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Breaking Barriers: Assessing the Efficacy of White Paper 6 Implementation in KwaDedangendlale's Educational Landscape and the Impact of the NeuroScreen Tool

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Declaration

I, Anisa Samkelisiwe Dlamini, declare that:

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Abstract

The KwaDedangendlale community (Valley of a Thousand Hills) is a notable little settlement near Botha's Hill outside of the Hillcrest in KwaZulu-Natal in the Pinetown district. Socio-economic barriers that prevent access to high quality education are one of the main problems that South African schools, particularly those in underprivileged areas, must face. This is due to thelegacy of the apartheid era that ingrained economic inequality into South African society. White Paper 6 (EWP6) is a new government policy for a single, undivided education system for all learners, including those with disabilities and barriers to learning, in the hope that inclusive education will serve as a fundamental element of a cohesive society (Donohue & Bornman, 2014, p. 2). Through informal stakeholders' perceptions of and experiences with the NeuroScreen tool, this study aims to understand the perceived impact and valueof the tool by exploring stakeholders' experiences in the classroom and how the available resources help them help learners who are experiencing learning barriers.

The study also pinpoints prior interventions, referral protocols, and networks in KwaDedangendlale, aiming to fill the gap by locating new networks and referral systems that might beused in KwaDedangendlale to help learners experiencing learning difficulties. The method used for data collection is interviewing. Semi-structured, one-on-one interviews with secondary school teachers and a member of the Department of Education (DoE) were used to collect data in order to gather opinions on the state of education in the Pinetown district and Thabela Secondary School. The datawas analysed using thematic analysis. The list of mapped locations was compiled based on research on the programmes offered there and the establishments' commitment to helping young people overcome challenges to achievement. The KwaDedangendlale community clearly exhibits a gap in referral systems and referral networks. Because of this, there has not been much growth in

terms of nearby educational facilities for the village. The results showed that a lack of support services from the DoE, problems with overcrowding,and the lack of parental involvement continue to be obstacles for teachers in their implementation of EWP6.at this mainstream ruralschool.

Keywords: neurocognitive, screening, supportive networks, impairment, barriers to learning, EWP6

Dedication

This work is dedicated to all learners that face barriers to learning and development, as well as totheir parents, others, and the teachers who go out of their way to support them.

Abbreviations and Acronyms

AIDS	Acquired Immune Deficiency Syndrome
CAST	Center for Applied Special Technology
CBIs	Community-Based Initiatives
CPD	Continuous Professional Development
DBST	District-Based Support Team
DoE	Department of Education
ESS	Education Support Services
EWP6	White Paper 6
FSS	Full service school
HSSREC	Humanities and Social Science Research, Research Ethics Committee
IE	Inclusive education
ILST	Institution-level support team
KZN	KwaZulu-Natal
KZN DoE	KwaZulu-Natal Department of Education
MIET Africa	Media in Education Trust Africa
NCI	Neurocognitive Impairment
NCSNET	National Commission on Special Needs in Education and Training
NGO	Non-governmental organization
SBST	School-based support team
SCCS	School as Centre of Care and Support
SGB	School Governing Body
SIAS	Screening, Identification, Assessment and Support Policy
SNA	Special Needs Assessment
SNES	Special Needs Education Services
UDL	Universal Design for Learning
UNESCO	United Nations Educational, Scientific, and Cultural Organization

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Chapter 1

Research Introduction

1.1. Introduction

Education plays a central role in the success of youth, fostering economic growth, providing enhanced career opportunities, and generating the necessary resources to improve the quality of education. According to Hanushek & Zhang (2006), the economic benefits of education encompass economic growth and labour market outcomes, while social benefits include crime reduction, social cohesion, and improved healthcare delivery. Dludla (2019) emphasizes that a country's commitment to a robust education system, crucial for economic development and improved living standards, is reflected in its significant investment in education. Historically, the South African education system was shaped by institutionalized segregation policies rooted in the apartheid system, a dominant political and social ideology (McKeever, 2017). This system further entrenched a narrative of inferiority towards people of colour. Msila (2007) asserts that the apartheid education system served as a divisive tool, exacerbating inequality among different racial groups.

Apartheid-era prejudice and inequality were pervasive in South Africa (Stofile & Green, 2006; Daniels, 2010; Mnguni, 2017). Prior to 1994, educational policies were created to advance the ruling party's objectives, as it maintained a racially segregated system of schooling and did not accommodate marginalised groups of people (Naicker, 2000; Mnguni, 2017). South Africa has made progress in the past two decades to provide a voice to victims of the apartheid era's oppression. The reimagining of South Africa has given marginalised people new chances, such as equal access to education. This was done through abandoning the practice of segregated schooling (Donohue & Bornman, 2014). To advance educational equality, the 19 various departments were replaced by a single national education department (Maher, 2009; Donohue & Bornman, 2014).

The new Department of Education (DoE) gave low-income schools a more considerable percentage of government funding in an effort to address some of the educational disparities between ethnic groups (Lam et al., 2008). One of the most essential elements in ensuring that everyone who needs an education gets one is the creation of a more inclusive educational system, which is accepted on a global scale (Mnguni, 2017). This led to the "development of White Paper 6: Special Needs Education, Building an Inclusive Education and Training System (EWP6) in 2001, which was conceptualised using the suggestion of the National Commission on Special Needs in Education and Training (NCSNET) and National Commission on Education Support Services (NCESS) that there should be a single educational system that would support education for all" (DoE, 1997; Mnguni, 2017). EWP6 was, at the time, a new government policy for a "single, undivided education system for all learners, including those with disabilities, and barriers to learning in the hope that inclusive education would serve as a fundamental element" of a cohesive society (Donohue & Bornman, 2014, p. 2).

For the past 22 years, the EWP6 policy has been in existence, aiming to improve education in underprivileged schools in line with South Africa's Constitution. However, despite the policy's outlining the necessary evolution of the education system and its alignment with societal values, the practical implementation of these ideas has faced significant challenges in the South African context. Efforts to address disparities resulting from apartheid have fallen short, influenced by factors such as the environment and the economy.

Learners in rural or underprivileged schools, grappling with learning difficulties in the classroom, continue to experience limited benefits from these policies. The characteristics of rural communities contribute to inherent problems and inconsistencies within the educational system. To align with the study's objectives, it is essential to define barriers to learning. These

barriers encompass factors hindering teaching and learning across all educational levels, as conceptualized within the NCSNET process (DoE, 2005). Nel et al. (2010) identify learning barriers as individual-specific factors, different curriculum components, physical and psychosocial contexts of teaching and learning, dynamics of the learner's home environment, and community and social dynamics influencing the teaching and learning process.

EWP6 seeks to address learning barriers through the creation of mainstream, full-service, and special schools that gradually accommodate all levels of educational needs. Mainstream schools rely on full-service schools, special schools, and resource centres for additional support, providing assistance to learners requiring only a low level of support (Mnguni, 2017). In the South African education system, mainstream schools provide education to a diverse range of learners within a common environment, accommodating various abilities and needs. Full-service schools go beyond mainstream education by offering comprehensive support services, interventions, and additional resources to address a broad spectrum of learning challenges. Special schools, on the other hand, cater to learners with more specific or severe disabilities, providing specialized education and resources tailored to their unique needs. These concepts are integral to the inclusive education framework outlined in policies such as South Africa’s EWP6 , which emphasizes collaboration between mainstream, full-service, and special schools to ensure equal access and participation for all learners (DoE, 2001; Mnguni, 2017; Hess, 2020).

This study focuses on a rural, underprivileged mainstream school and its efforts to address learning barriers in the classroom. The sampled school follows the Screening, Identification, Assessment, and Support Policy (SIAS) of the EWP6, providing a framework to identify learners facing learning barriers and referring them to the appropriate support levels while still in the classroom. The SIAS aims to standardize processes for identifying, evaluating, and offering programmes to learners needing further support to enhance their

participation and inclusion in the classroom (Hess, 2020).

Ntseto (2019) characterizes the challenges surrounding the implementation of the SIAS policy as “support for learners and teachers, teacher training in SIAS policy, awareness and comprehension of SIAS, attitudes towards SIAS, and participation of other officials in SIAS” (Ntseto, 2019, p. 50). “Many learners' rights to education have been violated as a result of the difficulties associated with SIAS policy implementation, particularly in numerous underprivileged schools” (Ntseto, 2019, p. 54). Due to the learners' poor performance, some schools find themselves being labelled as under-performing schools.

Effective educational institutions are those that value each learner's teaching, learning, accomplishments, attitudes, and wellbeing (Ntseto, 2019). This is demonstrated not only in schools’ achievement but also in their attitude towards and readiness to provide fresh possibilities for learners who may have previously encountered challenges. Additionally, different stages of the SIAS interventions are made to support learners with learning difficulties that have grown beyond the boundaries of traditional classroom interventions.

In South Africa, mainstream schools, full-service schools, and special schools form a comprehensive framework for inclusive education. Mainstream schools, serving as the foundation, aim to accommodate a diverse range of learners. Full-service schools act as support hubs, collaborating with mainstream schools and providing additional resources through School-Based Support Teams (SBST) to address the needs of learners requiring a low level of support. Special schools play a crucial role in inclusive education by catering to learners with more severe barriers to learning.

The collaborative efforts extend to the district level, where District-Based Support Teams (DBST) coordinate and provide support services to multiple schools. The DBST ensures a cohesive and comprehensive approach to inclusive education, aligning district-level resources with the specific needs identified by individual schools, encompassing mainstream,

full-service, and special schools. Together, this interconnected system strives to create an inclusive educational environment that addresses the diverse needs of learners across South Africa.

Here is where many underprivileged schools fall short, however, with delayed learner assistance interventions and DBST teams that do not respond, often resulting in learners' completing their whole academic careers without assistance. Furthermore, one reason why the screening for learning difficulties is only done in some high schools is the need for trained educational psychologists or trained educational specialists in secondary schools. This may profoundly affect a learner's academic performance, chances to graduate and enrol in university, ability to make decisions regarding a bursary, ability to improve home economic conditions, and psychological wellbeing.

1.2. Research Problem

Rural schools in South Africa are typically believed to have low standards and poor educational achievements (Xaba, 2020). This is not to suggest that some of these underprivileged or rural-based schools do not try to match the standards of schools in urban or suburban locations by generating top students and exceptional achievements. However, barriers to learning are a factor in stalling academic advancement.

In the current state of education, high dropout rates, elevated failure rates, and below-average classroom performance are all interconnected with barriers to learning. Chirteş (2010) highlights a concerning increase in students facing school adjustment problems, attributing this phenomenon to a myriad of complex factors. This sentiment is reiterated by Samuel & Burger (2020), who emphasize that the challenge intensifies, especially in schools situated in disadvantaged or rural areas. In such locations, the distinct characteristics of the community contribute to inherent problems and inconsistencies within the educational system, as depicted in Figure 3, illustrating the reasons for school non-attendance, and Figure 4, illustrating the

dropout rates per grade in 2018. This trend underscores the urgent need for targeted interventions in these educational settings.

According to statistics released by South African Market Insights (2020), a total of 1 052 080 learners were enrolled for grade 10 in 2017, but only 409 906 learners actually matriculated in 2019. Out of the 409 906 learners who matriculated, only 44.55% obtained a bachelor's pass, making them eligible for university. In a survey conducted by Statistics South Africa in 2018, the inability to perform at school was found to be the second most common reason that both the groups of 7-15 years of age and 16-18 years of age dropped out from school (see Figure 3 below), with the leading reason being cited as disability for a staggering 24.5% and 4.0% respectively.

The Legal Resources Centre (LRC) affirms that the DoE's 2020 presentation, found in Figure 4 below, compares grade 1 enrolment to the NSC matriculation rate, which yields dropout rates of between 37% and 42% (LRC, 2023). However, the department said it was not an accurate representation of all the drop- rates for that year, since additional June NSC examinations and other equivalent qualifications could not be included in this calculation. In South Africa, grades 10 and 11 are the most common years for learners to leave school, with 50% of learners in any cohort leaving school before grade 12 (Hartnack, 2017).

The challenges characterizing communities, according to Ntseto (2019), can explain the underperformance of learners in the classroom. The rural development framework (1997) listed these characteristics of rural areas as being primarily agricultural, sparsely inhabited, having low housing densities, being remote from urban centres, and depending on migrant labour, remittances, and government social grants for their survival. In relation to education, the lack of basic provisions affects access to and quality of education, as "attributes of rurality that adversely affect the quality of education include: a lack of qualified teachers, multi-grade teaching, unreasonable teacher-learner ratios, irrelevant curricula, and competing priorities between accessing education and domestic chores, while the teaching staff seem to be imbued with poor morale and motivation" (Mollenkopf, 2009, p. 2).

Early detection and intervention can assist the DoE in creating a successful support system for learners recognized as having learning barriers. Gaining knowledge about teachers' experiences using the NeuroScreen tool as a neuropsychological tool and understanding its effectiveness can assist in that regard. The NeuroScreen tool is a mobile application that was designed to address specific challenges, such as an assessment for HIV-associated cognitive disorders, and the Brief Peripheral Neuropathy Screen (BPNS) for distal sensory polyneuropathy (DSPN) in HIV (Robbins et al., 2018), has since been expanded to incorporate cognitive testing. This expansion aims to provide support to learners experiencing barriers to learning in the classroom. The goal of the educational system is to provide education with the minimal resources that schools have at their disposal. Because it is not their area of expertise, most teachers need more abilities or understanding to deal effectively with learners with learning barriers. Finally, there need to be more outside organizations available to help learners cope with the challenges they encounter in the classroom.

1.3. Research Questions

A series of specific research questions guided the study. They were addressed as the

research progressed, particularly in the study's conclusions and recommendations (Punch, 2005; Majola, 2013). Thus, the following questions were considered by the study:

1.3.1 What are the existing issues faced by teachers and what were the available resources for learners with barriers to learning prior to NeuroScreen testing?

1.3.2 What does informal stakeholders' feedback reveal about the experiences with the NeuroScreen tool and the process following the screening and assessment?

1.3.3 What are the perceived benefits and effects of the NeuroScreen tool in a classroom setting?

1.3.4 What are the most effective referral systems, networks, and supports for students who have been identified by NeuroScreen?

1.4. Research Objectives

The goals of the study are outlined in the research objectives, which summarize the study's aim. The goals of this study were:

1.4.1 To examine and identify the challenges encountered by teachers, and to discover the available resources for students facing barriers to learning before undergoing NeuroScreen testing.

1.4.2 To gain insight into the experiences with the NeuroSceen tool through informal stakeholders' feedback on the process following the screening and assessment.

1.4.3 To assess perceived benefits and effects of the NeuroScreen tool in a classroom setting.

1.4.4 To investigate referral systems and networks or supports that would be most effective to support learners identified by NeuroScreen.

1.5. Location of Study

The population of interest for the study is the Thabela Secondary School, which is based in KwaDedangendlale, KwaZulu-Natal. In the Pinetown district of KwaZulu-Natal,

KwaDedangendlale is primarily regarded as a community. It is a small town located close to Botha's Hill outside Hillcrest. It has a poor socioeconomic standing and is a community currently being developed with outside resources.

1.6. Significance of Study

The focus of this research is to establish support structures for learners identified through NeuroScreen testing to have barriers to learning in the classroom, and to examine NeuroScreen's effectiveness in the school setting. The support structures can also benefit learners facing other difficulties and serve as a model for other schools. The study aims to contribute to the design of more effective support structures and provide insights for teachers using the NeuroScreen tool.

1.7. Limitation of the Study

1.7.1 The first limitation is that language ambiguities inherent in human language can be recognized in the analysis. One word could be recognized to mean different things to different people. For example, the word "red" could be used in a study to signify the colour red or as a political categorization.

1.7.2 Despite the use of appropriate sampling techniques to represent subjects, it depends on the probability distribution of the observed data, and the second limitation is that with quantitative research methods, there can be an incorrect representation of the target population, which might prevent the researcher from achieving the research's desired aims and objectives.

1.7.3 The third limitation is the limited quantitative research outcomes because the quantitative research method involves a structured questionnaire with close-ended questions. As the responders have limited options for their responses, the information cannot always represent the actual occurrence in a generalized form.

1.8. Structure of the Dissertation

- ***Chapter One*** of this research introduces the topic and the rationale behind the research. The objectives and the aims of this research are outlined along with the importance of the research.
- ***Chapter Two*** explores four key areas of research that proved to be beneficial when looking at mapping supportive networks for adolescents involved in neurocognitive impairment screening in KwaZulu-Natal. The theoretical framework that informs this study is also discussed in this chapter.
- ***Chapter Three*** discusses the methodology that is used in this study. The concepts outlined in this chapter are research methodology and research design, the research paradigm, sampling, data collection, data analysis, trustworthiness, and the ethical considerations that are adhered to in this research.
- ***Chapter Four*** discusses the themes that emerged after data collection.
- ***Chapter Five*** explores the themes that emerged during data analysis. Furthermore, it discusses whether the research questions set forth in Chapter 1 were answered and whether the objectives of the study were met.
- ***Chapter Six*** discusses the recommendations from the findings gathered in this research.

Chapter 2

Literature Review

2.1. Introduction

As a lens through which to view the context under study, the concepts of rurality and rural education are examined in this chapter. In addition, this chapter reviews the literature on inclusive education that has been published internationally and locally. A reform that encourages and values diversity among all students has been conceptualized and explored more generally as inclusive education (United Nations Educational, Scientific, and Cultural Organization (UNESCO), 1994; Mnguni, 2017). The KZN DoE's inclusive education policy and the obstacles to the effective implementation of an inclusive education system in South Africa, particularly in KwaZulu-Natal are examined. In this study, the teachers' knowledge of and experiences with the South African inclusive education policy are the primary focus, as well as how they put it into effect in the setting of a regular school in a rural community. The focus of this study is on regional initiatives that have been undertaken to adopt inclusive education.

2.2. The State of Education in Rural Communities

Given that apartheid had a ripple effect on the South African educational system and subsequently influenced its development, as established in the previous chapter, the ongoing repercussions of this historical context continue to shape the landscape of education in the country. It is essential to fully comprehend and immerse oneself in the realities of teachers in this community and have a firm grasp of rurality and rural education. This is crucial because it enables comprehension of the community's and the teaching environment's current realities. Hlalele (2014) defines the term "rurality" as a way of life, a mentality, and a culture that are centred on the land, raising animals, farming, and community. The supply of provisions and the perceptions toward rural education in South Africa are impacted by rurality and its

ramifications.

The rural development framework (1997) delineated rural areas as primarily agricultural, sparsely inhabited, with low housing densities, situated remotely from urban centres, and reliant on migrant labour, remittances, and government social grants for survival. This spatial organization originated from the distorted and unequal development patterns during the Apartheid era, marked by disparities in resource distribution, power, democracy, and freedom of movement in cities (Collins, 2001; Van Schalkwyk et al., 2014). These historical legacies continue to shape the challenges faced by rural communities.

Hlalele (2014) identifies key features of rural areas in South Africa, including long distances to towns, poor road conditions to schools, limited access to Information Communications Technologies (ICTs), inadequate services (water, electricity, sanitation, healthcare, and educational facilities), low economic status, restricted access to lifelong learning opportunities, pervasive poverty, food security concerns, high education costs, and elevated illiteracy levels. The enduring under-resourcing of schools exacerbates the challenges faced by these rural communities (Department of Education, 2005).

It can be assumed that having a school in such a community would produce more inherent issues and discrepancies in the educational system, given all the features of a rural community and the difficulties encountered. The National Treasury South Africa (2011) states that although rural municipalities have a significant impact on reducing the most extreme types of poverty and promoting rural development, the viability of rural municipalities depends on the advancement of rural economies and general government policies toward rural areas (National Treasury South Africa, 2011).

Malhoit (2005) and Hlalele (2014) assert that a school is the most significant public institution in a rural town and serves as the economic backbone of the community. The lack of basic provisions affects access to and the quality of education. According to Mollenkopf

“attributes of rurality that adversely affect the quality of education include: a lack of qualified teachers, multigrade teaching, unreasonable teacher-learner ratios, irrelevant curricula, and competing priorities between accessing education and domestic chores, while the teaching staff seem to be imbued with poor morale and motivation” ,(2009, p. 2). Furthermore Mollenkopf cites unconducive working conditions and adds that teachers may be unwilling to relocate to rural communities where “social and cultural opportunities are limited and salaries may not contain the necessary benefits” (2009, p. 2).

2.3. The Inclusion in Inclusive Education

Depending on the context, the term “inclusive education” might signify different things around the globe. The underlying premise of the right to high-quality education for everyone is shared by all the various definitions and models of inclusive education, regardless of the context (Stofile, 2008; Ladbrook, 2009; Murungi, 2015; Ivala, 2016). However, this dissertation will use a broad definition of inclusive education - having access to education and learning opportunities for all students and recognizing each child's right to feel accepted in a nurturing learning environment in their community are all parts of inclusive education (Haug, 2017).

Inclusion, according to Mittler (2012), is a notion that calls for a dramatic re-evaluation of policy and practice as well as a new perspective on the causes of behavioural and learning difficulties. The traditional method/medical model is predicated on the idea that a child is primarily responsible for the causes of a learning disability. Mittler goes on to say that this paradigm is fixable because it concentrates on what is wrong with the child (Mnguni, 2017). The vision of the South African education system is that regardless of their difficulties, all learners participate in inclusive education when enrolled in age-appropriate general education classes in their local public schools. This allows them to receive the “high-quality instruction, interventions, and support they need to succeed in the core curriculum” (Bui et al.,

2010; Alquraini & Gut, 2012).

