one of the academic challenges that hinder the academic performance of the blind learners. This is clear in Ntsako’s response in the individual interviews:

“Yes ... that’s another problem here ... for not having books that are written in Braille. This is a problem here ... our teachers read books for us and we have to understand, but if we were having our own books in braille ... we were going to understand much ... much better. Sometimes we forget what they say ... and if I had my own book, I would have time to study on my own and do revision.”

The above point is corroborated by Vhutomi’s response in the focus group when asked how he prepares for tests and examinations due to the unavailability of books written in braille: *“Before we write the test or exam ... we first go to the people who have textbooks ... they read for us and we have to cram. The partially sighted learners help us. During the exam ... the teacher reads the questions for us because ... even the question papers are not in Braille ... and we have to listen carefully and think quickly about the answers.”*

Difficulties in certain learning areas are evident in document analysis. The progress reports which were analysed indicated that the participants are performing inadequately

in Mathematics. Although the participants indicated their frustrations and less interest in Technology and Natural Sciences due to their complexity, their progress reports show better performance in these learning areas. This is due to the academic support from the teachers. For evidence of learner academic performance, refer to the table below:

4.1 Learner Academic performance in Mathematics, Natural science and Technology in the second term of 2013 and fourth term of 2014

Name	Maths		Natural Science/Technology			
	2013	2014	2013		2014	
Mpho	29%	18%	30%		54%	
Ntsako	38%	37%	46%		54%	
Rhandzu	14%	32%	29%		34%	
Name	Maths		Natural Science		Technology	
	2013	2014	2013	2014	2013	2014
Nyiko	45%	60%	41%	49%	50%	39%
Thabo	38%	30%	33%	42%	22%	43%
Vhutomi	30%	29%	59%	35%	26%	43%

The above table show performance of blind learners who do Natural Science and Technology as combined, as well as those who do Natural Science and Technology as separate learning areas.

4.3.2.2 Need for academic support

Academic support is a critical factor for adequate academic performance by blind learners. The findings of this study revealed that blind learners at the rural school receive academic support from family, teachers, peers and the government; however, the indication is that the support is inadequate.

Family support

Family support is one of the sub-themes that emerged from the theme of the need for academic support identified from the participants' responses. The participants reported

on the support they receive from their parents even though they do not stay with them on a full-time basis, since they are at a boarding school and only go home during the school holidays and sometimes at the end of the month. This is evidenced by Thabo's response in the focus group interview when he was asked about the person who cares most about him:

"It's my mother ... my mother helps me with many things. When I am home ... she assists me with reading. She reads the books and explains things to me ... and she is very patient with me. She reads ... and ... asks me questions to check if I understand."

The above statement implies that the participants receive academic support from parents only when they are home. Some of the participants seem to receive familial support in the form of money, books and school uniform. This is confirmed by Vhutomi in the focus group interviews:

"My mother cares most about me. When I am at school ... and I need money ... she sends me. She buys me school books and school uniform." It is further attested to by Ntsako in the individual interviews: *"When I go home, my parents just look at my books and encourage me to work hard. My brothers sometimes help me with Maths when I am at home. They read and explain to me."*

The interaction between the school and the family about the participants' academic progress is another kind of academic support that the blind learners receive from their families. This is supported by Rhandzu's response when asked about how the school communicates with the parents about his academic matters:

"The teacher calls our parents to the meetings ... and my parents come to the meeting to collect my progress report ... sometimes they discuss my progress over the phone. They also call them when we have a school trip ... and they pay for me."

Teacher support

Participants seem to rely more on the support they receive from their teachers for their academic success. This is evidenced by all the participants' responses in both the focus group and individual interviews: *"Yes ... it's easy to understand EMS. Our teachers*

explain everything clearly, and we understand. Although we don't have books in EMS that are in Braille ... we understand when they teach. The teachers read for us ... and we understand what they read." (Mpho, during individual interviews) Similarly, Ntsako, in the individual interviews, reported on the support by teachers in this way: *"We don't stay with our parents every day ... so our teachers are the ones who helps us with homework, especially those who stay with us at the hostels. When we are writing exams, they help us to study ... they read the notes for us."*

Furthermore, it was noted that the teachers are concerned about the participants' class attendance: *"Our teachers are very strict when it comes to class. They encourage us to be in class all the time. Sometimes if they don't see some of us in class, they come to our hostels and fetch us to classes."* (Rhandzu, during group interviews)

Peer support

It was also noted that peer support plays a prominent role in the academic performance of blind learners. Blind learners at this rural special school for the blind do not have access to braille books; because of that, they rely on the help of their teachers, as well as their partially sighted peers in the school. This is evident in Vhutomi's response in the individual interviews when asked about his relationship with his partially sighted friend:

"My friend is not selfish. When the teachers have given us homework ... and ... when I find that there is something I don't understand, I ask him to help me. I have one friend only ... so even when we prepare for the exam or the test, I sit down with him, and I listen to him when he reads and explains to me."

The blind learners also rely on the partially sighted friends who are in higher grades for their academic support: *"I have friends in the higher grades ... who are partially sighted. So, they help me with a lot of things. I ask them to help me with school work. They also give me advices. They tell me how they made it to where they are ... encouraging me to work hard."* (Nyiko, during group interviews)

Government support

There is an indication of a need for government support to supplement the support from the teachers and partially sighted peers in general. When asked in the group interviews if the support from the government was enough, Thabo said:

“No ... when it comes to education, the government is supportive, but sometimes we are not satisfied with the way the exam is run...because of shortage of question papers. Sometimes we wait in the hall and not write because the teacher is still waiting for the question paper. In fact ... we need enough resources for our education from the government. The question papers must be in Braille so that we can be able to read the questions on our own.”

Participants seem to appreciate the current academic support from the government, but it appears that they still need more support in the form of provision of assistive devices. This is confirmed by the response by Nyiko in the individual interviews when he was asked about the form of academic support he receives from the government: *“The government provides us with the education that is special for us. We are able to use Braille at school ... even though it is not enough. The Braille is for free. I wouldn’t afford to buy Braille ... but the government should provide us with more machines and talking calculators.”* Likewise, Rhandzu indicated in the group interviews that he wants the government to provide them with computers at school: *“We also need the government to supply us with computers ... so that we can be trained on how to use these computers. We ... others ... the careers we want to follow require our knowledge of these technology things.”*

The foregoing report suggests that the participants’ academic support is not sufficient; consequently, this may hinder their academic progress.

4.4 CONCLUSION

This chapter presented the results of the study. The results were presented in the form of the psychological and educational themes which emerged from the process of data analysis. Data was analysed by means of qualitative content analysis. The participants’

responses were used to support the results. The chapter that follows will provide an interpretation of findings of this study and a discussion of those findings



CHAPTER 5: INTERPRETATION OF FINDINGS AND DISCUSSION

5.1 INTRODUCTION

The main aim of this study was to explore and describe the psycho-educational experiences of blind learners in a rural school. The previous chapter briefly outlined the course of data processing. It presented the findings of the study in the form of themes and sub-themes that emerged from the process of data analysis. The main findings on psychological experiences include self-concept, social stigma and future hopes, while educational findings include academic challenges and the need for academic support. This chapter presents the interpretation of the findings, which are linked to the reviewed literature, as well as the integration of the theoretical framework. The teacher's critical voice was also included in the discussion of the findings.

