UNIVERSITEIT VAN PRETORIA
UNIVERSITY OF PRETORIA
YUNIBESITHI YA PRETORIA

Faculty of Health Sciences
School of Health Care Sciences
Department of Physiotherapy

Development of a school-based framework to support SIAS toolkit for learners with physical disabilities in Limpopo Province

Student name: Makwena M. Sibuyi

Student number: 20161141

Contact details:

Address: PO Box 239, MEDUNSA, 0208

Tel: (012) 521 4485

Fax: (012) 521 5684

Cell: 063 688 2442

E-mail: makwena.sibuyi@smu.ac.za / makwenasibuyi@gmail.com

Supervisor: Dr D Mathye

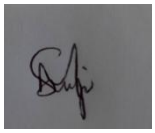
Co-supervisors: Dr N Mshunqane and Dr MD Tshabalala

Date: January 2023

A thesis submitted to the University of Pretoria, Physiotherapy Department in partial fulfilment of the requirements for the Doctor of Philosophy in Physiotherapy degree in the year 2023.

Declaration

I, **Makwena Midah Sibuyi,** declare that this dissertation entitled "**Development of a school-based framework to support a toolkit for learners with physical disabilities in Limpopo Province"** is my own work. It is submitted in fulfilment towards the PhD (Physiotherapy) at the University of Pretoria. It has not been submitted before for any degree or examination at this or any other University.



MM Sibuyi

12th day of January 2023.

Dedication

I dedicate this thesis to my family, my love and my rock.

My father, Daniel Matlape Mphahlele

My mother, Tshiboso Mphahlele

My husband, McDonald Vusimuzi Sibuyi

My son, Vutlhari Sibuyi

My daughter, Ofentse Rhulani Sibuyi

Acknowledgements

I would like to acknowledge each and every person that has contributed to my well-being; academically, mentally, physically, socially and spiritually. I pray that my Lord fills your cup and satisfies your needs as you have satisfied mine.

Of course, my supervisors, who ran with my idea and turned it into this magnificent body of knowledge. My principal supervisor, Dr Desmond Mathye, and my co-supervisors, Dr Nombeko Mshunqane and Dr Muziwakhe Tshabalala, I cannot forget your contributions.

The work reported herein was made possible through funding by the South African Medical Research Council through its Division of Research Capacity Development under the SAMRC Researcher Development Award from funding received from the South African National Treasury. The content hereof is the authors' sole responsibility and does not necessarily represent the official views of the SAMRC or the funders.

Thank you.

Table of Contents

List of Figures

List of Tables

List of Annexures

List of Abbreviations/ Acronyms

Abbreviations/ Acronyms

Abbreviation/acronym	Meaning
ADL	Activities of daily living
ANOVA	Analysis of variance
CAPS	Curriculum Assessment Policy Statement
CBMT	Circuit-Based Management Team
CBST	Circuit-Based Support Team
CP	Cerebral Palsy
CPD	Continuous Professional Development
CSN	Children with Special Needs
DBE	Department of Basic Education
DBST	District-Based Support Team
DHET	Department of Higher Education and Training
DoE	Department of Education
EARC	Educational Assessment and Resource Centre
ECD	Early Childhood Development
EWP6	Education White Paper 6
FGD	Focus Group Discussion
GMFCS	Gross Motor Function Classification Scale
GMFM	Gross Motor Function Measure
ICF	International Classification of Functioning, Health, and Disability
IDEA	Individuals with Disabilities Education Act
ISP	Individual Support Plan
ITE	Initial Teacher Education
LP	Learner Profile
LSEN	Learners with Special Educational Needs
LURITS	Learner Unit Record Individual Tracking System
NCESS	National Committee for Education Support Service
NCSNET	National Commission on Special Needs in Education and Training
QUAL	Qualitative Study
QUAN	Quantitative Study
SACE	South African Council for Educators
SAHRC	South African Human Rights Commission
SASA	South African Schools Act, 1996
SASAMS	South African School Administration and Management System
SBST	School-Based Support Team

SEN	Special Educational Needs
SIAS	National Policy on Screening, Identification, Assessment and Support
SNA 1	Special Need Assessment 1
SNA 2	Special Need Assessment 2
SNA 3	Special Need Assessment 3
SPSS	Statistical Package for Social Sciences
TBI	Traumatic Brain Injury
UNESCO	United Nations Educational, Scientific and Cultural Organization
USA	United States of America

Development of a school-based framework to support a toolkit for learners with physical disabilities in Limpopo Province

ABSTRACT

Background and aims: The Department of Basic Education (DBE) launched a policy to provide standardised procedures for Screening, Identifying, Assessing and Supporting (SIAS) learners experiencing barriers to learning. This policy is another strategy to give access to quality education that accommodates the needs of learners, including those living with various disabilities, in schools. Furthermore, it advocates for adopting the social model of disability and promotes interprofessional collaboration. Providing adequate and relevant support can retain learners with learning barriers and reduce dropout. Its implementation is met with significant barriers at the level of the child's environment at school (microsystem) and the relationship between educators and caregivers (mesosystems). The shortage of physiotherapists is a challenge both nationally and internationally. The composition of support structures at school level lacks physiotherapists, and more so in Limpopo Province. The aim of the study was to develop a school-based framework for the three special schools to support a toolkit for learners with physical disabilities in Limpopo Province. To achieve this aim, the researcher explored the implementation, challenges and solutions related to the SIAS toolkit and evaluated support programmes developed for learners with physical disabilities.

Methodology: A parallel convergent mixed-method research design, underpinned by a dialectical pluralism approach, was employed in conducting this study. Both the qualitative and quantitative studies carried equal weight. Thus, data collection and analysis occurred concurrently. There were three main studies. Study 1 was qualitative in nature and comprised semi-structured interviews with caregivers of Grade 7 learners, focus group discussions with physiotherapists, Grade R educators and School-Based Support Teams, and a document analysis of the SIAS toolkits for the Grade R learners. Study 2 was quantitative and carried out through an online and paper survey with educators. Study 3 was the point of convergence to produce one data set through a joint display analysis. Study 3 led to the development of the school-based framework.

Research outputs: There was triangulation of data. Nine themes emerged pertaining to the challenges with implementation namely; human resource management, training, implementation of SIAS and other policies, support structures, support to learners, caregiver participation, knowledge of roles of therapists, collaboration and assistive devices whereas five themes emerged with regards to the solutions namely; human resource management, training, special school curriculum, functionality of School-Based Support Team and

collaboration. The survey showed that not all SIAS toolkits were being used. The findings from the meta synthesis pointed out that educators were limited in the ability to identify and support learners with barriers due to lack of knowledge with the SIAS policy toolkits. Thus, these findings led to the development of the school-based framework which adopted the knowledge process management model. The model illustrated identifying, creating, gaining, sharing, applying, evaluating and preserving knowledge pertaining to the SIAS policy and toolkits. Contributions to the body of knowledge were disseminated at the 23rd AMCOA annual congress on the 4th of October 2022, titled: *Self-study: a strategy applied by physiotherapists to gain knowledge on the SIAS policy in LIMPOPO province*.

Impact of the research: This study was envisaged to, firstly, promote the practice of screening learners, identifying learners with barriers to learning, using relevant stakeholders to assess the nature of barriers and providing individualised support to learners at school; and secondly, to point out the need for interprofessional collaboration for effective implementation of the SIAS policy through its toolkits. Thus, the school-based framework is developed to assist special schools with the use of SIAS toolkits and foster interprofessional collaboration through knowledge sharing. This developed framework should be evaluated for its impact and outcome in Limpopo Province. The effect of dialectical pluralism in this study will undoubtedly provide SIAS policy reviewers with a valuable point of reference.

Keywords: SIAS policy, implementation, inclusive education, therapists, identification of barriers, educators, SBST, training, physical disabilities, caregivers.

CHAPTER 1: INTRODUCTION and BACKGROUND

1. Education in South Africa

Two national departments govern education in South Africa. These are the Department of Basic Education (DBE) and Higher Education and Training (DHET) (DBE, 2021). The DBE is responsible for public and private ordinary primary schools, early childhood development (ECD) centres, special schools for children with special needs (Children with special needs) and secondary schools. Children start school in Grade R (reception year) and end in Grade 12 after obtaining a National Senior Certificate. South Africa has made children's education between six to 15 years compulsory. The DHET is responsible for tertiary and vocational training. There are nine provinces in which there are provincial departments of education. These provincial departments implement district, circuit, and school national policies. Public schools may not refuse to admit learners who live close to the school. Furthermore, they should not refuse to hand report cards to learners even if their parents neglect to pay the school fees (DBE, 2021).

1.1 Inclusive Education

The South African Education White Paper 6 (EWP6) policy introduced Special Needs Education; as a result, building an inclusive education and training system in the education sector. Inclusion is defined within a school setting as upholding all learners' full personal, academic and professional development, irrespective of their demographics, disability and religion (DBE, 2001). Inclusive education is characterised by the following:

- Acknowledgement that all children and youth are educable with support.
- Valuing the unique learning needs of each learner.
- Enabling education structures, systems and learning methodologies to meet the needs of all learners.
- Changes in attitudes, behaviour, teaching methodologies, curricula and the environment to meet the needs of all learners.
- Maximising participation of all learners in the culture and curricula or educational institutions, thus uncovering and minimising barriers to learning.

In South Africa, inclusive education aims to integrate the education system to achieve equity and quality education and effectively support learners, parents and communities by removing barriers to learning (DoE, 2001).

Inclusive education and the right for all to education are provided for in the Constitution of the Republic of South Africa 1996. In addition, the South African Schools Act (SASA) (Act 84 of 1996) urges public mainstream schools to admit all learners regardless of disability and to provide proper support without unfair discrimination. Thus, education and training institutions are responsible for providing learners with an education that accommodates their needs. According to the National Development Plan 2030, access to quality education for children with disabilities will mobilise South Africa to achieve its employment equity goals (National Planning Commission, 2010).

The medium- to short-term goals of the EWP6 policy is to address the shortcomings in the current basic education structure and extend services to include those currently omitted. These include strengthening special schools as resource centres to support mainstream schools; training and capacity-building of school-based support and District-Based Support Teams (DBSTs); strengthening education support services for learners; establishing 30 full-service schools and institution-level support teams (DoE, 2001). However, progress in implementing inclusive education policy is hindered by educators who feel less adequately prepared (Ferreira, 2019) and inaccessible specialist support services such as therapists at ordinary public and special schools. Delays in implementing the EWP6 imply that learners are not receiving adequate and appropriate support. Delays in implementation will inevitably lead to some learners dropping out before school completion (Report on EWP6, 2015).

1.2 Inclusive Pedagogy: Early Childhood Development

Early Childhood Development is “an umbrella term that applies to processes by which children from birth to nine years grow and thrive, physically, mentally, emotionally, spiritually, morally and socially” with the active participation of parents and caregivers (DoE, 2001:9). The first years of formal schooling are regarded as crucial as they prepare the child for the future academic experience. In these first years, the main focus is holistically developing the learner in all physical, social, emotional, communication and cognitive domains (Powell, 2010; STADIO, 2020). Success in developing these domains earlier in life is associated with the learner’s success in school later on (Prior et al., 2011; Pascoe, Hetrick & Parker, 2020). Difficulties experienced in early school years have long-term consequences as they are said to intensify over the following years instead of disappearing (Pascoe, Hetrick & Parker, 2020).

The policy, White Paper 5 on Early Childhood Development (ECD), has been the main guide for the implementation of universal access to Grade R (reception year) (DoE, 2001). ECD ensures that a Grade R curriculum, with its training materials, is developed, classes are included in schools, and teachers’ development strategies are implemented (Diagnostic Review of Early Childhood Development draft report, 2012). According to Curriculum Assessment Policy Statement (CAPS) for Grade R, the focus is on play-based learning

through which integration into other key areas for child development will be stimulated (DoE, 2011a). However, the Department of Education (DoE) has realised that qualified Grade R educators were scant (Pandor, 2005; DBE, 2011b; Independent Online, 2022). This shortage may contribute to 35 per cent of learners in the reception year in South Africa who met the minimum criteria for early literacy success (De Witt, 2009). Thus it can be anticipated that learners will require special learning needs at some time during their schooling experience (Wapling, 2016).

Educators and schools face the challenge of developing a child-centred pedagogy (Wapling, 2016). A child-centred pedagogy is deemed to significantly lower learners' drop-out and repetition rates while ensuring a higher average level of achievement and avoiding waste of resources and a “one-size-fits-all” mentality towards education. Child-centred schools are the training grounds for a people-oriented society that respects the uniqueness and nobility of all human beings (Nicholas, Rouse & Paatsch, 2020).

1.3 Learners with barriers to learning and development

The National Commission on Special Needs Education and Training (NCSNET), together with the National Committee for Education Support Services (NCESS), conceived the terminology “learning barrier and development” (DoE, 1997). A barrier to learning is the preferred terminology to use as it explains better why some learners would have difficulties in learning. It replaces the term “special needs”, which implies that the problem is within the learner and not emerging from various systems in education such as the school, classroom and inflexible curriculum (Walton, Nel, Hugo & Muller, 2009). The term “barriers to learning” refers to the learning challenges arising within the education structure and from the learning area, which are external barriers. Internal barriers would include the disability and health condition a learner may have developed or been born with, such as physical impairments, sensory impairments, neurological impairments, cognitive impairments and chronic illnesses (DoE, 2001; 2005; Ntombela & Raymond, 2013; Stofile, Raymond & Moletsane, 2013). Human differences are typical, and learning has to be adapted accordingly to meet the needs of each learner instead of the learner to be fitted into a predetermined assumption (such as the pace and nature of the learning process). The curriculum and the mode of its delivery need to be adapted and modified to accommodate learners with barriers to learning (DBE, 2001).

Physical disabilities are impairments (internal) that hinder mobility, coordination, communication, learning and personal adjustments in children. The severity of impairments ranges from mild to severe and to the degree where the child uses a wheelchair and requires support in activities of daily living (ADL) such as feeding, bathing, dressing, transfers and toileting. The presence of a physical disability is a barrier to learning. Learners with physical disabilities may experience barriers in school, home and community (DBE, 2014). These

barriers may interfere with the learner's school attendance and performance. Thus, providing a wide range of support services can enhance learners' psychosocial, physical and cognitive development; yield increased participation in their academic and social lives (Washington, 2010).

The Salamanca Statement stated that delivering support services is vital for implementing inclusive educational policies (UNESCO, 1994). Strengthening education support services is fundamental to minimising barriers to learning within all education and learning settings (DoE, 2001; UNESCO, 1994; DoE, 2005a). The role of health professionals in schools is to support educators, parents and learners (Kaelin, Ray-Kaeser, Moioli, 2019). School psychologists render mental health screening and identify learners at risk of failing to meet their academic goals, thus not being promoted (Burns & Rapee, 2022). Self-help skills facilitated by therapists and carried over by hostel staff at school will assist the learner to be able to feed, bathe, and dress and to use ablution facilities independently (Kaelin, Ray-Kaeser & Moioli, 2019). Mobility services provide assistive devices to learners with movement limitations to access the environment. School nurses assist in administering chronic treatment, treatment of illnesses, and reducing the spread of COVID-19 in schools (Lee, et al., 2021), dressing wounds, catheterisation and tube feeding. Counselling services assist learners and parents in adjusting and coping with the nature of the disability (Washington, 2010).