Inclusion is a common term for inclusive education, which includes all learners. The placement of disabled students in regular classes is simply one aspect of inclusion. In mainstream high schools, colleges, and universities, students with and without disabilities, including those with "special educational needs," learn together. It acknowledges that each child has unique requirements and that teachers who have received training in facilitating an inclusive classroom can better satisfy those needs (Tomlinson, 1996; Mitiku et al., 2014). This means that rather than requiring people with disabilities to change to fit the system, the system must adjust to accommodate them.

The Universal Declaration of Human Rights (1949), the Charter of the General Assembly of the United Nations (1959), and the United Nations Convention on the Rights of the Child (1989) have all had an impact on inclusive education globally (Ivala, 2016). It has received support “[t]hrough advocacy organizations like the World Conference on Education for All (1990), the United Nations Standard Rules on the Equalization of Opportunities for Persons with Disabilities (1993), and the Salamanca Statement and Framework for Action on Special Needs Education (1994)”.” (Barnes 2011; Sarfo 2011; Dale-Jones 2016; Murungi 2015; Peters 2004; Ivala, 2016, p. 58).

The World Conference on Special Needs Education in 1994 provided significant momentum for the inclusive education paradigm. The UNESCO Salamanca Statement was created as a result of this conference and is now applied in many nations worldwide, particularly when examining educational policy regarding inclusive education (Mnguni, 2017). It was confirmed in the statement that developing a system of education that accommodates diversity was necessary and that the challenges faced by various groups could not be overcome by separate systems and schools for learners with special educational requirements (Mnguni, 2017).

"In South Africa, the government's direction concerning IE is informed by international treaties, conventions, and entities such as those listed above, and is ingrained in the country's 1996 constitution and the Bill of Rights" (Ivala, 2016, p. 58). Therefore, inclusive education in the South African context is framed within a human rights perspective, changing the human values of integration into the immediate rights of excluded learners (Murungi, 2015; Ivala, 2016). Beginning in 2000, inclusive education was implemented in South Africa.

2.3.1 Mainstreaming and Inclusive Education

To support the progressive goal of the DoE in the development of education in South Africa, it is crucial to distinguish between mainstreaming and inclusive education. The act of mainstreaming in education involves providing some students with additional support so they may "fit in" or integrate into the "regular" classroom routine. It occurs when students are expected to integrate into a specific type of existing educational system.

In order to help learners better integrate to the curriculum that is available to them in the educational system, mainstreaming often focuses on prescribing intervention programmes (Isherwood & Barger-Anderson, 2008). According to Kaushik (2011), apart from the teacher, a mainstreamed learner has no other support in the classroom. They receive assistance in the form of curriculum differentiation. For instance, a student who has dyslexia or dysgraphia, which makes reading and writing difficult, might occasionally receive specialized reading lessons, easier reading assignments, and easier writing tasks.

In contrast, inclusive education recognizes that not all students will succeed in the same educational environment. "The goal of inclusive education is to: (1) support all students, teachers, and the system as a whole so that the full range of learning needs can be met; (2) place emphasis on the creation of effective teaching methods that will benefit all students; and (3) remove systemic barriers that prevent the system from meeting the full range of learning

needs" (Naicker, 2005, p. 2). An inclusive learning environment, according to NCSNET Document (1997), is one that fosters the "full professional, academic, and personal growth of every learner, regardless of colour, class, gender, handicap, religion, culture, sexual preference, or language preference" (Sidogi, 2001, p. 78).

2.3.2 Advantages of Inclusive Education

The advantages of inclusive education will be discussed in terms of their relevance to all learners in all mainstream schools, as well as advantages relating directly to learners who are experiencing barriers to learning. These advantages are reflected in the ideals and in research of their actual application in the educational system. Staub (1996) lists academic support, interpersonal abilities, morals and ethics, tolerance, camaraderie, and a sense of community as some of the benefits of inclusivity.

The inclusive learning environment, which is characterized by a diversity of students and their needs and serves as a microcosm of society, enables learners to get ready for community life as adults (Sidogi, 2001). The advantages of such a society are seen to be relationships, communication, a sense of community characterized by helpful members, a caring environment in the classroom to help learners achieve their full potential and participate as effectively as possible and, in this community formed in the classroom, modelling and practising the moral and ethical principles that are upheld in the wider community (Sidogi, 2001).

Hehir et al. (2016) state the involvement of non-disabled students often had either favourable or neutral effects on their academic results, according to research by Ruijs and Peetsma (2009). Researchers further found that in three experiments, teachers who used tactics and instructional practices that accounted for the requirements of various learners showed positive results (Dessemontet & Bless, 2013; Hehir et al, 2016). This suggests that a learner's performance is more influenced by the overall quality of education in a classroom

than by whether or not they attended a school that also educates disabled learners (Hehir et al, 2016).

The current of state of education must be examined, in order for all students to engage and learn. This necessitates a review of the organisational structures used in our classrooms, programmes, and instruction. Another facet of inclusion that enables classrooms to engage every learner actively is the discovery of innovative instructional methodologies. An additional aspect is learning how to promote relationships, friendships, and mutual respect among all learners and between learners and teachers in the classroom. “The benefits of inclusive education are not only relevant to learners who experience barriers to learning, but also to all mainstream schools and the community at large” (Du Toit, 1997; Sidogi, 2001, p. 72).

Cologon (2019) released a fact sheet outlining the advantages of implementing inclusive education for the school system. She listed the following advantages for learners with barriers to learning, all learners, teachers and educators, families, and the community. Inclusive education ensures that all learners are ready to participate in class without having to earn it. It promotes acceptance, respect, and a sense of community while fostering awareness and appreciation of individual diversity. By allowing students to form friendships, it provides opportunities for growth and role modelling.

Inclusive education also improves communication skills and language development through active involvement. It supports a sense of community, encourages a self-concept of both giving and receiving assistance, and offers diverse play and learning activities that enhance physical development and enrich experiences. It cultivates important traits like trust, patience, and empathy towards others' needs. Additionally, it enables better individualized instruction, leading to higher-quality professional development for educators and increased personal satisfaction in their teaching abilities. Ultimately, inclusive education fosters

community cohesion, eliminates discriminatory practices, and provides support for parents to return to the workforce, benefiting their psychological and financial well-being.

2.3.3 Disadvantages of Inclusive Education

The most significant disadvantage being noted in South African education is the current legislative flaws which result in a lack of funding and development tools for inclusive education. Many advocates for full inclusion believe that all learners with special needs should be included in the general education classroom, even if they might be disruptive to the other learners (McCarty, 2006). Teachers and parents of learners in general education are concerned that full inclusion will degrade class standards and make socializing more important than studying (Irmsher, 1995; McCarty, 2006). For example, if a learner is so disruptive that the teacher is unable to teach, it is not beneficial for the other learners because they are not learning as quickly as they should be.

Unlike an education specialist, a general education teacher typically lacks the comprehensive expertise needed to assist a learner with disabilities, and many schools do not have the finances to hire educational specialists. If a learner is fully included throughout the day, they might miss out on the one-on-one time they need to comprehend the academic subjects in which they are weak and the special education services—such as occupational therapy, speech therapy, adapted physical education, and others—that they require (McCarty, 2006). If inclusive education does not address the barriers to learning experienced by the various learners in the classroom, it will unintentionally put obstacles in the way of their education (Davies & Green, 1998; Sidogi, 2001). Resources in general education classes may not be sufficient to ensure that mainstreamed students with special educational needs are learning. The classroom teacher must implement components of an individualized education programme to fit the needs of each student, but many teachers lack the support, time, and resources to be able to do this.

Although inclusion gives severely disabled learners the chance to access the general education curriculum, it can be argued that this exposure comes at the expense of intensive, research-based interventions that the special education teacher must provide (Sieber, 2019). In comparison to general education classrooms, special education programmes frequently include smaller teacher-student ratios, flexibility with curriculum, and pacing of learning (Zigmond, 2003; Sieber, 2019). These interventions may not be practical given the financial climate and the context of the public schooling system in South Africa. “Exposure to content and actual academic improvement are two key distinctions in the inclusion debate” (Sieber, 2019, p. 25). Gilmour (2019) issues a cautionary note against comparing a learner's educational placement with their actual academic development. Despite having access to the general education curriculum, learners with severe needs do not appear to be mastering the curriculum (Gilmour, 2019; Sieber, 2019).

2.4. White Paper 6

The worldwide community began pushing for inclusive education in 1990, beginning a drive to ensure that all children, youth, and adults have access to quality basic education on a global scale ((UNESCO, 1990; Donohue & Bornman, 2014, p. 2). The Millennium Development Goals (UNESCO, 2000) are a set of six specific objectives to meet this need for accessible education. After apartheid was abolished, all South African children were required to attend school, and segregated schooling practices were abandoned (Donohue & Bornman, 2014). To advance educational equality, the 19 various departments were replaced by a single national department of education (Maher, 2009; Donohue & Bornman, 2014).

The new DoE gave low-income schools a more considerable percentage of government funding in an effort to address some of the educational disparities between ethnic groups (Lam et al., 2008). White Paper 6 (EWP6) was subsequently developed as a new government policy for “a single, undivided education system for all learners, including

those with disabilities, in the hope that inclusive education" would serve as a fundamental element of a cohesive society (Donohue & Bornman, 2014, p. 2).

This policy intends to transform the current places of learning into full-service institutions that may increase access and offer education to all learners. Most rural schools are not considered "fully equipped" or "full service," meaning that they are not adequately equipped to support students with learning difficulties within the mainstream school system. This is due to the discrepancies that persist as a result of apartheid. By creating an integrated system for all learners (i.e., eliminating the distinction between special and mainstream schools), using a curriculum that is more adaptable and tailored to learners' needs, creating district-based support teams to provide systemic support for all teachers who need it, and enhancing teachers' abilities to manage more diverse classes, the White Paper aims to transform South Africa's educational system (Muthukrishna & Schoeman, 2000; Donohue & Bornman, 2014).

The Constitution of South Africa sets forth the guiding principles of this policy, with a particular emphasis on human rights and social justice for all learners; optimal participation and social integration of all learners; equal access for all learners to a single, inclusive education system; access to the curriculum for all learners so they can participate meaningfully in the teaching and learning process; equity and redress of past inequalities; sensitivity to and acceptance of all learners' cultural and linguistic differences; and sensitivity to and acceptance of all learners' needs (DoE, 2005; Nel et al., 2010). This can be achieved through strengthening education support services, with an emphasis on district-based support services (including special schools) and institutional support teams, one of the key strategies for achieving these goals in EWP6.

In order to ensure the implementation of this policy, the DOE has developed a set of conceptual and operational guidelines. The DoE developed the SIAS as a way in which to

identify, assess and enrol learners who need special attention in schools. “An innovative contribution of the SIAS document to education is the introduction of indicators to determine the levels of support needed (levels 1–3: low to moderate; level 4: intensive; level 5: very intensive). This approach to assessment marks a move away from ‘labelling’ learners, as the focus is on the support needed, rather than on a category of pathology” (Nel et al., 2010, p. 22). “Certain competencies of the SIAS process lie with different levels of authority within the system: (a) teachers, (b) school-based support teams, and (c) district-based support teams.” (Department of Basic Education, 2014, p. 18).

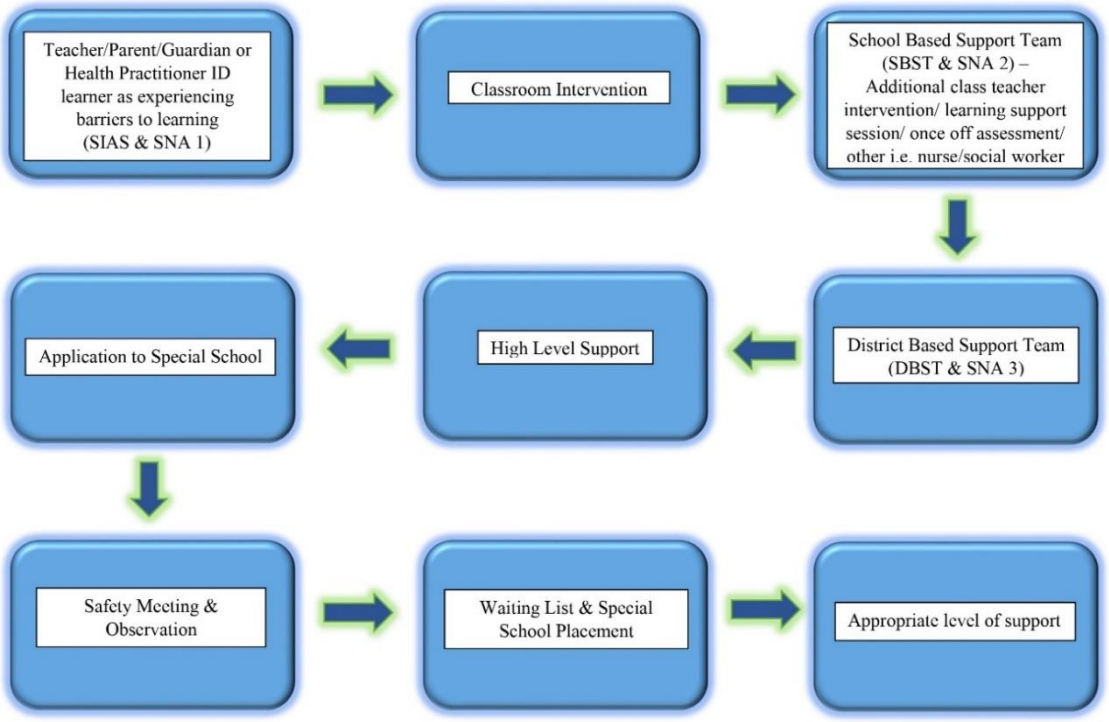
The teacher initially identifies the learner as at risk or vulnerable and assumes the role of a case manager who will drive the support process. The teacher begins the SIAS document process (refer to Figure 1 and Figure 2) while keeping the learner and guardian involved and informed about the process (refer to Figure 5). The teacher fills out the first form in the SIAS, which is the special needs assessment form (SNA1), and then the SNA2 form, which "guides the school-based support team (SBST) when a learner is referred to them" (Department of Basic Education, 2014, p. 30).

The learner is then referred to the SBST, which uses the SNA3 form to guide their interventions and support strategies. The implementation of White Paper 6 and the various guidelines intended to make the process easy still resulted in various challenges. The first of these is that teachers must have the appropriate training to teach learners with learning challenges to make the classroom inclusive. Secondly, the necessary support is oftentimes not provided by “districts and, in particular, the department for E-Learning and Curriculum Support Services, formerly referred to as the Education Support Services, or ESS, by parents and by the community” (Ladbrook, 2009, p. 4). Furthermore, the reality for some rural schools is that they are financially unable to have an SBST or that there are fewer than two members of the SBST due to limited financial resources. The SIAS process is explained in Figure 1 and

Figure 2 below.

Figure 1

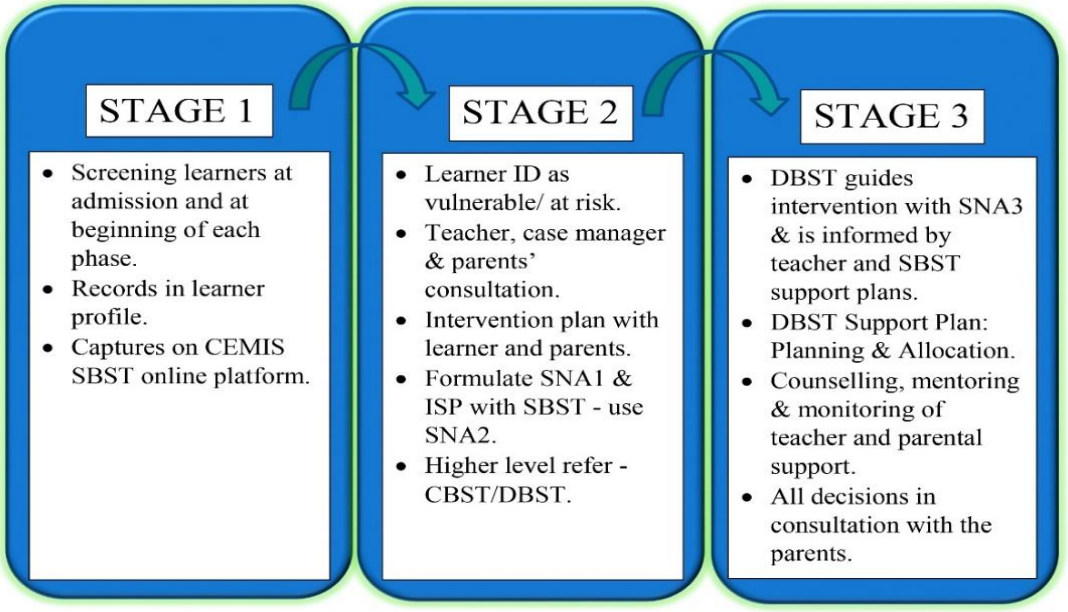
Department of Education: the SIAS Process in Detail



Source: Department of Education. (2008).

Figure 2

Department of Education:Three Stages in the SIAS Process



Source: Department of Education. (2008).

2.5. KwaZulu-Natal Department of Education's Inclusive Education Strategy

The DoE is spearheading the nation's transition to inclusiveness; however, given the disparities that exist in the educational system in South Africa, especially during the post-apartheid educational era, it was crucial to establish a strategy that would meet the unique needs of learners across all provinces. In South Africa, the nine provinces currently oversee and fund public education under the post-apartheid constitutional framework, according to Lemon (2004), albeit the central government is still in charge of formulating and coordinating policies. As a result, there are many "unfunded mandates—policy commitments embedded in national legislation that provinces lack the resources or human capacity to carry out—such as the reduction of learner-to-teacher ratios without a corresponding increase in resources to pay teachers' salaries" (Lemon, 2004, p. 272). This shortcoming is further evidenced by the dropout rates of learners recorded in 2018, which showed a variety of factors that influence non-attendance and dropouts (Figure 3) and a decline in the number of learners enrolled in classes (Figure 4).

Provincial governments' administrative and resource constraints are in conflict with the objectives for national policy. "The central government frequently finds itself unable to change the pace and direction of policy implementation in the provinces because doing so would require crossing the thin line between national powers and provincial authority" (Lemon, 2004, p. 273). As a natural outcome, it is up to each province to develop strategies that would be used to address the problems with their respective educational systems. "The IE strategy was born as a result of a joint project in 2001 by KZNDoE and the Media in Education Trust Africa (MIET Africa) which aimed at researching and developing a response to poverty and the Acquired Immune Deficiency Syndrome (AIDS) pandemic" (Ivala, 2016, p. 59). As a result of this project, a programme called "School as Centres of Care and Support" (SCCS) was developed in an effort for schools to provide nurturing and supportive

environments that will allow all learners to reach their full potential (Boukary & Argall, 2011).

The partners opted to use a few key components from the SCCS programme as the foundation of the IE policy for the KZNDoE in 2006. The KZNDoE's comprehensive IE plan, Schools as Inclusive Centres of Learning, Care and Support (SICLCS), which was created in response to the Education White Paper 6: Special Needs Education: Building an Inclusive Education and Training System, served as the foundation for this project (DoE 2001; Ivala, 2016). The IE policy was created by KZNDoE in response to the realization that learning barriers are probably caused by historical and contextual circumstances.

The KZNDoE created an IE policy that provided three tiers of support as a result (low, medium, and high) (Ivala, 2016). Low-level support was given through traditional schools and included basic curriculum and infrastructural adjustments to overcome learning difficulties. Selected Full-Service Schools (FSSs), which feature specialized staff, learning and teaching support materials, and facilities, offer moderate levels of support. Special Schools, which are dedicated to one-on-one training for students with severe disabilities, provided the third level of support (Ivala, 2016). As resources for IE, education facilities that were built to address rural development were also utilized. A number of support teams working within the schools, circuits, and districts provided the aforementioned support. The need for support becomes evident when one examines the data from 2018 that provides insight into the reasons for dropping out of school as well as the rate of dropouts per grade (see Figure 3 and Figure 4).

Figure 3:

Reasons for Non-Attendance of Educational Institutions (2018)

Reasons for non-attendance	**7-15-year-olds**	**16-18-year-olds**
Disability	24.5	4.0
Unable to perform at school	10.5	7.3
Education is useless or not interesting	9.3	7.1
Not accepted for enrolment	8.8	4.5
Illness	7.7	1.2
No money for fees	6.8	28.7
Has completed education/satisfied with	4.7	11.1
Failed exams	3.9	5.6
Too old/young	3.6	4.4
He or she is working at home or business	1.4	4.1
Family commitment (e.g., child minding)	1.3	7.1
Pregnancy	0.9	2.3
Do not have time/too busy	0.0	0.8
School/education institution is too far	0.0	0.2
Violence at school	0.0	0.1
Other	16.8	11.5
Total	**100.0**	**100.0**

Source: Statistics South Africa, General Household Survey (GHS), DBE own calculations.

Note: Calculation based on the population of 7-15-year-olds and 16-18-year-olds

Note: Non-attendance is exceptionally low amongst 7-15-year-olds (about 1%).

Figure 4

Survival Rates and Dropout Rates Associated with Each Grade.