5.2 FINDINGS ON THE PSYCHOLOGICAL EXPERIENCES

5.2.1 Social stigma

While Resendes (2004) points out that blind individuals encounter discrimination from different systems of life such as the school, family, peers and the general community, the findings in this study revealed that there are schools, families and peers who do not discriminate against blind learners. As reported by the participants, it appears that the emotional and academic support they receive from their teachers, families, as well as their blind and partially sighted peers at school, make them feel accepted by their immediate environment. Nonetheless, there is an indication of discrimination against the blind learners from the general community.

It became apparent from the findings that there are members of the community in rural areas who still believe that the blind learners cannot be successful due to their disability. It is further noted that blind individuals are not allowed to take part in community activities. This finding is consistent with Jezari (2012) who confirms that people who are blind are denied access to services by their social environment, including activities of governmental organisations, and this leads to them feeling marginalised and

disempowered. This view is further confirmed by Micol Gonella (2014) who contends that when discriminated against, blind people tend to feel unwanted and isolated, and this results in them feeling worthless. Studies by Jezari (2012) and Walker (2008) reveal that the stigma of blindness has a negative effect on blind people because they tend to feel marginalised and oppressed by the society and, as a result, end up classifying themselves as having no say in the affairs of their environment. Consequently, they feel disregarded by the systems surrounding them. On the contrary, Resendes (2004) indicates that blind people decide to isolate themselves from people in order to avoid feeling discriminated against; however, the isolation they create results in them feeling lonely and detached from the general public. Nevertheless, the findings revealed that some blind learners do not feel bad when discriminated against. They tend to accept the discrimination by society, and this does not affect their self-worth.

Hess and Schultz (2008) state that experiences of an individual are a product of larger social forces. According to Bronfenbrenner's bio-ecological system's theory, the larger forces in this study would mean the child's interaction with the macrosystem. The way the society views blindness in rural communities impacts either negatively or positively on the psychological well-being of the blind learners. In this regard, the findings revealed that the blind learners experience discrimination from the general community, by being called names, being told that they will never be successful, and not allowed to take part in community activities. This makes them feel marginalised by their own society. In this regard, when they are not allowed to take part in their community activities, blind learners feel that there is no input made in their own lives. This view is advocated by Waller and Davis (2014), who emphasise that children should be allowed to take part in cultural and community activities in order for them to feel that they are part of a wider social and cultural context.

5.2.2 Self-concept

The findings of this study revealed that the positive environment that the blind learners find themselves in leads to them developing a positive self-concept. The general context of this study involves an immediate environment that provides support and shared identity to blind learners. In support of this view, Huitt (2011) reports that self-concept is

developed by the individual's interaction with the environment. Owing to the support that they receive from the family, peers and teachers, blind learners tend to develop self-confidence and high self-esteem. The partially sighted learners at the school for the blind provide academic support to the blind learners by helping them to study because they are able to read. Studies by Dambudzo and Schulze (2013) reveal that when treated the same way as their sighted peers by their teachers, blind learners feel recognised, and this boosts their self-concept. In this study, the blind learners attend a special school for the blind where they have partially sighted peers; therefore, the findings revealed that the teachers provide equal support to both the totally blind and the partially sighted learners. Furthermore, Dambudzo and Schulze (2013) report that blind learners who feel good and confident about their general well-being have good academic performance. When blind learners are attending a special school for the blind, it appears as if it is easy for them to adjust to their disability. This is due to the fact that they interact with peers of the same disability, which provides them with the opportunity to feel a sense of belonging and togetherness. This is confirmed by the use of the pronoun "we" throughout the interviews. This finding is consistent with the study conducted by Tuttle and Tuttle (2004), which reveals that blind individuals who adjust better to their blindness are likely to develop high self-esteem; however, they mention that those who develop a positive self-esteem are the ones who are in the last three phases of the adjustment process mentioned in Chapter 2. According to Tuttle and Tuttle, the seven phases of adjustment include:

- trauma and physical or social phase (initial awareness of being blind)
- mourning and withdrawal phase (grieving for the loss of vision)
- succumbing and depression phase (analysis of the vision loss, resulting in depression)
- reassessment and reaffirmation phase (review of one's values and purpose, resulting in reconfirmation of the self)
- coping and mobilisation phase (desire to cope with life as a blind person)
- self-acceptance and self-esteem phase (recovery of self-esteem and confidence)

Keeping the above-mentioned phases in mind, it appears that the blind learners who attend a special school for the blind and receive support from both the teachers and the peers are likely to reconfirm their self, cope with life as a blind person, have high self-esteem and self-confidence, therefore accepting themselves. In this regard, this would mean that the blind learners in a rural special school have the ability to be in command of their surroundings and have a shared identity. This is confirmed by Steffens and Bergler, 1998 (as cited by Ben-Zur, 2005) who contend that the blind individuals who fail to be in command of the surroundings are likely to lose confidence and feel anxious.

According to Dickerson et al. (1997) and Southall and Wittich (2012) (as cited in Micol Gonella, 2014), common stereotypes on blindness which destroy self-esteem are the beliefs that blind individuals are not capable, helpless and useless. This view is corroborated by the finding of the study, which revealed that general belief by society in the rural areas is that the blind learners cannot be successful due to their disability. It appears that the participants in this study are not affected by these stereotypes because they mentioned that their lives will not be bad as a result of their blindness.

The intention of using Bronfenbrenner's bio-ecological systems theory was to explore and understand the interaction between blind learners and their microsystem and how this impacts on their academic performance and psychological well-being. The interaction between the blind learners and their parents, teachers and peers provide them with consistent emotional and academic support, which leads to them developing a positive self-concept and self-acceptance.

5.2.3 Future aspirations

The findings of this study revealed that blind learners with a positive self-concept and high self-esteem have great future aspirations. The above finding is confirmed by Baumaester, Campbell, Krueger, and Vohs (2003) who state that individuals with a high self-esteem are likely to have high aspirations for their future. It is noted that the participants are optimistic and confident that their future will be successful. It appears that the feeling of optimism drives them towards clear decision-making as far as their

future careers are concerned. Younger blind learners are likely to be more optimistic about their future (Kumar, Sarabhai, Rastogi & Behere, 1999).

Optimism, as stated by Scheier and Carver (1987, as cited in Scioli, Samor, Campbell, Lapointe & Macleod, 1997), is a common belief by individuals for positive outcomes, and it is envisaged by the strength that one has about the self. Considering the participants' hope for the future, it is clear that the blind learners are happy that their life will not be bad. According to William (2003), individuals who are optimistic have a belief that nothing bad will happen to them, and should something bad happen, they know they are not the cause, but external forces are. Respecting this, the blind learners do not anticipate any failure in their lives.

Participants made strong statements that showed determination about their future careers, which are consistent with their abilities. Even though the participants have mentioned reasons for their choice of careers, it is of paramount importance that further career guidance be made available in order to give them a wider choice and be able to explore a variety of career options.

According to Bronfenbrenner's bio-ecological systems theory, the child's immediate interaction with the microsystem plays a pivotal role in shaping development. In this regard, the healthy interaction between the blind learners and their parents, teachers and peers has a positive impact on their development in that it leads to them feeling optimistic about their future and being able to make career choices.