1.4 Policy on Screening, Identification, Assessment and Support (SIAS)

The SIAS policy is the government's plan of action in the education sector (DBE, 2014) for standardising procedures of screening, identification, assessing, and providing support programmes for all learners who need extra support to increase their level of participation in schools (DBE, 2014). The SIAS policy aims at improving quality education for vulnerable learners and those who experience barriers to learning within the framework of the *National Curriculum Statement of Grades R – 12*. These include learners in ordinary- and special schools who are failing and not developing holistically due to barriers of whatever nature and those of compulsory school-going age and youth who may have dropped out or never been enrolled (DBE, 2014).

However, the literature on implementing SIAS policy in schools is scarce. The policy on EWP6 has instead drawn attention to research in physiotherapy (Struthers, 2005; Kotze, 2009; Pillay, 2010; Pratt & Peterson, 2019). Jacobs-Nzuzi and Khuabi (2018) criticized the SIAS policy for its poor transition from medical care to prospective schools regarding learners who have suffered Traumatic Brain Injury (TBI) and need to return to school. Furthermore, the researcher explained that the SIAS policy was not explicit regarding time frames (that is, before discharge from a hospital or after discharge). Also, the Health and Disability form did not specify whether it should be submitted to the SBST or the DBST. Details of intersectoral

meetings, persons who should support the learner while recovering at home, and activities that could help the learner with school re-entry were not provided (Jacobs-Nzuzi Khuabi, 2018).

Before learner placement at a school, the SIAS policy requires that the learner be assessed for the various learning barriers, functioning and participation levels (DBE, 2014). Thus, the focus of assessment should not only consider academic achievements. However, admission committees at schools mainly comprise educators. (DBE, 2014). The assessment will determine the level of support (low, moderate or high) the learner requires and be placed appropriately according to the different levels of support at schools.

Furthermore, the SIAS policy outlines competencies for educators and the assessment forms required from different stakeholders, such as therapists, for its successful implementation. The educators have to be able to recognise learners who are likely to drop out due to barriers and again be able to develop suitable interventions in class to minimise barriers. Educators will be guided by an assessment form called Special Need Assessment 1 (SNA1). In this form, the educator collaborates with the parent/caregiver by documenting data about issues and support requirements regarding communication, learning, behaviour and social competence, family situation and health. The educator, together with the parent/caregiver, will develop an Individual Support Plan (ISP) for the learner (DBE, 2014).

1.5 Support levels at schools

In response to the Salamanca Statement and framework on Special Needs education, South Africa has since developed policies (Education White Paper No.1 of 1995) and laws (SASA of 1996) that promote incorporating learners with special needs requirements in mainstream schools. Education White Paper No.1 of 1995 indicated the value of catering for the needs of learners with special needs in special and mainstream schools.

The DBE has classified all schools according to the support level for learners experiencing learning barriers (DBE, 2014) into mild, moderate and high support. Learners to benefit from high support are placed in special schools; those to benefit from moderate support are placed in Full-Service Schools. Full-Service Schools are inclusive and accommodate learners with and without disabilities (DBE, 2014). Learners that benefit from low support are placed in mainstream schools (EWP6, 2001). Schools are responsible for finding an inclusive approach to successfully educating all children, including those with barriers to learning. Support provisions that rank high are usually not covered by the norms and standards regarding infrastructure for ordinary public schools, budget and policies (DBE, 2014). These support provisions are deemed specialised and require a special class with facilities and staff availability on a high-frequency, intensity and long-term basis. The criteria to provide a high level of support include on-site access to therapists and nurses, reduced teacher: learner ratio,

intensive induction programmes for staff members, provision of differentiated curriculum and ongoing assessment of learners who need accommodation and concessions. Support rated moderate, such as therapeutic and budget adjustments, may be rendered once off or on a medium frequency and intensity.

The DBE recommends the appointment of therapists (transversal teams) at the circuit or district to support educators and learners using outreach programmes. Basic education rendered at this level of support focuses on awareness programmes and policy implementations on a short-term basis (DBE, 2014). However, the support that is rated low is catered for within the norms and standards of the ordinary public school, budgets and policies (DBE, 2014). The provision of support is usually directed in a preventative and proactive manner to increase learners' academic and social participation. The DBE has designed support through SBSTs and DBSTs.

1.5.1 School-Based Support Team (SBST)

The SBST is a support structure established within the school to serve as a school-level mechanism to support the school, educators and learners (DoE, 2001). Thus, the SBST has three main portfolio committees being the Whole School Development, responsible for identifying the needs of the entire school; the Learner Support Portfolio, responsible for early identification of needs and provision of support for learners experiencing barriers to learning and the Educator Support Portfolio Committee responsible for providing support to educators in the form of professional development (DoE, 2001; DBE, 2014a).

As stipulated in the guidelines, the SBST would include the following:

- Expert educators in learner support and life skills.
- The school management team (principal, deputy principal and heads of departments) and non-teaching staff, such as support staff and learner representatives from a senior phase in the primary and secondary schools.
- According to the available human resources at schools, educators, parents represented in the school governing body (SGB) and therapists.

Therapists comprise physiotherapists, occupational therapists and speech-language therapists. Parents are advocated to be part of the SBST composition. It has been highlighted that inadequate school participation leads to parents' resistance, poor commitment and reluctance to participate in school activities (Morelle & Tabane, 2019).

The main purpose of the SBST is to:

- Coordinate learners, educators, curriculum development and support schools.

- Recognise learning barriers and school needs.
- Establish intervention plans to respond to the learner's needs and barriers to learning.
- Identify and organise resources required to address the needs of the school.
- Monitor and evaluate the school's intervention strategies (DoE, 2005).

The SBST is guided by an assessment form called SNA 2. SNA2 support plans are captured and implemented once an agreement is reached between the educator and parent. Following the implementation of the support plans, they will be reviewed to identify progress or non-progress and challenging areas will be referred for intervention by the DBST (DBE, 2014).

1.5.2 District-Based Support Team

The DBST is a district-level governing body that ensures schools comply with the SIAS policy (DBE, 2014). This governing body advances inclusion by providing training, curriculum delivery, distribution of resources, infrastructure development, concessions, accommodation and other extra services to strengthen the School-Based Support Plan and educators (DBE, 2014). They are guided by an assessment form called SNA 3. This form assists the DBST in planning and budgeting for additional support programmes for learners (DBE, 2014). It is commonly established that the aid of learners with disabilities in schools depends on effectively implementing these support systems such as the SBST and the DBST. If these support systems malfunction, the support needs of learners will not be appropriately identified and, thus, inadequately provided. Research conducted in South Africa on inclusive education found collaborative structures malfunctioning and ineffective, especially at district level not being accessible and school-based support teams unclear on implementing the SIAS policy (Sulasmi, Akrim & Basri, 2020; Nel et al., 2014; Washington, 2010).

1.6 Learners with physical disabilities

Learners with physical disabilities experience challenges in mobility, posture (for example, sitting and standing), speech, feeding, cognition and reflex movements (Visser, et al., 2020; Australian Disability Clearing House on Education and Training, 2022). According to Saavedra and Goodworth (2020), postural control refers to the coordination of different parts of the body in order to achieve balance and prevent falls. Thus, children lacking postural control will experience difficulty sitting while writing or reading (Pin, 2019). Coordination and balance are also influenced by conditions such as; cerebral palsy (CP), muscular dystrophy, multiple sclerosis and traumatic head injury. Mobility is limited by spasticity (Andraweera, et al.,2021), numbness or even pain. Learners with disabilities may have problems with ADL, poor hand function that limits writing speed and manipulation of objects, as well as jerky movements which affect the ability to read regular or standard print (National Council for Special Education, 2017; Smits, et al., 2019; Visser, et al., 2020).

Access to the environment is a big concern for learners with mobility limitations due to health conditions (van der Kemp, Ketelaar & Gorter, 2021). An inaccessible environment restricts participation at home, community and even schools due to the lack of ramps, rails and uneven ground surfaces (van der Kemp, Ketelaar & Gorter, 2021). Individuals with Disabilities Education Act of 2004 (IDEA) requests that student assistance be rendered in a less restrictive environment.

1.7 Competencies of Physiotherapists in Special schools

The DoE reiterated that physiotherapists in educational settings should aim at supporting learners in achieving functional levels that enable them to adapt to the environment and access educational material (DoE, 1999). Following this, the EWP 6 came to pass and indicated that physiotherapists should indirectly support learners in schools (DoE, 2001). This included shifting from the traditional medical model of support (therapists provided one-to-one intervention in therapy rooms) to the social model of providing support (the educational well-being of the child within the classroom) (Swinth & Hanft, 2002; Effgen & Kaminker, 2014).

The primary role of a physiotherapist working in a school and special school is to identify learners' needs and ensure the learner's physical, social and academic well-being (Illinois State Board of Education, 2003). According to Rapport (2002), the indirect support model provides an opportunity for therapists to link with educators and caregivers in supporting the learner with learning issues since the goals and priorities for each learner ought to be established by all relevant members (SBST) before the appropriate support programme can be implemented (DoE, 2001). However, this new role has proven to be a challenge amongst physiotherapists who still insist on seeing learners individually, even in cases where learners have adapted and can be seen in groups and not be taken out of classes (Jeffries et al., 2019). Physiotherapists focus on skills necessary to help the learner achieve independent motor control (Rapport, 2002). Gross motor skills are amongst the motor skills that physiotherapists would work on. As already reported, gross motor skills enhance visual-motor integration which contributes positively to school readiness (Oberer, Gashaj & Roebers, 2018). Specific competencies for physical therapists working in special schools have been updated by Effgen, Chiarello and Milbourne (2007). These competencies include:

Effgen, Chiarello and Milbourne (2007) highlighted specific competencies physiotherapists need in educational settings. These are:

1. Context of therapy practice in education setting. Physiotherapists need to have knowledge of the public education system's structure, goals, and responsibilities to meet the educational needs of the children they serve.

2. Wellness and prevention. Prevention efforts may include training on fitness activities and screening for general developmental dysfunction.

3. Team collaboration. Collaboration with educators, families and stakeholders is indicated. Physiotherapists act as consultants and coordinate rehabilitation between the school and the home.

4. Evaluation and evaluation. The assessment of the learner with specific tools by relevant disciplines and integrate the information provided by caregivers.

5. Planning. Physiotherapists should be directly involved with the development of individual support plans of every learner.

6. Intervention. Physiotherapists need to be able to adapt the school and classroom environment to accommodate the needs of the learner.

7. Documentation. Recording of the child's progress systematically to indicate the goals from the individual support plans. Documentation is an excellent way to communicate with families, teachers, and other service providers.

8. Administration. Physiotherapists should take an active role in the administration of therapy services to promote quality service delivery and educate teachers, administrators, and other service providers regarding the contributions that physiotherapists can make to meet the academic and functional needs of children with disabilities in a school.

9. Research. Physiotherapists needs to be committed to life-long learning to remain competent practitioners.

Competencies unique to the South African context were developed in the study by Manamela, et al (2021). These include; ethics, professional integrity, professionalism, accountability, innovation, clinical skills, cognitive skills, interpersonal skills, collaborative skills, supervisory skills, advocacy skills and technical skills. However, the international competencies by Effgen, Chiarello and Milbourne (2007) remain applicable although contextual factors have to be considered.

For physiotherapists to successfully assist learners in achieving independence and for special schools to operate as resource centres, it was recommended that they render services in collaboration with teachers, families and communities (Funk, 1978; Galvez, 2000; Mafa, 2012 & Muranda, 2015). According to Pratt and Peterson (2019), consultative services by key role players such as therapists would also involve providing input on equipment to be purchased, development and monitoring of the school activity programme, such as physical education and task modification for learners. Therapists use the consultative and collaborative support model to empower teachers and parents to cope with various barriers learners experience

through training. Through training, teachers will learn motor skills, techniques and activity modification. The more training they receive, the more they can identify learners with learning difficulties (Withworth,1993).

Therapists can also use the monitoring support model to follow up on the progress of interventions by teachers and parents (Rapport, 2002). The strength of the monitoring support model reassures parents and teachers that the learner is not forgotten and that their needs will also be adjusted, especially when assistive devices need to be changed. However, some contributing factors hinder special schools from rendering quality education to their learners in inclusion. These factors include inadequate qualifications of educators, insufficient staff and, in particular, support staff, lack of assistive devices, lack of learning- and teaching support material, and inadequate transport (Engelbrecht, et al., 2020).

1.8 Problem Statement

There are three special schools for learners with physical disabilities in Limpopo Province. Only one has a school-based physiotherapist supporting over 300 learners. Physiotherapists are generally scarce in South Africa, and the effects are seen in a special school in Limpopo Province. This issue is compounded by the imbalance in the distribution of physiotherapists, where more are in the health sector. The SIAS policy requires learners with learning barriers to be screened, identified, assessed and adequately supported at their schools (DBE, 2015); however, educators are not adequately equipped to identify learning barriers. Educators lack the competency to assess the health conditions and disabilities learners have and how to support learners to benefit from the curriculum. The in-service training on implementing the SIAS policy is inadequate; thus, the shortage of physiotherapists has a bearing on implementing the SIAS toolkit at schools. Items on health, wellness, and personal care of the SNA1 (SIAS component) require the input of physiotherapists and other therapists, including occupational and speech therapists, as they understand the health conditions of learners. The lack of physiotherapists and other therapists' contribution in implementing the SIAS toolkit leads to poor identification of learners with barriers to learning and inappropriate provision of support. Physiotherapists possess the competency to assess and offer support that is fitting to people living with physical disabilities (Effgen, Chiarello & Milbourne, 2007); Rapport et al., 2014).

Furthermore, therapists understand how the classroom and school environment can be modified to improve the learner's participation socially and academically. However, the three special schools for learners with physical disabilities do not have school-based therapists.

According to the SIAS policy, the district is the next level of support for the schools. However, that access to the DBST was inconsistent and inaccessible due to a lack of resources for transportation and workforce (Maphumulo, 2019; Mabaso, 2020). It was also reported that

schools in Limpopo Province had about 0,3% access to the DBST. This study implies that learners in Limpopo Province lack the support they require due to poor access to support structures. Therefore, with physiotherapists being part of the District Based Support Team (DBST) and applying the school-based framework, educators will be supported in identifying learners with barriers to learning and equip them with ways to support them. Thus, the school-based framework aims at supporting educators with knowledge and skills to implement the SIAS policy for learners. Physiotherapists collaborating with parents, school nurses, social workers and other therapists will transfer knowledge to educators about barriers to learning amongst learners living with physical disabilities, advise on necessary materials and activities needed by the learners, and the required environmental adjustments to accommodate learning. In instances where physiotherapists are school-based, their involvement in the SBST will complement the implementation of the SNA 2 toolkit of the SIAS policy.

The study's main research question, aim, and objectives are presented in the following sub-section.

1.9 Research question(s), aim and objectives/hypothesis

A research question guides the type of study design to be followed. The main research question was:

What would be the nature of the school-based framework to support the SIAS toolkit to benefit learners with physical disabilities in Limpopo Province?

To answer the main question, the following sub-questions were asked:

- What is the implementation process of the SIAS toolkit? Data were collected quantitatively.
- What are the current challenges in the implementation of the SIAS toolkit? Data were collected qualitatively.
- What support programmes have been developed for learners with physical disabilities at school following Special Need Assessments? Data were collected qualitatively.
- What are the learners, educators, therapists and members of the SBSTs' suggestions on improving the perceived challenges with implementing the SIAS toolkit at the school level? Data were collected qualitatively.