2016-2018 Pooled datasets (For those born 1992-1994)			
	Survival rate	**Survival per 1000 youths**	**Percentage dropping out after attaining this Grade**
Total cohort	100%		
No schooling		1000	0.68%
Grade 1	99.32%	993	0.10%
Grade 2	99.22%	993	0.23%
Grade 3	98.99%	990	0.31%
Grade 4	98.68%	987	0.34%
Grade 5	98.34%	983	0.58%
Grade 6	97.77%	978	1.31%
Grade 7	96.48%	965	2.69%
Grade 8	93.89%	939	4.37%
Grade 9	89.79%	898	10.51%
Grade 10	80.35%	804	14.84%
Grade 11	68.43%	684	24.08%
Grade 12	51.95%	520	

Data source: *General Household Surveys 2016-2018, DBE own calculations.*

2.6. School Stakeholders

As outlined in the guidelines for education White Paper 6, the active involvement of school-based support teams is central to the identification of and intervention for learners facing barriers to learning. When a School-Based Support Team (SBST)/ Institution-Level Support Team (ILST) is absent in a school, the District-Based Support Teams (DBST) should

assist in its establishment (Department of Basic Education, 2014). SBSTs play a pivotal role in supporting teachers and caregivers through regular collaborative problem-solving sessions, addressing areas of concern, and facilitating support where needed. The intervention process, led by the teacher and facilitated by the SBST, follows a cycle in which on-site intervention and support are prioritized before seeking additional assistance from external sources (Department of Basic Education, 2014).

When interventions cannot be organized in a cost-effective way, the learners are advised to enrol in an institution that can provided a higher level of support. The decision is made in conjunction with the appropriate psychometric tests that further understand the learner's needs. The decision is approved by the DBST "based on a thorough evaluation of the learner and school profiles" (Department of Basic Education, 2014, p. 39). The SBST is the responsibility of the principal to establish in every school. It is composed of teachers at the school, including the principal, deputy principal, and teachers involved in the school's management. Administrative and care-taking staff can also become a part of the SBST. Teachers that have specialized knowledge in barriers to learning and those who work with learners who experience barriers to learning are given special consideration.

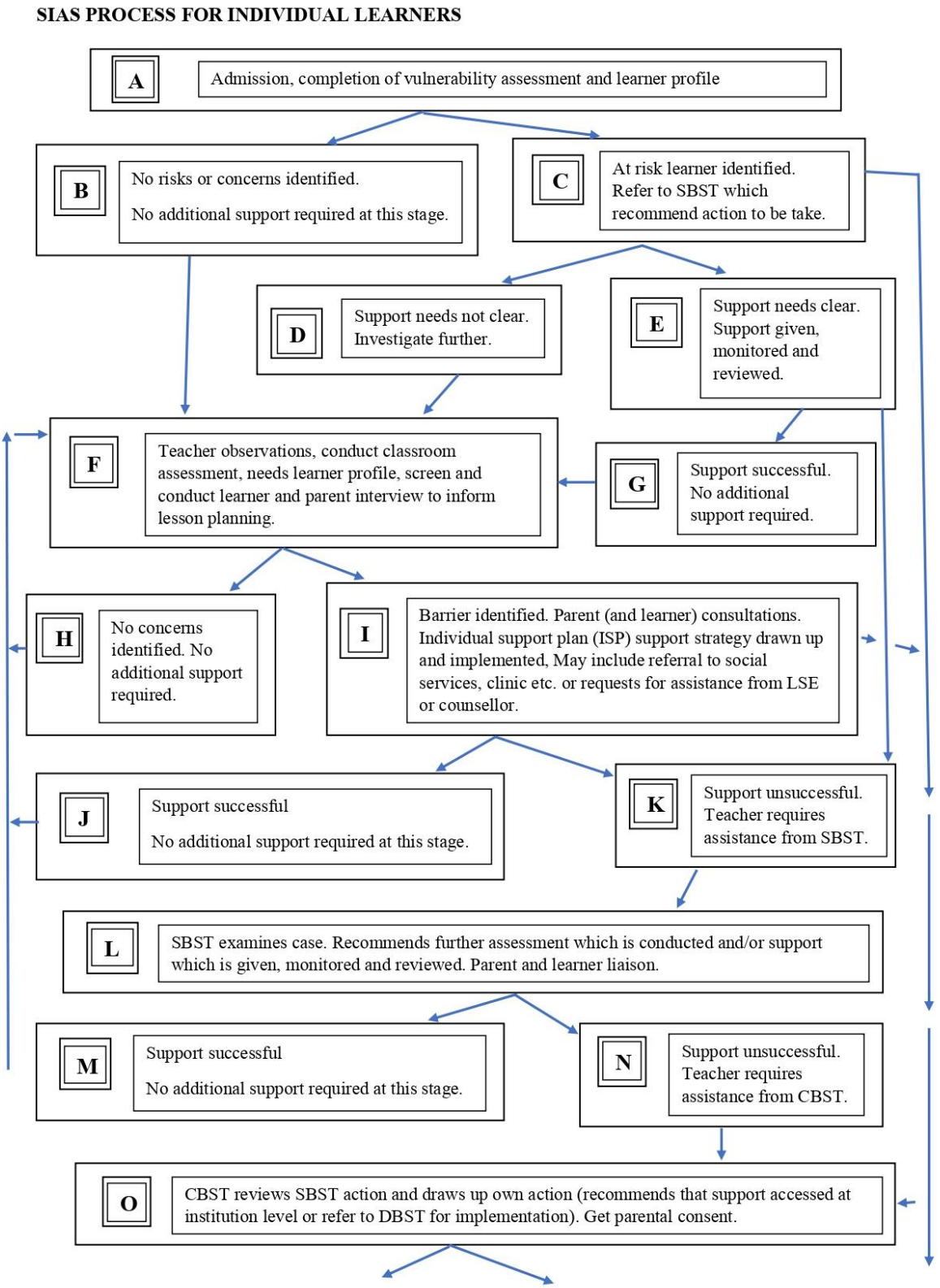
Members of the DBST and also community members, teachers from other schools, parents, and student representatives are invited to SBST meetings which concern challenges being faced by the school. The DBST assists in the SIAS process by providing the support needed for any identified learner. When support cannot be provided at a learner's current school, the DBST takes over that particular case. The SBST also makes it a point to involve the parent throughout the SIAS process. "The DBST should establish what kind of support is needed by the SBST in order to support the learner, what the strength of the SBST is and explore ways in which additional support can be obtained, assist the SBST to recognize further community-based support and also facilitate collaboration through the CSTL

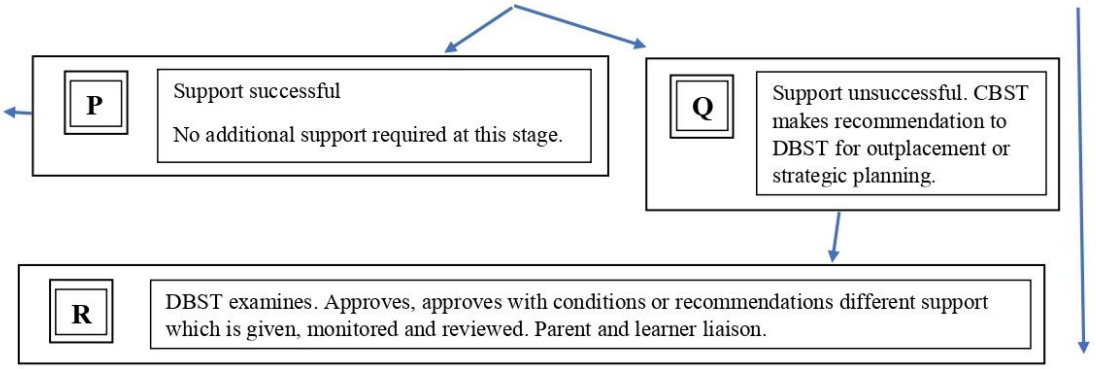
framework" (Department of Basic Education, 2014, p. 39).

DoBE (2014) lists the SBST's core responsibility as managing all school-wide support for learners, teachers, curriculum, and school development. This includes connecting the SBST to other school-based management structures and processes, identifying school needs, and jointly developing strategies to address them. Prioritizing teacher development, parent consultation and assistance, enlisting both internal and external resources, and monitoring and assessing the team's performance using an "action-reflection" paradigm are some of the primary responsibilities of the team. Figure 5 demonstrates the comprehensive SIAS process for individual learners and the stakeholder responsibilities.

Figure 5

SIAS Process for Individual Learners





Source: *Department of Basic Education. (2014). Policy on screening, identification, assessment, andsupport.*

2.7. Barriers to Learning and Development

2.*7.1.* *Socio-Economic Barriers*

Socio-economic barriers, posing a significant challenge for South African schools, particularly in underprivileged areas, stem from the enduring legacy of apartheid that entrenched economic inequality (Walker, 2014). These barriers, deeply rooted in historical injustices, adversely impact the quality and accessibility of education, influencing life outcomes (Ivala, 2016). Socioeconomic factors such as family income, parental education, race, and gender significantly shape the educational landscape. Rural schools, grappling with challenges such as inadequate infrastructure, limited study spaces and libraries, dilapidated classrooms, overcrowded conditions, lack of electricity, and the presence of unsanitary pit toilets, further exacerbate disparities (Ivala, 2016). The compromised infrastructure not only jeopardizes students' health but also hinders their ability to concentrate and excel academically, highlighting the urgent need for comprehensive interventions to address these systemic issues.

Despite efforts made by the Act 108 of 1996 (RSA, 1996) to ensure that all children

between the ages of 7 and 15 must attend school, many parents find themselves unable to comply with this requirement due to high unemployment rates (Mnguni, 2017). Low socio-economic communities frequently have underfunded school systems, which has a negative impact on learners' academic development and results (Aikens & Barbarin, 2008). The community's low socio-economic status is maintained by inadequate education and rising dropout rates, which have an impact on children's academic performance. Improving school systems and early intervention programmes may help to lower some of these risk factors.

2.7.2. Attitudinal Barriers

Attitudinal barriers are mental obstructions caused by assumptions and attitudes. These barriers form during the course of a person's life and are influenced by both internal and external experiences. In inclusive education, the views and attitudes that teachers may hold regarding the educational services provided to children with disabilities are evidence of these mental obstructions caused by assumptions and attitudes (Pivik et al., 2002; Ryan & Struhs, 2004; Darrow, 2009; Freer, 2021). Perception, individual beliefs, culture, status, and emotionality are a few of the most prevalent attitude barriers. Many people's negative opinions about disabled students come from their assumption that they might not have the required abilities to learn alongside students who are fully abled. These unfavourable attitudes extend to other learners who mock disabled students and attack them physically and verbally, further marginalizing them.

2.7.3. Inflexible Curriculum

One of the biggest obstacles to learning and development may be found in the curriculum itself. In the case of a rigid curriculum, it is impossible to accommodate the various needs of learners. Learning breakdown happens when students cannot access the curriculum (Motitswe 2012; Zwane & Malale, 2018). At all educational levels, the curriculum's nature involves a variety of elements that can either support or hinder good

learning. Sidogi (2001, p, 61) elaborates on the concept of an adaptive curriculum stating that benefits of the grade level curriculum should be available to all learners with a single national curriculum framework for all learners that is guaranteed to address each learner's learning barriers.

In an effort to remove barriers to learning in the classroom, Wium and Louw (2015) suggest differentiating the curriculum to take into account diversity and variations in learners' skill levels. To guarantee that all students succeed and have access to learning, differentiation is a crucial technique that asks for changing the learning environment, including classroom management, as well as teaching and evaluation strategies. This is seen as necessary to customize and offer learning material at various levels of complexity in order to accommodate all in the educational system.

2.7.4. Lack of Teacher Training

All learners' first line of defense and intervention at school is their teachers, due to the frequency at which they interact with the learners, the time they spend with the learners and the trust that is developed with the learners. As a result, when a learner is not performing well in the classroom, all interested parties ask the teacher for explanations. Given this, it is critical that teachers receive the right training and support in order for them to be able to intervene when necessary and to make the necessary modifications to ensure that learners succeed. Regular teachers are rarely well prepared for working in diverse classrooms, and they are especially lacking in the self-assurance, expertise, and capabilities to support students who have learning challenges (Zwane & Malale, 2018, p. 3). Savolainen (2009) suggests that the quality of an educational system cannot surpass the quality of its teacher's education and that teachers serve as the first line of intervention in ensuring the quality of education and inclusivity of the education of learners.

According to Zwane & Malale (2018), teachers' attitudes toward inclusive education

may not be motivated by a desire to advance a biased view of education, but rather by a lack of training on how to handle challenging learner situations. Particularly among teachers, a lack of continual in-service training frequently results in feelings of fear, uncertainty, low self-esteem, and a lack of new teaching techniques developing in the classroom (Department of Education, 1998; Zwane & Malale, 2018). This could lead to hostility and negative attitudes toward learners who experience a learning breakdown or toward certain supporting factors (Zwane & Malale, 2018).

According to research conducted by Zwane and Malale (2018) on teachers in Swaziland, the teachers' training in inclusive education and in identifying learners with problems was insufficient and improperly designed to assist teachers in the classroom. This complaint is shared by the majority of teachers in non-specialized public schools in South Africa. Inclusionary education is frequently perceived by teachers as something they are expected to do, frequently without any assistance or resources, and it becomes a burden rather than a collaborative endeavour (Singal, 2009; Schuelka, 2018). Therefore, it is crucial that school officials provide an inclusive and innovative atmosphere for teachers to succeed and that teachers have the knowledge and abilities to design inclusive classrooms. In the past, the only means of receiving training in inclusive education methods were workshops and ongoing professional development. However, evidence from research revealed that these methods had little to no effect on systematic changes made in the classroom to accommodate various learning barriers (Fullan, 2007; Rose & Doveston, 2015; Kuroda et al., 2017; Schuelka, 2018).

2.7.5. Language and Communication

Language was used to restrict access to education during apartheid, and even after it ended, language barriers have continued to pose difficulties for students learning in the classroom (Tshotsho, 2013; Friedman, 2019). Since there are eleven official languages in

South Africa, many teachers and learners do not speak English as their first language. “This creates logistical difficulties which, together with the widespread preference for education in English, results in the Revised National Curriculum Statement’s (RNCS) language policy only being partially implemented.” (Vesely, 2000; Adler, 2001; Department of Education, 2002; O'Connor & Geiger, 2009, p. 23). Success in the classroom depends on the teacher's discourse and interactive skills.

Effective communication skills and a high degree of language competence in the instructional language are essential for success in the classroom (Dippenaar & Peyper, 2011). Regardless of the subject or learning area they teach; teachers need to be aware of the value of language in their classrooms. The ability to communicate in general language serves as the foundation for day-to-day activities, but the level of proficiency demanded of teachers goes beyond this to increase the depth of subject-specific fluency and interpersonal language ability (Elder, 2001; Uys, 2006; Dippenaar & Peyper, 2011). The South African Schools Act (Act No. 37 of 1997), the Use of Official Languages Act (No. 12 of 2012), and the Constitution of the Republic of South Africa (1996) are just a few of the laws that have been passed in South African schools to combat educational inequality and promote desegregation of schools in South Africa (Vandeyar, 2010; Friedman, 2019). However, as English is still widely used in schools as the primary language of communication, many learners have struggled with language barriers to learning.

“According to Owen-Smith (2010), the majority of African-language kids who are learning English through other mediums will only score between 20% and 40% in English by the time they reach Grade 12” (Friedman, 2019, p. 34). These children suffer from the disadvantage of not performing at their highest level because they are not learning in their home tongue. As a result, pupils who struggle with their studies regularly because of language barriers face the danger of having low self-esteem (Owen-Smith, 2009). According

to Lafon (2009), dropout rates and inability to finish the educational cycle are substantially more prevalent.

2.7.6. Inappropriate and Inadequate Provision of Support Services

To support diversity and make it possible for teachers, learners, and other stakeholders in the education system to minimize, eliminate, and prevent potential barriers, specific enabling structures and processes are required (Tuswa, 2016). In the absence of such services, obstacles cannot be overcome, and ineffective or unsuitable support services may be a factor in learning breakdown. Lack of knowledge and abilities among teachers and support staff causes reluctance to address a wide range of learner needs (Department of Education, 1997). Training is frequently unsuitable, ineffective, inadequate, disorganized, and fragmented (Brandon, 2006; Tlale, 2007).

In underprivileged communities, there are frequently fewer or limited access to essential services that could aid learners and the system in minimizing, removing, or preventing barriers from emerging (Tuswa, 2016). This is particularly true in rural places where there is little to no access to expert help. Therefore, services that contribute to effective learning, and the inadequate or unequal distribution of services that do exist may further disadvantage learners (Tuswa, 2016). The process of training teachers and other staff members who work with students is a significant additional component. According to Ahuja (2007), inadequate and fragmented development of human resources causes lack of knowledge, inappropriately fragmented and context-inappropriate service provision, and fear of addressing a wide variety of demands (Tuswa, 2016).

2.7.7. Lack of Parental Recognition and Involvement

Parental involvement is the process by which parents actively engage in their children's various educational endeavours (Myeko, 2000; Chindanya, 2011). Effective education requires strong parent involvement and connection with schools, and cooperation

between the home and the classroom can increase academic accomplishment (Nojaja, 2002). Sifuna (2007) argues that parent-school involvement occurs when there is a balance between supply (availability of trained teachers, infrastructure, and instructional materials), demand (parent's and children's motivation, desires, and attitude on the opportunity cost of schooling), and learning processes (children's effective learning experience in the classroom).

Parental involvement goes well beyond simply supporting a child's academic career; it also involves showing genuine concern for the child at home and taking into account the child's mental and physical health in order to help the child perform better. Parental engagement is often defined as the beginning of behaviours at home, like checking homework, as well as behaviours at school, including going to school events and interacting with teachers (Holloway et al., 2008; Chindanya, 2011).

It is important to take into account the many barriers that exist in parents' getting more involved in their children's education. Khol and McMahon (2000) claim that parents' perceptions of teachers' responsibilities and their comfort level in speaking with them may partly reflect their own educational experiences. Lack of vision, confidence, or competence in raising one's own children may result from poor or restricted personal education. According to Kajinga (2005), the family environment is vital for the early development of a child's literacy. The lack of confidence that a parent has can also make literacy skill development intimidating for the parents to engage in at home. Children who grow up in literate homes have an advantage over their peers who grow up in illiterate or semi-literate homes, and are more likely to succeed in formal education (Kajinga, 2005; Chindanya, 2011).

This suggests that children who do not receive reading skill development are not on the same scale of achievement, which already puts them at a disadvantage scholastically. However, because of the low socioeconomic conditions, parents have little time to devote to helping their children after returning from working to support the family, , which frequently

leaves the duty of the school solely to the learner.

2.8. NeuroScreen as Strategy to Overcome Barriers to Learning

There has been agreement on certain strategies that may be used in the restructuring of the system, including changing the educational system, creating an integrated educational system, developing a flexible curriculum, encouraging parents' rights and obligations, creation of a network of community-based resources, and programmes for educators' growth (Department of Education, 2001; Muthukrishna & Schoeman, 2000; Tlale, 2007).

Numerous strategies have been established and still others are being developed in an effort to solve the learning obstacles that learners experience in the classroom. “Adolescents with NCI exhibit slowed processing, deficient memory and attention; motor symptoms, such as a loss of fine motor control; and behavioural changes” (Green, 2007). This means that all service providers, school professionals, and family members should work as a team to develop unique interventions, taking into account the differences in the child’s brain (Green, 2007). Neurological testing is one of the aforementioned approaches to the budgetary restrictions faced by schools in rural areas who cannot afford to pay an educational professional, such as an educational psychologist, to administer psychological testing to learners who have been recognized by the SIAS process as having barriers to learning in the classroom.

It is widespread practice to offer one or more standardized, norm-referenced tests to learners as part of cognitive assessment, but it is also important to acknowledge the value of other data sources. In other words, cognitive assessment only provides a source of information to support categorization judgments, such as Specific Learning Disability (SLD), Intellectual Disability, and Gifted and Talented learners. Additionally, results from cognitive assessments shed light on a learner's mode of learning and the reasons behind their academic difficulties (Compton et al., 2012; Sanders et al., 2017). When combined with other crucial data sources,

this information helps in formulating recommendations, instructional strategies, and interventions.

It may be possible to address specific academic skill weaknesses with instruction and intervention within a response to intervention (RTI) framework, shedding further light on SLD through these methods. The question of whether the student's failure to respond to intervention is or is not a sign of SLD remains unsolved when high-quality instruction and evidence-based intervention are ineffective. Thus, a gap was discovered, and the NeuroScreen tool, a mobile application, was created to try and address the issue. “Although the NeuroScreen application was originally created for HIV-associated cognitive disorders; and the Brief Peripheral Neuropathy Screen (BPNS) for distal sensory polyneuropathy (DSPN) in HIV” (Robbins et al., 2018, p. 1), it has been integrated to include cognitive testing to assist learners who are facing barriers to learning in the classroom. For NCI screening, a mobile application for tablet devices, designed for use by all levels of staff, including community health workers, requires minimal training to use, is available in multiple languages, can be used on and offline, and syncs and stores data securely in the cloud.

The latest Android operating system software application utilizes the touchscreen capabilities of tablets to significantly automate neuropsychological assessments (Robbins et al., 2018). The application will soon be able to test for more of the domains described below in order to test for more learning barriers. In order to understand why the NeuroScreen tool might be a potential solution to the problems preventing learners from obtaining the support they deserve, it is essential to understand the kinds of domains the program is now examining.