5.2.4 Academic challenges

An individual makes sense of what he sees through vision, and if vision has problems, the child's ability to learn is affected (Cheatum & Hammond, 2000). Blindness limits the learners' ability to learn like their sighted peers due to their disability; as a result, provisions have to be made in order to provide them with a secure opportunity to learn. Schroeder (2010) points out that schools should be engaged in the provision of the tools and training to enable blind children to perform adequately like the sighted learners. The use of assistive technology enhances the learners' ability to work independently (Kelly,

2008), and this leads to adequate academic achievements. However, the findings of this study brought out that the use of assistive technology is a huge challenge to blind learners in a rural school. It was found that the blind learners use Braille and talking calculators to enhance their literacy and mathematic skills. Nevertheless, the study further revealed that the available assistive technology is not advanced; as such, it affects their learning. It is noted that the blind learners use Braille that cannot do contractions and cannot allow them to draw different types of shapes and graphs. They can only use it to draw 3D shapes such as a square and rectangle. It is also observed that even though the school has talking calculators, the concern by participants is the unreliability of these devices. The participants are concerned that the talking calculators they use do not have all the features of a scientific calculator. An example given by one of the participants is that the talking calculator available at their school does not have features such as “to the power of” and “the square root of.” Therefore, this is an indication that lack of advanced and reliable assistive technology impacts negatively on the academic achievement of blind learners, since their learning is more reliant on auditory and tactile senses than on sight. This implies that blind learners should have access to use other senses to the fullest extent, by means of assistive devices that are appropriate to their needs (Presley & D’Andrea, 2009).

Mulloy et al. (2014) explain that blind learners who have access to assistive technologies find it easy to involve themselves in school activities; thus, it is of paramount importance that assistive technologies to be reliable in order to serve the purpose of enhancing learning. It is imperative that blind learners have access to advanced technologies that will equip them with 21st-century skills (Presley & D’Andrea, 2009). According to Kinash and Paszuk (2007), the use of books on tape, talking computers and buddy reading may help to improve blind learners’ academic performance.

The inadequate skills among learners to use assistive technology are also a challenge that was revealed by the findings of the study. It is of great importance that blind learners be taught Braille skills earlier in school in order for them to have adequate academic achievement (Westwood, 2009). Blind learners whose teachers are not

adequately trained to teach Braille are likely to experience poor academic performance (Kinash & Paszuk, 2007). Presley and D'Andrea (2009) emphasise that everyone, including the blind or visually impaired, has to be technologically literate in order to fit with the current demands of the 21st century. This implies that blind learners need to learn how to use assistive technology in order for them to be involved in the same activities as their sighted peers. Effective and efficient instruction on the use of Braille is required in order to help the blind students to acquire the necessary skills that will give them access to curriculum comparative to their sighted peers (Klenk & Pufpaff, 2011). Presley and D'Andrea (2009) point out that teachers are faced with a challenge of teaching blind learners to use technology that expresses information visually and involves the use of sight. This would explain why intensive training of teachers of the blind learners on the use of assistive technology is so significant.

It would appear that the blind learners experience academic challenges in some of the learning areas due to them being practical and requiring the use of sight. Participants' responses revealed that Technology and Natural Sciences are difficult to learn, and this leads to the learners having no interest in learning them. Students who are blind perform inadequately in Science, Technology, Engineering and Mathematics due to brailled materials which are not of good quality (Rosenblum & Hertzberg, 2011).

Fraser and Maguvhe (2008) highlight that blind learners are unable to collect information from subjects requiring observation due to lack of vision. Blind students have an interest in learning scientific skills and following science-related career paths like sighted individuals but are disadvantaged by the unavailability of appropriate graphical information, unfamiliarity of teachers with non-visual teaching methods and lack of blind role models in the science field (Beck-Winchatz & Riccobono, 2011). Fraser and Maghuve (2008) support this argument by stating that teachers who lack the competence to help blind learners acquire science skills tend to discourage them from doing science subjects. The lack of competence among the teachers of blind learners to teach science is due to many teachers at special schools possessing a general education qualification (Fraser & Maghuve, 2008).

It is evident in the study that teachers explain the objects and processes in the above learning areas, as well as using concrete objects, to supplement their teaching. This is supported by Presley and D'Andrea (2009) who emphasise that blind learners should get repeated, extensive and comprehensive explanations of objects and processes in observable learning areas. According to Smothers (2011), successful teaching of science to blind students is determined by the use of real objects, models and tactile graphics because they enable them to create mental images of what is being learnt. The findings indicated that blind learners perform inadequately in Mathematics due to lack of appropriate and reliable assistive technology, as well as lack of skills by teachers. It is reported that the available assistive devices for Mathematics do not meet the needs of blind learners. This is confirmed by Giesen et al. (2012) who also state that visually impaired learners achieve inadequately in Mathematics than their sighted peers due to lack of teacher support. It is further corroborated by Ferrel et al. (2006) who point out that poor performance in Mathematics by blind learners' results from lack of knowledge and skills by teachers of the blind. It became clear that parents of the blind learners cannot afford to buy assistive devices such as talking calculators; therefore, this compromises the education of their children.

The child's interaction with the macrosystem has an impact on academic performance. The political and the education systems play a significant role in ensuring optimal development of blind learners. The finding about the use of assistive technology is an indication that the macrosystem with which blind learners interact with is failing to provide them a conducive and positive learning environment, since it is the responsibility of the political and the education systems to make sure that learners with disabilities are provided with appropriate assistive technology that will cater for their educational needs. On the other hand, the microsystem impacts negatively on the academic performance of blind learners due to teachers' lack of Braille skills and proper knowledge of teaching learning areas such as Natural Sciences, Mathematics and Technology.

5.2.5 Need for academic support

The findings of this study revealed that blind learners at the rural school receive academic support from family, teachers, peers and the government; however, the indication is that the support is inadequate. The blind learners in this study attend a special school with a boarding facility; that being the case, it is not possible for them to receive academic support from parents as expected. Some of the participants indicated that they do not take schoolwork home, while others mentioned that when they go home, their families assist them with reading and mathematics. It becomes difficult for parents to academically support, on a daily basis, their blind children who attend a special school, since they do not have regular contact with them (McMahon, 2014). It is of utmost importance for parents to be involved in the educational paths of their children. Even though the relationship between the parents of blind learners is distant, the interaction between the school and the families about the blind learners' academic progress is another kind of academic support that families show their children. It is noted that the parents of blind learners come to meetings when they are invited, and the teachers discuss the academic progress of the learners with them telephonically.

The need for academic support by teachers is evidenced by the participants' lack of adequate skills to use Braille and lack of interest and inadequate performance in other learning areas such as Mathematics, Natural Sciences and Technology. As mentioned by Beck-Winchatz and Riccobono (2011), blind learners are disadvantaged by the unavailability of appropriate graphical information, unfamiliarity of teachers with non-visual teaching methods and lack of blind role models in the science field; as a consequence, they end up losing interest, and their performance is hindered.

The need for government support is another finding which emerged from the study. The participants made it clear that they would appreciate it if the government could supply their school with sufficient Braille machines, brailled books and talking calculators. According to the United Nations International Children's Emergency Fund (UNICEF) (Department of Social Development/Department of Women, Children and People with Disabilities, 2012), it is the responsibility of the Department of Basic Education to provide schools with learners having disabilities with assistive devices. This would mean

that availability of resources will enhance the academic performance of blind learners in rural schools if the Department of Basic Education can fulfil its responsibility.

Interestingly, the findings brought out that blind learners at a rural school rely on the partially sighted peers for academic support. It is noted that the partially sighted learners help the blind learners by reading study material to them, especially during the preparations of tests and examinations. They also assist them with homework. This is due to unavailability of brailled books at school. However, it may not be known if the materials used by the partially sighted learners are appropriate to meet the needs of blind learners. To the best of the researcher's knowledge, there is no literature that was found to support this finding. In this respect, this may serve as a new finding in this study.