1.9.1 Formulation of aim

This PhD project aimed to develop a school-based framework for the three included special schools to support better implementation of the SIAS toolkit for learners with physical disabilities in Limpopo Province.

1.9.1.1 Sub-aims

To explore the implementation, challenges and solutions related to the SIAS toolkit and to evaluate support programmes developed for learners with physical disabilities.

1.9.2 Formulation of objectives

- To evaluate and describe the implementation process of the SIAS toolkit at the three special schools for learners with physical disabilities in Limpopo Province.
- To identify and describe challenges encountered in implementing the SIAS toolkit in the three special schools for learners with physical disabilities in Limpopo Province.
- To determine and evaluate support programmes developed for learners with physical disabilities following Special Needs Assessment (SNA) 1 and 2 (components of the SIAS toolkit).
- To identify and describe methods and strategies to address the challenges.
- To develop a school-based framework to support the SIAS toolkit implemented at special schools for learners with physical disabilities in Limpopo Province.

1.10 Definition of key terms / Concepts

1.10.1. Toolkit

A toolkit is a compilation of modifiable documents and resources that guide users to develop a plan to accomplish specific tasks (Thoele, et al., 2020). The use of toolkits has a high likelihood of promoting evidence-based intervention. However, most toolkits guide the intervention but do not illustrate how they can be adapted in various contextual environments to support implementation (Thoele, et al., 2020). The toolkits in the SIAS policy include different assessment forms, SNA1, SNA2, SNA3, ISP and the health disability form (DBE, 2014).

1.10.2. Implementation

Implementation is a detailed set of deliberate and organised tasks built to merge evidence-based practices with reality (TechTarget, 2022). An action that follows a premeditated plan. The study seeks to find out the state of the SIAS policy implementation in special schools for learners with physical disabilities.

1.10.3. Framework

A framework is defined as a supporting structure or a plan containing varying concepts and themes that relate to each other and are considered to account for a phenomenon (TechTarget, 2022). The ideas, information and principles that form a structure of an organization or plan (Cambridge dictionary, 2023).

In this study, a school-based framework is developed in order to support SIAS policy implementation through toolkits.

1.10.4 SIAS policy

The SIAS policy is a national strategy deployed by the Department of Basic Education. It is a toolkit with special needs assessment forms (SNA1, SNA2 & SNA3) to standardise screening procedures, identifying, assessing and providing support for learners who demand more support to increase their participation (DBE, 2014). The researcher will assess how the SIAS policy is implemented across special schools in this study. Furthermore, to determine challenging factors affecting its implementation and suggestions to improve it.

1.10.5. Special School

A special school accommodates learners requiring high support (DBE, 2014). The study is conducted in a special school setting in Limpopo Province for learners with physical disabilities.

1.10.6. Learners with Physical Disabilities

Learners are a group of persons ranging from early childhood development stage to adult education. According to the South African Act of 1996, children between seven and 15 years must undergo schooling (DBE, 2019). Physical disabilities refer to impairments in motor- visual- and hearing skills. A physical disability denotes any limitation inhibiting the physical functioning of one or more limbs that may result in a person being permanently or temporarily disabled (Rutgers, 2022). This study conducted a document review of SIAS toolkits for Grade R learners with physical disabilities related to motor skills.

1.10.7. Educators

Educators facilitate school learning and help learners gain meaningful educational experiences to solve real-world problems (Naidoo, 2019). The study involved educators who educate learners at special schools to share challenges they experience when implementing the SIAS toolkit and how they can be mitigated.

1.10.8. School-Based-Support-Team

SBSTs are teams established by the school as a school-level mechanism to support the learner and the educator (DBE, 2014). The study involved portfolio committees of the SBST at special schools for the physically disabled to share the challenges they experience when implementing the SIAS toolkit and how they can be mitigated.

1.10.9. Policy

Power (2022) defines a policy as goal-oriented, having a specific purpose and a programme of action that has been decided upon. A policy shares the institution's expectations, employees' expectations, philosophy, culture, and values. The SIAS policy indicates how

learners should be screened, identified, assessed and supported (DBE, 2014). Thus, this study aims to develop a school-based framework that will assist in implementing the policy on SIAS.

1.11 Context / Setting

This study will occur in Limpopo Province, formerly the Northern Province of South Africa. The province lies in the northernmost part of South Africa. On its southern edge, from east to west, it shares borders with the Mpumalanga, Gauteng, and North West Provinces. The province shares international borders with districts and provinces of three countries: Botswana's Central and Kgatleng districts to the west and northwest, respectively, Zimbabwe's Matabeleland South and Masvingo Province to the north and northeast, respectively and Mozambique's Gaza Province to the east. The estimated population of Limpopo Province in the year 2019 was approximately six million (5,982,584), making it the fifth largest province out of nine provinces in South Africa in terms of population size (South Africa Institute of Race Relations, 2020). The population is predominantly Black African (96.7%), and the majority speaks Sepedi language (52.9%), followed by Xitsonga (17%) and Tshivenda (16.7%).

The total number of all schools in Limpopo Province is close to four thousand (3921), with 29 designated as special schools and 23 as Full-Service Schools: ten education districts and one hundred and forty-one education circuits (LDoE, 2020). Special schools are categorised into four primary impairments; intellectual disability, physical disability, and visual and hearing impairment. Most of these special schools are for learners with intellectual disabilities. In contrast, there are only three special schools each for physical disabilities, and visual- and hearing impairments.

Three special schools provide high support to learners living with physical disabilities in Limpopo Province. The three public special schools for learners with physical disabilities are academic primary schools that admit learners from Grades R to seven. In a study by Lourens, McKinney and Swartz (2015), where they investigated the lives of people who completed their education in special schools, they found that challenges that existed in apartheid South Africa (pre-1994) to some extent still exist post-implementation of EWP6. These challenges in special schools included, amongst others, poor teacher training in special needs, poor access to therapeutic services (physiotherapy, speech therapy and occupational therapy) and limited schools with grades up to Grade 12 (Lourens, McKinney & Swartz, 2015). This report is accurate in Limpopo Province since only one special school for learners with physical disabilities has a school-based physiotherapist and admits learners up to Grade 12.

The total number of learners enrolled in the three special schools for physical disabilities is about eight hundred and thirty-seven. The special schools are in Capricorn North district under Blouberg local municipality, Vhembe West district under Thulamela local municipality and

Mopani West district under Greater Tzaneen local municipality. Surty (2011) reported that the majority (62%) of South African schools are in rural settings in the Eastern Cape, KwaZulu-Natal and Limpopo Provinces. Educators face the challenge of delivering the curriculum within communities of low socio-economic status (Gardiner, 2017). This challenge is compounded by schools having low budgets, poor infrastructure, insufficient teachers with suitable qualifications, multi-grade teaching, parents having disinterest in their children's education and inaccessible public transport that leads to poor school attendance (Du Plessis & Mestry, 2019; Gardiner, 2017). However, special schools for learners with physical disabilities have hostel facilities, so learners do not have to travel to school.

1.12 Paradigm and philosophical assumptions

1.12.1 Paradigms

A paradigm is a philosophical stance a researcher will take to obtain basic principles to direct action within a study (Creswell & Clark, 2017). Four perspectives of mixed-method research are categorised by Shannon-Baker (2016): pragmatism, transformative emancipation, dialectics and critical realism. The Dialectical Pluralism meta paradigm will be employed as a paradigm for this study. Dialectics allows for combining multiple paradigms relevant to the research to produce a whole or new understanding (Greene, 2007) instead of a single paradigm (Greene & Hall, 2010). It is an approach to research acknowledging that many perspectives, paradigms, methods, theories, philosophies, and ethical systems deserve respect (Stefurak, Johnson & Shatto, 2015). “Dialectical” refers to the working process that is dialectical, dialogical, and also hermeneutical. The process requires the person to listen attentively, be mindful of others’ thoughts and be ready to learn from different perspectives when discussing pertinent issues. Dialogically, dialectic pluralism requires continual equal dialogue and discussion. Hermeneutically, dialectical pluralism requires an ongoing back-and-forth interpretation of information as it embraces the concept of deliberative democracy (Johnson, 2017).

“Pluralism” refers to the anticipation and welcoming of opposition in real life. Thus, dialectical pluralism makes inroads for different disciplines and stakeholders - be it policymakers, researchers, clients and many more to partner with to produce “wholes” and syntheses that are socially agreed upon while embracing differences at the same time (Johnson, 2017). Dialectical pluralism equally values multiple perspectives and paradigms (Greene, 2007).

The dialectical pluralism is a paradigm of choice that is most relevant to the proposed study as The researcher will be exploring the implementation of the SIAS policy by implementing the SIAS toolkit, evaluating support programmes by the school for learners, investigating challenges and solutions in implementing the SIAS toolkit from different disciplines and stakeholders (educators, therapists, learners and caregivers) at public special schools for

learners with physical disabilities. The researcher will use multiple perspectives to develop a school-based framework that can facilitate the implementation of the SIAS policy. The researcher acknowledges numerous practical and working truths in applying the dialectical pluralism meta paradigm. As indicated earlier, dialectical pluralism provides a process philosophy for engaging successfully with differences. The following subsection will discuss the philosophical and methodological assumptions underlying dialectical pluralism.

1.12.2 Philosophical and methodological assumptions

Paradigms have distinct philosophical elements: Ontology, Epistemology, Axiology and Methodology (Creswell, et al., 2017; Doorenbos, 2014; Wahyuni, 2012). The researcher discusses how dialectical pluralism interacts with philosophical and underlying methodological assumptions in this section.

1.12.3 Ontology

Ontology refers to the beliefs regarding reality and how one makes sense of that reality. Dialectical pluralism acknowledges that many realities must be considered, such as subjective, intersubjective and objective. Dialectical pluralism also acknowledges multiple paradigms/world views. Therefore, the guiding principle of ontology is the presence of many world views, and the emerging conflicts are regarded as positives, not negatives, that shut down conversations and growth (Johnson, 2017). The different world views were considered in the qualitative phase of the study. In the quantitative phase of the study, the guiding principle of ontology from a pragmatism stance is that reality is objective and can be generalised as opposed to being unique. The presence of multiple perspectives regarding the implementation of the SIAS policy drawn from the triangulation of data strands provided valuable insights and revealed what was relevant and real.

1.12.4 Epistemology

Epistemology is the theory of knowledge. It answers what knowledge is and how one can gain knowledge (Rehman & Alharthi, 2016). Dialectical pluralism purposively enables dialogue with diverse epistemologies to discover that which is epistemologically crucial and applicable (Johnson, 2017). In the qualitative phase of the study, knowledge was generated inductively. The knowledge produced in the qualitative phase from multiple epistemologies was broader, more in-depth and holistic, informing the policymaker's decision to consider placing a policy under review. In this study, the findings drawn from multiple data collection tools such as focus group discussions (FGD), semi-structured interviews, surveys and document reports were merged and interpreted in order to develop a "whole"/ meta-epistemological perspective that deserves to be respected and to be shared with relevant stakeholders and policymakers. The results may converge or diverge, but it will be necessary to produce a school-based framework. In the quantitative phase of the study, knowledge was generated deductively using

an online survey. Data were categorised into variables, and associations between variables and statistical levels were determined with scientific methods (such as chi-square test & $p \leq 0.05$).

1.12.5 Axiology

Axiology alludes to the principles and moral standards the researcher upholds. Dialectical pluralism takes a diversified standpoint on ethical considerations. Thus, the guiding principle in axiology was for the researcher to state their explicit values and ethics and discuss the relevant values respectfully and emphatically with multiple groups in the research project. The researcher conducted the research ethically by obtaining ethical clearance at the University of Pretoria Health Sciences Ethics Committee, Limpopo DoE and Health. Participants in the study signed informed consent and assent in terms of children. Data collected was held confidentially.

1.12.6 Methodology

Methodological assumption refers to the strategy used in the research (Johnson, 2017). The research methodology differs from the research method, which includes detailed operations to gather and scrutinise data (Tashakkori & Teddlie, 2010). The approach used in this research is the Equal-Status Mixed Method Research, which works well with the dialectical pluralism meta paradigm (Johnson, 2017). The qualitative and quantitative results merged into a single study. These data strands have equal value as they rely on multiple paradigms which carry equal weight (Johnson, 2017). This study applied this approach by equally valuing qualitative and quantitative studies on implementing the SIAS toolkit at special schools for learners with physical disabilities in Limpopo Province. Different disciplines (participants) participated in qualitative and quantitative studies. Mixing these two methods produced thick descriptive data with social and scientific value. The multiple perspectives produced at the end of data analysis would assist in developing a school-based framework to implement the SIAS policy at schools.

1.13 Delineation

The scope of this study was as follows:

- The researcher focused on three special schools for learners with physical disabilities in Limpopo Province.
- The researcher evaluated the implementation of the SIAS toolkit at the three special schools.
- This study was limited to learners with physical disabilities enrolled in special schools for children with physical disabilities in Limpopo Province. The study did not include any other special schools.

1.14 Significance / Contribution

My research endeavours to add to the existing body of knowledge in the area of the implementation of the SIAS policy. Furthermore, to bridge the current gaps in the literature regarding implementation of the prescribed SIAS policy. The study will highlight the type of assistance learners with barriers to learning requires. Existing literature focuses much on the educators' perspectives regarding implementing EWP6 policy. This study adds to the limited studies that not only focused on the educators' perspectives on inclusive education but explored multiple perspectives, including those of caregivers, physiotherapists and portfolio committees of the SBST on the state of the SIAS policy implementation in special schools, challenges experienced and collaborative ways to overcome identified challenges. The multiple perspectives would guide policymakers and reviewers in adjusting the implementation processes. The study further promotes and highlights the unique role that physiotherapists contribute to the implementation of SIAS policy at the level of the Macrosystem. This study is the first to develop a framework for special schools enrolling learners with physical disabilities in Limpopo Province. But the school-based framework may be applicable in full-service and mainstream schools since educators at these included special schools may be redeployed. Thus, knowledge gained is transferable. The study also would benefit pupils living with physical disabilities to access quality education that is capable of addressing their needs holistically.

1.15 Conceptual / Theoretical / Operational framework

1.15.1 Bronfenbrenner's ecological model as a theoretical framework

Inclusive education incorporates ideas from Bronfenbrenner's bio-ecological system theory, which provides a valuable way of understanding the complex interactions in education, schools and classrooms that can lead to learning difficulties (Greene, 2001). Bronfenbrenner (1979) asserts that the child is rooted in varying contextual layers affecting his/ her growth. Hence the author further suggests that human growth is shaped by systems working at separate levels inside a wide ecological structure. These systems are the micro-, meso-, exo- and macrosystems. These ecological systems exert a reciprocal influence on one another and affect the child differently, with the most substantial impact within the microsystem.

The microsystem is close to the learner, such as caregivers, classroom, peer group and the neighbourhood (Bronfenbrenner, 1979). The mesosystem describes the interrelationships in which the learner is involved, for example, the association of the child's teacher and parent (Bronfenbrenner, 1979). The exosystem is the level whereby the learner is not actively engaged but may be indirectly implicated by events (Bronfenbrenner, 1979). The macrosystem points to the institutions of culture or subculture, such as educational, political, economic, social and legal systems that implicitly or explicitly influence particular roles,

activities, social networks and their interrelations (Bronfenbrenner, 1999). The chronosystem is concerned with the changes that occur over time in any one of the systems and how this transitioning period influences human development (Bronfenbrenner, 1999).