This application includes tests of: learning, which is ability to use verbal and nonverbal indications for learning; memory, the ability to acquire and retain new knowledge, develop connections with the content they are studying, and form links between concepts; working memory (aural and visual) which is the capacity to store knowledge in consciousness

for flexible usage (Harvey, 2019); information processing speed, which refers to cognitive processing tests that demand quick completion of tasks ranging from the extremely simple to the complicated (Harvey, 2019); executive functioning, which is set of behaviours that demonstrate control over other subsystems of cognition, allowing for the efficient use of cognitive resources for problem-solving and long-term planning (Diamond, 2012; Harvey, 2019); and motor speed, which refers to the ability to quickly and correctly scan and sequence simple visual information (Horning & Davis, 2012).

"It is an inexpensive and brief tool intended to provide rapid, reliable results and to be applicable for use by non-neurological personnel in large numbers of patients at multiple sites" (Ellis et al., 2005, p. 504). The battery of neuropsychological screening tests is integrated into a graphical user interface that automates test administration and enables simple data management and reporting (Robbins et al., 2018). Every test in the NeuroScreen tool is automatically timed and scored; no manual scoring, score conversion, or synchronized use of stopwatches is necessary (Robbins et al., 2018). High school learners will now have remote access to useful information about themselves and their studies as a result of the NeuroScreen mobile application's standardization for use by young people. Particularly now, when remote learning is prevalent because of the Covid-19 pandemic, assessments may be given without interfering with high school students' regular schedules.

Administrators are compelled to follow all of the specified directions in order to guarantee that each administration is consistent. Additionally, audio-visual instructions are provided for 8 of the 10 examinations, which is helpful for groups with low literacy levels (Robbins et al., 2018). Since the NeuroScreen tool operates on a tablet and does not need an internet connection, it is portable and enables screenings to be conducted in practically any setting, including distant or rural clinics or busy, crowded metropolitan clinics that need flexible use of examination rooms (Robbins et al., 2018).

2.9. Theoretical Framework

Abend (2008) states that a theoretical framework underpins a research theory, elucidating the research problem and directing the study within important guiding hypotheses. The research problem is made clear and questioned within the boundaries of critical assumptions thanks to its introduction and description of the theory (Swanson & Chermack, 2013). The philosophy of inclusion and the social model of disability are the foundation for this study. People's perspectives on what others can accomplish and how organisations and our environments should be organised can alter when the social model of disability is used as a theory rather than the medical model.

2.*9.1. The Philosophy of Inclusion*

The idea of inclusion within the context of education served as the foundation for this study. “The inclusion concept sees education as a human right that is founded on the ideals and principles of fairness, social justice, respect, and acceptance” (Engelbrecht, 2006; Mnguni, 2017, p. 17). Inclusion, as defined by Mittler (2012), is a notion that entails a fundamental rethink of policy and practice as well as reflecting a different way of thinking about the causes of learning and behavioural difficulties. The traditional strategy and medical model are predicated on the notion that a child is primarily responsible for the development of learning difficulties.

A school that is dedicated to inclusion must provide opportunities for all learners to succeed academically and socially in accordance with their unique socio-personal characteristics (Ainscow et al., 2001; Escarbajal et al., 2012; García-Vita, 2021). A school or classroom should use the inclusion concept to create environments where every learner, irrespective of their talents or shortcomings, is a full member of the learning community and where learners advance together in their academic endeavours (García-Vita, 2021). Since 1994, policies in South Africa have prioritized inclusion. According to UNESCO’s 2002

report, a larger goal of inclusive education is putting a human rights-based framework into practice, and creating a more effective society, (Mnguni, 2017). All learners, not only those with disabilities, benefit from this reform's improved system efficacy. It will need a shift in people's perspectives to make this a reality and to establish more accepting norms and behaviours (Mnguni, 2017). The social model of disability helps people recognise barriers that make life harder for people with disability. Eliminating these obstacles promotes equality and gives disabled individuals greater freedom, choice, and power, which is a key element of inclusion.

2.9.2. The Social Model of Disability

The study aims to assist learners identified by using the NeuroScreen tool with learning barriers. It is crucial for schools, as an extension of the DoE, to make accommodations by recognising and eliminating the barriers that make life harder for learners with barriers, an approach which best fits the paradigm of the social model of disability, rather than the medical model (refer to Figure 6 for a simplified display of this this distinction). Furthermore, in order to make decisions concerning the learners with whom they interact, teachers should decide which model best captures their conception of disability (Longfellow, 2020). Prior to the 1970s, according to Shakespeare (2010), disability was diagnosed, categorized, and treated as a problem that belonged to the impaired individual. It was not seen as an issue to concern anyone other than the individual affected. Suppose, for instance, that a learner in a wheelchair is unable to enter a building because of the stairs. According to the medical model, the wheelchair, not the stairs, is to blame for the difficulty. This approach suggests that difficulties associated with disability are the responsibility of the disabled individual, and that the disabled individual should adapt to fit into society. The main focus of this model is on the disability, not the person.

Oliver (1990) shares that there was little understanding of how the environment and

unfavourable attitudes kept people with disabilities out of society. Discrimination against disabled individuals was commonly tolerated and unopposed (Oliver, 1990). According to Longfellow (2020), the Union of the Physically Impaired against Segregation, a disability rights organization, disagreed with the idea that individuals with disabilities should adapt to their surroundings and pushed for an inclusive society in the United Kingdom in 1972. Their action helped to redefine disability for particular groups of people and draw attention to the discrimination and marginalization of individuals with disabilities (Longfellow, 2020). The term "social model of disability" was first used by Mike Oliver in 1983 to refer to this new understanding of disability, which constituted a substantial shift from the prior "medical model" of impairment.

The inclusive movement's foundation is the social model of disability, which promotes the removal of barriers to full social inclusion (Lalvani & Broderick, 2013). The social model has given way to different models of disability over time which offer a way to express the varied lived experiences of disability and include the cultural, citizenship, socio-relational, political, human-rights, and bio-psychosocial models (Longfellow, 2020; Mitchell & Snyder, 2015; Lalvani & Broderick, 2013; Parekh, 2014; Thomas, 2004; Pilgrim, 2002). This is the reason why the idea of inclusive education is based on the social model of disability. In this sense, it is understood that social barriers, rather than individual differences or disabilities, are what cause people to be disabled.

The social model suggests that it is society that disables people. The model suggests that if someone has a physical, sensory or learning impairment, the disability only occurs because an individual is excluded because of their environment. In other words, if barriers are removed these individuals will become able, although their condition has not changed. Instead of looking at the disability, the model suggests looking at the individual, asserts that much can be done to ultimately remove some of the disabling barriers, and that this is the task and

responsibility of society rather than the disabled individual. Certain adjustments should be made to ensure that disabled people should not be excluded. The principle of this theory is that the individual is the expert of their requirements, and this should be expected regardless of whether the disability is obvious or not.

A few studies explore disability through the lens of the social model of disability. The article titled "The application of the social model of disability and Wilson's model of information behaviour towards effective service delivery for students with disabilities within an academic library context," authored by Eneya and Mostert (2019), explores the applicability of the social model of disability. This paper critically examines the use of the social model of disability in various studies. One such study that employed the social model of disability in the context of students is the research conducted by Anderson (2018), titled "Autism and the academic library: A study of online communication."

Anderson's exploratory study, using an unobtrusive qualitative content analysis design, delves into the experiences of students with Autism Spectrum Disorder (ASD) within academic library settings. The study aims to comprehend their inquiries, concerns, and overall experiences in utilizing library resources. By adopting the social model of disability, Anderson's research ensures the authentic representation of the voices of students with ASD, allowing their perspectives to emerge independently of the influence of parents, caregivers, faculty, or staff.

Similarly, another study that employed the social model of disability among students is the research conducted by Majinge and Stiwell (2014), titled "ICT use in information delivery to people with visual impairment and on wheelchairs in Tanzanian academic libraries." This study discovered that Information and Communication Technologies (ICTs) facilitated information provision for individuals with visual impairments and those using wheelchairs. However, a notable finding was the absence of adaptive or assistive equipment in

Tanzanian academic libraries tailored to the needs of individuals with such disabilities.

2.9.3. Limitations of the Social Model of Disability

The notion that people with disabilities should ignore their impairments, is however, one of the limitations of the social model approach. More particularly, the social model so vehemently rejects individual and medical approaches that it runs the risk of stating that impairment is not an issue (Shakespeare, 2016). Howard (1999) states the second limitation as the paradigm being dualistic; the emphasis that makes it such a potent instrument also limits the role of impairment in the formation of oppression. The third limitation shared by Shakespeare and Watson (2001) is that the social model of disability has devolved into a straw man and runs the risk of doing a disservice to those with disabilities by focusing solely on oppression.

2.10. Conclusion

The notion of inclusive education was covered in this chapter in relation to the South African educational system, both in the context of mainstream and special schools. A child's constitutional right to an education is addressed by the policies that have evolved in an endeavour to move the educational system away from the apartheid era and toward being inclusive.

The necessity for educators and schools to be better prepared for inclusion through support is implied. This is necessary because, with the exception of a small number who were educated to work with students who have learning obstacles, most educators were initially only prepared to teach in mainstream schools. In the past, teachers did not consider learners who had learning difficulties to be a part of their lives, instead referring those learners to special schools. The way teachers view inclusion and learners with learning disabilities is a key factor in the success of inclusive education. The difficulty facing the education community in South Africa is how to implement inclusive education successfully and

efficiently.

The breakdown occurs between the expectations of what teachers should be doing in the classroom and their lack of adequate preparation to foster such change, as well as their lack of adequate support and training. This change initiative becomes an additional burden for teachers who are already dealing with issues such as a lack of parental recognition and involvement, a lack of human resource development strategies, inappropriate and inadequate provision of support services, language and communication challenges, attitudinal barriers, inflexible curriculum, and a lack of teacher training. This study assessed these perspectives in order to evaluate how the implementation of inclusive education may be impacted by teachers' attitudes and the absence of resources in rural communities to serve learners who have developmental and learning issues.

Chapter 3

Methodology

3.1. Research Methodology

The study will be utilizing a qualitative research approach. “Qualitative researchers stress the socially constructed nature of reality, the intimate relationship between the researcher and what is studied, and the situational constraints that shape inquiry” (Denzin & Lincoln, 2011). They are interested in finding out the answers to inquiries that focus on how social experience is produced and given meaning. This asserts that reality is not only constructed out of one experience but rather many different realities. It was necessary to employ a qualitative research methodology because it allowed the researcher to learn in-depth details about the conceptual understanding that teachers and employees of the district office possess, as well as whether they have the necessary skills to interpret the findings of the umbrella study, *The Azenza study of risk and protection in adolescence - Early identification of neurocognitive impairment in adolescents in secondary schools in KwaZulu-Natal*.

The advantage of using a qualitative research approach is “that it produces a thick (detailed) description of participants’ feelings, opinions, and experiences; and interprets the meanings of their actions” (Denzin, 1989; Rahman, 2020). This allows the researcher to be able to understand the experiences of specific individuals in different social contexts. Qualitative research methods, including participant-observation, unstructured interviews, direct observation, and the description of records, are among the most commonly used techniques for collecting data (Köhle et al., 2022). During the data collection, the researchers interact with the participants directly, such as data collection through interviews. Consequently, data collection is subjective and detailed (Rahman, 2020). Lastly, some scholars argue that the qualitative method of interpretation is a comprehensive understanding of human experience in specific environments.

3.2. Research Design

According to Leedy (1997), a research design is a blueprint for a study that provides the overarching framework for data collection. It is described as a strategy for choosing participants, research locations, and data collection techniques to address the research questions and produce outcomes that are deemed reliable (MacMillan & Schumacher, 2001). This study made use of an exploratory research design. Exploratory research is a methodological approach that examines research topics that must be thoroughly investigated. An exploratory researcher seeks new information, perceptions, comprehensions, and interpretations. Exploratory research is essential to a study and can bring valuable and perceptive information; whatever is being examined is approached with the intention of becoming holistic (Casula et al., 2021).

The exploratory researcher needs to have enough imagination to analyse the expanding data and develop novel understandings or new interpretations that were not previously known (Brink, 1998). Exploratory research focuses on specific topics that could be challenging to note without exploratory research, as well as to establish research priorities, gather data, and guarantee that subsequent research is taken into account during a study (Stebbins, 2001). It may make use of methods like secondary research, such as examining the literature and/or data already available (Stebbins, 2001). This study used information already available regarding places in the KwaDedangendlale region that students recognized as facing learning difficulties could use.

3.3. Research Paradigm

The research study adopted the interpretive paradigm. This paradigm emphasized how individuals interacted with and related to one another and how they "created" the social reality by sharing meanings. According to Blanche et al. (2006), to access and comprehend reality, people needed social creations like language (including text and symbols), consciousness, and

shared meanings. This paradigm was suitable for this study because it enabled the researcher to comprehend any past information and experiences the participants may have had with working with students with learning difficulties. Additionally, they could clarify the teachers' perceptions of the environment prior to the NeuroScreen tool and the benefits after the NeuroScreen tool.

The opinions and experiences of teachers were crucial because they served as the first line of defence for learners who faced barriers. This paradigm allowed people to share their voices by considering that reality differed from the view of different people. It was essential that the emotions attached to their experiences be communicated as it allowed the researcher to understand such experiences. Interpretive research had to provide a voice to participants, ensuring their voices were not silenced, disengaged, or marginalized (Creswell & Poth, 2016). Interpretivism pointed out that the individual saw the social reality according to the ideological position he held and interpreted it. Therefore, instead of acquiring or imposing knowledge from outside, it was personally experienced.

3.4. Sampling

Sampling, as described by Mugo (2002), involves refining the statistical population to a small portion to gather information about the entire population. This small portion is commonly known as the sample. Non-probability sampling, coupled with the snowball sampling technique, will be used to sample participants for this study. According to Biernacki and Waldorf (1981), snowball or chain referral sampling involves building a study sample through referrals among people who share or know of others possessing characteristics of research interest. This method is frequently employed when accessing or locating the target population proves challenging, as in this study with teachers from the selected high school who participated in the NeuroScreen tool trial and expressed their willingness to participate, due to time constraints. Snowball sampling begins with an initial group meeting specific

criteria, and these participants then refer the researcher to others in their network, creating a chain-like effect or "snowball" (Parker et al., 2019). The sample size expands through successive referrals until a sufficient number of participants is reached, or data saturation occurs, indicating that new participants no longer provide substantially different information.

The study faced challenges related to time constraints and limited financial resources, hindering the coordination of telephonic interviews and in-person visits for the remaining interviews at the school. Consequently, the sampling method was shifted to convenience sampling. This approach involves participants being referred by another researcher from a different study, streamlining the recruitment process by relying on readily available individuals (Stratton, 2021). Convenience sampling is characterized by selecting participants who are easily accessible to the researcher, and in this case, the referral mechanism enhances the convenience of participant recruitment (Stratton, 2021). While this method facilitates efficiency, it is essential to acknowledge potential limitations, such as sample bias, inherent in convenience sampling.

This study's population is teachers in the chosen high school/s from the KwaDedangendlale area and district office members: -

- The inclusion criteria specified that participants be (1) teachers/district members, (2) from a high school in the KwaDedangendlale area in KwaZulu-Natal, (3) be either isiZulu or English-speaking and (4) capable of consent.
- Exclusion criteria were (1) not meeting one of the preceding criteria and (2) the incapacity to engage or offer informed consent based on clinical judgment of providers.

3.5. Data Collection

The chosen method for data collection in this study was interviews, defined as a conversational approach for gathering information, involving an interviewer who posed

questions and an interviewee providing responses (Easwaramoorthy & Zarinpoush, 2006). The study employed both semi-structured and unstructured interview styles, with questions developed in alignment with the research topic, objectives, and literature review. In collaboration with the Asenza Project and UKZN, the study involved adapting consent forms from the original study conducted by the Asenza Project and UKZN.

The researcher, affiliated with the Asenza study on risk and protection in adolescence (refer to Figure 6), invited teachers and district members who had previously participated in the original study to join this research study. Semi-structured interviews were deemed appropriate for this study to gather in-depth information about the NeuroScreen tool test. The trial's progress, illustrated in Figure 6 from the Asenza supplement study, guided the research and the research questions. The interview approach involved open-ended questions rather than a rigid format, allowing for a more conversational and probing exploration, particularly suitable for complex topics (Easwaramoorthy & Zarinpoush, 2006).

The advantage of using interviews in the study lay in their ability to allow the researcher to comprehend participants' attitudes and experiences, uncover specific shared insights, and reveal patterns. This method facilitated the capture of emotional data influencing decision-making responses. The chosen sampling method for gathering potential participants was snowball or referral sampling, aligning with the inclusion criteria for the interviewees. Permission from the umbrella study (Appendix D) allowed the researcher, in collaboration with the school, to gather individuals through referral by the school. To proceed with data collection, approval from the Humanities and Social Science Research, Research Ethics Committee (HSSREC) was necessary.

After gaining permission, the researcher identified teachers and members of the DOE district office through snowball or referral sampling. An interview schedule, guided but not dictated by the constructed schedule (Smith & Osborn, 2015), was prepared (provided in

Appendices B and C). Before the interviews, an information sheet of details for the study participants was provided to help them decide whether to consent to and commence the interview. Participants were required to sign a consent form. Conducted in both English and IsiZulu, long interviews took 30-60 minutes, with participants' consent for recording. Recorded interviews were transcribed and analyzed. To ensure confidentiality, participants were not compelled to disclose their identity or any personal information during the interview process, and pseudonyms were used to conceal their identity.

Interpretive research could have accommodated between six and eight participants, including teachers and district office members, for either long or short interview schedules. However, due to constraints in the study, the final sample comprised only three participants. The inadequate sample size hindered a comprehensive evaluation of the effects of the NeuroScreen tool on the school and staff. This limitation arose mainly from the constraints of time and the researcher's limited financial resources, which made it challenging to coordinate telephonic interviews and return to the school for the remaining in-person interviews. The saturation in the data was reached although a larger sample could have provided more nuance.

Saturation in convenience sampling is achieved when the researcher observes recurring themes, patterns, or information across participants, rendering further data collection redundant (Mason, 2010). This milestone signals that a comprehensive understanding of the investigated phenomenon has been attained. Indicators of sample saturation include the repetition of information, where participants consistently express similar themes or experiences, and the data redundancy from new participants adds little or no new insights (Francis et al., 2010). Francis et al. (2010) state that the notion of theoretical saturation is also relevant, especially in qualitative research, signifying that the data is sufficiently rich to support the development of theories or models explaining the phenomenon of interest. However, the concept of saturation is context-specific, contingent on the research question

and objectives, and researchers should carefully consider these factors when determining the sufficiency of their sample size in sampling.

Figure 6

An Example of the Asenza Supplement Study and Pilot.

Screening and Assessments at school:

- Assessments will be scheduled prior visitation
  - SBST will inform of adolescents to be screened
  - Logics will be communicated regarding learners to be assessed, room to be used and time of expected screening/assessment
- Screening will be done once a week
- A total of 5 learners can be screened in a given day
- Children and their parents/caregivers will be communicated with prior to the screening
- Administering the Neuroscreen tool
  - You are going to do a group of tasks to assess your thinking processes.
  - None of the task's hurts, they only involve answering questions and doing things with your hands.
  - There will be tasks involving memory, problem solving, concentration, language, and motor skills.
  - Some of the tasks are easy and others may be difficult.
  - Some tasks are timed, and others are not, however this is not a test.
  - Some tasks will tell you when to start and when to stop. Please do not be alarmed if you are told to stop in the middle of a task; it is normal and happens to everyone.
  - The assessment may seem a bit like a game, but this is a new way of assessments that we are trying out.
  - This evaluation will take between 20-30 minutes to complete

Source: *Asenza Supplement Study and Pilot Strategy Document (2020)*

3.6. Data Analysis

Maxfield and Babbie (2017) assert that the purpose of qualitative data analysis is to acquire a nuanced understanding of the material that surpasses common-sense interpretation. The aim of data analysis from this perspective is to provide thick description (a rich, detailed, and thorough description of the issue using the subject's own language) (Maxfield & Babbie, 2017). After the interviews were concluded, and the researcher familiarized themselves with the data, they identified recurring themes across various interviews by ordering and reordering the information, grouping and re-grouping it, and categorizing and re-categorizing it. This was accomplished using the method of thematic analysis, (refer to Figure 7 for a visual representation of the thematic analysis process).

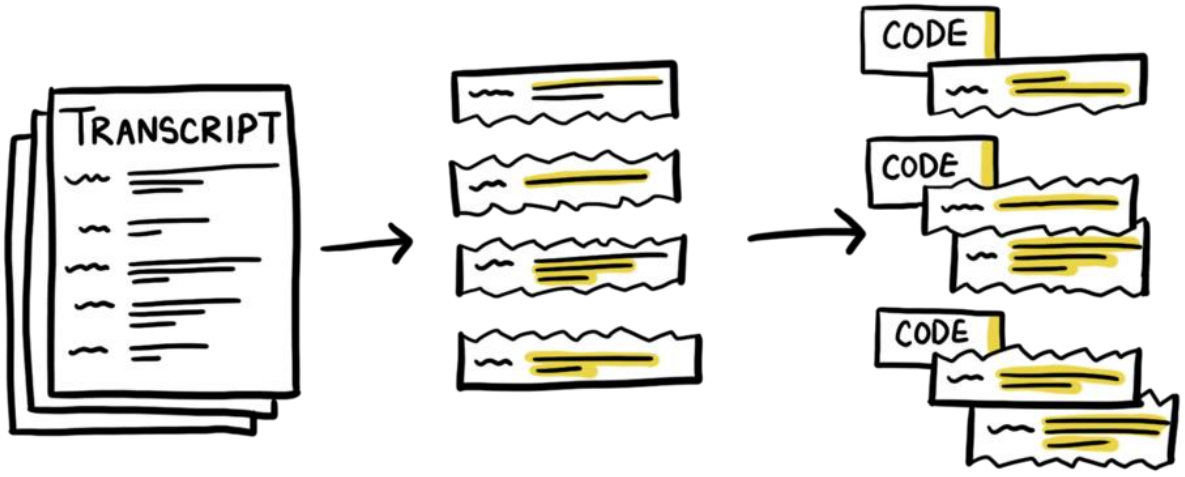
“Thematic analysis is a method for identifying, analysing, and reporting themes within data. It minimally organizes and describes your data set in rich detail” (Braun & Clarke, 2006, p. 79). Thematic analysis enable capturing the facts embedded in the data for what they are and not merely fitting predetermined hypotheses. Braun and Clarke (2006) outline a step-by-step guide for thematic analysis: (a) familiarizing yourself with your data, (b) generating initial codes, (c) searching for themes, (d) reviewing themes, (e) defining and naming the themes, and (f) producing the report.