As emphasised by Neal and Neal (2013), it is important for the blind learners' family microsystem and school microsystem to have regular meetings about their academic progress. There is significant communication between parents of blind learners and the school in connection with their children's circumstances, be it either psychological or educational. The interaction between the blind learners and their blind and partially sighted peers in the form of academic support is an indication of a positive impact that the mesosystem plays in the academic performance of blind learners. Although there is an indication of positive outcomes from the blind learners' mesosystem, it appears that enough is not being done by the microsystem with reference to academic support. It is clear in the findings that the blind learners' family microsystem and the school microsystem, as well as the macrosystem, have to provide adequate academic support to enhance their academic performance.

It is clear that the above findings have revealed that multi-system factors that the blind learners in a rural school interact with influence the way in which they perceive their disability. This study focused on all the subsystems, as they play a role in shaping blind learners' educational and psychological experiences within a school context. According to Pillay and Terlizzi (2009), a bio-ecological systems theoretical framework provides a structure of reference for understanding the blind learners' experiences in a rural school setting.

Based on the above findings, it is important to note that it is reasonable for the participants to desire to be in a special school despite the envisaged Inclusive Education System for South Africa. According to this system there will be three kinds of schools, namely Special schools that will become Resource Centres, Full Service Schools as well as ordinary schools (Education White Paper 6, 2001). Special schools will continue to admit learners that require high levels of support while Full Service Schools will admit learners requiring moderate levels of support. Ordinary and Full Service Schools will receive support from Resource Centres with regard to teaching, assessment as well as curricular adaptation (Education White Paper 6, 2001).

5.3 CONCLUSION

This chapter provided a discussion of the findings based on the psychological and educational themes that emerged from the process of data analysis. The discussion was linked to the literature reviewed, as well as the theoretical framework within which the study is based. The main psychological themes include social stigma, self-concept and future aspirations, while the educational themes include academic challenges and the need for academic support. The final chapter will consider the conclusions, limitations and recommendations of the study.

CHAPTER 6: CONCLUSIONS, LIMITATIONS AND RECOMMENDATIONS

6.1 INTRODUCTION

The penultimate chapter discussed the findings of the study, which included the link to literature and the integration of the theory underpinning the study. This last chapter presents the concluding remarks of the research process, as well as the limitations of the study. It also discusses the recommendations that are based on the findings that will serve as guidelines for rural schools with blind learners.

6.2 SUMMARY OF FINDINGS

The main question of the study was: What are the psycho-educational experiences of blind learners in a rural school? The main purpose of the study was to explore and describe the psycho-educational experiences of blind learners in a rural school. Based on the findings, the study also aimed to provide guidelines for rural schools with blind learners. The motivation for this study was based on the lack of literature about the psycho-educational experiences of blind learners in rural schools. The theoretical framework used to understand the study is Bronfenbrenner's bio-ecological systems model. This theory is a multidimensional perspective that emphasises the interaction between a child's development and systems within the social context (Bronfenbrenner, 2005), thereby explaining that a child cannot function in a vacuum. As informed by the theoretical framework, the context under which the psychological and educational experiences of blind learners were constructed was taken into consideration.

A phenomenological research design allowed the researcher to investigate and understand the lived experiences of the blind learners in a rural school. It also allowed the researcher to find out what these experiences mean to them.

Psychological and educational themes emerged from the process of data analysis. Concerning psychological themes, the indication is that the general rural community still has stigma about blindness. Blind learners are discriminated against due to their

disability. It is noted that some of the blind learners feel marginalised by being excluded from taking part in community activities. However, the findings revealed that some blind learners do not feel bad when discriminated against. They tend to accept the discrimination by society, and this does not affect their self-worth. The positive and healthy environment of the blind learners in a rural school enables them to develop a positive self-concept. They tend to become comfortable with the support they receive from their families, teachers and peers; as a result, their self-confidence and self-esteem is enhanced. Because of their positive self-concept built from their high self-esteem and self-confidence, the blind learners seem to accept themselves and set themselves high aspirations for the future. They are optimistic that their lives will not be bad as a result of their disability. Their feeling of optimism enables them to know their career choices and the reasons thereof.

As far as the educational themes are concerned, the findings indicated that there are serious academic challenges respecting the use of assistive technology. Because of lack of vision, the blind learners' learning is more reliant on auditory and tactile senses; therefore, unavailability of assistive devices in these formats affects their learning. It is observed that the blind learners at the rural school do not have access to advanced assistive technology, and these affect their academic performance. Lack of skills to use the available assistive devices such as Braille is also another challenge encountered by the blind learners. The findings further indicate that the parents of the blind learners are unable to afford assistive devices such as talking calculators. It has been made clear that the school has insufficient Braille machines and talking calculators.

Furthermore, the findings of this study highlighted that blind learners experience difficulties in learning areas such as Technology and Science. This is because these learning areas are practical and observable, therefore requiring the use of sight. Lack of competence by teachers and lack of access to appropriate assistive technology contribute much to this challenge. It is clear that the blind learners depend on the explanation of objects and processes by teachers in these learning areas; on that account, this leads to them having no interest in these learning areas, and they end up not being willing to pursue careers that are related to science and technology. The

findings also revealed that blind learners perform inadequately in Mathematics due to lack of appropriate and reliable assistive technology, as well as lack of skills by teachers. It is reported that the available assistive devices for Mathematics do not meet the needs of blind learners.

It is further recognised that academic support plays a pivotal role in the academic performance of blind learners. The blind learners seem to receive academic support from the teachers and the partially sighted peers. This study revealed that the blind learners depend on the academic support of the partially sighted learners as far as reading and preparation for assessments are concerned. Because of lack of assistive technology at the school, blind learners depend on the help of the partially sighted learners to study. However, there is an indication of the need for more academic support from teachers, parents, and the government. Although the blind learners indicated support received from parents in the form of collecting their progress reports and attending parents' meetings, it is suggested that more support from parents is needed from parents. Blind learners wish that their parents could buy them assistive devices. They also require teachers to teach them more Braille skills and for the government to provide them with appropriate and sufficient assistive technology.

This study presents some contributions regarding research on blind learners in a rural school. To the best of the researcher's knowledge, there is no evidence of research done on the psychological and educational experiences of blind learners in a rural school; as a result, some of the findings are unique contributions. This study has revealed that blind learners who attend a rural special school tend to develop a positive self-acceptance, positive self-esteem and self-confidence due to an environment of shared identity. Other positive aspects found in the study are optimism which has a bearing on their future aspirations. It is important to note that they have a positive outlook on life and are able to know the career trajectories they want to follow. This implies that the psychological well-being of blind learners is dependent on the context and the multi-system factors with which they interact.

Despite the positive contributions, this study has revealed that special schools for the blind in rural communities are being neglected by the government as revealed by the study. This rural school does not have advanced technology that meets the needs of blind learners. There is serious lack of basic resources such as braille books, talking books, as well as talking calculators. Blind learners from Grade 1 up to Grade 12 share only seven braille machines. This makes learning for the blind learners difficult.

6.3 LIMITATIONS OF THE STUDY

There are few limitations that were encountered during the research process. The sample size of this study makes it difficult to generalise the results to the entire population of blind learners in the rural school. One rural school was selected; as such, the results of this study may not be generalised to the entire population of rural schools with blind learners. However, it should be noted that in qualitative research, the intention is not to generalise, but to explicate the specific (Pinnegar & Daynes, 2007, as cited in Creswell, 2013). In addition, Gray (2009) argues that qualitative research works with a small number of participants. Therefore, sample size does not matter. For further research, it is recommended that several rural schools with blind learners be selected to explore the psychological and educational experiences of blind learners from a wider context.