This framework considers individuals in their context and the various interconnected systems that have a bearing on human growth and development (Swart & Pettipher, 2016). The study will consider the multiple perspectives of educators, physiotherapists, caregivers and portfolio committees of the SBST on how implementing the SIAS toolkit at schools affects the inclusion of learners in classrooms, such as identifying learning barriers and providing support. Figure 1 below illustrates the interacting systems of Bronfenbrenner's ecological model.

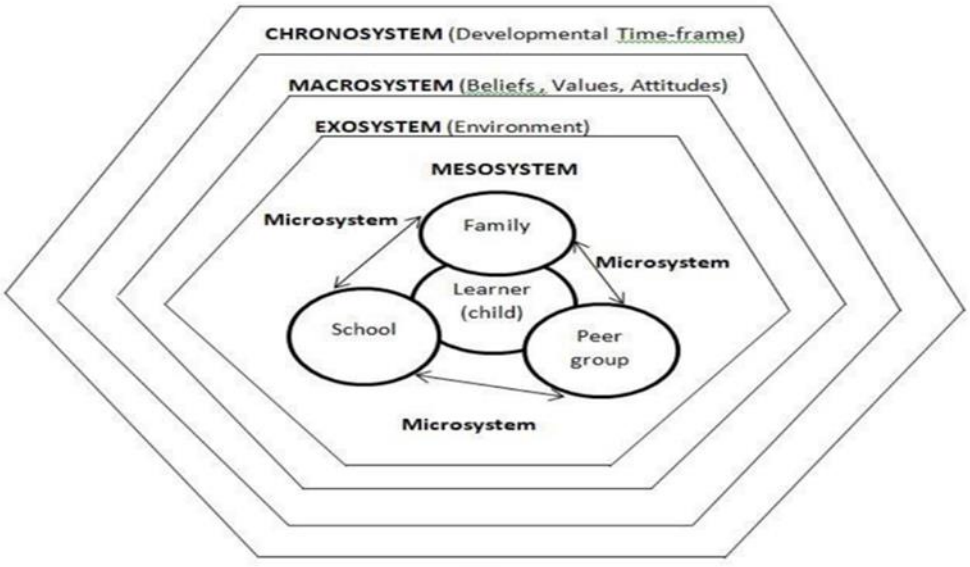


Figure 1: Bronfenbrenner's ecological model

1.15.2 International Classification of Functioning, Disability and Health (ICF) as a conceptual framework

The International Classification of Functioning, Disability and Health (ICF) model is a biopsychosocial model that describes the individual's health condition from the perspective of body structure and function, activity and participation. The body structure references human anatomy, physiology and psychological functioning regarding muscle power, range of movement, pain and intellectual ability. Activities refer to what the person can do. Within participation, the ICF model distinguishes between personal and environmental factors (World Health Organization, 2001). Environmental factors are external to the individual, such as his/her family, school and legislation.

In contrast, personal factors, such as race, age, gender and coping style, are characteristics. They are not a direct result of the individual's health or disability. For instance, learners with

physical disabilities may struggle with participating fully in class due to a health condition that makes them have poor muscle strength and coordination, fatigue, pain and poor posture. These adverse effects will result in the learner being unable to complete written work (Laverdure & Rose, 2012). Thus, by providing an inclusive environment, they may be able to function better and have fewer disabilities. The ICF model assumes that the learner's level of function or disability results from the interplay between the learner's characteristics and the environment. This framework will assist in determining how activities, participation and limitations are viewed as challenges that hinder the implementation of the SIAS policy through the SIAS toolkit and what environmental factors in the school and the home would facilitate implementation of the policy. Furthermore, it guides the criteria for providing support by considering the level of function and activity participation in learning processes in class and around the school. Figure 2, below, illustrates the model of ICF.

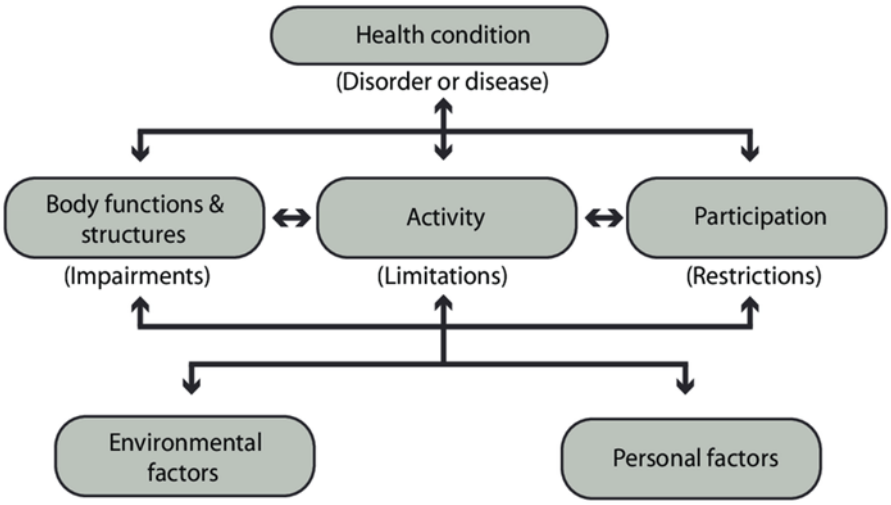


Figure 2: ICF model

The learner's physical impairment (s)/diagnosis is captured in the Learner Profile of the SIAS toolkit component at the school. The researcher will employ the ICF at the microsystem level to understand how the learner's physical impairments affect his/her participation in class. For instance, the ability of the learner to maintain a sitting posture to copy work from the board and how the learner grasps a pen would affect writing ability and completing tasks on time in the classroom. The SNA 1 form, which is the assessment by the educator, plays a vital role at the microsystem level as it is meant to identify such learning barriers. At the mesosystem level, the relationship between the learner's educator and the family will affect how parents/caregivers become involved in their child's education and the development of ISPs. ISPs are developed collaboratively with parents and can only be implemented with their approval. The SNA 1 form requires the parents' signature; thus, should the parent not be involved, the learner will be deprived of the necessary assistance. Poor collaboration between the school and the nearby physiotherapy department disadvantages learners. For instance,

learners are unable to replace or exchange assistive devices that are unsafe with the nearby hospital. Lack of timeous replacement of unsafe crutches will result in learners being injured due to falls. Depending on the severity of the injury, a learner could be absent from class temporarily and miss out on learning. The school's infrastructure (lack of ramps, rails and uneven terrain) and the functioning of the SBST affect the learner at the exosystem level. A lack of therapists, especially physiotherapists, in implementing the SNA 2 form implies that educators are not being empowered to identify learners with learning barriers. Thus, learners with learning barriers will not be identified, and there will be delays in rendering appropriate therapeutic support to deserving learners. Learners' health conditions/impairments will deteriorate and adversely affect optimum participation in class. In addition, understanding the SIAS policy, educators, and support staff members at special schools will determine how well the policy is implemented. Implementing the SIAS policy through the SIAS toolkit impacts the learner's development and participation at the macrosystem level.

Summary

Research on inclusive education has focused much on the educators' perspectives on implementing the EWP6 policy, which includes the SIAS policy. This study employed Dialectical Pluralism to be a metaparadigm. Dialectical Pluralism allows for combining multiple paradigms relevant to the research to produce a whole or new understanding (Greene, 2007) instead of a single paradigm (Greene & Hall, 2010). Thus, the study adds to the limited studies that focused on the educators' perspectives and the multiple perspectives of caregivers, physiotherapists and SBSTs, particularly on the SIAS policy implementation. Through the indirect support model, physiotherapists collaborate with educators and caregivers to support learners with learning issues. However, physiotherapists are scarce, and educators are not adequately trained in inclusive education and implementing the SIAS policy. This study is based on Bronfenbrenner's ecological model as a theoretical framework and the International Classification of Functioning, Disability and Health as a conceptual framework.

1.16 Outline of chapters

Chapter 1: Introduction

Introduction to Inclusive Education, the SIAS policy, learners with barriers to learning and the role of physiotherapists are presented. Chapter one also presents the problem statement, research question, aim, objectives, definition of concepts, context of the study, paradigm and philosophical assumptions, significance of the study, conceptual and theoretical framework, and the outline of the chapters.

Chapter 2: Literature review

The literature review first looked at inclusive education practices globally than locally. Following this general presentation, the literature review presented themes related to the lived experiences when implementing inclusive education and the SIAS policy in schools. These themes included, amongst others, competency, leadership, human resources, training, and collaboration.

Chapter 3: Methodology

The study followed the convergent parallel mixed method research design underpinning the dialectical pluralism paradigm. The sample, data collection tools and data analysis for each data strand, qualitative and quantitative, are also presented. This chapter ends by describing methods used to ensure trustworthiness and ethical considerations.

Chapter 4: Results

This chapter presents the results from the qualitative, quantitative and meta-synthesis studies as Part A, B, and C, respectively. Qualitative data (Part A) is subdivided into studies 1 and 2. Study 1 presents results from Semi-Structured Interviews and FGDs. Study 2 presents the results of the Document Analysis. The study objectives for Study 1 were to identify and describe challenges encountered in implementing the SIAS toolkit in the three special schools for learners with physical disabilities in Limpopo Province and to identify and describe methods and strategies to be employed to address the challenges. Study 2 was to determine and evaluate support programmes developed for learners with physical disabilities following Special Needs Assessment (SNA) 1 and 2 (components of the SIAS toolkit). The objective of the quantitative study (Part B) was to evaluate and describe the implementation process of the SIAS toolkit at the three special schools for learners with physical disabilities in Limpopo Province. The results from both QUAL and QUAN data sets are merged in Part C and presented as a Joint Display Analysis.

Chapter 5: Discussions

The meta-synthesis results are only discussed in this chapter and compared with other findings from the published literature.

Chapter 6: Development of the School-Based framework

The objective was to develop a school-based framework to support the SIAS toolkit implemented at special schools for learners with physical disabilities in Limpopo Province. Thus, this chapter shows how the school-based framework should look.

Chapter 7: Conclusion and recommendations

The study is concluded, followed by the strengths and limitations of the study. Recommendations for further research are highlighted.

In the next chapter, the literature review is presented.

CHAPTER 2: LITERATURE REVIEW

2.1 Introduction

This chapter reviews the literature about Inclusive Education with a particular interest in implementing the SIAS policy (international and local). The other part of the literature review pertains to challenges impeding implementation and suggestions for improving the implementation of the SIAS policy.

Keywords used to obtain information for this research included: SIAS policy, implementation, inclusive education, therapists, identification of barriers, educators, SBST, training, physical disabilities and caregivers. Literature was retrieved from the Google Scholar search engine and through databases such as Science Direct, Biomed Central, ResearchGate and the DBE website. First, the historical background for inclusive education is presented.

UNICEF's core mandate is to ensure that every child, no matter their circumstance, can enjoy their human rights entirely. Since its founding in 1946, UNICEF has worked to advance the rights and well-being of the most marginalised and excluded children, including children with disabilities. Although this has helped children with disabilities enjoy their rights, more must be done to attain a fully inclusive world (Berman-Bieler, et al., 2023).

The Salamanca conference (the world conference on Special Needs Education) held in Spain in 1994 was decisive on how barriers to learning and development in children with disabilities should be approached. As a result, all governments had to shift from an education system that separated children with disabilities to an inclusive system of mainstream schools (Kauffman, et al., 2016). Learners with learning barriers had their educational needs provided for in special schools, which were embedded in the medical deficit model (Christensen, 2018; Hall, 2018). This model placed the disability within the learner, not the environment (Christensen, 2018; Hall, 2018). However, the training of teachers prior to 1994 did not focus on capacitating teachers to address the needs of learners with barriers to learning holistically (Danforth & Naraian, 2015; Adewumi & Mosito, 2019).

The following section reviews the international and national implementation of Inclusive Education.

2.2.1 Inclusive Education in the Philippines

The Philippines is one of the first countries in the Southeast Asian region to recognise Children with Special Needs (CSNs). Various higher learning institutions offer inclusive education courses in their undergraduate and postgraduate school programmes (CHED, 2017; CHED, 2019). The country has prioritised integrating CSNs into mainstream schools and in the community (Dela Fuente, 2021). However, the Philippine DoE has highlighted challenges that must be addressed to enhance Inclusive Education and its implementation (Dela Fuente, 2021). These challenges included, amongst others, negative attitudes, infrastructure, and lack of financial resources and curriculum (Quijano, 2011).

Furthermore, professionals were unprepared to work together (Valenzuela, 2017). Despite the above challenges, various interventions are being implemented to increase access to education for CSNs. These interventions include improvements in special education centres, provision of early intervention programmes, teacher education and training, and curriculum and transition programmes (Dela Fuente, 2021). As a result of these interventions, positive outcomes were seen in the economy, education and society (Dela Fuente, 2021). Economically and educationally, most Children with special needs were trained to become productive and independent through vocational skills training, thus, contributing to the rise in the employment rate. Thus, children with special needs could finance their living expenses and, in turn, relieve the Social Welfare Services. Socially, there was a culture of accepting persons living with disabilities (Basister & Valenzuela, 2022).

2.2.2 Inclusive Education in India

Monika (2018) alluded that the needs of persons with disabilities in India were accommodated in special schools, although the total number of special schools was inadequate; thus, exclusion practices remained unsolvable. These were; lack of access to mainstream education, over-crowding, non-flexible teaching methods, and shortage of resources, including teaching aids (Monika, 2018). Thus, the researcher recommended the establishment of SBSTs collaborating with caregivers and student volunteers to include learners with disabilities in mainstream schools. The SBTs were to play an advocacy role, whilst caregivers would have to be involved in the decision-making process of their children (Monika, 2018).

2.2.3 Inclusive Education in Ukraine

The researchers in Ukraine developed an educational programme called Teachers' Team Cooperation Technology. This programme aimed to increase the ability of teachers to work in an interdisciplinary fashion to support Children with special needs (Skrypnyk, et al., 2020). The development of the educational programme followed findings that implied that teachers lacked teamwork skills and confidence in the content of their activities concerning learners with Special Educational Needs (SEN). Other findings from the abovementioned research

included low organisation meetings between educators and the support teams. The lack of these stakeholder meetings resulted in learners without educational support plans reflecting their support needs. Thus, goals for support were not reflecting collaboration with parents and other relevant stakeholders responsible for supporting the learner.

2.2.4 Inclusive Education in Slovenia

In Slovenia, Inclusive Education is also met with policy implementation challenges. These comprised lack of human and non-human resources and negative attitudes of teachers, parents and peers (Murtonen, 2020). Lesar and Žveglič (2020) indicated that teachers had about 60 hours of undergraduate inclusive education courses. Teachers were faced with the challenge of parents not collaborating with them. Schmidt and Vrhovnik (2015) noted with interest that Secondary school teachers had more positive attitudes towards the inclusion of Children with special needs than Primary school teachers. In addition, attitudes were related to the type of disability learners presented with and the professional expertise and training of teachers (Schmidt & Vrhovnik, 2015). In children living with physical disabilities, teachers had positive attitudes. In contrast, where children had behavioural disorders, teachers had a negative attitude (Čagran & Schmidt, 2011). This implies that teachers' attitudes depend on the nature of the learner's disability.