According to Badat (2020), there are two objectives for data analysis: first, how to organize this vast amount of information to respond to the research questions, and second, how to organize it so that the reader can understand it and make sense of the larger phenomenon being studied. In the initial analysis stage, the researcher recorded participants' responses verbatim, analysing transcripts to understand their unique perspectives. In the subsequent stage, researchers meticulously analysed the transcripts to generate codes. In the following stage, responses were separated into different questions, examining similarities and differences. In the fourth stage, the discussions followed a systematic pattern to generate

themes. In the fifth stage, themes derived from participants' answers were categorized based on important headings. The report produced in the last stage includes the significant patterns in the findings that relate to the research questions. The process of thematic analysis is illustrated in Figure 7.

Figure 7

A visual Illustration of the Thematic Analysis Process



Source: Zubair, M. (2022). *Tips and Tricks of Exploring Qualitative Data.* https://delvetool.com/learn

3.7. Trustworthiness

The terms ‘reliability’ and ‘validity’ are used to determine the credibility of a study. “Credibility of the study, or the confidence in the truth of the study and therefore the findings, is the most important criterion” (Polit & Beck, 2014; Connelly, 2016, p. 435). Reliability and validity are fundamental to making decisions about whether or not to interpret a study in relation to practice, meaning that if a study lacks either one of these elements, it cannot be accepted and cannot be used to solve the problem of interest. In qualitative research, "reliability" pertains to the consistency of responses across multiple coders of data sets (Whittemore & Knafl, 2005).

This study was done by recording the interview between the participants and the researcher and transcribing the recoding into written format. In contrast to quantitative research, where the data is statistical and objective, the terms validity and reliability are interpreted differently in a qualitative research study (Nqana, 2022). Validity will be

maintained by utilizing Lincoln and Guba's (1985) notion of trustworthiness, which draws direct parallels between quantitative research's internal validation, external validation, reliability, and objectivity. Credibility, dependability, confirmability, and transferability are the components that make up trustworthiness in qualitative research.

3.7.1. Credibility

"Credibility of the study, or the confidence in the truth of the study and therefore the findings, is the most important criterion" (Polit & Beck, 2014; Connelly, 2016, p. 435). Credibility is the qualitative research equivalent to the concept of internal validity. In order to prove the truthfulness of a research study's conclusions, credibility demands that the results be directly related to reality. The viewpoint of the participants is a reflection of their encounters with the NeuroScreen application and learners who have learning difficulties. Individual interviews were used to gather the data, giving each interviewee the flexibility to reply to the questions without fear of being judged by other interviewees. The researcher's credibility was also raised by her use of her proficiency in IsiZulu to make sure that the translation into English did not lose context. The translation style used is faithful translation, which refers to the practice of accurately and precisely translating the meaning and intent of a text from one language to another while maintaining fidelity to the original context, style, and nuances (Su & Su, 2020). These translations were double checked using translation software, Microsoft Translator. This was carried out to guarantee that the interviews were accurately translated and transcribed.

3.7.2. Dependability

Shenton (2004) claims that dependability is the process that needs to be thoroughly defined for a future researcher to continue this work and achieve comparable results. By using open-ended questions during the data collection process, the researcher can preserve dependability (Silverman, 2000). Thus, transcribing everything that is said to the researcher as

well as recording the interviews with the participants ensures further dependability. Interviews were used to gather the information. Both males and females participated in these interviews, which a female researcher conducted. As a result of the rapport that had developed between the researcher and the participants, participation in the interviews had risen. The participants were informed they had a choice not to participate in the study. This was done to decrease or lessen the differences between the participants and the researcher.. The fact that the study was carried out at Thabela Secondary School greatly aided the participants' ability to freely share their ideas. However, the results would certainly be interpreted differently if the study had been undertaken by a different researcher from a different communal environment.

The researcher must outline the design and techniques, which include the data gathering and analysis tools utilised in the study, in order to achieve dependability and improve the transparency of the data process. The rationale for the researcher's theoretical and methodological decisions has been described. The records of the interviews, reports, interpretations, and suggestions have all been encrypted and will be kept for a period of five years (Lincoln & Guba, 1994; Nqana, 2022). Reliability has been attained if another researcher can analyze the data and come to the same conclusions and findings (Nqana, 2022).

3.7.3. Confirmability

According to Cope (2014), the confirmability of a study is the researcher’s ability to present the study's data as it is without presenting their viewpoint. In qualitative research, confirmability is the equivalent to objectivity (Connelly, 2016). The researcher can demonstrate confirmability by describing how conclusions and interpretations were drawn and by showing, for example, that the results were derived directly from the data; this can be demonstrated by providing abundant participant quotes detailing each emerging topic (Cope, 2014).

The interviews were recorded, transcriptions were made, and the participants'

experiences were correctly interpreted to ensure confirmability. Another researcher who works for Asenza corroborated this during data collection. “No leading questions were asked during the interviews, and all responses were transcribed verbatim” (Nqana, 2022).

3.7.4. Transferability

Transferability and generalizability, or external validity, are the same concepts in qualitative research. “The transferability of a study refers to the degree findings of one study can be applied to other settings or groups” (Cope, 2014, p. 89). According to Cope (2014), the transferability criterion has been met by a qualitative study if theresults are meaningful to individuals who do not participate in the study and the readers can associate the results with their own experiences. Transferability is established by showing readers that the research study's conclusions might be applied to different settings, locations, eras, and populations. The researcher's ability to appropriately characterize the participants and the study's setting is key to the study's transferability. Giving a full contextual background of the study's location and a description of the participants improves transferability.

3.8. Ethical Considerations

Being ethically compliant necessitates an ethically responsible researcher, one that comprehends the substance of their field, is familiar with their research methodology, and exhibits efficiency in handling participants and data with integrity and sensitivity (Khumalo & Klerk, 2018; Badat, 2020). According to Emanuel et al. (2008), ethical guidelines were developed due to the lack of existing research policy guidelines, there was a need for a comprehensive, systematic, and comprehensive framework that includes an ethical justification and an explanation of how each principle should be put into practice.

Research participants are an essential vehicle for acquiring knowledge. As a result, participants are used in the research process for the benefit of others and are at risk of exploitation (Emanuel et al., 2008). Eight ethical principles are listed by Emanuel et al.,

(2008). These principles offer a thorough and systematic foundation for the ethical conduct of clinical research, reducing the likelihood of exploitation. Since the research was carried out under supervision, it was crucial that the researcher and the supervisor work together to ensure that ethical standards were not broken.

3.8.1. Gatekeepers' Permission

At the end of 2021, the University of KwaZulu-Natal's Humanities and Social Sciences Research Committee received an application for gatekeepers' approval for this study and approved it (see Appendix F).

3.8.2. Informed Consent

According to Armiger (2007), informed consent means that an individual gives his consent knowingly, willingly, and intelligently, and in a plain and manifest way. The study's participants were not in any way coerced into taking part, and they were free to leave the study at any time that they saw fit (Tsoka-Gwegweni & Wassenaar, 2014). Before participating in the study, they were required to complete an informed consent form. All relevant information for the study is provided by the researcher and is explained clearly in simple terms. The participants are given the opportunity to ask questions if they are unsure or unclear on any information given to them. An information sheet is also given to the participants to fill in and sign before taking part in the study (see Appendix A).

3.8.3. Collaborative Partnership

The researcher established and maintained a collaborative partnership. Building a trustworthy relationship with the participants was crucial given the nature of the study because it allowed for honest and fruitful discussions about the subject.

3.8.4. Respect for Participants

Maleficence and beneficence were discussed in the consent along with free consent and the option to stop the study if the participant felt that they were being treated unfairly.

Participants are treated with respect and dignity throughout the study without any animosity. Another way this was demonstrated was by the researcher making the participants feel welcome and giving them the freedom to respond to the questions however they saw fit.

3.8.5. Non-Maleficence and Beneficence

If study participants experienced emotional discomfort as a result of their participation, the researcher had made arrangements for them to access psychological services provided by Asenza, with whom the researcher collaborated. The Child and Family Centre (CFC)'s two psychology interns had consented to take on this project. The participants did not show any indications of emotional distress or request these types of therapies.

3.8.6. Favourable Risk/Benefit Ratio

"The principle of a favourable risk/benefit ratio refers to the consideration by the researcher of harm occurring during the course of the study and the severity of the harm occurring. It includes safeguards and contingencies that should be put in place to deal with any foreseeable harm" (Adams, 2019, p. 37). In this study, participants did not receive any rewards or participation incentives. They were explicitly informed of their freedom to withdraw from the study at any point without facing consequences. The participants faced no harm through their involvement, and their identities are kept confidential. The primary aim of the research is to contribute to the improvement of the educational setting in which they are involved.

3.8.7. Anonymity and Confidentiality

This principle emphasises showing respect for participants by guaranteeing anonymity for names and confidentiality of information disclosed during study interviews (Halai, 2006; Radebe, 2021). In this study the participants' identities were concealed by providing pseudonyms for them, and the audio recordings were stored securely in a location that was only accessible to the researcher.

3.8.8. Social Value

"The principle of social value refers to the responsibility of the researcher to address questions that will add value to the community and that form part of the researcher's study" (Adams, 2019, p. 38). The social value of this study is the better understanding gained by mapping out a network of available support services in the KwaDedangendlale area in KwaZulu-Natal to aid adolescents who have been identified as having barriers to learning. This study will produce data that will add to the body of knowledge in the social sciences, which will have social value..

3.8.9. Fair Selection of Participants

According to Emanuel et al. (2008), fair selection of participants requires that the objectives of the research be the primary basis for determining eligibility. The study provided a sample for whom the research questions and inclusion criteria were appropriate by explicitly defining the study's needs. It should be emphasised that the convenience sampling technique was utilised due to the time constraints, and that the sample size also limited the diversity of participants (Badat, 2020).

3.9. Conclusion

In summary, this chapter highlights the significance of the data approach in a research project, providing a clear framework and direction for the study. It emphasizes the importance of understanding the guidelines for conducting research, which ultimately shape the project's trajectory. In conclusion, this research study employed qualitative methodologies, specifically an exploratory design within an interpretivist research paradigm. The data collection process was thoroughly discussed, addressing aspects such as reliability, ethics, and the sample selection. These considerations were vital in ensuring the integrity and credibility of the study. The subsequent chapters will delve into the results of the research, building upon the foundation established in this chapter. The focus will shift towards presenting and analysing

the findings, providing a comprehensive understanding of the study's outcomes.

Chapter 4

Presentation of Findings

4.1. Introduction

The discussion in this chapter will centre on the themes that emerged from the data collection process utilising thematic analysis. Semi-structured one-on-one interviews were conducted with secondary school teachers and a member of the DoE to explore opinions on education at Thabela Secondary School, with a specific focus on learners experiencing barriers to learning. There was a total of three participants, designated by pseudonyms *P1*, *P2*, and *P3*. African teachers and students make up the majority of the study population at Thabela Secondary School. Data analysis is the process that was used, which is the process of giving meaning to the responses that participants provided in order to find themes and patterns, answer research questions, and identify actions to take in order to improve the current environment (Sgier, 2012).

The interview process's framework was determined by four key questions. Each interview was taped, then transcribed. Each participant's comments were recorded verbatim and dissected to get pertinent data that would help in addressing the research objectives. To determine the themes or key topics of discussion, the information from the interviews was compiled and contrasted. Excerpts from the interviews will be used to illustrate the themes; each key snippet will contain the participant's designated pseudonym and response. As a result, the reader will be able to understand the research study in the context of a current local issue, and the research process will be seen as credible and transparent (Badat, 2020). Translations will be given for some excerpts because participants either responded in IsiZulu or English, or they blended the two languages. Hard or square brackets, which are used to provide information or detail, are used in translated responses.

4.2. Participant Details

The study involved three participants, each assigned a pseudonym to protect their anonymity. The participants included two teachers and a member of the DoE. All three participants were associated with Thabela Secondary School in the KwaDedangendlale community in the Pinetown District. While the participants' positions, educational backgrounds, experience, and years in high school were not the primary focus of the study, this information was collected to provide a characterization of the participants.

Table 1

Sample Profile Characteristics

Participant	**1**	**2**	**3**
Position	Teacher	Teacher	Department of Education Assistant Director: Psychosocial Sub Directorate
Qualifications	Bachelor of Arts	Higher Diploma	Master's degree in Social Work
Experience	7+ years	8+ years	5+ years
No. of years at this school	2+ years	2+ years	n/a

4.3. Main Themes

The main objective of this study was to gain a deeper understanding of the support systems available for learners facing barriers to learning and to identify community resources that can assist these learners in the classroom. To achieve this objective, open-ended questions were formulated to facilitate a dynamic conversation with the participants and gather their perspectives on the educational environment they work in and on the Department of Education (DoE). The identified major themes in the study are directly relevant to the research questions outlined below and will be analyzed in relation to their connection to these research questions. The data led to the development of five themes that were connected to the research questions:

1. What are the existing issues faced by teachers and the outlined resources for learners with barriers to learning prior to NeuroScreen testing?
    - Implementing EWP6 and its challenges
    - Overcrowding
    - Support provisioning
    - Lack of parental involvement
2. What are the experiences with the NeuroScreen tool from informal stakeholders' feedback on the process following the screening and assessment?
    - The NeuroScreen tool as strategy to overcome barriers to learning
3. What is the value and effect of the NeuroScreen tool in the classroom context?
    - Valuable addition of the NeuroScreen tool
4. What are the most effective referral systems, networks, and supports for learners who have been identified through the NeuroScreen tool?
    - Interventions prior to the NeuroScreen tool
    - Referral systems and networks prior to the NeuroScreen tool

4.3.1. Existing Issues Faced by Teachers and the Outlined Resources for Learners with Barriers to Learning Prior to the NeuroScreen Tool

This research question was essential in setting the tone for the interviews and obtaining information about the challenges that teachers currently face in the classroom and how the existing resources assist them in supporting learners with learning barriers. After addressing this question, the interviewer followed up with sub-questions aimed to facilitate an open dialogue between the interviewer and teachers, focusing on how the current classroom environment affects them. Furthermore, the question emphasized the study's objective of understanding the benefits of identifying additional resources and how these benefits would be applicable in the given context. The main issue addressed under the first research question

was the implementation of EWP6 and the associated challenges, which were further explored through sub-themes such as overcrowding, lack of parental involvement, and support provision.

- **Implementing EWP6 and its Challenges**

- **Overcrowding.**

P2 states that the concentration of his learners has been affected in the classroom due to the sheer number of learners in the classroom, "*Alikho iKlasi engilifundisayo elinezingane ezingaphansi kwa60."* [*No Class I teach has less than 60 children.*] P1 adds further to state that "*At home there's very little learning that is taking place and yet they are slow, most of them, you will find us in a class, you have a class of 50. But the sharp learners or the capable ones, you only have 20% in that class."*

P3 shares how the time they have in the classroom does not favour their overcrowded classrooms, "*whenever you identify learner that might need some additional support...teachers can't assist as they are pressurized by the curriculum, they need to get the curriculum going and then they left many learners behind as a result, learners will then struggle and then in the end will realize that this thing is not working for them, [they] drop out or take other alternatives."* These sentiments of the challenges produced by overcrowding were further echoed by DoE.

According to P3, the magnitude of the number of learners enrolled in the Pinetown district makes it difficult to keep count of the number of learners in a classroom, - "*6000 schools in the whole KZN Province and in Pinetown, I think they got more than 500 something schools, meaning it can be one province on its own*"- the challenge varies from your environmental challenges, your psychological challenges, your social challenges, issues of poverty, drug abuse, violence, different socio

economic backgrounds, and you will know that most of the schools in KZN they have the "*issue of overcrowding in one classroom can accommodate more than 40 learners"*, which is quite a challenge for the teacher now to try and manage everyone and give each and every learner, that individual attention that they deserve.

P3 further states that the DoE is further aware of the psychological challenges that also occur that affect learners and cause the academic difficulties found in the classroom – "*some learners are not as fast as the other learners, although we believe that all learners have the potential to learn but not all of them can learn the same way, others have mental illness or challenges or needs then as we choose to call them that they will need extra support than your normal learner in any school*".

- **Support Provisioning**

Shortage of support provisioning is another indication of the shortcoming of the EWP6 and the education system as whole. DoE reported that there is "*only one psychologist and for more than 500 schools*" in the Pinetown district, which makes it more challenging to reach those learners who have been identified as having barriers to learning in the classroom; "*it will take you more than five years to get to every school*." The Covid-19 epidemic was also brought up in the discussion. As the entire learning process was conducted online, all participants agreed that the epidemic had a significant effect on them. P1 and P2 indicated how students were unable to attend online lessons or even access the information since they did not have access to computers or cellphones, taking into account the rural and underdeveloped community where the school is located.

Furthermore, P2 outlined how most learners do not even have electricity. This is highlighted by the participant's responses:

P1: *So... after icovid khona kuvele kwaba-worse, things got worse, because*

now icontact time with them is very little. We now see them two days, the G.E.T and yet imathematics ina-four periods, ilanguage ina-four to five periods. And you have to cover most of the work in a short period of time. And that is a challenge for the slow learners. [*So... after Covid things became worse, things got worse, because now contact time with them is very little. We now see them two days, the G.E.T and yet mathematics has four periods, language four to five periods. And you have to cover most of the work in a short period of time. And that is a challenge for the slow learners.*]

P2: *Yes, um, yeah, that that I have no doubt of, you know, most of KZN, and most of our schools are quite rural and under resourced schools. So, they unfortunately, when the Covid-19 hit the country, they're online things that other learners were exposed to. In many schools couldn't happen. And because no resources are available for such interventions. So, most of the learners definitely were left behind. And as you know, most of our parents have no education background, so they couldn't actually now at least try and fulfil that role of a teacher by supporting the learners while they were at home.*

Furthermore, in another instance of inadequate support provisioning, in an effort to combat learning barriers in the classroom. P2 shares that "*I will say yes kuko kuloyo nyaka ngawubona because khona kwapassa u-matric umntwana ongakaze a-pass ubelokhu epromothwa but wagcina epassile kanjalo u-matric wakhe.*" [*I will say yes to it that year I saw it because a child passed his matric, who never passed, he was being promoted but he ended up passing his matric.*].

P1 describes how they collaborate with teachers from other schools with whom they trade classrooms in the hopes that some of the learning barriers that learners in the classroom face can be overcome by that teacher's differing teaching approach.

"*Asikaze sibalekelele outside the school level for example likhona ioffice lakwa-SNES but u-SNES u-promota ukuthi izingane azihlangane zonke singabahlukanisi, ababekhona bonke esikoleni, sibafundise bonke esikoleni and sikhesiba-advise umbonayo ukuthi ,okay, sikhesiba-advise ukuthi go to iF.E.T and get a must skills uma ubona ukuthi umtana mhlape o-handy noma abanye ukuthi bone ukuthi uyasebenza outside the school mhlampe nomalume wakhe wenza ugesi*." [*We have never helped them outside the school level, for example there is an SNES office, but SNES promotes that all the children come together, we do not discriminate, we teach all of them at school and advise them to go to iF.E.T and get a must skills if you see that the child is really handy or others see that he works outside the school maybe his uncle does electricity*.]

P1's statement makes it very evident that, despite the policy's existence as a component of the DoE, none of the interventions intended to help teachers and learners have ever resulted from it. P3 elaborates on the point of limited resources for providing the necessary support to staff and learners. This is highlighted by P3's response: "*It's very difficult, because we have limited number of these professionals at the district level host haven't been filled in all those challenges. So, at the moment is just one psychologist for more than 500 schools*."

According to P3, a member of the DoE, "*the DoE offers teachers trainings and additional pages, but there are also subject advisors, who are based at the district level*". The DoE offers assistance, particularly when it comes to teachers' ability to carry out the prescribed curriculum for the learners they teach. For instance, "*provide that support, so there are those that we refer to as subject advisors, which then try to provide assistance to teachers whenever it's needed*" The DoE further emphasises the presence of the SBST, and that the main purpose of an SBST is to "*assist teachers*

whenever that they need some support" when they are having difficulties and require additional assistance.