The other limitation includes the language barrier. The participants were interviewed in Xitsonga by a Sepedi-speaking researcher who is proficient in Xitsonga. This leaves out a question as to whether the findings would have been different if the researcher was Tsonga. However, all the interviews were conducted in the presence of a Xitsonga language teacher for more clarity. It is also crucial to bear in mind that the presence of the teacher may have influenced the participants to respond in a way that would impress their teacher.

Although document analysis was used as another method of collection for the purpose of triangulation, the documents collected did not have evidence of psychological experiences of blind learners in a rural school. The school was able to provide the researcher with the participants' progress reports for academic information. Because of

ethical issues of confidentiality, the school was not willing to provide the researcher with documents that contained the psychological information of the participants. De Vos et al. (2011) state that it is difficult to access official documents due to ethical issues such as confidentiality. Therefore, for future research, observations should be used because they do not involve ethical implications such as with documents. It is not known what difference it would bring to the findings if the participants were able to see the researcher's facial expressions, as the learners are blind.

6.4 RECOMMENDATIONS

Based on the findings of this study which aimed at exploring and describing the psycho-educational experiences of blind learners in a rural school, what follows next are the recommendations that will serve as guidelines to rural schools with blind learners.

6.4.1 Psychological recommendations

Although it is reported that blind learners in a rural school do not encounter psychological distress due to them having accepted their disability and being optimistic about their future, it is imperative for them to receive counselling to deal with the stigma they face from their communities. Besides discrimination, there are some challenges that blind learners may come across, which may require psychological intervention. Accordingly, it is recommended that rural schools with blind learners should have educational psychologists, school counsellors or social workers on site to deal with psychological challenges hands-on. A multidisciplinary collaboration of the mental health professionals, School-Based Support Team (SBST), District-Based Support Team (BDST), as well as the relevant community structures, to deal with the optimal development of blind learners, is recommended. Based on the above recommendation, it is of utmost importance that rural schools with blind learners have a fully functioning SBST to support the psychological well-being and educational challenges that blind learners encounter in their process of learning.

6.4.2 Educational recommendations

Educational recommendations are based on the findings that emerged from the study. The focus is on the academic challenges and the need for academic support.

6.4.2.1 Academic challenges

Lack of skills to use assistive technology is one of the challenges that emerged from the findings of the study. It is recommended that there should be initial teacher training on the use of Braille. The higher institutions should include the use of Braille in the curriculum on barriers to learning in order to equip teachers with basic Braille skills. It is also recommended that those teachers who are already in the field should attend workshops on the use of assistive technology to be able to teach blind learners. Unavailability of advanced assistive technology and unaffordability by parents to buy the assistive devices for their children are other challenges. It is recommended that the school should try to look for donations from non-governmental organisations (NGOs) and the private sector to get funds to buy the appropriate assistive technology that will help to meet the needs of blind learners. Since the blind learners depend more on tactile and auditory senses, more appropriate devices are required to enhance their learning.

Presley and D'Andrea (2009) recommend the use of stand-alone devices by blind learners. Stand-alone devices refer to "items that can be used independently and do not need to be connected to a computer" (Presley & D'Andrea, 2009, p. 8). These devices include manual or electronic Braille writer, talking calculators, talking dictionaries, modified audio recorders and players, and portable note taking devices. Through proper protocol, the rural schools with blind learners should request help from the Department of Basic Education, since according to UNICEF (Department of Social Development/Department of Women, Children and People with Disabilities, 2012), it is its responsibility to provide schools having learners with disabilities with assistive devices.

Further recommendations are based on the difficulties that blind learners face in certain learning areas such as Natural Sciences and Technology. These learning areas are practical and observable, therefore require the use of vision. Most of the teachers who teach these learning areas are not certified to teach blind learners. Appropriately, it is recommended that they should attend training or workshops to get more knowledge and skills on how to teach these learning areas and to know the appropriate assistive devices to use, as well as how to use them.

6.4.2.2 Academic support

Academic support is a very crucial component in the academic achievement of blind learners. To limit the academic challenges faced by blind learners, academic support by teachers and parents is very important. The findings of this study have revealed that there is a need for academic support to blind learners; therefore, it is recommended that teachers should engage in supplemental instruction in all learning areas. Teachers should have extra lessons for blind learners. IDEA (as cited in Conroy, 2012) recommends that every learner who receives special education should have an Individualised Education Plan (IEP) that will enable the teachers to be able to identify the challenges each learner has and to come up with relevant strategic interventions. The use of the Screening, Identification, Assessment and Support (SIAS) document will be of good use in this regard, since it aims at helping teachers to identify learning and development barriers and provision of support thereof (Department of Social Development/Department of Women, Children and People with Disabilities, 2012). Because of lack of adequate assistive technology skills, it is further recommended that teachers should allocate learners extra time during assessments. Through the initiative of the SBST, case conferences should be held on a regular basis to assess the learning support given to blind learners.

Parental involvement also plays a critical role in the education of blind learners. Although blind learners in special schools do not have regular contact with their families, academic support from parents is significant. Parents should be encouraged to have an interest in the education of their children by attending workshops and parents' meetings.

Harrison (2006) insists that parents should be taught Braille skills so that they can be able to help their children to do schoolwork, as well as helping them to read and write Braille in order to enhance their academic performance. The Department of Education should ensure that it supports blind learners academically by providing rural schools with blind learners with resources that will enhance their learning.

It is further recommended that rural schools should work collaboratively with the South African National Council for the Blind for accessibility of assistive technology, education support services, eye care services and skills development.

6.5 CONCLUSION

The purpose of this study was to describe and explore the psycho-educational experiences of blind learners in a rural school. This chapter provided an overview of the study. The findings that emerged from the process of data analysis were discussed and interpreted. The limitations of the study were also noted. Based on the findings, psychological and educational recommendations have been given as guidelines to assist rural schools with blind learners. Recommendations for further research have been made. In carrying out an inquiry of the psycho-educational experiences of blind learners in a rural school, this study has contributed to the existing body of knowledge pertaining to the subject presented.

LIST OF REFERENCES

- Adetoro, N. (2012). Alternative format preferences among secondary school visually impaired students in Nigeria. *Journal of Librarianship and Information Science*, 44(2), 90-96.
- Allen, M., & Birse, E. (1991). Stigma and blindness. *Journal of Ophthalmic Nursing & Technology*, 10(4), 147-152.
- Arif, M., & Mehboob, Q. Visual screening; government, private and community school going children in Faisalabad. *Professional Med J* 2014; 21(6):112-116.
- Babbie, E. R. (2014). *The practice of social research* (13th ed.). Australia: Wadsworth, Cengage Learning.
- Babbie, E., & Mouton, J. (2001). *The social practice of social research*. Cape Town: Oxford University Press.
- Baumaeister, R. F., Campbell, J. A., Krueger, J. I., & Vohs, K. D. (2003). Does high self-esteem cause better performance, interpersonal success, happiness, or healthier lifestyle? *Journal of Psychological Science in the Public Interest*, 4(1), 1-44.
- Beck-Winchatz, B., & Riccobono, M.A. (2008). Advancing participation of blind students in science, technology, engineering, and math. *Advances in Space Research*, 42(11), 1855-1858.
- Berg, B. L. (2007). *Qualitative research methods for the social sciences* (6th ed.). Boston: Pearson/Allyn & Bacon.