2.2.5 Inclusive Education in the United States of America (USA)

The Individual with Disabilities Education Act (IDEA) has been passed in the USA to ensure free public education for children living with disabilities. The purpose of the IDEA is to make certain that children with disabilities receive special education that address their individual needs, are prepared to participate in the economy through skills acquired, their rights including their families are protected under the law. The Act evaluates services provided by schools to ensure the inclusion of learners with disabilities (Grynova & Kalinichenko, 2018). A multidisciplinary approach is taken in the placement of children together with their families (Hossain, 2012). Children with severe physical disabilities are not always accommodated in mainstream schools. Thus, these children are separated from the mainstream and placed in special schools (Hossain, 2012). The curriculum and individualized health care plans are developed in collaboration with educators, school nurse, occupational therapists and physical therapists (Hossain, 2012).

2.2.6 Inclusive Education in Canada

The implementation of inclusive education is grounded on relevant legal, educational, methodical, pedagogical requirements, appropriate facilities and qualified human resources (Grynova & Kalinichenko, 2018). In Canada, the Standards for Special Education defines the basic conditions under which children with special needs can be included in the mainstream schools. This is based on the individual approach to each child, rendering relevant support to

their education and parental involvement in the education process. However, Canada has not normalised inclusive education across the country. Provinces have autonomy on how they integrate children with special needs (Grynova & Kalinichenko, 2018). The country make efforts in the areas of increasing the number of educators, improving the environment of schools and peer teaching as a strategy. However, There is a slow effort in merging mainstream schools and special schools (Malyshevska, 2016). Thus, special schools are still existing and some used as resource centres whereas the majority caters for learners with severe disabilities and multiple health conditions (Grynova & Kalinichenko, 2018).

2.2.7 Inclusive Education in Ghana

Ghana developed a new education curriculum in 2018 following the approval of the Initial Teacher Education (ITE) Reform policy. In this teacher training curriculum, including Learners with Special Educational Needs (LSEN) in mainstream schools is an important core subject (Nyaaba, Aboyinga and Akanzire, 2021). Thus, the education curriculum ensured that the training courses included Inclusive Education to enable teachers to deal with diversity in the classroom. The new curriculum also aimed at equipping teachers with competencies and strategies to address the needs of learners (Nyaaba, Aboyinga and Akanzire, 2021). Therefore, all learners with SEN were enrolled in mainstream schools except in cases where the relevant departments (Education, Health & Social Development) agreed that placement into a mainstream school was not the best option for the child. However, effective inclusive education was hindered by the stigmatisation of learners and inadequate or inappropriate resources that did not address the learner's needs (Nyaaba, Aboyinga & Akanzire, 2021). Resources in inclusive education refer to human resources (teaching and non-teaching staff), teaching and learning materials (Learner Teacher Support Material) and special resources (Shuck & Rauer, 2018).

2.2.8 Inclusive Education in Botswana

The educators' training programmes at the university in Botswana capacitate educators in identifying and supporting learners with learning barriers (Mangope, Otukile-Mongwaketse, Dinama, et al.,2018); hence, learners with special educational needs are placed in mainstream schools (Kuyini & Mangope, 2011; Government of Botswana, 2017).

2.2.9 Inclusive Education in South Africa

There was discrimination against black South African children with special needs before 1994 (Engelbrecht, Oswald & Forlin, 2006). It was based on having a two-fold education system - special schools and mainstream schools - and the distribution of resources. Special schools for black children with special needs were under-resourced and limited (Muthukrishna & Schoeman, 2000; Waitoller, 2020; Kozleski, 2020). The SASA (DoE, 1996) emphasised education as a fundamental human right. This has led the constitution of South Africa to

advocate for the right to education (Constitution of SA, 1996). South Africa protects everyone's right to equal access to education, including those with disabilities, although the implementation varies in schools (Parmigiani, et al., 2020).

The EWP6 was published in 2001 to build an inclusive education and training system (DoE, 2001). This policy has provided a model of inclusive education at schools. It has emphasised the need to modify teaching and learning to cater to the wide spectrum of needs children with special needs present with education (DoE, 2001; DoE, 2005a; Murungi, 2015; Makoelle, 2012). Inclusion is centred on access, accommodation, equality, equity and redress (Engelbrecht, et al., 2006); however, since its inception, it has been reported that the implementation of inclusive education is relatively slow-moving (Wildeman & Nomdo, 2007). For instance, special schools are still being used to accommodate learners who need high level of support which is not available in mainstream schools. This is an act of exclusionary practice rather than inclusive. Adewumi and Mosito (2019) believed that lack of support structures, parents' illiteracy, and participation were contributing factors that negatively impacted the implementation of Inclusive Education in South Africa.

Summary of the literature review on inclusive education:

The study has searched for inclusive education practices in both developed and developing countries. In developing countries, various countries have reviewed their undergraduate programmes to include inclusive education to equip educators to implement inclusive practices in their schools; however, common challenges still prevail globally. These included a lack of skilled educators in inclusive education and teaching resources. In developed countries, inclusive education is not yet standardized as seen in Canada but works well with different stakeholders including parents to develop individualised curriculum and appropriate placement of learners. Similar to South Africa, the USA and Canada has not abolished the use of special schools. Furthermore, the use of documents in assessing the learner's level of educational progress, strengths and weaknesses, additional services and support needed are being used. Thus, complete integration of children with special needs in mainstream schools is still a work in progress across the world. It was, for this reason of unskilled educators in inclusive education and the use of special schools that the researcher conducted the study on the implementation of the SIAS policy amongst special schools in Limpopo Province of South Africa - to establish how learners were affected by the challenges of inclusive education. This part of the literature review confirms that educators have challenges implementing the SIAS policy.

The next section of the literature review focuses on the policy to Screen, Identify, Assess and Support learners (SIAS). This is one of the Inclusive Education policies endorsed by the DBE for learners in Grades R to Grade 12.

2.3 The SIAS Policy

The SIAS policy was implemented in 2014 after it was piloted at different schools in 2008. (Engelbrecht, et al, 2016). Before its implementation, teachers used the deficit model and their intuition to identify learners having challenges with learning materials (Mkhuma, Maseko & Tlale, 2014). Learners were admitted to schools based on having passed their aptitude tests. This system stigmatised learners who did not pass their aptitude tests instead of considering the innate learning style of the learner (Mkhuma, Maseko & Tlale, 2014). The SIAS policy was launched to respond to this challenge. The policy dispenses guidelines on how learners with barriers to learning can be supported in order to prevent learners from dropping out of school due to a lack of inclusion (DBE, 2014).

2.3.1 The SIAS process of assessment

The SIAS process of assessment is explained in four stages. This assessment process highlights the importance of collaboration between the SBST and the DBST. Also, it places teachers, parents and learners (above 12 years of age) in the lead during the assessment process (DBE, 2014).

Stage 1: Learners are screened by the teacher during school admission. The findings from the screening are recorded in the learner profile and then captured in the Learner Unit Record Individual Tracking System (LURITS). Additional documents must be made available to assist the teacher in compiling applicable information for the learner profile. These documents include but are not limited to Road to Health booklet, Integrated School Health Programme reports, school reports (from previous schools), reports from professionals (therapists), parents, teachers and other relevant stakeholders. The teachers use this information to complete the SNA1 form.

Stage 2: When the teacher has identified at-risk learners, the teacher becomes the case manager to facilitate the provision of support. The teacher, the parent, and the learner (above 12 years) collaborate to discuss and agree on relevant support to be rendered. The teacher will approach the SBST when the support/intervention is not yielding the desired results/outcome.

Stage 3: At the level of the SBST, an SNA 2 form is completed and used to review the identified barriers to learning and the support rendered by the teacher. An ISP will be implemented and also monitored for progress. The case will be referred to the district level for intervention should the school not be able to see progress.

Stage 4: The DBST will complete an SNA 3 form to review the support plan of the teacher and the SBST. The DBST is responsible for formulating an action plan to support the learner, teacher and school. The support can include planning and budgeting for supplementary

support programmes, allocating support services and resources, training, mentoring, and counselling parents and teachers (DBE, 2014).

2.4 Placement of Learners with special educational needs (LSEN)

In line with the SASA (Act 84 of 1996), ordinary public schools may admit learners with special needs. However, it has to be reasonably practical, especially regarding accessibility and infrastructure. In cases where the school is not accessible for LSEN, the principal needs to refer the application to the Head of the Department to have the learner admitted to a suitable public school in the same province or another after consultation with parents, educators and the DBST. The learner should be assessed before referral to another school to ensure that the learner is not prejudiced (DBE, 2021). In the United States of America, the placement of learners with special educational needs is the responsibility of parents (Erickson, 2017). Parents choose schools for their children. However, in Kenya, the placement of learners is the responsibility of the Educational Assessment and Resource Centre (EARC). The responsibility of the EARC is to identify, assess and place learners with learning barriers (CBM, 2015). The EARC approach differs from South Africa. Like the USA, in South Africa, parents are responsible for finding schools for their children. In most cases, schools form admission committees, comprising mainly educators, to admit and refer learners seeking to be enrolled at their school of choice. Learner admission would be reviewed within two years (DoE, 2007).

Although different interpretations exist on the side of the schools regarding the admission of learners (Ndimande, 2016), SASA (Section 5 of the Schools Act 84 of 1996) has declared that no learner may be refused admission to a public school, be it mainstream or special school. However, the admission policy may stipulate the feeder zones and the admission age in compliance with the Schools Act, Admission policy for ordinary schools (DoE 1998c). Furthermore, it was reiterated that no learner should be subjected to an admission test.

2.5 Experiences with implementing the SIAS policy

Since 2014, the experiences of educators, SBSTs, School Management Teams (SMTs) and DBSTs have been explored in various provinces of South Africa. Therefore, it implies that the implementation of the SIAS policy is contextual. As highlighted in the SIAS process, educators are central to implementing the SIAS policy. The role of the educator is not only to implement teaching and learning, but they have also faced the task of identifying learners whose barriers impact learning, assessing, adapting teaching methods and placing them in appropriate schools (DBE, 2014; Hess, 2020).

2.5.1. Competency

A progress report on the Sustainable Development Goal (SDG) 4: Ensure inclusive and equitable quality education and promote lifelong learning opportunities for all, highlighted that untrained teachers hindered the provision of quality education or prospects of quality

education for learners at schools (United Nations Development Programme, 2017; Adewumi & Mosito, 2019). Teachers' qualifications in full-service schools do not differ from those in mainstream schools (Mkhuma, Maseko & Tlale, 2014) and, by extension, special schools. This implied that educators are distributed across the 3-tiered school levels of support without the relevant qualifications. Engelbrecht (2015) purported that student teachers' experiential learning lacked exposure to working with learners with disabilities. In addition, the pre and in-service training received from the employer on addressing barriers to learning was reported to be ineffective and lacking (Subramoney, 2017; Ntseto, et al., 2021). Therefore, teachers will continue to have difficulties in supporting learners with special needs, and this challenge is antagonistic to inclusive practice.

Another issue is related to curriculum adaptation and differentiation. Teachers are reported to have difficulties adapting the curriculum to suit the learning style of learners (Mnguni, 2017; Westwood, 2018; Ntseto, et al., 2021). This challenge also promotes exclusion practices, especially for learners with disabilities. Thus, Westwood (2018) asserted that the strategy to differentiate the curriculum depended greatly on the teachers' knowledge.

The EWP6 on special needs education indicated that a curriculum that is not flexible contributes to barriers to learning (DoE, 2001). Aspects of the curriculum that need to be flexible are content, medium of instruction, classroom organisation and management, methods and processes used during teaching, the pace of teaching, time available to complete the curriculum, learning materials and equipment, and how learning is assessed (DoE, 2001).

The National Curriculum Statements provide guidelines for responding to classroom learner diversity using differentiated lesson plans. The policy on SIAS asserts that curriculum and assessment need to be adapted to allow learners with various levels of functioning to access the curriculum and assessment at the level that best suits their needs; however, there is an associated challenge of overcrowding in schools (Subramoney, 2017; West & Meier, 2020) that makes the implementation of the SIAS policy difficult. DBE has published guidelines to respond to learner diversity in the classroom through grouping and multi-level teaching (DBE, 2011b). These guidelines further encouraged teachers to be innovative in the manner they teach in classrooms. The support of the SBST is indicated in this regard, especially in facilitating curriculum differentiation (DBE, 2011).

2.5.2. Functionality of the SBST

The SBSTs are responsible for training and supporting educators in identifying and addressing learning barriers (EWP6, 2001). For instance, implementing curriculum differentiation is linked to the functioning of the SBSTs since they are key structures in addressing diverse learning needs and styles (DBE, 2011; DBE, 2014b). Curriculum Differentiation uses a strategy to adapt, modify, change, and extend different teaching methods and assessments as well as

the curriculum's content and learning environment (Reis & Renzulli, 2018; DBE, 2011; DBE, 2014b).

The SBST, however, mainly focused on providing support to learners instead of both learners and educators (Makhalemele & Tlale, 2020). They assumed educators knew how to identify and support learners. As a result, educators felt demotivated and unsupported. Thus, cases of identified learners who needed support were not being referred to the SBST or attended to. Educators needed practical experience on how to support learners. In one of the provinces of South Africa, it was found that learners needing low support were placed in special schools instead of mainstream schools. This demonstrated a knowledge gap in the SIAS policy implementation (Subramoney, 2017).

However, the study by Hlalele, Jiyane and Radebe (2020) had a different finding from the previously mentioned authors. They found the SBST to be functional and assisted teachers in understanding curriculum differentiation and implementing it to benefit learners. Thus, it depends on how functional the SBST of a particular school is.

2.5.3. Policy Interpretation

There were misconceptions that the SIAS toolkits were only meant for the foundation phase learners and that the district office (of a certain province) discouraged intermediate phase teachers from identifying large numbers (ten) of learners with barriers to learning per month (Mkhuma, Maseko & Tlale, 2014). This implied that the SIAS policy was not implemented for senior learners; therefore, there would still be high drop-out rates of learners as most of them are unidentified and unsupported. These misconceptions speak to the different interpretations of the SIAS policy and how it should be implemented. Thus, the national DBE has not clarified the policy's intentions and ensured common understating. Another contributing factor may come from applying the Cascade model (Brabson, Herschell & Snider, 2021) when training educators on the SIAS policy. This model delivers training to a few teachers then cascades the information to their colleagues who did not attend training. In this model, critical information misinterpretation is unavoidable (Öztek & Kydd, 2022).

2.5.4. Leadership

The SBST is a school-support structure headed by the school principal (EWP6, 2001). There were challenges reported in selecting team members in the study by Makhalemele and Tlale (2020). There was a notion in the abovementioned study that SBST members comprised the school principal’s favourites. However, guidelines are provided on the composition of the SBST (DBE, 2014). As a result, other members did not last long on the committee. Some of these members were those that were trained on the SIAS policy. They were instead replaced with educators who were not trained. SBSTs did not understand the SIAS strategy and still needed workshops on identifying and addressing learning barriers (Matolo & Rambuda, 2022).

There were also other issues regarding the SBST being unable to commit to their scheduled meetings at schools (Motitswe, 2014). This resulted in a lack of communication and teamwork within the team (due to age and gender dynamics) and between teachers (Makhalemele & Tlale, 2020). This speaks to the leadership problem of school principals. School principals are expected to be professional in managing schools, amongst other responsibilities (Naidoo, 2019). School principals need to be capacitated with practical leadership skills that would lead the school to have better outcomes. The study exploring perceptions of teachers and School Management Teams (SMTs) of principals who underwent leadership management courses found that they acquired skills. However, applying these skills relies so much on the character and environment in which the principal works (Naidoo, 2019).