- **Lack of Parental Involvement**

Schooling during Covid-19 – teachers stated that learner's lack of consistency at home with their parents, who were not very invested in their education, prevented them from doing their homework or reading at home, which led to the teachers' observations that the problems they confronted in the classroom were worse under Covid-19. P3 states that "*learning couldn't take place for the majority of learners; it was a holiday for them.*" P1 further states how "*At home there's very little learning that is taking place and yet they are slow…"*

4.3.2. Stakeholders' Experiences with the NeuroScreen Tool

The second research question of this study explored the experiences with the NeuroScreen tool through informal stakeholder input, particularly focusing on the process following the screening and evaluation. The questions in relation to this research question aimed to gather the perceptions and experiences of informal stakeholders regarding the trial use of the NeuroScreen tool at the high school where the sample group's grade 9 teachers worked. Participants 1, 2, and 3 shared their feedback on the tool, expressing that it was easy to understand and use without encountering any difficulties. They highlighted the importance of receiving clear and straightforward instructions, which gave them the confidence to utilize the tool effectively. These insights from the participants provide valuable information about the usability and user experience of the NeuroScreen tool during the trial period.

- **The NeuroScreen Tool as Strategy to Overcome Barriers to Learning**

P1 and P2 claimed that their view of the NeuroScreen tool is that it serves to "*find where the exact problem lies with the learner experiencing difficulties in the classroom*" and serves to "*confirm what they see in the classroom as a teacher.*" When the trial was being

conducted, the teachers and the member of the DoE claimed that *Asenza* and UKZN had given them a simplistic explanation of the tool. They added that they understood the tool examined "*many areas of learning and development*" to determine which learning area is experiencing a particular challenge in the classroom for a learner.

4.3.3. Perceived Value and Effect of the NeuroScreen Tool in the Classroom Context

The third research question of this study was closely tied to the subsequent topic, which explored the significance and effects of the NeuroScreen tool in the classroom environment. The questions aimed to gather the perceptions of informal stakeholders regarding the usefulness and effect of the NeuroScreen tool specifically in the high school classrooms where the sample group's teachers of grades 9 worked. The focus was on understanding how the tool was perceived in terms of its utility and the effects it had on the teaching and learning process. By exploring the perspectives of the informal stakeholders, this research aimed to gain insights into the practical implications and benefits of incorporating the NeuroScreen tool in the classroom setting.

- **Valuable Addition of the NeuroScreen Tool**

The participants highlighted the significant impact of the NeuroScreen tool in their educational environment, underscoring its ability to expedite the identification of learners' issues, a process that usually takes months. Participant 1 (P1) expressed optimism, stating, "*Ngicabanga ukuthi it will help a lot because now sesizoba si-understand ukuthi umntwana iproblem yakhe ikuphi. So, if siyayazi iproblem yomntswana kahle kahle ikuphi mhlampe ukuthi yena akakhoni uku-concentrata isikhathi eside and then [we will] how to deal with that.*" [*I think it will help a lot because now we will understand where the child's problem is. So, if we know exactly where the problem of the little one is, maybe he can't concentrate for a long time and then [we will] how to deal with that.*]

Participant 2 (P2) echoed this sentiment, emphasizing the tool's utility in confirming

observations and identifying areas where a child may need help. P2 stated, "*I think it was a it was useful nanokuthi nje mawukhuluma ngengane masekufika umuntu wazoyi-assessor ukuthi yes leyangane maybe kukhona abakupickile up ukuthi mhlampe ingadinga usizo ngokuthi nokuthi and then isizoconfirma nento mhlampe nento namwe ebekwiyiobservation yakho ingane idinga lolusizo leli. I think it was useful."* [*I think it was a it was useful to say that if you talk about the child, the assessor will come and say that yes, the child may have been picked up by saying that maybe he needs help and then it will confirm something and maybe something with you that was in your observation that the child needs this help. I think it was useful.*]

Moreover, Participant 3 (P3), representing the Department of Education (DoE), highlighted the tool's adaptability to technological advancements. P3 added, "*So yes, tools like this. And it's quite interesting because it's somehow moving with time. And, you know, now we are reaching a time where everything will be [electronic], we're getting away from these papers, and all of that, trying to catch up with the industrial development in terms of technology. So, I remember that it's something that you can do on a tablet, if I remember correctly, so it's quite a useful tool*."

The Department of Education (DoE), as represented by P3, acknowledges that the tool provides teachers with additional support in identifying learners who require extra assistance or have specific needs. The tool gives teachers "*additional support in terms of identifying*" and "*identifying learners who need extra support or learners who have needs*," according to the DoE because it speaks to identification, which is the first aspect that the SIAS policy addresses. According to the DoE, "*this tool improves the observation of learners, can be used to create a thorough learner's profile, and can encourage parents to bring forward their children who they believe are suffering academically to teachers.*" The DoE also recognises how innovative such a tool can be but cannot replace the existing *SIAS policy or the SNA.*

4.3.4. Referral systems, networks, and supports for learners who have been identified through the NeuroScreen tool

The two themes presented below are directly connected to the fourth research question, which focuses on identifying interventions and referral systems prior to the implementation of the NeuroScreen tool. The aim of this question is to explore the existing support mechanisms and networks available to learners with learning barriers in the school's vicinity, as well as to identify potential new referral systems and networks that could be used to assist these learners. By examining these themes, the study seeks to gain a comprehensive understanding of the support landscape and identify opportunities for enhancing the referral process and accessing appropriate resources for learners facing learning barriers.

- **Interventions Prior to the NeuroScreen Tool**

P3 stated how *"the early identification, identify early but don't just identify and leave it there, once you identify, then intervene, try and develop a support plan, so that you support this learner."* And *"so the policy is quite clear in terms of the steps that the educators need to follow. The identification happens in different ways, they can identify from the learner's profile, or they can identify from their own observation or the schoolwork in terms of the activities that the learner is doing. So, it varies in terms of how they identify the learners. And all those steps are actually indicated on the SIAS policy."*

P1 went on to further state how "*abafundi especially abanama-learning difficulties…"* [*Especially learners with learning difficulties...*] and *"Well, i-school based support team iyona icommitte ebhekene nalento leyo. We do have a school-based support team esilekelelayo ukuthi ayazi umntwana owukuthi une-difficulty but thina akuwona ama-cases a-extreme, it's just it's a learning difficulty, not ukuthi umuntu akezwa noma ublind and what what...ukuthi nje they are catching very slow. So, there is not consent form mhlampe esithi siyawagcwalisa because akaboni noma kanjani, uyena ongayibambi icontent kahle."* [*Well,*

the school based support team is the committee responsible for this. We do have a school-based support team that helps us if they know that the child has a difficulty, but we are not extreme cases, it's just it's a learning difficulty, not that the person is deaf or blind and what what... it's just that they are catching very slow. So, there is no consent form, maybe we are filling them out because he doesn't see it anyway, he is the one who doesn't handle the content properly.].

Participant 3 (P3) emphasized the importance of early identification, stating, "*Identify early but don't just identify and leave it there. Once you identify, then intervene, try and develop a support plan, so that you support this learner".* P3 highlighted the clarity of the policy regarding the necessary steps for educators to follow. Identification methods vary, including the learner's profile, observation, and schoolwork activities, with all steps outlined in the Specialised and Individualised Support (SIAS) policy (refer to Figure 5).

Participant 1 (P1) expanded on this by focusing on learners with learning difficulties, stating, "Especially learners with learning difficulties..." P1 acknowledged the role of the school-based support team in handling such cases, clarifying that they primarily deal with learning difficulties that are not extreme. P1 explained, "It's just a learning difficulty, not that the person is deaf or blind and whatnot... it's just that they are catching very slow." P1 emphasized the collaborative approach, mentioning that there is no consent form to be filled out, as extreme cases are not within their purview. The focus is on addressing learning difficulties and ensuring that learners who catch up slowly receive appropriate support.

- **Referral Systems and Networks Prior to the NeuroScreen Tool**

P1 suggested the "*esezinga siyifull-service angazi ukuthi baoperata kanjani - Inkazimulo. Ebese kubakhona esinye, iHammersdale naso futhi sengikhohliwe igama lakhona*" [*at the level we are full-service, I don't know how they operate - Inkazimulo. Then there was another one, Hammersdale too and I've forgotten its name*] and the SNES office

which was one of the only places known to assisted learners with barriers to learning. P1 further states "*angazi ukuthi basekhona abantwana abadala ngoba thina iprogram yethi sisebenza ngabantwana abadala. Ingane mayinedifficulty kubangcono uma yashesha yapick-upa at the earlier stage inkinga sisuke sipick-upa umase lezingane sezindala.*" [*I don't know if there are still older children because the program says we work with older children. It is better if a child has difficulties and picks them up at an earlier stage*.]. P1 also responded to the question stating "*…sikhesiba-advise ukuthi go to iF.E.T and get a must skills uma ubona ukuthi umtana mhlape o-handy noma abanye ukuthi bone ukuthi uyasebenza outside the school mhlampe nomalume wakhe wenza ugesi…"* [*We do advise them to go F.E.T and get skill if you can see that the learner does have handy skills and others work outside of school with their uncle working with electricity.*]

4.4. Conclusion

In this chapter, I have presented and analyzed the data collected through individual interviews, which served as the primary method of data collection, as well as network analysis, which has been recognized as a valuable methodology for understanding referral patterns, gaps, and opportunities (Thakkar et al., 2022). The findings of the study were derived from the responses of a Department of Education (DoE) official from the Pinetown district and teachers from Thabela Secondary School.

The main focus of this chapter was to highlight the major themes that emerged during the data collection process and subsequent thematic analysis. These themes were systematically organized and discussed under each of the four main research questions, providing a comprehensive overview of the findings. The discussions were aligned with the study's goals and supported by relevant quotes from the participants' comments.

Moving forward, Chapter 5 will delve deeper into the content presented in this chapter and draw upon the supplemental literature from Chapter 2 to provide further insights and

interpretations. It will build upon the foundation established here to enhance our understanding of the study's findings and their implications.

Chapter 5

Discussion of Research Findings

5.1. Introduction

In this chapter, the research findings will be discussed to determine if they met the objectives and answered the research questions set forth in Chapter 1 for the study. Instead of focusing on the results, this chapter will discuss them in relation to the pertinent literature. By doing this, we better appreciate the research study as a whole. The findings will be discussed in accordance with the four primary, open-ended research questions posed, "The idea and philosophy of inclusion was utilized to deeply examine teachers' perceptions of inclusive education." (Mittler, 2012; Mnguni, 2017). Mnguni (2017) states that additionally, it is helpful to investigate whether there has been a paradigm change from the medical approach or model to a social approach in terms of the dominant school culture using the notion of re-culturing (Doyle, 2002).

The premise of this study was to determine how well the EWP6 policy is implemented at a mainstream rural school to assist learners who face learning barriers based on the teachers' perceptions and first-hand knowledge of an inclusive classroom, and to determine how the policy's implementation has affected the type of support offered by the district. In addition, considering the results and implications of a neuropsychological diagnostic instrument (the NeuroScreen tool) that focuses on identifying learners with challenges can be helpful in such a learning environment. As an educational system is a component of a broader system made up of numerous interconnected subsystems, it is further important to find locations throughout the district that may be used in conjunction with the policy to further support learners in this community.

The study therefore aimed to respond to the following research questions:

- What are the existing issues faced by teachers and the outlined resources for learners with barriers to learning prior to NeuroScreen testing?
- What are the experiences with the NeuroScreen tool through informal stakeholders' feedback on the process following the screening and assessment?
- What are the perceived benefits and effects of the NeuroScreen tool in a classroom setting?
- What are the most effective referral systems, networks, and supports for learners who have been identified through the NeuroScreen tool?

5.2. Existing Issues Faced by Teachers and the Outlined Resources for Learners with Barriers to Learning Prior to the NeuroScreen Tool

5.2.1. Implementation of White Paper 6 and Challenges

The EWP6 policy for inclusive education in South African educational systems has been in effect for 22 years. According to the Constitution of the Republic of South Africa, this policy intends to transform equitable education by providing equal educational possibilities to all learners in a single integrated system that values justice, equity, and excellence. The EWP6 inclusive educational movement's ideals, according to Lipsky and Gartner (1999), included all of the main inclusion movement tenets: school-wide strategies; the conviction that every child can learn; a sense of community; shifting cultural norms; support for general education; teacher collaboration; curriculum adjustments; improved teaching methodologies; attention to standards and outcomes; and services based on need rather than location. The EWP6 policy is motivated by an ideology that seeks an advancement of the educational prospects of disadvantaged groups (DoE, 2014). However, the realities of this ideology have made it difficult to put the policy into practice. In the study, all three participants predicted that there would be the same difficulties that are currently faced since putting the policy into practice in their district. This will be discussed in more detail below.

5.2.1.1. Overcrowding

In this section, the discussion focuses on the barriers to learning faced by learners in overcrowded classrooms and the lack of resources, as well as the challenges faced by teachers in addressing these barriers. The participants in the study identified both intrinsic and extrinsic barriers to learning. Intrinsic barriers are those that are innate and independent of external factors, such as physical, sensory, neurological, and developmental impairments, chronic sickness, psycho-social problems, and differences in intellectual aptitude, according to Walton et al. (2009). The teachers listed a few of the inherent challenges they face in the classroom, including difficulties with concentration in class, difficulties understanding the material, difficulties with speech and reading, and emotional difficulties. Extrinsic barriers, as defined by Walton et al. (2009), are those factors that arise outside the learner, but have an effect on his or her ability to learn. Teachers also discussed how learners struggle with extrinsic barriers such as additional language barriers, socio-economic challenges, parental involvement (both at home and at school), and difficulty understanding the curriculum.

The notion of overcrowded classrooms and lack of resources has prevented personalized attention and individualized instruction according to the needs of the learners in the classroom. Teachers who were participants in the study reported finding it difficult to handle all of the learners in the class, due to class overcrowding which in turn has affected the teacher-to-learner- ratio. According to Majola (2013), in a typical classroom, the acceptable teacher-to-learner ratio in South African classrooms is 1:35 for grades R through 9. According to the Employment of Educators Act 76 (1998), the ideal maximum learner number in a class is set at 40. Learners in a typical class are not given the same weighting as students who need extra assistance, face learning barriers, or have disabilities (Majola, 2013). According to Muthusamy (2015), the problems that can occur in a crowded classroom include disruptive behaviour in general, potential for personality conflicts, and disciplinary concerns. In turn, the

difficulties teachers encounter in packed classrooms can be listed as behavioural issues, a lack of room in the classroom, an inability to help struggling learners, an increase in workload for marking, and instructional obstacles.

Mnguni (2017) asserts that this demonstrates that teachers lack the capacity to manage and adjust to diversity in the classroom, making it impossible to support learners who struggle with their academics. I extend this statement by saying that teachers frequently lack this skill because they do not receive the kind of preparation that would adequately prepare them for working in a variety of classroom settings that take into consideration the setbacks that exist in many rural schools. The Employment of Educators' Act 76 (1998) states that the result of having the highest ideal maximum in class, which is set at 40 or above, and also including learners who experience barriers to learning, is that relevant support to learners could be compromised. The issue of overcrowding has an effect on teachers' attitudes and further demonstrates how the educational system is weak in dealing with current problems, let alone effectively educating teachers about EWP6.

This explains why the teachers who participated in this study gave me the impression that they had little knowledge of EWP6, and the particulars involving inclusive education. Teachers need greater opportunities for professional development so they can comprehend EWP6, their roles as teachers and other support systems in the implementation of such a policy in rural schooling communities. It suggests that the DoE did not fully complete the crucial phase of educating teachers for the implementation of this innovation (Mnguni, 2017). Hence, EWP6 has been poorly implemented in this school as a result of the lack of professional development. This is a crucial point that the department overlooked because it conflicts with how EWP6 is being implemented, which views teachers as the key change agents.

The DoE (2001) has stated the following about EWP6:

> *1.1.7. Particular attention shall be paid to achieving these objectives through a realistic and effective implementation process that moves responsibly towards the development of a system that accommodates and respects diversity. This process will require a phasing in of strategies that are directed at departmental, institutional, instructional and curriculum transformation. It will also require the vigorous participation of our social partners and our communities so that social exclusion and negative stereotyping can be eliminated (p. 12).*

However, teachers have come to display a somewhat negative attitude towards inclusive education, as they have come to view inclusive education as something they are required to provide, frequently without any support or resources, and it turns into a burden rather than a cooperative effort (Singal, 2009; Schuelka, 2018). One of the strategies that EWP6 emphasizes is the SIAS process, which stands for screening, identification, assessment, and support. Teachers are expected to use this method in the classroom for early intervention in order to support learners who need assistance with barriers to learning. P3, a member of the DoE, spoke about the rationale behind the development of such processes by the EWP6, such as the development of the SNES office addressing the emotional, behavioural, and social support needs of students who are at risk of learning breakdown, educational marginalization, and school dropout. This showed a comprehensive understanding of the educational system in South Africa including the challenges faced by learners in the classroom.

This is highlighted by P3 who praised the SIAS policy's comprehensiveness and the way that it clearly outlines the procedures a teacher should take when dealing with learners who have learning difficulties in the classroom and emphasizes the need for early identification of a learner's requirements. Although this is encouraging, it does raise the possibility that the policy may not give teachers—who are supposed to be the policy's leaders—enough priority.

5.2.1.2. Support Provisioning

Shortage of support provisioning is another indication of the shortcoming of the EWP6 and the education system as whole. In the case of any learners who are experiencing barriers to learning in the classroom, the EWP6 highlights the necessity for early assistance. From this study, it appears that the theoretical foundation of early intervention is more thoroughly thought out than its actual use, especially taking into account the numerous difficulties that teachers can face. However, a thorough policy considers the various setbacks that one can experience in different contexts. In the case of South Africa that would be the various provinces and socio-economic environments, which is why the KZNDoE adapted and developed its inclusive education policy. Anotherexample is the challenge of Covid-19 , the largest obstacle for teachers worldwide in 2020, let alone those in rural mainstream schools.

To further understand how teachers were not supported in the face of not being able to teach learners during the pandemic, the subject of how teachers from rural communities may have been affected by the Covid-19 epidemic was also raised in the discussion. As the entire learning process was conducted online, all participants agreed that the epidemic had a significant effect on them. P1 and P2 indicated how students were unable to attend online lessons or even access the information since they did not have access to computers or cell phones, taking into account the rural and underdeveloped community where the school is located. Furthermore, P2 outlined how most learners do not even have electricity. The situations described demonstrate the compromises rural schoolteachers had to make in order to complete the prescribed curriculum. When there was a nationwide school shutdown, teachers and learners were forced to continue endangering their lives by attending class. The decreased amount of time spent in the classroom and rushed curriculum teaching has negatively affected learners without barriers and further negatively affected learners with learning barriers.

Furthermore, in another instance of inadequate support provisioning, in an effort to combat learning barriers in the classroom, the KZNDoE inclusive education policy provided three tiers of support (low, medium, and high) (Ivala, 2016). Nel et al. (2016) state that, as children and communities vary considerably, it is important to determine what works for specific learners in specific classrooms and settings. So, inclusive education can be seen as an "evolving process". SBST/ILST at a school is low-level support given through traditional schools and includes basic curriculum and infrastructural adjustments to overcome learning barriers (Department of Basic Education, 2014). Although this programme was reported to exist at the school, the replies from the participants showed that learners who are normally recognized as experiencing barriers to learning do not receive any help and typically stay in the same class until they achieve a failing mark at the end of the year.

The teachers claimed that after a learner has been identified, the responsibility for making an intervention frequently falls back on the teacher. P1 stated that trying to "drill" the knowledge into the heads of the learners who have difficulty comprehending it this is often done through extra material, repetition or splitting up the material to simplify it slightly for the learners. This type of intervention, known as mainstreaming in education, is giving some learners extra support in order for them to "fit in" or integrate into the "normal" classroom routine. The negative effects of such an intervention are not taken into account since the teacher believes that this is the best course of action.

This further demonstrates that teachers lack the resources necessary to handle a classroom of learners who face learning barriers. P1 and P2 both mention that they attempt to hold extra lessons for the students, using up their own spare time, since they want the students in their classroom to succeed, as not much learning occurs at home. In addition, P1 describes how they collaborate with teachers from other schools with whom they trade classrooms in the hopes that some of the learning barriers that learners in the classroom face can be

overcome by that teacher's differing teaching approach. For teachers, particularly those in rural areas, the need for support provisions is obvious. Not doing so can have a detrimental influence on learners' performance in class and can also have a severe psychological, social, and monetary impact. Teachers provide the support provisioning needed for learners. This means that most of the time, teachers do more than just teach; they also attempt to assume parental responsibilities in specific situations where a student's safety is severely at risk. This raises concerns about the parents' whereabouts, and it is problematic that they are not involved.

5.2.1.3. Lack of Parental Involvement

The lack of parental involvement in the education of their children creates an added burden on teachers as the classroom educator, support system, and intervener. This is discussed in more detail in Chapter 2. However, a summary of the reasons for lack of parental involvement can be listed as the parent's own education deficits, language barriers between the teacher and parent, the lack of confidence parents feel engaging with the teacher and school, so that they feel more comfortable leaving the responsibility to the school, poor socioeconomic conditions that compel parents to work excessively, usually in professions that need physical labour, leading to a trade-off which frequently leaves the full duty of schooling up to the learner. The existence of support structures, such as the School Governing Body (SGB), which communicates with the SBST, may be highlighted in this regard. The SGB may communicate with the SBST and engage parents in their children's education by holding parents' meetings (Van Wyk, 2004). Having such an SGB would guarantee that vulnerable learners from their communities are supported; active SGBs can be crucial in mobilizing community leaders, companies, other professionals, and concerned members of the community (Van Wyk, 2004). In the future, it might be important to investigate the existing school systems that support not only learners who have learning obstacles but all students as

well.