- Bernard, H. R., & Ryan, G. W. (2010). *Analysing qualitative data: Systematic approaches*. London: SAGE Publications.
- Boeije, H. (2010). *Analysis in qualitative research*. London: SAGE.
- Bronfenbrenner, U. (2005). *Making human beings human: Bio-ecological perspectives on human development*. Sage.
- Brown, J. M. (2007). *A dictionary of public health*. Oxford University Press.
- Byrne, M. M. (2001). Linking philosophy, methodology, and methods in qualitative research. *AORN Journal*, 73(1), 207-210.
- Cahill, H., Lineham, C., McCarthy, J., Bormans, G., & Engelen, J. (1996). Blind and partially sighted students' access to mathematics and computer technology in Ireland and Belgium. *Journal of Visual Impairment and Blindness*, 90 (2), 105 - 114.
- Cheatum, B. A., & Hammond, A. A. (2000). *Physical activities for improving children's learning and behavior: A guide to sensory motor development*. Human Kinetics.
- Chu, R., & Huang, K. (2014). Vision and learning. *California Optometry*. CE@ HomeOnline. Retrieved from <http://www.coavision.org/fil>
- Conroy, P. (2012). Supporting students with visual impairments in physical education: Needs of physical educators. *Research and Practice in Visual Impairment and Blindness*, 5(1), 3-10.
- Creswell, J. W. (2007). *Qualitative enquiry and research design: Choosing among five approaches*.

- Creswell, J. W. (2009). *Research design: Qualitative, quantitative, and mixed methods approaches* (3rd ed.). New Delhi: SAGE Publications, Inc.
- Creswell, J. W. (2013). *Qualitative inquiry & research design: Choosing among five approaches* (3rd ed.). London: SAGE.
- Dambudzo, I. I., & Schulze, S. (2013). Does the physical self-concept make a difference to academic achievement? Investigating the role of physical self-concept on the Academic achievement of adolescent learners in Zimbabwe secondary schools. *Greener Journal of Educational Research*, 3(1), 7-22.
- Dandona, R., & Dandona, L. (2001). Socioeconomic status and blindness. *British Journal of Ophthalmology*, (85), 1484–1488
- Davies, M. B. (2007). *Doing a successful research project: Using qualitative or quantitative methods*. London: Palgrave Macmillan.
- Davis, P., & Hopwood, V. (2002). Inclusion for children with visual impairment in the mainstream primary school. *Education 3-13: International Journal of Primary, Elementary and Early Years Education*, 30(1), 41-46. doi:<http://dx.org/10.1080/03004270285200091>
- Demissie, B. S., & Solomon, A. W. (2011). Magnitude and causes of childhood blindness and severe visual impairment in Sekoru District, Southwest Ethiopia: A survey using the key informant method. *Transactions of the Royal Society of Tropical Medicine and Hygiene*, 105(9), 507-511. doi:10.1016/j.trstmh.2011.04.007
- Denzin, N. K., & Lincoln, Y. S. (2003). *The landscape of qualitative research: Theories and issues*. California: Sage Publication, Inc.

Department of Basic Education (DBE). (2014). Draft Policy on Screening, Identification, Assessment and Support. South Africa: Department of Basic Education.

Department of Health, Hong Kong Society for the Blind. (2008). Developmental Disorders Series Visual Impairment. Retrieved from http://www.dhcas.gov.hk/english/public_edu/files/SeriesI_VisualImpairment_Eng.pdf

Department of Social Development/Department of Women, Children and People with Disabilities. (2012). A situation Analysis: 2001-2011. UNICEF (United Nations International Children's Emergency Fund). Retrieved from http://www.unicef.org/South Africa/SAF_resources_sitandisability.pdf

Denscombe, M. (2003). *The good research guide for small-scale social research projects* (2nd ed.). Philadelphia: Open University Press.

Deshpande Jayant, D., & Malathi, K. (2011). Prevalence of ocular morbidities among school children in rural area of north Maharashtra in India. *Nat J Comm Medicine*, 2(2), 249-254.

De Vos, A. S., Strydom, H., Fouche, C. B., & Delport, C. S. L. (2011). *Research at grassroots: For the social sciences and human services professions*. Pretoria: Van Schaik.

Donald, D. R., Lazarus, S., & Lolwana, P. (2010). *Educational psychology in social context: Ecosystemic applications in southern Africa* (4th ed.). Cape Town: Oxford University Press Southern Africa.

Engelbrecht, S. M., Kriegler, S. M., & Booyesen, M. I. (Eds.). (1996). *Perspectives on learning difficulties: International concerns and South African realities*. Pretoria. Van Schaik.

- Exner, R. J. (2003). *The identification of psycho-educational factors that inhibit first year student performance* (Unpublished doctoral dissertation). Psychology of Education, University of South Africa.
- Fadamiro, C. O. (2014). Causes of blindness and career choice among pupils in a blind school; South Western Nigeria. *Annals of African Medicine*, 13(1), 16-20.
- Ferrell, K. A., Buettel, M., Sebald, A. M., & Pearson, R. (2006). American printing house for the blind mathematics research analysis. *University of Northern Colorado, National Center on Severe and Sensory Disabilities*. Retrieved from http://www.Unco.edu/ncssd/research/math_meta_analysis.Shtml
- Francis, G. & Clark, G. (Eds.). (2003). Teaching students with visual impairments: A guide for the support team. *Saskatchewan Learning*. Retrieved from <http://www.sasked.gov.sk.ca/k/pecs/se/publications.html>
- Fraser, W. J., & Maguvhe, M. O. (2008). Teaching life sciences to blind and visually impaired learners. *Journal of Biological Education*, 42(2), 84-89.
- Friend, M. (2011). *Special education: Contemporary perspectives for school professionals* (3rd ed.). Boston: Allyn and Bacon.
- Gardiner, M. (2008). Education in rural areas. Johannesburg. *Centre for Education Policy Development*. Retrieved from http://www.cepd.org.za/files/CEPA_Issues_in_education_in_rural_areas_.pdf
- Giesen, J. M., Cavanaugh, B. S., & McDonnall, M. C. (2012). Academic supports, cognitive disability and mathematics achievement for visually impaired youth: A multilevel modeling approach. *International Journal of Special Education*, 27(1), 17-26.

Gnyawali, S., Shrestha, J. B., Bhattarai, D., & Upadhyay, M. (2012). Optical needs of students with low vision in integrated schools of Nepal. *Optometry and Vision Science: Official Publication of the American Academy of Optometry*, 89(12), 1752-1756. doi:10.1097/OPX.0b013e3182772f3c

Government of South Africa (GSA). (1997). *Rural Development Framework*. Compiled by the Rural Development task Team and Department of land Affairs. ISBN 0-621-27692-8. Retrieved from <http://www.polity.org.za/polity/govdocs/rdp/rdevframe.html>

Gray, D. E. (2009). *Doing research in the real world* (2nd ed.). London: SAGE.

Grote-Garcia, S. A. (2011). Braille. *Encyclopedia of child behaviour and development* (pp. 277-278). Springer.

Harrison, J. R. (2006). *Braille literacy: Insights from parents and teachers*. ProQuest.

Hatlen, P. (2000). Historical perspectives. In M. C. Holbrook & A. J. Koenig (Eds.), *Foundations of education: Volume 1. History and theory of teaching children and youths with visual impairments* (pp. 1-54). New York: AFB Press.

Henning, E., Van Rensburg, W., & Smit, B. (2004). *Finding your way in qualitative research*. Pretoria: Van Schaik.

Hess, S. A., & Schultz, J. M. (2008) Bronfenbrenner's Ecological Model. (In Kraus, K. L. (Ed.), *Lenses: Applying Lifespan Development Theories in Counseling*. (52). Boston, MA: Houghton Mifflin Press)

Huitt, W. (2011). Self and self-views. Educational Psychology Interactive. Valdosta, GA: Valdosta State University.