2.5.5. Administration

Mkhuma, Maseko and Tlale (2014) conducted a study on teachers' challenges in identifying learners who experience barriers to learning. Participants in that study were from full-service schools. The study found that despite the training rendered by the DBSTs to equip educators, they still experienced challenges in identifying learning barriers (Matolo & Rambuda, 2022). Inclusive Education South Africa (2018) advocates using an asset-based approach when identifying learning needs (using the SNA1 form). The Asset-Based approach uses the strength of the learner to address problems. This approach does not only focus on weaknesses or deficits (which are needs) (Majoko & Phasha, 2018). It builds on the learner's strength to address the needs (Majoko & Phasha, 2018). This implies that educators need to be able to employ this approach when identifying learning barriers which may emanate from development in the form of disabilities and home language (Nel, Engelbrecht, Nel, et al., 2016).

Lack of time also contributed to the poor identification of learning barriers. Educators had limited time to populate the SIAS toolkits for learners (Makhalemele & Tlale, 2020). In a study conducted in Gauteng Province in a mainstream school, the SMT affirmed that teachers were overloaded with paperwork (Grobbelaar, 2020). The study by Motitswe (2014) found documents missing, evidence that educators were not implementing the SIAS policy. The challenge in populating the SIAS toolkits implied gaps between policy and implementation of the policy (Hess, 2020).

Since educators had poor knowledge of the SIAS toolkits and how they needed to be implemented (Subramoney, 2017), they thought of delegating this task/responsibility to another person - perhaps an administrator (Makhalemele & Tlale, 2020). This notion may imply that educators did not accept their role or position in the SIAS process. Perhaps instead of delegating the task of learner identification, they should instead opt for sharing the task as they are still responsible for the teaching and learning in class. The other stakeholders are to

support them in class. These stakeholders refer to but are not limited to, remedial teachers, physiotherapists, occupational and speech therapists.

2.5.6. Remedial teachers

The study by Von Solms (2020) in the Free State Province showed the availability of remedial teachers in schools. It highlighted their role in implementing the SIAS policy. The remedial teachers played their role in identifying and assessing learning barriers that affected learners in the classroom. They (remedial teachers) collaborated with educators. Educators referred learners they suspected to have barriers, to them, for thorough assessment and support. It was recommended in the report of the implementation of EWP6 for the period 2013 to 2018 that remediation be used as an early intervention measure through which schools can be able to support learners and reduce the risk of learners dropping out (Report of the Implementation of EWP6, 2015); however, Limpopo Province is not like the Free State Province because there is a lack of remedial teachers at special schools. This shortage has a bearing on the support of educators, who play a central role in identifying learning barriers (DBE, 2014). The recommendation for implementing the EWP6 report calls for recruiting remedial teachers at special schools. The Provincial DoE has to train educators in remediation.

2.5.7. Physiotherapists

Learners with physical disabilities have problems with their muscle tone, stiffness, abnormal movements and poor balance (Patel, et al., 2019). These structural impairments restrict their participation in class and physical education learning activities (Barber, 2018). As the severity advances, their functional levels deteriorate, affecting their self-esteem as they grow (Gulwani. 2022). Physiotherapists are well-trained to identify physical barriers that affect classroom learning; thus, they can collaborate well with teachers. In addition, they can also provide support directly or indirectly (Pillay, 2010). Learners are most likely to benefit the most from the repetition of a movement through exercises in order for it to become a learned behaviour (Johnson, Williams, Gucciardi, et al., 2020). In India, physiotherapists provide indirect services at special schools for Children with special needs. Physiotherapists demonstrated techniques and handling skills and trained the educators working with Children with special needs. Workshop content focused on normal development of motor skills and how best to promote skill development (Gulwani. 2022).

Special Schools are meant to provide a high level of support to learners according to the three types of schools (mainstream schools, full-service schools and special schools) indicated in the SIAS policy (DBE, 2014). Learners are meant to have access to specialist support services full-time and on-site, but a supply of resources does not meet the demand (DBE, 2014). There is a shortage of physiotherapists in South Africa, just like in other countries like Venezuela and India. Physiotherapists are known to be saturated in urban areas rather than rural ones.

Furthermore, they are more distributed in health than education (Sibuyi, 2017). This pattern is seen in South Africa whereby, within the education sector, more physiotherapists are in Gauteng Province compared to Limpopo Province (Manamela, et al., 2021). In India, the shortage of physiotherapists in special schools was attributed to low salaries (Gulwani. 2022). therefore, they could not compete with the health sector regarding salaries. This is also similar in Limpopo Province. The unavailability of these specialist support services from physiotherapists denies learners access to quality education that holistically addresses their needs.

2.5.8. Parent participation

Participation of parents is emphasised in the SIAS policy, especially during the implementation of the SNA 1 toolkit. Parents must co-sign with the educators on how best the identified learner can be supported to overcome learning barriers (DBE, 2014). Thus, successful implementation of the SIAS policy depends on parents' full participation as they can better communicate the needs of their children (Hess, 2020; Ntseto, Kgothule, Ugwuanyi, 2021). The more parents are involved, the more aware they become of their responsibilities in the SIAS process (Engelbrecht, et al., 2005; Mestry & Globler, 2007). The responsibilities of caregivers, as outlined by the abovementioned authors, include but are not limited to the provision of relevant information such as birth and medical history, challenges and strengths of the learner, teaming up with educators, and being part of the decision-making process involving the learner. In return, the school's responsibility is to communicate with parents. There are various ways of communication, for example, liaising with the parent component of the SBST, providing psycho-education on parenting style, and lending parents support in every way possible (Engelbrecht, et al., 2005; Mestry & Globler, 2007).

Caregivers, however, have been reported not to be taking part in the SIAS process. Educators cannot always gather all the necessary information needed in the toolkits, especially LP and SNA 1. The participants in the study by Von Solms (2020) reported that parents did not always complete forms (application forms) and did not submit all the necessary documents, such as the Road to Health booklet. In my experience, I am aware of the challenges associated with the Road to Health booklets. Parents do not make copies of all the pages about their children. They may believe the information is sensitive, and they want to protect their children from being stigmatised. On the other hand, parents believe that educators should know how to support their children (Geldenhuys & Wever, 2013; Grobbelaar, 2020; Moleme, 2020; Von Solms, 2020).

Parents need to be educated on their role in collaborating with teachers in implementing the SIAS policy at schools, which will likely clear parents' misconceptions. A learner's needs ought to be attended to through the efforts of the learner and his or her teachers, with support from

the learner's family and peers (DBE, 2021). The non-involvement of parents in the SIAS process negatively affects the implementation of the toolkits. In a study where parents collaborated with teachers and therapists, they initiated the implementation of different adaptations for their learners (Suc, Bukovec & Karpljuk, 2017). Thus, the involvement of caregivers and physiotherapists and working together as a team with educators benefited learners in class to achieve optimum participation.

Nevertheless, educators take more responsibility for learners than they are meant to. Educators find themselves with unresponsive parents, although they tend to understand the challenges from the parent's point of view (Grobbelaar, 2020). So far, it is unknown how the school and the DBE are mitigating this challenge.

2.5.9. Attitudes

Positive attitudes are crucial to implementing inclusive school education (Florina & Spratt, 2013). Thus, the school's philosophy and attitudes of the staff are critical in the construction of an inclusive environment at schools (Donohue & Bornman, 2014). Allport (1935) explained attitudes as a mental or neural state of readiness, organised through experience, exerting a directive or dynamic influence upon the individual's response to all objects and situations with which it relates. Thus, attitudes can be positive or negative (Allport, 1935). Based on this definition, it becomes clear that if educators do not feel ready to implement inclusive education policies at schools, they will persist in having negative attitudes towards the SIAS policy. Some contributing factors towards the perception of unpreparedness are partly due to a lack of knowledge (Hodgson & Khumalo, 2016; Majoko & Phasha, 2018). The lack of implementation due to poor knowledge and understanding of the SIAS policy denies classroom learners the opportunity to have their learning barriers identified early and addressed appropriately (Ntseto, et al. 2021). When teachers are fully prepared, inclusive education can yield positive results (Geldenhuys & Wevers, 2013).

2.5.10. Continuous Professional Development

The South African Council for Educators (SACE) is a professional council for all educators employed in South Africa. Similar to the Health Professional Council of South Africa (HPCSA), this council works towards improving the level of the teaching profession through managing Continuous Professional Development (CPD) (SACE, 2022), amongst other objectives. SACE has a division called the Professional Development Project. This division encourages educators to be responsible for individual professional development by compiling portfolios (SACE, 2022). Educators must be engaged in CPD programmes that equip them with knowledge and skills to support learners in special schools.

Kennedy (2005) identified various CPD models for improving teachers' professional learning. Some of these models have been adapted and factored into the new model called the

Collaborative CPD model by Kempen and Steyn (2016) in their research within the context of South African special schools. The various models are explained below.

The training model is most frequently employed by professionals when training teachers; however, the weakness of this model is that teachers are passive during training, and the trainer takes the lead from the start of the programme. The model does not consider teachers' experiences and knowledge of students. The school-based model is employed on-site; instead, the school staff leads the training. According to Gettly (2002), this model allows the staff to attend to specific gaps they have identified in the school. The School-focused model delivers training outside the school. It intends to improve teachers' subject knowledge, theory and methodology. Despite this, it is reported to have limitations in capacitating teachers (Engelbrecht, Ankiewicz & De Swardt, 2007). The Cascade model delivers training to a few teachers and then cascades the information to their colleagues who did not attend training. In this model, misinterpretation of critical information is unavoidable (Engelbrecht, Oswald & Forlin, 2006). The trainer's incompetency is another contributing factor, according to Kennedy (2005). The Action-learning model encourages teachers to collaborate and share best practices, resulting in improved performance (Garrett, 2011).

Teachers learn best from colleagues in similar positions, which has an increased effect on their learning (Revans, 2011; Dadds, 2014). Therefore, learning is a process of observing, reflecting, planning and acting, according to Marquardt and Waddill (2004). The Standard-based model identifies a demonstration school responsible for providing professional learning within a four-five school network. It is based on utilising collective enterprise for the common good and integrating theory within a real-life context (Loughland, 2012). It allows for reflection, discussion and debate about pedagogy which can bring curriculum innovations (Robinson, 2006). This model encourages collaboration instead of professional isolation and provides performance benchmarks promoting continuous improvement (Loughland, 2012). Networking with teacher training institutions and education departments to ensure the credibility of the learning is of vital importance in this model (Loughland, 2012). The Community of practice model has based on the premise that learning occurs due to the individual's interaction with others in organisations. Moreover, the community of practice focuses on the social structures that enable individuals to learn, which develop when individuals are involved in collective learning in a shared domain of humans (Wenger, 2007).

The SIAS policy implementation plan for 2015 to 2016 encompasses training foundation phase teachers and provincial and district officials on the implementation of SIAS policy (DBE, 2014). However, it is reported that not all foundation phase teachers have received training on implementing the SIAS policy (Hess, 2020). Most teachers had insufficient training (formal or informal) regarding identification of learning barriers (Subramoney, 2017; Mahlo, 2017;

Geldenhuys et al., 2013; Dalton et al., 2012; Donohue & Bornman, 2014; Engelbrecht, et al., 2015). This has been one of the findings in the study conducted by Ntsanwisi (2008) amongst foundation phase teachers in full-service schools. Thus, various approaches can be deployed when enhancing teachers' professional learning. However, the most beneficial one is the approach that facilitates collaboration, as teachers learn best from each other. Adequate and ongoing support through in-house workshops, cluster workshops, seminars and information-sharing networks are vital for adding to the body of knowledge and skills (Hlalele, Jiyane & Radebe, 2020).

Thus, various approaches can be deployed when enhancing teachers' professional learning. However, the most beneficial one is the approach that facilitates collaboration, as teachers learn best from each other.

2.5.11. Implementation

The authors Ainscow and Miles (2009) believe that a framework needs to be developed to implement inclusion in school. The suggested framework needs to have four themes, each with performance indicators. The first theme is concepts; teachers must understand policy objectives in promoting inclusive practices. The second theme is policy; senior staff should provide leadership about implementing policy documents that promote inclusive education—non-inclusion practices to be challenged by leaders on all levels. The third theme is structures and systems; high-quality support and resource distribution should benefit marginalised learners. All relevant stakeholders should participate in coordinating inclusive education policies. The fourth theme is practised; effective strategies should be in place in schools to track learners with regard to presence, participation and achievement. Continuing development in inclusive practices and learner diversity be provided.

The inclusive education framework is not far different from the Implementation Driver Assessment Tool developed by the National Implementation Framework in Ireland. Developing an implementation framework is the first phase of the implementation planning process (National Implementation Framework, 2013). The authors Fixen, et al. (2013) are of the view that successful implementation is driven by competency (capacity development), organisation (facilitative administrative supports and systems intervention) and leadership (human-directed approach and collaboration).

2.6 Knowledge management process model

Knowledge potential management is identified as an effective tool for improving effectiveness in organisations within the context of transformation (Raudeliūnienė, Davidavičienė & Jakubavičius, 2018). The organisation’s knowledge potential is defined, as the resources and market opportunities, generating its knowledge potential, complexity and effective management, which create prerequisites for meeting the changing individual user needs,

creating reciprocal value, uniqueness and leadership in the global marketplace. Similarly, within the school environment, it would be defined based on the school's resources, job opportunities for staff, methods undertaken to close knowledge gaps, especially with the SIAS policy implementation, management and leadership roles to support staff and learners. Schools need to adapt efficiently to the changing environmental conditions by effectively managing their knowledge potential (Raudeliūnienė, Davidavičienė & Jakubavičius, 2018). The knowledge management process model has been improved, based on an integrated knowledge management model studied by Probst, Raub, and Romhardt (2000), and now consists of eight processes: knowledge goals, identification, acquisition, development, distribution, preservation, use, and measurement. The evaluation component brings improvement (Raudeliūnienė, Davidavičienė & Jakubavičius, 2018). Cordeiro, Oliveira and Sanchez-Segura (2022) found that knowledge management processes influenced all the dimensions of organisational performance in the schools. Their research assisted educational managers in improving their knowledge management practices and achieving better performance within the educational environment (Cordeiro, Oliveira & Sanchez-Segura, 2022).

2.7 National Ireland Implementation Framework

Ireland published its implementation framework for the neuro-rehabilitation of people with acquired brain injury. The implementation framework addressed the lack of services, such as under-resourced specialist rehabilitation services. The World Health Organization recognised that rehabilitation services were not prioritised due to policymakers' limited knowledge (WHO, 2017). This led to underdeveloped, poorly coordinated services. Therefore, the aim of the National Policy and Strategy for the Provision of Neuro-Rehabilitation Services in Ireland 2011–2015 was to provide a single national policy and strategy to guide, govern and determine neuro-rehabilitation service responses and structures. It was recommended that services be delivered locally, timeously, individualised, integrated, and provided by a flexible and responsive health system (Burke, McGettrick, Foley, et al.,2020). The second implementation framework, Neuro-rehabilitation strategy implementation framework 2019–2021, adopted the 10-Step framework developed by the Integrated Care Programme for Older Persons (Harnett, Kennelly, & Williams, 2020), which included assessing population needs, mapping existing services and analysing service gaps in line with benchmarked best practice (Burke, et al.,2020).