5.3. Stakeholders' Experiences with the NeuroScreen Tool

5.3.1. The NeuroScreen Tool as Strategy to Overcome Barriers to Learning

In order to determine the efficiency of such a tool in screening students with learning barriers in the classroom, the NeuroScreen tool, a neuropsychological screening instrument was trialed on adolescents in grade 9 at Thabela Secondary School in KwaDedangendlale, KZN. The NeuroScreen tool is a tablet application running on Android that evaluates neurocognitive performance. Participants were questioned regarding their comprehension of the NeuroScreen screening tool and whether they felt that the tool's function and purpose had been sufficiently communicated to them. The consensus among the participants was that Asenza's discussions with them had left them with the impression that the tool was simple to comprehend. Asenza had taken the time to both conceptually and practically explain the tool as well as to provide examples and explanations. Participants were also asked how it felt to have participated in the trial testing of this neurological screening tool. Participants 1 and 2 thought it was generally all right, having had no bad experiences.

5.4. Perceived Value and Effect of the NeuroScreen Tool in the Classroom Context

5.4.1. Valuable Addition of the NeuroScreen Tool

As previously established in Chapter 2, a neuropsychological evaluation focuses on determining whether learners have difficulties with cognitive skills like reading, spelling, problem-solving, memory, attention, or mathematics (Misciagna, 2022). This is an essential stage in interventions designed to help learners who have learning challenges that have outgrown the scope of conventional classroom interventions. Even when public schools make further efforts to secure concessions or accommodations for learners, these are financially out of reach, particularly in rural schools which typically operate on a limited budget that does not

even provide the necessary number of staff or resource materials.

A concession or accommodation assessment is used to ascertain whether a learner needs a particular form of support or accommodation to help them realize their potential and is typically conducted during a child's high school education (Alant & Casey, 2005). The applications need to be accompanied by the following documentation: psycho-educational assessments, relevant medical records, and historical data to support the claims, teacher comments, school reports, and school samples (Alant & Casey, 2005). Specialists are required to complete a full psycho-educational evaluation of the learning barrier as well as a comprehensive clinical history, a medical report from the appropriate practitioner, and any supporting reports, such as occupational therapy, speech therapy, remedial programme reports, or any other medical documents (Alant & Casey, 2005).

All of the participants discussed how the DoE does not provide them with the funding they need to employ the specialists needed to help learners who are experiencing difficulty and how most rural schools, including their own, do not have enough money for educational resources. This exposed the void that needed to be filled, thus the NeuroScreen tool, a mobile application, was developed to help learners in rural schools who were struggling with their academics due to barriers to learning. This tool is also time effective and does not require any specialized expertise. Participants spoke of the effective nature of such a tool in their environment, which essentially allows them to cut out the intermediary in cases where learners typically take months to be assessed.

Moreover, P3 (a member of the DoE) noted that this tool complements the current practices that have already been created by the DoE in the SIAS process, but that it only represents a step in the right direction rather than a solution to the flaws in the system. It would also never be able to replace the existing elements such as the teachers. This comment demonstrates that, despite being a widely acknowledged invention to help remediate the flaws

in the overall system, it is still very much a work in progress that necessitates the participation of all parties. Additionally, it requires that educators expand their thinking beyond simply identifying those who have learning barriers, which is what this study tries to do by offering suggestions for how to overcome them.

5.5. Referral Systems, Networks, and Supports for Learners Identified through the NeuroScreen Tool

5.5.1. Interventions Prior to the NeuroScreen Tool

All of the participants in the study reported that prior to the NeuroScreen interventions, teachers in Thabela Secondary School would adhere to the SIAS process as outlined by the SIAS policy, which was created by the DoE as a set of conceptual and operational guidelines to govern the facilitation of EWP6. “The SIAS policy provides guidelines for early identification of learners' strengths and weaknesses, appropriate assessment strategies of the nature and extent of any barriers that learners may be experiencing, and efficient design and implementation of individualized support plans for these learners” (Zulu, 2019, p. 2). Figures 1 and 2 show a basic representation of the SIAS procedure. According to DoE (2008), this policy serves as the foundation upon which inclusive education is built.

As outlined by Figure 1, the first stage of intervention is identification, which is where the learner that is experiencing difficulties is identified as having barriers to learning, the form SNA1 which is the special needs assessment form, is filled in, and a classroom intervention is made for the personalized needs of the learner. In the case that a learner needs more support, the SNA2 form is used to refer a learner to the SBST and “guide the school-based support team (SBST) when a learner is referred to them” (Department of Basic Education, 2014, p. 30). Yet, as evidenced by P1 and P2's respective responses, this is the point at Thabela Secondary School where the intervention cycle starts to break down.

The participants discussed how a learner may be classified as needing intervention but still be able to complete their entire high school academic career without it. A learner should, in theory, receive a case consultant, a school meeting with the parents or teachers, a referral to the DBST, evaluation, and monitoring. P1 claims that the school does send cases of students to the DBST in order to obtain further support for learners who need it, but as mentioned above, during the period that P1 has worked at Thabela Secondary School, which is notably over one year, there has never been such intervention. The participants did not make reference to any alternative procedures established for them to follow in the instance of learners who have barriers to learning in the classroom, aside from the formal SIAS process.

5.5.2. Referral Systems and Networks Prior to the NeuroScreen Tool

The procedure or actions a teacher takes to obtain more help for a learner they work with is known as a referral (Meador, 2020). Referrals are often utilized for disciplinary difficulties, evaluations for special education, and counselling services, these are the three main types of referrals that are made in most schools (Meador, 2020). Following the aforementioned SIAS process, teachers are aware that making a referral is appropriate when they believe a learner needs extra assistance. Learners require referrals for varied reasons, for example, some learners use this in order to overcome barriers standing in their way of achievement, while others require it in order to express their needs and restrain themselves from expressing them in a loud or threatening manner (Meador, 2020).

In order to gain an understanding about the already existing referral systems and networks, this study utilized network analysis which, according to Thakkar et al. (2022), is an ideal methodology to understand existing referral patterns, gaps, and opportunities. Although traditional network analysis was not used in the study, it was nonetheless used in an eclectic way together with the interview questions. To correctly establish this, teachers were asked how they had previously referred learners for further assistance available in the

KwaDedangendlale community outside of the SIAS process. When questioned about this, both participants who teach in the community said they were not aware of such services in the community. P1 did, however, mention that there is a primary school for younger learners named *Inkazimulo Primary School*, which is a full-service institution. P1 was not aware of such networks for senior learners.

5.5.2.1. The Gap: Network and Referral System Identification

The KwaDedangendlale community (Valley of a Thousand Hills), a notable little settlement near Botha's Hill outside of the Hillcrest in KwaZulu-Natal; in the Pinetown district, clearly exhibits a gap in referral systems and referral networks. Because of this, there has not been much growth in terms of nearby educational facilities for the village. This is significant since it implies that distance must be taken into account when evaluating recognized networks and potential referral systems. An alternative to this barrier is suggested in the form of community based programming which could be conducted by the community's very own members with unique skills. Figure 8 presents o visual representation of the surrounding area.

Figure 8

A Visual Representation of KwaDedangendlale and the Surrounding Areas, KwaNyuswa and the Pinetown District.

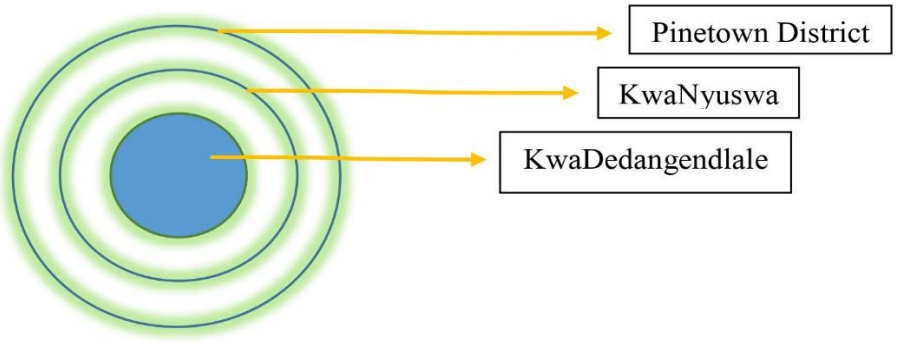


Figure 8 illustrates a visual representation of KwaDedangendlale and the surrounding areas, KwaNyuswa and the Pinetown District.

The list of locations below has been compiled based on research on the programmes offered there and the establishments' commitment to helping young people overcome challenges to achievement.

1. The ***Imbeleko Foundation***, based in the remote KwaNyuswa community, aims to educate and empower children and youth from rural areas in KwaZulu-Natal. Holistic education support is provided for gifted and motivated learners who are vulnerable to poverty and lack of resources. Many of these learners are raised by unemployed parents, siblings, or grandparents and are not exposed to opportunities that could help their family and community escape these conditions. Two main academic initiatives are handled by Imbeleko, which is based in KwaNyuswa: a digital after-school academy and a scholarship programme for high-quality boarding school education.

2. The ***IQadi Community Hall*** is a community hall based in the KwaNyuswa community that is often utilized by members of the community for community projects or educational programmes.

3. The ***Yenzanathi Community Upliftment*** Project, after operating in the Valley for five years, Yenzanathi was officially registered as a Non-Profit Organization in 2007. It was started by locals as a solution to the societal issues of unemployment and poverty. The effects of HIV/AIDS, which left many households headed by children and many youngsters in the care of older relatives and neighbours who were also jobless and dependent on meagre social assistance, made these issues even worse. The project began as a soup kitchen utilizing donated food from Shoprite and Food Forward SA, but it has since expanded to include a food kitchen, landscaping project, and crèche for neighbourhood orphans.

4. The ***KwaNyuswa Thousand Hill Baptist Church***, is a community church that participates in activities like Community Development and Transformation.

5. The ***Valley Trust*** provided young people who had grown up in the Valley of a Thousand Hills with the opportunity to embark on various rewarding journeys since 1995, and their contributions have continued to improve the quality of life in the Valley, the Province, and the country.

5.5.2.2. The Opportunity

As previously mentioned, community-based initiatives (CBIs), which local residents with specific specialized skills may run, are a potential solution in this area to close the opportunity gap. CBIs are rooted and integrated in community, frequently reflecting the objectives and values of their communities (Seyfang & Smith, 2007). A unifying objective of CBIs, according to the World Health Organization (2003), is to develop enabling political, physical, and economic policies and strategies for all facets of the community, resulting in a favorable effect on the general environment and quality of life.

Stith et al. (2006) stated that the following are the broad suggestions gleaned from the literature about CBI's: A preventative programme must meet the following criteria: "(1) a community must be prepared for it; (2) strong community coalitions must be built; (3) programming must match the community; (4) programme fidelity must be maintained; and (5) sufficient funding, technical support, training, and evaluation focus are required". Residents of the KwaDedangendlale community have abilities in manual labour, agriculture, and other physical activities, as well as in handy work (including plumbing, electrical work, and woodworking).

They also have experience in administrative work, which calls for communication and the ability to solve problems and resolve conflicts. Additionally, several homes have tiny

businesses that need communication, numeracy, and business abilities. All of these abilities could be used to help learners who have trouble overcoming barriers to learning in the classroom by educating them on abilities they can use in the future, particularly if prompt intervention is not made to help a learner in the classroom. The processes for developing a workable CBI, in accordance with Saifi (2023), include stakeholder involvement and programme design after a needs assessment of the community has been established. All of the locations on the list that are available can be used as stakeholder bases for coalitions to form and programmes to launch, as well as a resource pool that the community can use.

5.6. Conclusion

In conclusion, this chapter presented the findings obtained from individual interviews and network analysis conducted in this study. The data revealed that the lack of support services from the DoE, difficulties related to overcrowding, and limited parental involvement continue to pose challenges for teachers in implementing inclusive education (EWP6) at a mainstream rural school. The introduction of the NeuroScreen tool and inclusive education aims to address these challenges and enhance the school's response to learners with learning barriers. However, it is important to make necessary adjustments within the school and the broader educational system to ensure that all learners facing learning barriers are able to make progress and receive a high-quality education.

Chapter 6

Recommendations and Conclusions

6.1. Introduction

This study examined difficulties surrounding inclusive education in a mainstream school with limited resources as well as the experience surrounding the use of the neuropsychological screening instrument, the NeuroScreen tool. The ultimate aim of the study was to identify existing support networks in the population that might be used by learners in the KwaDedangendlale community who are experiencing any form of difficulty, not just those who have challenges in the classroom. The study also intended to make recommendations for improvements to the KZNDoE and the most effective ways to handle this in order to raise awareness about the difficulties experienced by teachers who lack the required resources and training to deal with the new inclusive education system. The study's concluding chapter, Chapter 5, contained findings and recommendations from the entire study. The findings of the research have led to specific recommendations that are based on the participant interviews.

6.2. Summary of the Study

The main ideas and summaries of the study's findings are provided below.

6.2.1. Existing Issues Faced by Teachers and the Outlined Resources for Learners with Barriers to Learning Prior to the NeuroScreen Tool

The EWP6 policy in South African educational systems aims to transform equitable education by providing equal opportunities for all learners in a single integrated system. Supported by the Constitution, the policy includes school-wide strategies, a sense of community, natural proportion, teacher collaboration, curriculum adjustments, improved teaching methodologies, attention to standards and outcomes, and services based on need rather than location. However, implementing the policy has faced challenges, with participants anticipating similar difficulties in their districts.

6.2.2. Stakeholders' Experiences with the NeuroScreen Tool

The NeuroScreen tool, a neuropsychological screening instrument was trailed on adolescents in grade 9 at Thabela Secondary School in KwaDedangendlale, KZN. The highly automated, audio-visual tool evaluates neurocognitive performance and is designed for populations with poor literacy levels. Participants were questioned about their comprehension of the NeuroScreen screening tool and its function and purpose. Asenza's discussions with participants left them with the impression that the tool was simple to understand. Participants 1 and 2 found the trial testing experience generally enjoyable, with no negative experiences.

6.2.3. Perceived Value and Effect of the NeuroScreen Tool in the Classroom Context

The NeuroScreen tool is a useful supplement to the learning environment in the classroom since it addresses the difficulties faced by learners with learning disabilities. A neuropsychological assessment can assist in identifying whether a student has problems with cognitive abilities, including mathematics, reading, spelling, problem-solving, memory, or concentration. However, these evaluations are frequently out of reach monetarily, particularly in rural schools with limited resources. The DoE created the NeuroScreen tool, a time-aware smartphone application that does not need specialised knowledge to use or interpret. The tool enhances current SIAS practises; however, it is only a first step and cannot take the place of existing components like teachers. The study intends to broaden our understanding beyond identifying those who have learning barriers and provide solutions for getting through to them. The NeuroScreen tool is an excellent resource.

6.2.3. Referral Systems and Networks Prior to the NeuroScreen Tool

The SIAS process involves teachers referring learners for additional assistance, such as disciplinary difficulties, special education evaluations, and counselling services. It was established by the DoE, aims to identify and address barriers to learning in learners in South African public schools. The process involves identifying learners' strengths and weaknesses,

implementing appropriate assessment strategies, and designing individualized support plans. The DoE has established guidelines for early identification of learners' strengths and weaknesses, as well as guiding the school-based support team (SBST) when referred. These referrals can be for various reasons, such as overcoming barriers or expressing needs. However, at Thabela Secondary School, the intervention cycle begins to break down. The intervention cycle may not be sufficient for all learners, as some may still complete their high school academic career without the necessary intervention. The DoE has not established alternative procedures for learners with barriers to learning, and the SIAS process remains a crucial component of inclusive education.

Despite not using traditional network analysis, interviews revealed that teachers were not aware of services available in the community, except for Inkazimulo Primary School, a full-service institution for younger learners. The KwaDedangendlale community, located in the Pinetown district, faces a gap in referral systems and networks, hindering growth in educational facilities. This study utilized network analysis to understand existing referral systems and networks in the KwaDedangendlale community. To address this, community-based programming is suggested, involving members with unique skills. Programmes include the Imbeleko Foundation, IQadi Community Hall, Yenzanathi Community Upliftment Project, KwaNyuswa Thousand Hill Baptist Church, and Valley Trust.

6.3. Conclusions/Implications of the Study

The text highlights the challenges in assessing the effect of the NeuroScreen tool on learners with learning barriers. The study found that teachers face difficulties due to the socioeconomic environment and lack of knowledge about inclusive education, hindering the implementation of inclusive practices. The Department of Education (DoE) lacks the resources and expertise to support struggling learners effectively, relying on a sequential method of information dissemination. However, evidence suggests that the NeuroScreen tool

successfully identifies learners with specific challenges. The study raises concern about timely intervention, as support often does not occur when needed. Despite their lack of training, teachers in the school demonstrate adaptability in accommodating learners. The close-knit community and local initiatives serve as protective factors and provide support for learners who struggle in traditional classroom settings.

Collaboration among stakeholders, including teachers and parents, is crucial for successful implementation of inclusive education. The study emphasizes the need for providing teachers with adequate support, resources, and professional development to effectively address barriers to learning in overcrowded classrooms and implement inclusive education in South Africa. Overall, the study emphasized the value of the NeuroScreen tool in supporting learners with barriers to learning and highlighted the need for comprehensive and collaborative efforts to improve inclusive education practices, address challenges faced by teachers, and enhance referral systems and networks in the community.

6.4. Recommendations for Policy and Practice

This study has presented the following findings and recommendations that have implications for practice and an effect on service delivery:

6.4.1. Teacher Training on Inclusive Education

The preceding chapter of this study exposed the flaws in the preparation that teachers receive for working with learning barriers, as well as for working in schools with limited resources and similar demands. According to Majola (2013), “in order to ensure that teachers have the ability to fulfil a variety of learning demands, it is necessary to professionally develop them in the area of inclusive education to be able to implement it more effectively in mainstream classrooms” (p. 59). I agree that the importance of teachers’ training in inclusive education, learning barriers, and educational psychology that cannot be overstated. Teachers are often the first line of defence for learners struggling with learning barriers, particularly in

rural regions. Developing a thorough understanding of inclusive education requires knowledge of educational psychology. Understanding what learners need to achieve at school and home is made easier for teachers by educational psychology.

Additionally, psychological supports teachers in class planning and assessment of student growth. Nezhad and Vahedi (2011) state that psychology has altered the purpose of education and has given classroom learning new significance. “The previous idea of education—that only those from the upper class had the capacity and right to learn—was likewise altered by psychology” (Nezhad & Vahedi, 2011, p. 329). Teachers are subject matter specialists who know what is most effective for every learner. They comprehend the students’ character and behaviour as well. Through lectures, conversations, homework, quizzes, projects, and other activities, the teacher aids the students in understanding concepts and ideas. The study of educational psychology is advantageous to seek out the root of the issue and work to solve it. Success depends on knowing the learners, being aware of the learners, providing the learners with a supportive environment, and being aware of the student's needs and ability for simultaneous knowledge retention.

According to Woolfolk and Shaughnessy (2004), it has been demonstrated that teachers' own evaluations of their capacities to foster learners' learning and engagement are essential and are frequently linked to successful learner and teacher outcomes. Teachers and aspiring teachers can benefit from educational psychology by better understanding the various traits of children at different stages of development and developing teaching tactics accordingly. Inclusive education emphasizes the importance of recognizing individual differences. Therefore, teachers must know their diverse requirements and qualities to teach learners effectively. Additionally, by being aware of the various traits of learners, teachers may foster a positive learning atmosphere. Teachers will be able to raise their learners' grades by employing methods that take into account their unique learning styles. The following is a

list of education psychology modules that could be incorporated into educational degrees. For an example, modules offered in the Master of Education in Educational Psychology programme at the University of KwaZulu-Natal. In the broader context, these modules do not necessarily have to be completed at the master's level, and a selection of similar modules could enhance academic degrees and diplomas in education, for example, “Inclusive Education: Theory & Practice,” “Psychological Assessment in Education,” and “Psychological Interventions in Education.” Furthering the idea of educational integration, Majola (2013) notes that the “Warnock Report (1978:380) emphasizes the need for a special education component to be incorporated in all basic teacher preparation programs, even those leading to a Postgraduate Certificate in Education” (p. 59). The skills under discussion are currently infrequently acquired in the educational sector, which should be changed by implementing continuous training programmes that could be used to advance teacher training. These programmes should not only take the form of workshops but also accredited certificate programmes for in-service teacher training, as suggested by Majola (2013). The implementation of inclusion requires teachers to receive training that will enable them to identify possible barriers to learning and development and to differentiate their instruction to accommodate every learner's requirement and learning preferences. Therefore, in order to remedy IE's shortcomings, the KZN DoE must address the highlighted needs for teacher training. The DoE suggests that in order to maintain the calibre of such programmes, a thorough skills audit should be conducted to detect skills gaps, and professionals should adhere to a Continuous Professional Development (CPD) system.

6.4.2. Diversifying Teaching Strategies

The universal design for learning (UDL) is a teaching strategy that aims to meet the requirements and skill levels of every learner while also removing needless barriers to learning (King-Sears, 2009, p. 199). The learning networks that serve as the foundation for

CAST's development of UDL guidelines are three primary tenets: engagement, representation, and action and expression (Rose, 2006). Using UDL assumes that barriers to learning are caused by environmental design rather than by the student. For both learners with and without disabilities, UDL is concerned with the pedagogy, or educational methods, employed in the classroom (King-Sears, 2009, p. 199).