- Jezari, A. S. (2012). *Through their eyes: Insights from the lived experiences of blind youth in Uganda*. Dissertation for Master of Arts. Ottawa, Ontario. Carleton University
- Jones, M. G., Minogue, J., Oppewal, T., Cook, M. P., & Broadwell, B. (2006). Visualizing without vision at the microscale: Students with visual impairments explore cells with touch. *Journal of Science Education and Technology*, 15(5-6), 345-351.
- Joseph, M. M. (2010). *A Phenomenological Study Exploring the Educational, Vocational and Social Experiences of College Educated Individuals Who are Visually Impaired*. Dissertation for PhD. College of Education of Ohio University. https://etd.ohiolink.edu/etd.send_file?accession=ohiou1273174141&disposition=inline
- Joubish, M. F., Khurram, M. A., & Fatima, S.T., & Haider, K. (2011). Paradigms and characteristics of a good qualitative research. *World Applied Sciences Journal*, 12(11), 2082-2087.
- Kohanova, I. (2006). *Teaching mathematics to non-sighted students: With specialisation in solid geometry* (Unpublished doctoral thesis). Bratislava. Retrieved from http://math.unipa.it/~grim/Thesis_kohanova_lveta_07.pdf
- Kelly, S. M. (2008). Correlates of assistive technology use by students who are visually impaired in the US: Multilevel modeling of the special education elementary longitudinal study. Northern Illinois University. Leadership, Educational Psychology and Foundations.
- Kinash, S., & Paszuk, A. (2007). *Accessible education for blind learners: Kindergarten through postsecondary*. IAP.

- Klenk, J. A., & Pufpaff, L. A. (2011). A case study of tack tiles [R] literacy instruction for a student with multiple disabilities including congenital blindness. *Physical Disabilities: Education and Related Services*, 30(2), 48-66.
- Kluever, H. (2006). National-level outreach: South African Bureau for the Prevention of Blindness. *Community Eye Health / International Centre for Eye Health*, 19(58), 27-28.
- Krefting, L. (1991). Rigor in qualitative research. *The assessment of trustworthiness*, 45(3).
- Kumar, R. (2011). *Research methodology: A step-by-step guide for beginners* (3rd ed.). London: Sage.
- Kumar, D., Sarabhai, K. P., Rastogi, C. K., & Behere, P. B. (1999). Psychological characteristics of literate blinds: A study. *Indian Journal of Medical Sciences*, 53(7), 310-315.
- Landsberg, E., Krüger, D., & Nel, N. (Eds.). (2005). *Addressing barriers to learning: A South African perspective* (1st ed.). Pretoria: Van Schaik.
- Landsberg, E., Krüger, D., & Swart, E. (Eds.). (2011). *Addressing barriers to learning: A South African perspective* (2nd ed.). Pretoria: Van Schaik.
- Leatham, C. (2005). "The lived experiences of adolescent learners from child-headed families in the Northern Free-State". MEd (Educational Psychology) [Unpublished]: University of Johannesburg. Retrieved: <http://ujdigispace.uj.ac.za>.

- Leedy, P. D., & Ormrod, J. E. (2010). *Practical research: Planning and design* (9th ed.). New Jersey: Pearson Publishers.
- Leff, L. 2011, Receptive toward assistive computer technology by non-users who are blind/visually impaired. Union Institute & university Cincinnati, Ohio
- Lethale, P.S. (2008). "The resilience of adolescents from adolescent-headed families within the school context." MEd (Educational Psychology) [Unpublished]: University of Johannesburg. Retrieved <http://ujdigispace.uj.ac.za>.
- Lewallen, S., & Courtright, P. (2001). Blindness in Africa: Present situation and future needs. *The British Journal of Ophthalmology*, 85(8), 897-903.
- Lewthwaite, B. (2011). University of Manitoba Centre for Research in Youth, Science Teaching and Learning: Applications and utility of Urie Bronfenbrenner's bioecological theory. Retrieved from <http://www.mern.ca/monographs/BioEcological.pdf>
- Lincoln, Y. S., & Guba, E. (1985). *Naturalistic inquiry*. Newbury Park: Sage.
- Lipkowitz, S. S. (2000). The relationship between sensory disabilities and self-determination, self-esteem, cultural/disability identification, inclusion and academic achievement. *Dissertation Abstracts International*, 61(06), 2254A. (UMI No. 9976739).
- Mabaso, R. (2012). *Blindness and visual impairment among people with diabetes mellitus 40 years and older in the Limpopo province, South Africa*. Pretoria: University of South Africa

- Mabaso, R., Oduntan, A., & Mpolokeng, M. (2006). Refractive status of primary school children in Mopani District, Limpopo province, South Africa. *African Vision and Eye Health*, 65(4), 125-133.
- Mabaso, R., & Oduntan, O. (2014). Prevalence and causes of visual impairment and blindness among adults with diabetes mellitus aged 40 years and older receiving treatment at government health facilities in the Mopani District, South Africa. *African Vision and Eye Health*, 73(1), 8-15.
- Maree, K. (2007). *First steps in research*. Pretoria: Van Schaik.
- Marshall, C., & Rossman, G. B. (2011). *Designing qualitative research*. London: SAGE.
- Mashige, K.,P, Martin C, Cassim B, Ramklass S, & Esterhuizen, T.M. Utilization of eye care services by elderly persons in the northern Ethekwini district of KwaZuluNatal province, South Africa. *S Afr Optom*. 2011;70:175–181
- McMahon, E. (2014). The role of specialized schools for students with visual impairments in the continuum of placement options: The right help, at the right time, in the right place. *Journal of Visual Impairment & Blindness*, November-December, 449-459.
- Merriam, S. B. (2002). *Qualitative research in practice – examples for practice and analysis*. San Francisco: Jossey-Bass Publishers.
- Micol Gonella, M. A. (2014). *The Impact of Vision Loss on Mexican Immigrant Men. Gender, culture, and self-concept explored*. Alliant International University. San Diego.

- Mills, J., & Birks, M. (2014). *Qualitative methodology. A practical guide*. London: SAGE Publications Ltd.
- Mittler, J. (2007). Assistive technology and IDEA. *Technology Integration: Providing Access to the Curriculum for Students with Disabilities*. Arlington, VA: Technology and Media Division (TAM).
<http://tamcec.org/pdf/AssistiveTech%20and%20IDEA%20Regs.pdf>
- Morales, J. D., Martinez, J., & Wu, L. (2011). Blindness and visual impairment in the Costa Rican pediatric population. *Investigative Ophthalmology & Visual Science*, 52(14), 4222-4222.
- Mulligan, K., Fear, N., Jones, N., Wessely, S., & Greenberg, N. (2010). Psycho-educational interventions designed to prevent deployment-related psychological ill-health in armed forces personnel: A review. *Psychological Medicine*, 41(04), 673-686.
- Mulloy, A. M., Gevarter, C., Hopkins, M., Sutherland, K. S., & Ramdoss, S. T. (2014). Assistive technology for students with visual impairments and blindness. *Assistive technologies for people with diverse abilities* (pp. 113-156). Springer.
- Muula, A. (2007). How do we define 'rurality' in the teaching on medical demography? *Rural and Remote Health*, 7(1), 653.
- Nadeem, R. (2015). *Selecting Literacy Approaches in Braille for Students with Visual Impairments*. Dissertation for Masters of Teaching. Ohio Institute for Studies in Education of the University of Toronto.
- Neal, J. W., & Neal, Z. P. (2013). Nested or networked? Future directions for ecological systems theory. *Social Development*, 22(4), 722-737.