Summary

In this part of the literature review, it was evident that the inclusive education model in South Africa has been built to mitigate similar challenges in the neuro-rehabilitation services in Ireland. However, in South Africa, the challenges of a shortage of human resources, especially therapists in the education sector, and the misinterpretation of inclusion education policies in

South Africa, which make implementing the SIAS policy difficult, persist. Similar to the SIAS policy, the National Ireland Implementation Framework advocates for the delivery of services and support that is integrated and specifically individualised for the person it is intended for. The literature review on the experiences of the SIAS policy implementation at schools showed gaps in physiotherapy. Thus, this study will bridge the gap between physiotherapists and SIAS policy and add to the body of knowledge.

Furthermore, this literature showed sufficient information to answer the objectives of the study, being to determine challenges and solutions for the implementation of the SIAS policy. The main solution presented in the literature is found in the knowledge management process model, where knowledge gaps must be identified regularly, and platforms to acquire this knowledge must be sought. Following this, the knowledge gained has to be evaluated.

The methodology of the study is presented in the following chapter.

CHAPTER 3: METHODOLOGY

3.1 INTRODUCTION

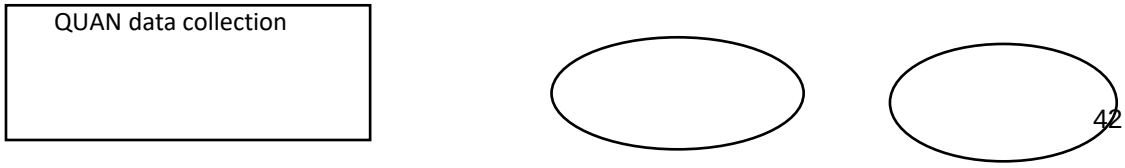
In this chapter, the methodology of the study is presented. The research was conducted in three parts; study 1, 2 and 3. Study 1 presents the methodology used in the qualitative study; Study 2 presents the methodology used in the quantitative study; Study 3 presents the methodology used in the meta-synthesis of data. The research design, sampling methods, data collection tools, methods and analysis are discussed.

3.2 RESEARCH DESIGN

A design that presents a specific procedure involved in the research process of data collection, data analysis and report writing (Creswell, 2014). A dialectical pluralism mixed-method research paradigm using convergent parallel mixed-method design was followed (Creswell & Pablo-Clark, 2011). The dialectical pluralism approach to mixed-methods research assumes many kinds of reality, subjective, objective, intersubjective, disciplinary and pragmatic. All these realities are essential and depend on the dialectical, dialogical and hermeneutic approach to learning from the difference (Johnson, 2012).

The qualitative study allowed the researcher to gather information from various participants using (FGDs), semi-structured interviews and document analysis. Polit and Beck (2012) described qualitative research as investigating phenomena, typically in an in-depth and holistic fashion, through collecting rich narrative material. The quantitative study enabled the researcher to gather information through the survey. Polit and Beck (2012) described quantitative research as investigating phenomena that lend themselves to precise measurement and quantification, often involving a robust and controlled design. The convergent parallel mixed method design recognises that qualitative and quantitative research methods carry equal weight (Creswell & Pablo-Clark, 2011). Thus, data collection and analysis were done concurrently.

The findings from both data strands converged at the point of interface. Mixing the two data sets could reveal connections between knowledge from different sources and explain the nature of identified relationships in those connections (Bergman, 2008). The study results were interpreted together through meta-synthesis by using a side-by-side joint display analysis. The research design enabled the study objectives to be accomplished, to develop a school-based framework that can support the implementation of the SIAS policy through its toolkits.



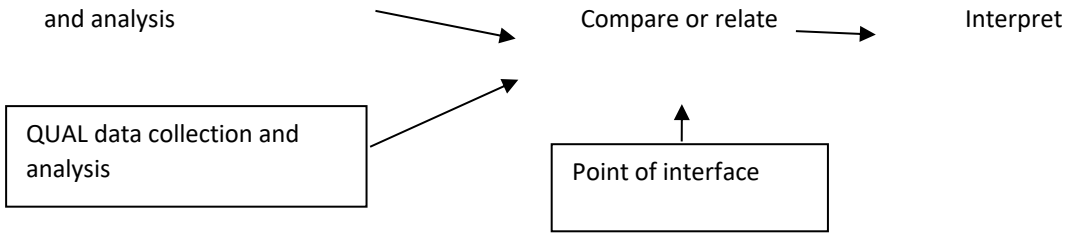


Figure 3.1: Illustration of convergent parallel mixed method design.

3.3 ETHICAL CONSIDERATIONS

Ethical clearance to conduct the research was obtained from the University of Pretoria Health Sciences Ethics Committee and the Limpopo DoE (Annexure A). The allocated study identity was 668/2020 from the University of Pretoria (Annexure B). According to the declaration of Helsinki, the researcher observed five ethical principles, as participants in the study were human.

3.3.1 **Non-maleficence**

The principle of non-maleficence refers to the moral obligation not to inflict harm on others (Ahmed, Ali, & Mahmoud, 2020). The researcher ensured that no physical or psychological harm occurred to participants. The research was conducted in a safe environment. As this study was conducted during the COVID-19 pandemic, the researcher adhered to the protocols for keeping safe as stipulated by the World Health Organization (WHO). The researcher kept a one-metre social distance between participants, sanitised hands with a sanitiser containing 70% alcohol, and ensured the wearing of face masks covering the nose, mouth and chin (WHO, 2021). A psychologist was willing to assist participants who would experience emotional difficulties when discussing sensitive matters during the interviews (Annexure E).

3.3.2 **Confidentiality**

The principle of confidentiality informs researchers that data ought to be kept confidential (Ahmed, Ali, & Mahmoud, 2020). The participant's personal information was kept confidential. Participants participated in the study with pseudo-names; the names of participating special schools were not used but coded School A, School B and School C. Data from the research were kept in a restricted access area. Hardcopies were kept in a secure lockable cupboard. In contrast, softcopies were password-protected and stored as files on the researcher’s device.

3.3.3 **Beneficence**

The principle of beneficence informs researchers that everything should be directed towards the participant’s best interest (Ahmed, Ali, & Mahmoud, 2020). The research aimed to benefit participants. The interviews were conducted in the language that the participants best

understood. Educators and the School-Based Support Teams members would benefit from the developed framework that complements the implementation of the SIAS toolkits. Implementing the SIAS toolkits at special schools would benefit learners who need to be screened for learning barriers and adequately supported.

3.3.4 **Justice**

The principle of justice informs researchers to treat participants fairly and equally, and their needs be put before the study's aims (Ahmed, Ali, & Mahmoud, 2020). The researcher treated all participants with fairness and equality. The participants' needs were prioritised before meeting the research aims and objectives. The researcher honoured agreements made with participants, such as appointment times and privacy, as determined by the participants. Participants who could read the information sheet and sign informed consent were accommodated. The information sheet was read to them and they gave condsent orally.

3.3.5 **Autonomy**

The principle of autonomy addresses respect for independence, and self-determination (Ahmed, Ali, & Mahmoud, 2020). All participants were provided with an information sheet to assist in making a decision to participate or not to participate in the study (Annexure F & G). An informed consent was requested both written and verbal, prior to the commencement of the study. The researcher explained to participants that they could stop participating in the study at anytime.

3.4 STUDY 1: QUALITATIVE STUDY

Qualitative research is used to understand underlying reasons, opinions and motivations and further provides insights into the problem (Wyse, 2011). The QUAL part of the study provided insight into the challenges of SIAS policy implementation and how the current implementation can be improved. This part of the QUAL research comprised Semi-structured interviews, FGDs, and document analysis. In line with Dialectical Pluralism, the subject truth was obtained through semi-structured interviews (conducted one-on-one). The inter-subjective truth was obtained through focus group interviews (conducted group discussions).

3.4.1 **Trustworthiness**

3.4.1.1 Credibility:

Credibility refers to confidence in the truth of the study (Polit & Beck, 2014). Credibility was ensured by using the following strategies (Connelly, 2016; Shenton, 2004):

- Peer debriefing: Feedback from supervisors refined the research methods and data collection tools used to collect and analyse data.

- Iterative questioning: Probing questions were asked during semi-structured interviews and focus group discussions to deal with data discrepancies from participants.
- Member checks: Transcripts written in the language used during the interview were taken back to caregivers who participated in the semi-structured interviews and participants in the focus group discussions (Grade R educators, school-based support teams and physiotherapists) for the accuracy and adequacy of the verbal and non-verbal responses. Participants were given half a month to read transcripts and give feedback. Participants' feedback did not result in amending the transcripts as they were found to be accurate.
- Triangulation: Data were sourced using different data collection tools (semi-structured interviews, FGDs and document reviews) to verify details and understanding of the phenomena.
- Prolonged engagement: the researcher contacted prospective participants before data collection to establish rapport.
- Reflexivity is examining one's assumptions, beliefs, and judgement systems and thinking carefully and critically about how these impact research processes. This conduct questions who the researchers are and how the research is guided (Jamieson, Govaart, & Pownall, 2022).

The researcher's background, qualifications and experience are as follows:

The researcher comes from Limpopo Province and, speaks Sepedi, Xitsonga and comprehends Tshivenda language. These languages are common amongst people living in Limpopo Province. In addition, the researcher has fifteen years of working experience as a physiotherapist within the same province. The researcher has worked both in the public and private sectors. When employed in the public sector, the passion for paediatrics developed through working with children with disabilities and their caregivers. This led to the researcher pursuing a master's degree in the field of paediatric physiotherapy at the University of the Witwatersrand. Following employment in the Department of Health, the researcher worked in the provincial Department of Education at the district level under the inclusive education sub-directorate for four years. During this period, the researcher was involved in advancing inclusive education through training educators from special schools and full-service schools, caregivers and centre managers of Special Care Centres on education policies, including SIAS. Currently, the researcher is employed within the Department of Higher Education as a paediatric physiotherapy lecturer at Sefako Makgatho Health Sciences University. The researcher received *ATLAS.ti* training from the University of Pretoria to assist with data analysis.

3.4.1.2 Transferability: The extent to which readers find the findings applicable to their settings (Polit & Beck, 2014). The researcher provided a detailed description of the context of the study, the inclusion and exclusion criteria for participants, data collection tools, the number and length of data collection sessions and the period over which Data were collected.

3.4.1.3 Dependability: The stability of data over time and the conditions of the study (Polit & Beck, 2014). The researcher maintained an audit trail of all activities that occurred during the study for future researchers to be able to replicate the study.

3.4.1.4 Confirmability: The neutrality or degree to which the results are consistent or could be repeated (Polit & Beck, 2014). The researcher worked with a qualified statistician to verify the findings to minimise investigator bias. The researcher worked with a co-coder to have consistency in applying codes, and deliberations occurred where there was a difference of opinions to reach a consensus.

3.4.1.5 Authenticity: The extent to which the researcher showcases different realities from participants' lives (Polit & Beck, 2014). The researcher selected participants who were directly involved with the SIAS policy. Thus, the multiple perspectives served as a point of reference for policy reviewers.

3.4.2 SEMI-STRUCTURED INTERVIEWS

3.4.2.1 Objectives

- To identify and describe challenges encountered in implementing the SIAS toolkits in the three special schools for learners with physical disabilities in Limpopo Province.
- To identify and describe methods and strategies to address the challenges.

3.4.2.2 Population

The population for the semi-structured interviews involved caregivers of the Grade 7 learners at the three special schools in 2020. Caregivers instead of learners were targeted because the research was non-therapeutic. The information pertaining to the research questions would suffice when obtained from caregivers. Caregivers of Grade 7 learners were targeted as these learners, compared to the Grade 1 learners have spent more years at school. Thus, the researchers hoped to see how the implementation of the SIAS policy has influenced their development over time at special schools. School A had 24 Grade 7 learners, School B had 7 in Grade 7, and School C had 40 Grade 7 learners. Thus the total population of caregivers was 71 (one caregiver per learner).

3.4.2.3 Inclusion criteria

Caregivers that were reachable via cellphone and consented to be interviewed were included in the study. At least one caregiver per learner in Grade 7 in 2020 who had physical disabilities.

3.4.2.4 Exclusion criteria

Caregivers that were not reachable via cellphone. Caregivers who were reachable but did not have a Grade 7 learner with physical disabilities were excluded. Caregivers who did not consent to be interviewed were excluded from this study.

3.4.2.5 Sampling method

The researcher used the purposive non-random sampling method to sample the population. The purposive sampling was a deliberate choice of participants due to the attributes they possess (Etikan, Musa & Alkassim, 2016). The researcher hoped to have representation of the population from the three special schools for learners with physical disabilities. In addition, this sampling method did not require a set number of participants (Etikan, Musa & Alkassim, 2016). Therefore, this sampling method was chosen since the population was tiny.

3.4.2.6 Sample size

In qualitative research, the sample size is often determined at the point of data saturation, where a sense of closure is attained and new data results in redundant information (Sandelowski, 2008; Saumure & Given, 2008; Polit & Beck, 2014). Following each semi-structured interview, the researcher made comprehensive field notes that could help identify data patterns before the next interview. The process was iterative rather than linear, and common themes across interviews that gave meaning to participants' lived experiences were explored. According to Moser and Korstjens (2018), phenomenological studies tentatively required fewer than 10 interviews to reach saturation. However, they could conduct two more to ensure data saturation (Jassim & Whitford, 2014). Several authors indicated that most concepts and themes would be identified between interviews 10 and 12 (Ando, Cousins & Young, 2014; Majid, Othman, Mohamad, et al., 2018; Fofana, Bazeley & Regnault, 2020).

The researcher applied a method by Majid, Othman, Mohamad, et al. (2018) in their mix-method research to establish the point of data saturation. Their study counted the number of new codes in every interview. The abovementioned authors started by analysing all their transcripts (n=13) retrospectively and generated a total of 70 codes. Most new codes (78.6%) were generated within the first five interviews. They noticed that one new code was found in all transcripts except in the last two interviews/transcripts, and that was their point of data saturation.

The researcher analysed transcripts (n=11) in retrospect and started with the most substantial transcripts as my first batch of six (Guest, Bunce & Johnson, 2006). The codebook had a total

of 63 codes. The majority of the new codes, 51 (81%), were already generated by the second interview and 61 (97%) by the fourth interview. Data saturation was reached on the seventh interview; at this point, no new codes were generated. Similarly, the study by Constantinou, Georgiou and Perdikogianni (2017) reached the point of data saturation by the seventh interview. In contrast, Guest, Bunce and Johnson (2006) reported that code saturation was reached by the ninth interview. The most crucial factor was the availability of sufficient in-depth data that showed patterns, categories and the variety of phenomena under study (Moser & Korstjens, 2018). The figure below illustrates new codes that were generated across the thematic analysis.