A key benefit of the UDL approach is that it enables you to anticipate and plan for every learner right from the beginning of your class (CAST, 2011). “When educators employ these principles in the design and delivery of instruction, accommodations noted on individualized education programmes (IEPs) for students with learning disabilities (LD) may more naturally occur in general education classrooms” (King-Sears, 2009, p. 199). Fundamentally, UDL's main objective is to create access to education in order to develop a wide spectrum of expert learners who are intentional and motivated, resourceful, and knowledgeable, and strategic and goal-directed in their approach to learning. Chita-Tegmark et al. (2012) state that access to representations, methods of action and expression, and opportunities for participation are the three basic types of facilitation that the curriculum should offer to satisfy the requirements of diverse learners. The UDL framework provides multiple checkpoints aimed at reducing barriers inherent in most traditional curricula (Chita-Tegmark et al., 2012). CAST (2011) states that the ideas of UDL can be applied without the aid of any particular software or technology. Instead, the tools and resources a teacher already has are made available to their learners. They might employ them in various flexible ways to meet learning goals.

In each classroom, UDL takes on a different appearance regardless of the fact that there are similarities (CAST, 2011). The first priority is to develop expert learning for everyone. According to CAST (2011) the following are additional aspects of a UDL experience that are common: All learners knowing the goal, flexible options for all learners to

use, all learners will have access to resources from the beginning of a class onward; and furthermore, learners will build and internalize their own learning. Learners rarely complete the same assignment in the same manner at the same time in a UDL setting. With respect to developmental stages, the flexible possibilities will change. But regardless of grade level or content areas, the framework for having clear goals and varied options remains the same.

6.4.3 Strengthening Intersectional Collaboration with Relevant Stakeholders

Strong intersectional collaboration across the various departments is required to implement long-lasting improvements in how we support learners experiencing barriers to learning. Some examples are non-governmental organizations (NGOs), parents, community members, social partners, the Department of Education, the Department of Health, the Department of Social Development (MENA Report, 2022), teachers, and teacher unions (Majola, 2013). Bronfenbrenner's ecological systems theory exemplifies the interactional system that impacts a child's development at all levels.

Smit et al. (2020) conducted a bio-ecological systems analysis on the development of education for learners with diverse learning needs in the South African context. The findings of the analysis determined that the Department of Basic Education (DoBE) is the larger governing education system responsible for laws, legislation, policy drafting, and strategic planning. While the exo-system impacts education, it also links the nine provincial departments (the second layer of government) and the meso-system. Meso-systems support processes (teaching, interventions, learning, and counselling) that have developmental aspects (Bronfenbrenner & Ceci, 1994; Smit et al., 2020).

A top-down intervention will be most advantageous in making a meaningful change, as Smit et al.’s (2020) analysis shows that a change to one component of the educational system impacts the other elements in the system. Additionally, as teachers are essentially the ones who create change, they should be the focus of the attention. Therefore, collaboration

with all parties is necessary to conduct more effective training and improve interpersonal relationships and effectiveness. Smit et al.'s study (2020) also found that the departments of the DoE indicated above function separately from one another and did not collaborate. The district, provincial, and national departments must collaborate. According to Mnguni (2017), once the national, provincial, and district departments of the DoE start cooperating, all schools will understand how important it is to adopt this innovation. The sub-directories of the DoE, such as those that handle the curriculum, testing, assessment, physical infrastructure, early childhood and development, human resource services, governance, and management, all need to collaborate more closely.

6.4.4 Multidisciplinary Teams in Schools

Similar to how the DoE allocates funds for teachers in the budget for education, funds for educational specialists like social workers, nurses, and psychologists should also be included because they are essential to schools' efforts to be inclusive. According to Majola (2013), it is important to support multidisciplinary teams in schools so they can pool their knowledge and work together to achieve shared educational objectives. At this stage, educating teachers on a variety of abilities necessary in the classroom can help to a point. However, certain learners must occasionally be sent to a specialist, which is when the school's multidisciplinary specialist team comes into action. The number of learners still waiting to be seen by specialists recruited by the DBST would be reduced if this were factored into the DoE's funding. Such thoughts on tactics for the recruitment and retention of specialists—that would be reflected in the academic achievement of students—would tremendously assist the inclusive path that the South African educational system envisions.

6.5. Limitations of the Study

The study faced notable limitations, particularly concerning participants' limited awareness of community locations beneficial for schools. This raises concerns about the

inadequacy of support provided. The chosen mapping locations relied on their operational status, values, and past projects, implying potential gaps in comprehensiveness and community engagement. Another notable limitation is the inadequate sample size, which hindered a comprehensive evaluation of the effects of the NeuroScreen tool on the school and staff. This limitation arose mainly from the constraints of time and the researcher's limited financial resources, which made it challenging to coordinate telephonic interviews and return to the school for the remaining in-person interviews.

6.6. Recommendations for Further Research

The study's findings provide a basis for the following recommendations for future research:

- Conduct a follow-up study after the implementation of the NeuroScreen tool to assess its effectiveness in addressing the identified gaps in underprivileged schools or schools where the SIAS process was not properly applied. This research can evaluate the impact of the tool and determine how it has helped in addressing barriers to learning in such schools.
- Investigate and assess the implementation of the KZN Department of Education's inclusive education (IE) strategy in schools. This research should explore the progress made, challenges faced, and the overall effectiveness of the strategy. By gaining insights into the implementation process, future improvements can be identified and informed decisions can be made to enhance inclusive education practices.
- Examine the role of diversity in the breakdown of the intervention process, particularly concerning school funding. Investigate whether the current funding mechanisms adequately support the goals of inclusive education and ensure equitable opportunities for all learners. This research can shed light on any discrepancies or limitations in funding allocation and explore strategies to overcome them.

It is crucial to continue researching and evaluating the effectiveness of inclusive education strategies, interventions, and policies to ensure continuous improvement and the provision of equal educational opportunities for all learners.

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Appendices

Appendix A

Information and Consent from Participants

INFORMATION SHEET AND INFORMED CONSENT FOR PARTICIPATION IN STUDY

If the participant is unable to read, this form must be read to them exactly as written, in their chosen language and a witness must sign this form to confirm that the correct information was given.

Greeting:

Good day, my name is Anisa Samkelisiwe Dlamini. I am a student at the University of KwaZulu Natal (Pietermaritzburg campus) where I am registered for Masters of Social Sciences in Counselling Psychology I am currently completing my research study, which is titled: Mapping supportive networks for adolescents involved in neurocognitive impairment screening in KwaZulu-Natal. This study is to provide support systems from adolescents identified by the NeuroScreen application. You are invited to participate in this research study.

Introduction:

The focus of this research is to determine a network of a support structure of learners that have been identified by NeuroScreen to have barriers to learning in the classroom, which can also be utilized by learners facing other difficulties uncovered by the screening process. This research aims to establish a support structures for learners identified with barriers to learning through NeuroScreen testing and examine its effectiveness in the school setting.

Invitation to participate:

It will involve participating in semi-structured interview. The duration of your participation if you choose to be in the study is expected to be an hour or less. Information that is shared by the participants will be used solely for the purpose of research. During the interviews, an audiotape will be used to allow the researcher the opportunity to accurately capture responses.

Risks and/or discomforts

There are no perceived risks for you participating in the study. If a problem or difficulty that needs attention becomes apparent at any point during the interview, we will provide referral letter for services in the area or student support services interns who will be present and utilized where necessary.

Benefits

The study is not funded. Participants will not receive any compensation for participating in the study.
You will not be responsible for the costs of any assessment.

Voluntary participation and right to withdraw

Participation in this research is voluntary and participants may withdraw from participating at any point. In the event of participation withdrawal, no penalty will be incurred. If you agree to participate, we request that you sign this form and keep a copy which shows the namesof individuals you can contact for further information about the study or to voice any concern or complaint about the interviews.

Confidentiality

The researcher will safeguard any information obtained during this study and make every effort to keep it confidential. There will be clear communication with you if any information needs to be shared regarding the outcome of your interview. The identity of participants will be concealed, as the participants' real names will not be used and the collected data will be stored for five years under lock and key in my supervisor's office. After a period of 5 years, the stored data will be destroyed by shredding.

Problems and questions

If you ever have any questions about this study, or in the case of a research-related injury, you should contact the researcher.

Contact information
The researcher of the study – Miss Anisa Dlamini on **Contact Number:** 074 937 8714 **Email:** 217040984@stu.ukzn.ac.za or Anidlamini01@gmail.com **My supervisor -** Dr. Nontobeko Buthelezi **Email:** Buthelezin@ukzn.ac.za
The Humanities and Social Sciences Research Ethics Committee contact details: HUMANITIES & SOCIAL SCIENCES RESEARCH ETHICS ADMINISTRATION Research Office, Westville Campus Govan Mbeki Building Private Bag X 54001 Durban 4000 KwaZulu-Natal, SOUTH AFRICA **Tel:** +27 31 2604557 **Fax:** +27 31 2604609 **Email:** HSSREC@ukzn.ac.za

PARTICIPANT STATEMENT AND SIGNATURE PAGE FOR STUDY ENROLMENT

Participant copy

Consent to Participate in Research

- I have been asked to give permission for_____to participate in a researchstudy.
- I understand the purpose and procedures of the study.
- I have been given an opportunity to ask questions about the study and have had answers to my satisfaction.
- I understand that my participation in this research project is voluntary, and that I may withdraw at any time.
- I understand that I will not be penalized or lose benefits, treatment or care that would usually beentitled to if I refuse to consent to participation or if I decide to withdraw from this study.
- I hereby consent to the audio recording of my interview for data collection reasons. I understand that no personally identifiable information or recordings will be released in any form, and that my identity will be kept confidential in transcripts, reports, and any future publications.
- If I agree that I will participate, you will give me a copy of this document and the participant information sheet which is a written summary of the research.
- If I have any further questions or concerns related to the study, or if I am injured as a result of theresearch, I understand that I may contact the supervisor, Dr. Nontobeko Buthelezi or the researcher of this current study, Anisa Dlamini on 074 937 8714.
- The research study, including the above information, has been described to me. I understand whatmy involvement in the study means and I voluntarily agree to participate. I thus provide my informed consent.
- I have been informed and accept that the information given will be safely stored and that nobodyexcept the researcher, the supervisor, and assessors will have access to it.

Consent form for Participation

I.....(Full names of participant) hereby confirm that I

understand the contents of this document and the nature of the research project, and I consent to participatingin the research project. I understand that I am at liberty to withdraw from the project at any time, should I so desire. I consent to my interview being recorded for the purpose of the study.

Signature for consent

Print name of Participant	**Signature or mark of Participant**	**Date**
Print name of study staff who administered consent	**Signature of study staff who administered consent**	**Date**

When participant illiterate and has placed a mark as signature or has provided verbal consent, a witness will need to be present, and their details filled in below.

Print name of Witness	**Signature of Witness**	**Date**

PARTICIPANT STATEMENT AND SIGNATURE PAGE FOR STUDY ENROLMENT

For Office use – This copy to be retained by UKZN

Completed by		Date Completed	
Checked by		Date Checked	

Consent to Participate in Research

- I have been asked to give permission for_____to participate in aresearch study.
- I understand the purpose and procedures of the study.
- I have been given an opportunity to ask questions about the study and have had answers to mysatisfaction.
- I understand that my participation in this research project is voluntary, and that I may withdrawat any time.
- I understand that I will not be penalized or lose benefits, treatment or care that would usually be entitled to if I refuse to consent to participation or if I decide to withdraw from this study.
- I hereby consent to the audio recording of my interview for data collection reasons. I understand that no personally identifiable information or recordings will be released in any form, and that my identity will be kept confidential in transcripts, reports, and any future publications.
- If I agree that I will participate, you will give me a copy of this document and the participant information sheet which is a written summary of the research.
- If I have any further questions or concerns related to the study, or if I am injured as a result of the research, I understand that I may contact the supervisor, Dr. Nontobeko Buthelezi or the researcher of this current study, Anisa Dlamini on 074 937 8714.
- The research study, including the above information, has been described to me. I understand what my involvement in the study means and I voluntarily agree to participate. I thus provide my informed consent.
- I have been informed and accept that the information given will be safely stored and that nobodyexcept the researcher, the supervisor, and assessors will have access to it.

Section B: Consent form for Participation

I.....(Full names of participant) hereby confirm that I

understand the contents of this document and the nature of the research project, and I consent to participatingin the research project. I understand that I am at liberty to withdraw from the project at any time, should I so desire. I consent to my interview being recorded for the purpose of the study.

Signature for consent

Print name of Participant	**Signature or mark of Participant**	**Date**
Print name of study staff who administered consent	**Signature of study staff who administered consent**	**Date**

When participant illiterate and has placed a mark as signature or has provided verbal consent, a witness will need to be present, and their details filled in below.

Print name of Witness	**Signature of Witness**	**Date**

Appendix B

Interview question guide

Introduction

Thank you for agreeing to participate in this interview. The purpose of this discussion today is to understand existing support structures and referral networks or institutions in the Pinetown district forlearners with cognitive impairments or learning barriers. I would also like to understand your views asa teacher on the screening tool that was introduced by Asenza and also support structures in place thatassist learners identified with learning difficulties or cognitive impairments.

1. What are some of the learning difficulties you face in classroom?
2. How do you deal with learners who present with learning difficulties?
3. When you identify learners with barriers to learning or neurocognitive impairments, what stepsdo you to assist the learner?
4. Are there systems in place on a school level that support teachers with learners who arepresenting with learning barriers?

   If Yes,

   - Do you believe that the systems in place are giving you the appropriate tools to dealwith the challenges faced by students?

   If No,

   - What tools do you think you would need to assist you in supporting learners withlearning difficulties?

5. How do you provide support for learners in the classroom who are not being assistedimmediately with their learning barriers?
6. This year, the Asenza team introduced a screening tool called NeuroScreen. What is yourunderstanding of the tool and its use?
7. Do you think this tool would be useful in screening learners for cognitive challenges as part ofthe school level intervention?
8. How would the results from screening assist teachers, in dealing with learners and

providingthem support?

9. How would you intervene once learners are identified as having learning difficulties?
10. Are there places in this area that can support learners once they are identified as having learningdifficulties?
    - Can you tell me about them?
    - How do you access these places?
    - Are they easily accessible?

Thank you ☺

Appendix C

DoE Interview question guide

Introduction

Thank you for agreeing to participate in this interview. The purpose of this discussion today is to understand existing support structures and referral networks or institutions in the Pinetown district forlearners with cognitive impairments or learning barriers. I would also like to understand your views asa DoE member on the screening tool that was introduced by Asenza and also support structures in place that assist learners identified with learning difficulties or cognitive impairments.

1. What are some of the learning difficulties that you aware are typically faced in secondary schools in the Pinetown district?
2. When these learners are identified by a teacher in the classroom, to have any learning barriers or neurocognitive impairments, what are some other steps that the department has put into placethat a teacher should be taking?
3. With Covid-19 and its effect, do you think that it has more so caused a spike in some of the difficulties? Has it even hindered the processes that the department has put in place to assist learners with barriers to learning?
4. Are there systems in place on a school level that support to support that learner who are presenting with learning barriers but have not been assisted for an extended period of time?

   If Yes,

   - What are these resources? Do you believe that the systems in place are giving learnersthe appropriate tools to deal with the challenges faced in the classroom?

   If No,

   - What not?
5. What support is available for teachers in the classroom? Do you think there's sufficient supportfor teachers in the classroom?
6. Are the systems in place by the DoE as it stands adequate in your opinion to support teachers?Or in future do you think they should be more systems to add or expand

upon what already is existing?

7. This year, the Asenza team introduced a screening tool called NeuroScreen. What is your understanding of the tool and its use? From the view of the department for screening these learners with cognitive challenges and learning barriers in the classroom or school interventionlevel?
8. Would you still keep the same processes with the implementation of the NeuroScreen tool? Do you think that maybe they would be a level or a stage within the now existing process that would be maybe shortened or altered in order to accommodate this to being implemented into schools?
9. Are there places in this area that can support learners once they are identified as having learningdifficulties?
    - Can you tell me about them?
    - How do you access these places?
    - Are they easily accessible?

Thank you ☺

Appendix D

Permission to Participate in the Umbrella Study

KWAZULU-NATAL PROVINCE
EDUCATION
REPUBLIC OF SOUTH AFRICA

OFFICE OF THE HEAD OF DEPARTMENT

Private Bag X9137, PIETERMARITZBURG, 3200
Anton Lembede Building, 247 Burger Street, Pietermaritzburg, 3201
Tel: 033 3921063 / 033-3921051
Email: Phindile.duma@kzndoe.gov.za
Buyi.ntuli@kzndoe.gov.za

Enquiries: Phindile Duma/Buyi Ntuli **Ref.**:2/4/8/1716

Dr C Desmond
Center for Rural Health
University of KwaZulu-Natal
DURBAN
4000

Dear Dr Desmond

PERMISSION TO CONDUCT RESEARCH IN THE KZN DoE INSTITUTIONS

Your application to conduct research entitled: **"EARLY IDENTIFICATION OF NEUROCOGNITIVE IMPAIRMENT IN ADOLESCENTS IN SECONDARY SCHOOL IN KWAZULU-NATAL (ADMINISTRATIVE SUPPLEMENT)"**, in the KwaZulu-Natal Department of Education Institutions has been approved. The conditions of the approval are as follows:

1. The researcher will make all the arrangements concerning the research and interviews.
2. The researcher must ensure that Educator and learning programmes are not interrupted.
3. Interviews are not conducted during the time of writing examinations in schools.
4. Learners, Educators, Schools and Institutions are not identifiable in any way from the results of the research.
5. A copy of this letter is submitted to District Managers, Principals and Heads of Institutions where the Intended research and interviews are to be conducted.
6. The period of investigation is limited to the period from 25 March 2021 to 01 August 2023.
7. Your research and interviews will be limited to the schools you have proposed and approved by the Head of Department. Please note that Principals, Educators, Departmental Officials and Learners are under no obligation to participate or assist you in your investigation.
8. Should you wish to extend the period of your survey at the school(s), please contact Miss Phindile Duma/Mrs Buyi Ntuli at the contact numbers above.
9. Upon completion of the research, a brief summary of the findings, recommendations or a full report/dissertation/thesis must be submitted to the research office of the Department. Please address it to The Office of the HOD, Private Bag X9137, Pietermaritzburg, 3200.
10. Please note that your research and interviews will be limited to schools and institutions in KwaZulu-Natal Department of Education.

PINETOWN DISTRICT

[redacted]

Dr. EV Nzama
Head of Department: Education
Date: 31 March 2021

Appendix E

Gatekeeper's Permission

UNIVERSITY OF KWAZULU-NATAL
INYUVESI YAKWAZULU-NATALI

29 March 2021

Ms Anisa Dlamini (SN 217040984)
School of Applied Human Sciences
College of Humanities
Howard College Campus
UKZN
Email: 217040984@stu.ukzn.ac.za

Dear Ms Dlamini

RE: PERMISSION TO CONDUCT RESEARCH

Gatekeeper's permission is hereby granted for you to conduct research at the University of KwaZulu-Natal (UKZN) towards your postgraduate studies, provided Ethical clearance has been obtained. We note the title of your research project is:

"Mapping supportive networks for adolescents involved in neurocognitive impairment screening in KwaZulu-Natal."

It is noted that you will be constituting your sample by conducting focus group discussions and/or interviews with high school teachers and/or staff members in the district office of Kwadedangendlale area. (Taking in account the regulations imposed during the lockdown ie restrictions on gatherings, travel, social distancing etc. ZOOM, Skype or telephone interviews recommended)

Please ensure that the following appears on your notice/questionnaire:

- Ethical clearance approval letter;
- Research title and details of the research, the researcher and the supervisor;
- Consent form is attached to the notice/questionnaire and to be signed by user before he/she fills in questionnaire;
- gatekeepers approval by the Registrar.

You are not authorized to contact staff and students using 'Microsoft Outlook' address book. Identity numbers and email addresses of individuals are not a matter of public record and are protected according to Section 14 of the South African Constitution, as well as the PAIA and POPI Act. For the release of such information over to yourself for research purposes, the University of KwaZulu-Natal will need express consent from the relevant data subjects. Data collected must be treated with due confidentiality and anonymity.

Yours sincerely

[redacted]

DR KE CLELAND
REGISTRAR

Appendix F

Originality Report

Anisa Samkelisiwe Dlamini Thesis 217040984

ORIGINALITY REPORT

15%	15%	4%	0%
SIMILARITY INDEX	INTERNET SOURCES	PUBLICATIONS	STUDENT PAPERS

PRIMARY SOURCES

1	hdl.handle.net Internet Source	2%
2	researchspace.ukzn.ac.za Internet Source	2%
3	uir.unisa.ac.za Internet Source	1%
4	vital.seals.ac.za:8080 Internet Source	1%
5	repository.nwu.ac.za Internet Source	1%
6	repository.up.ac.za Internet Source	1%
7	etd.uwc.ac.za Internet Source	1%
8	core.ac.uk Internet Source	1%
9	ujcontent.uj.ac.za Internet Source	<1%

Appendix G

Editors Certificate

LANGUAGE INSTITUTE

St Charles College,
Harwin Road,
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Pietermaritzburg 3201
Tel: 083 593 2855
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www.kznlanguageinstitute.com

Registration number: 131 804 NPO

Certificate of editing 09 December 2023

Name: Anisa Dlamini

Title: Breaking Barriers: Assessing the Efficacy of White Paper 6 Implementation in KwaDedangendlale's Educational Landscape and the Impact of the NeuroScreen Tool

This serves to confirm that the above document was edited substantively by members of the KZN Language Institute's professional English language editing team. The document was returned to the author with tracked changes and comments intended to correct errors and to clarify meaning. It was the author's responsibility to attend to these changes.

J. Kerchhoff

Director of the KwaZulu-Natal Language Institute

KZN Language Institute - Transforming Words