- Nel, N., Nel, M., & Hugo, A. (Eds.). (2012). *Learner support in a diverse classroom: A guide for Foundation, Intermediate and Senior Phase teachers of language and mathematics*. Pretoria: Van Schaik.
- Neuman, W. (2003). *Social research methods: Qualitative and quantitative approaches*. US: Pearson Education.
- Njuguna, M., Msukwa, G., Shilio, B., Tumwesigye, C., Courtright, P., & Lewallen, S. (2009). Causes of severe visual impairment and blindness in children in schools for the blind in Eastern Africa: Changes in the last 14 years. *Ophthalmic Epidemiology*, 16(3), 151-155.
- Norman, K., Caseau, D., & Stefanich, G. P. (1998). Teaching students with disabilities in inclusive science classrooms: Survey results. *Science Education*, 82(2), 127-146.
- Oduntan, A. (2005). Prevalence and causes of low vision and blindness worldwide. *African Vision and Eye Health*, 64(2), 44-57.
- Oye, J. E., Kuper, H., Dineen, B., Befidi-Mengue, R., Foster, A. (2006). Prevalence and causes of blindness and visual impairment in Muyuka: a rural health district in South West Province. *British Journal of Ophthalmology* 90(5), 538-542.
- Pagliano, P. (2006). *Access to quality education for children with visual impairment*. Routledge, Taylor & Francis Group.
- Pascolini, D., & Mariotti, S. P. (2012). Global estimates of visual impairment: 2010. *The British Journal of Ophthalmology*, 96(5), 614-618. doi:10.1136/bjophthalmol-2011-300539

- Pillay, J. (1996). *Pupils from informal settlements in Indian secondary school. Guidelines for the educational psychologists* (Unpublished DEd thesis). Johannesburg, Rand Afrikaans University.
- Pillay, J. (2011). Challenges counselors face while practising in South African schools: Implications for culturally relevant in-service training. *South African Journal of Psychology, 41*(3), 351-362.
- Pillay, J. (2012). Experiences of learners from child-headed households in vulnerable school that makes a difference: Lessons for school psychologists. *School Psychology International, 33*(1), 3-21. doi:10.1177/0143034311409994
- Pillay, J., & Terlizzi, M. D. (2009). A case study of a learner's transition from mainstream schooling to a school for learners with special educational needs (LSEN): Lessons for mainstream education. *South African Journal of Education, 29*(4), 491-509.
- Pillay, J. (2014). Ethical considerations in educational research involving children: Implications for educational researchers in South Africa. *South African Journal of Childhood Education | 2014 4*(2): 194-212 | ISSN: 2223-7674 |© UJ
- Pinquart, M., & Pfeiffer, J. P. (2012). Psychological adjustment in adolescents with vision impairment. *International Journal of Disability, Development and Education, 59*(2), 145-155.
- Presley, I., & D'Andrea, F. M. (2009). *Assistive technology for students who are blind or visually impaired: A guide to assessment*. American Foundation for the Blind.
- Reidmiller, L. L. (2003). *Art for the Visually Impaired and Blind: A Case Study of One artist's Solution*. Dissertation for PhD. Graduate School of Ohio State University. https://etd.ohiolink.edu/!etd.send_file?accession=osu1054144608&disposition=inline

- Remler, D. K., & Van Ryzin, G. G. (2011). *Research methods in practice*. Los Angeles, CA: Sage.
- Resendes, S. (2004). *The world at your finger-tips: Understanding blindness*. Concordia University.
- Rosenblum, L. P., & Herzberg, T. (2011). Accuracy and techniques in the preparation of mathematics worksheets for tactile learners. *Journal of Visual Impairment & Blindness*, 105(7), 402-413.
- Royal National Institute for the Blind (RNIB). (2012). *Supporting blind and partially sighted*. London: RNIB. Reg. Charity No. 226227. Retrieved from <http://www.rnib.org.uk/knowledge-and-research-hub-research-reports/education-research>
- Ryan, B., & Bernard, H. R. (2010). *Analyzing qualitative data: Systematic approaches*. Thousand Oaks. SAGE
- Sacharowitz, H. (2005). Visual impairment in South Africa: Achievements and challenges. *African Vision and Eye Health*, 64(4), 139-149.
- Sandelowski, M. (2000). Focus on research methods: Whatever happened to qualitative description? *Research in Nursing and Health*, 23(4), 334-340.
- Saunders, F. K. (2009). A Psycho-Educational programme for Cricket Players Using Neuro-Linguistic programming. Dissertation. Stellenbosch University. <http://scholar.sun.ac.za>

- Saw, S. M., Husain, R., Gazzard, G. M., Koh, D., Widjaja, D., & Tan, D. T. (2003). Causes of low vision and blindness in rural Indonesia. *The British Journal of Ophthalmology*, 87(9), 1075-1078.
- Schinazi, V. R. (2007). *Psychosocial implications of blindness and low vision*. UCL (University College London).
- Scioli, A., Chamberlin, C. M., Samor, C. M., Lapointe, A. B., Campbell, T. L., Macleod, A. R., & McLennon, J. (1997). A prospective study of hope, optimism, and health. *Psychological Reports*, 81(3), 723-733.
- Schroeder, F. K. (2010). Educating Blind Children: Changing the paradigm. Address at San Diego University. *National Federation for the Blind*, 53(8). Retrieved from <https://nfb.org/images/nfb/publications/bm/bm10/bm1008/bm100808.htm>
- Shaffer, D. R., & Kipp, K. (2007). *Developmental Psychology: Childhood and adolescence* (7th ed.). Canada: Thomson Wadsworth.
- Shenton, A. K. (2004). Strategies for ensuring trustworthiness in qualitative research projects. *Education for Information*, 22(2), 63-75.
- Smothers, S. M. (2011). In search of the zone of optimum development for congenitally blind science learners. *International Journal for Professional Educators*, Vol.77(3), 47-50.
- Staffordshire Learning Net. (2014). Support for children and young people with visual impairment. *Staffordshire County Council*. Retrieved from <http://education.staffordshire.gov.uk/Pupil-Support/SEN-and-Vulnerable-Children/Specialist-Support-Service/Specialist-Support-Service.aspx>

Statistics South Africa. (2012). Census 2011. Statistical release (Revised). P0301.4. Pretoria: Statistics South Africa.

Statistics South Africa. (2014). Census 2011. Profile of people with disabilities in South Africa. Report No. 03-01-59. Pretoria: Statistics South Africa.

Terre Blanche, M., Durrheim, K., & Painter, D. (2006). *Research in practice: Applied methods for the social sciences*. Cape Town: University of Cape Town Press.

Tuttle, D. W., & Tuttle, N. R. (2004). *Self-esteem and adjusting with blindness: The process of responding to life's demands*. Charles C Thomas Publisher.

Walker, L. (2008). Counselor attitudes towards persons who are blind or visually impaired. A National Counselor Study. Carolina State University. North Carolina.

Waller, T., & Davis, G. (2014). *An Introduction to Early Childhood*.(3rd Ed). London: SAGE.

Westwood, P. S. (2009). *What teachers need to know about students with disabilities*. Aust Council for Ed Research.

Department of Education. (2001). White Paper 6: Special Needs Education: Building an inclusive education and training system. Pretoria: Department of Education.

William, Y. (2003). What is optimism? Definition and Explanation. Introduction to Psychology. Chapter 7. Retrieved from <http://www.study.com/academy/lesson/what-is-optimism-definition-lesson-quiz.html>

World Health Organization (WHO). (2012). *Global Data on Visual Impairments, 2010*. World Health Organization.



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