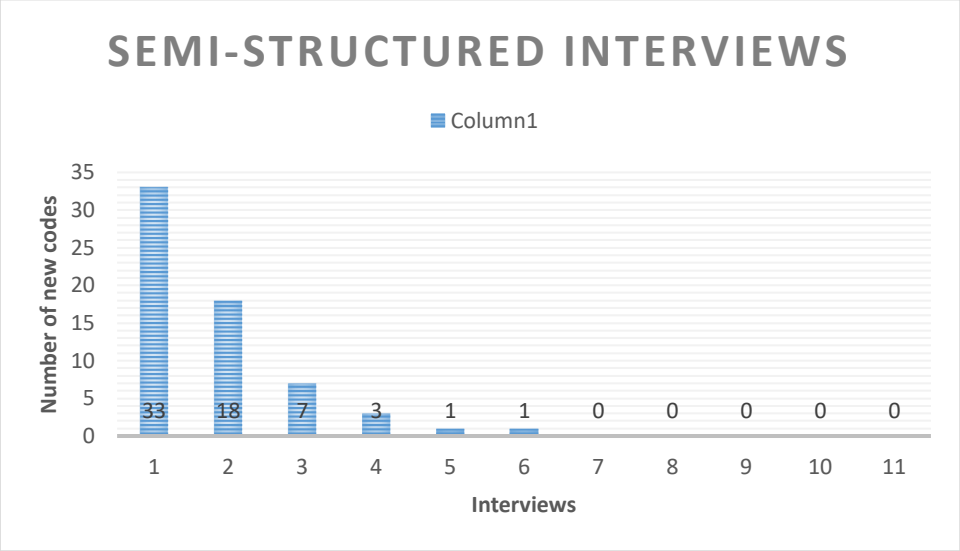


Figure 3.2: New codes generated across thematic analysis of semi-structured interviews.

3.4.2.7 Data collection tool

The study collected data by means of semi-structured interviews. These types of interviews are in-depth, and the questions are pre-set but open-ended (Corbin & Strauss, 2008). The questions were pre-set on an interview guide (Dicicco-Bloom & Crabtree 2006) developed by the researcher prior to conducting the interviews. The interview guide served the purpose of using the interview time optimally and kept the interview focused on the objectives and main question (Sullivan-Bolyai, Bova & Harper, 2005; Dicicco-Bloom & Crabtree, 2006). Furthermore, the questions reflected the relevant published literature. The literature guided questions on the implementation of the SIAS policy in schools. There were two parts (Part A

& B) to the interview guide. Part A comprised socio-demographics, and Part B comprised eight questions (Annexure J).

The semi-structured interviews can be a minimum of 30 to a maximum of 60 minutes (Dicicco-Bloom & Crabtree, 2006; Baily & Nys, 2018). The questions were open-ended for the researcher to obtain rich information directly from those experiencing the phenomena under investigation (Stanley, 2014; Colorafi & Evans, 2016). Furthermore, the researcher can make follow-up questions based on the responses from the participants (Young, et al., 2018). Participant information sheet was handed to the caregivers to ensure informed consent prior to the interviews.

In this study, the researcher used a semi-structured interview approach to obtain in-depth, rich information from caregivers concerning the challenges they experienced at schools with teachers and their children and possible ways of overcoming such barriers. The researcher included caregivers of children with disabilities because they are often at risk of being marginalised. They hoped they could raise valuable inputs to assist teachers and schools when implementing the SIAS policy.

3.4.2.8 Data collection procedure

The data collection procedure occurred in multiple stages adapted from the Baily and Nys (2018) study.

Step 1

The information letter sent to the schools also indicated expectations from my side as the researcher. The researcher indicated the request to share contact details of caregivers for Grade 7 learners. The chairperson of the School Governing Body (SGB) in each of the three schools was also informed of the request. The SGBs were included and updated in every communication sent to the schools via email. Communication with the school principals started in 2020 in the fourth quarter during the month of November. One of the conditions in the ethical clearance letter (issued in October 2020) was that academic programmes should not be disrupted, most especially in the fourth quarter, as it was during the examination season. Thus, it was agreed with the school principals and the SGBs to commence with parts of the study that will not disturb teachers and to commence again when schools open in the following year.

Caregivers' contact details were easily accessible at schools because of the South African School Administration and Management System (SASAMS). The school's admin clerk was asked to export the lists from SASAMS, which was forwarded to the researcher via email. The researcher was responsible for calling all caregivers on the lists.

Step 2

Caregivers were categorized according to schools. The researcher called caregivers individually with cellphone numbers provided by the school. However, the researcher came across multiple challenges in contacting caregivers. Most of the cellphone numbers were not working; for some, the lines did not exist, there were network issues for those caregivers that were reachable, and others were wrong numbers. In school A, seven caregivers were reachable out of the 15. In school B, three out of seven caregivers were reachable, and in school C, two caregivers out of 11 were reachable.

During the phone call, the researcher introduced herself to the caregiver and explained that she requested the school to share their contact numbers with me. The researcher also asked the caregiver if they had enough time to take my call or to tell me the right time to call them. Most caregivers were available to receive my call at the first instance. The researcher explained that she is a student doing research at their child's school, and I would like to interview them about their experiences at the school. Caregivers showed enthusiasm and agreed to be interviewed.

Step 3

The researcher prepared a spreadsheet where it was indicated when the cellphone was not working, whether consent was given or not, language preference, choice of a telephonic or face-to-face interview and the date and time of the appointment to conduct the interview.

Appointments were scheduled from the 3rd of December to the 11th of December 2020. Most caregivers preferred telephonic (n=8) interviews over face-to-face (n=3). A maximum of two telephonic interviews were scheduled per day, and one face-to-face interview per day. Where caregivers spoke in their language that the researcher was limited to understanding, like Tshivenda, the researcher used the services of a translator. The researcher informed the translator about the study and coached on probing questions. Interviews occurred via conference calls only when she was available. The researcher sent messages to remind caregivers about the appointment closer to the date and advised them to be in a quiet area.

Step 4

On the day of the appointment, the researcher introduced herself again and asked them if she could record the interview, although it was previously indicated when requesting consent. Caregivers indicated, on record, that they were participating freely and gave me their permission to record. We greeted each other for the first 5-10 minutes and went through Part A of the interview guide. The researcher encouraged caregivers to be open and relaxed. The researcher took notes whilst the interview was in progress. On average, the telephonic interviews lasted about 30 minutes, and face-to-face interviews lasted about 60 minutes. In face-to-face interviews, caregivers chose where the researcher could meet with them.

Step 5

At the end of each interview the researcher thanked the participants and allowed them to ask further questions. The researcher explained that the next step was for me to translate the recording into English and transcribe it verbatim. Each transcript was allocated a unique identification number for the sake of confidentiality. When the researcher finished transcribing, transcripts were sent to caregivers for them to verify their statements. The process of translating and transcribing ten audio recordings was labour-intensive, and this process took six months. Member checking was done through WhatsApp and email.

3.4.2.9 Data analysis

Some interviews were conducted in Sepedi and Tshivenda languages. The researcher is not fluent in Tshivenda. Thus, in this instance, there was a translator during the interview. The translator was a qualified physiotherapist and studied Tshivenda as her first home language in school. Thus, the translator had experience in interviewing people and knew how to rephrase questions without losing meaning to participants. The interviews were initially transcribed verbatim in these languages and then translated into English. The process of translating the transcripts was back - and - forth. Two people worked on the transcriptions to confirm the meaning.

Data analysis for the semi-structured interviews was done inductively with thematic data analysis on *ATLAS.ti* (version 9). Thematic analysis is a systematic approach to identifying, organising and offering insights into patterns of meaning across a data set. Inductive implies that codes and themes are derived from the content of the data (Braun & Clarke, 2006). These patterns of meaning need to be about the topic and research question (Braun & Clarke, 2006). The researcher chose Braun and Clarke's six-phase approach to thematic analysis because they provided novice qualitative researchers with a step-by-step guide on conducting data analysis (Braun & Clarke, 2006).

Phase 1: Familiarising myself with data

Audio recordings were translated into English and then transcribed verbatim. The researcher read through all the transcripts at least twice and made notes on key issues or elements commonly raised by caregivers and those that were unique. The researcher kept notes which were converted into a codebook, and created memos for individual transcripts on *ATLAS.ti*. This process helped in viewing data analytically, and the researcher started to think about the meaning of the data.

Phase 2: Generating initial codes

After being familiar with the data, the researcher began labelling (coding) each transcript line by line on ATLAS.ti. There was no limit to the number of codes assigned to a line or the entire transcript. At this phase, codes were more descriptive, meaning they were not trying to put an interpretation or meaning to data. The *ATLAS.ti* kept a record of applied codes and the text (quotations) associated with them. Thus, the same code was re-applied to the next segment of data. The coding processes were iterative in that the more the researcher read through the codes and quotations, the more the researcher could generate a better code than the code the researcher applied earlier. Therefore, the researcher was able to recode data as her coding got better.

Phase 3: Searching for themes

In this phase, the researcher reviewed my codes, and some of the codes that had the same meaning or referred to the same issue were merged and color coded differently. In the next step, the researcher grouped codes and formed categories. For example, there was a category for assistive devices, and within this category, there were codes relating to the type (crutches & wheelchairs), maintenance, and repairs of assistive devices. Not every code belonged to a category, and inevitably they became redundant. The researcher started to search for possible themes. Themes represented some level of patterned responses or meaning within the data set. In addition, although themes can stand alone, they need to relate to other themes (Braun & Clarke, 2006). Although there are no rules on how many themes can be generated, Braun and Clarkes (2006) suggested a maximum of six themes in a 10,000-word document. The main idea is to have rich, meaningful themes and not to lose coherence. The researcher kept this valuable tip in mind when searching for themes. The researcher noted possible themes in my code book.

Phase 4: Reviewing potential themes

The researcher reviewed themes in relation to the quotations and the codes. The researcher used a table format, and the columns were labelled *quotations, code, category* and *theme*. The process allowed me to verify if the quotations were rich enough for the code, category and theme. Some of the themes were renamed and refined. The researcher worked with my supervisors, who were co-coding with me. The supervisors also helped with reviewing the codes and themes.

Phase 5: Defining and naming themes

Every generated theme was defined in isolation first and in relation to other themes second to tell an overall story. An individual theme was defined according to its scope.

Phase 6: Producing a report

This phase assisted in building up the results and discussion chapters of the thesis.

3.4.3 FOCUS GROUP DISCUSSIONS (FGD)

3.4.3.1 Objectives

- To identify and describe challenges encountered in implementing the SIAS toolkits in the three special schools for learners with physical disabilities in Limpopo Province.
- To identify and describe methods and strategies to address the challenges.

3.4.3.2 Population

School A had 28 educators and 15 members of the SBST. School B had 14 educators and three members of the SBST. School C had 35 educators and 11 members of the SBST. Eight physiotherapists (researcher included) were employed in the education sector (one school level and seven at the district level).

3.4.3.3 Inclusion criteria

The study included Grade R educators, SBST core committee members, and physiotherapists in the education sector who were willing to participate and provided informed consent. Only Grade R educators were included because the SIAS documents (toolkits) of Grade R learners were reviewed.

3.4.3.4 Exclusion criteria

The study excluded other foundation phase educators, non-core SBST committee members and physiotherapists outside the education sector, meaning those in private practice and the health sector. Prospective participants who met the inclusion criteria but did not consent to participate were also excluded. Thus, the SBST committee members from school A were excluded because they did not consent to participate.

3.4.3.5 Sampling method

The researcher used the purposive non-random sampling method to sample the population. Purposive sampling is a deliberate choice of participants due to attributes they possess, such as knowledge and experience (Etikan, Musa & Alkassim, 2016). Typically, the participants are well-informed and proficient with the phenomena (Cresswell & Plano Clark, 2011). They can communicate their experiences and opinions in a reflective manner (Bernard, 2002). Hence this sampling method was chosen to conduct FGDs with the Grade R educators, SBST core members and physiotherapists because the SIAS policy is amongst the inclusive education policies implemented at schools.

3.4.3.6 Sample size

In qualitative research, the sample size is determined at the point of data saturation, which is a point where a sense of closure is attained and new data results in redundant information (Sandelowski, 2008; Saumure & Given, 2008; Polit & Beck, 2017). Hennink, Kaiser and Weber (2019) analysed the studies by Guest, Namey and McKenna (2016); Coenen, Stamm, Stucki, et al. (2012) and concluded that saturation is likely achieved by the sixth interview, regardless of the type of sample, codes, and operationalisation of saturation.

The method by Majid, Othman, Mohamad, et al. (2018) in mix-method research to establish the point of data saturation was followed. Transcripts (n=4) were analysed in retrospect and started with the strongest transcripts (Guest, Bunce & Johnson, 2006). My codebook had a total of 38 codes. The majority of the new codes, 26 (69%), were already generated by the second interview, 36 (95%) by the third interview and 38 (100%) were generated by the fourth interview. The researcher did not, however, have an extra focus group to ensure data saturation as the FGD from School A did not occur (participants did not consent). Therefore, data saturation was assumed to have been achieved by the fourth interview. There were no other focus groups to ensure the absence of new codes. The figure below illustrates new codes that were generated across the thematic analysis.

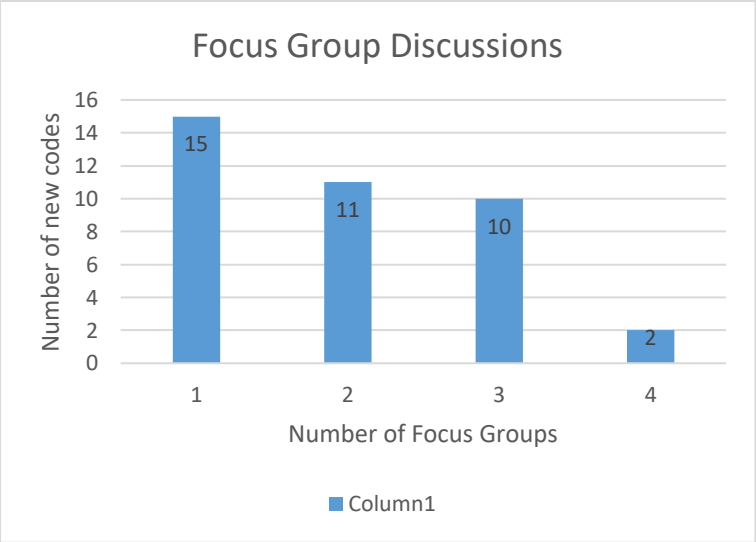


Figure 3.3: New codes generated across thematic analysis of FGDs.

3.4.3.7 Data collection tool

The researcher collected data using focus group discussions. FGDs are used to obtain information-rich data from individuals who share their experiences, perceptions, opinions and attitudes in a moderation interaction (Hayward, Simpson & Wood, 2004; Van Eeuwijk & Angehrn, 2017; Morgan, 2008). The researcher employed various types of FGDs to suit the needs of the participants during the COVID-19 pandemic.

Mini focus group

This type of FGD is used when participants are few (less than five) and challenging to reach a high number (Kamberelis & Dimitriadis, 2005). The participants were the Grade R educators (n=3) from the three special schools and SBST committee members from School C (n=3). Thus, each focus group had a total of 3 participants living in different districts, including Mopani, Vhembe and Capricorn.

Respondent moderator focus group

Researchers recruited participants to become temporary moderators (Kamberelis & Dimitriadis, 2005). This approach is believed to yield a positive outcome by increasing the participants' responses (Kamberelis & Dimitriadis, 2005). Since the study is mixed-method research with a dialectical pluralist perspective, the researcher adopted Critical Dialectical Pluralist (Onwuegbuzie & Frels, 2013) for all FGDs, whereby participants are empowered to direct the discussions. Thus, critical dialectical pluralist FGDs promote social justice (Onwuegbuzie & Frels, 2013).

Telephonic focus group

FGDs are conducted over the phone via conference calls. Telephone focus groups are indicated where participants are scattered and cannot convene at a common location, such as those in rural areas (Allen, 2013). These kinds of FGDs are known to increase participation even when a sensitive issue is being discussed (Smith, Sullivan & Baxter, 2009). Telephone FGDs duration is shorter than the traditional face-to-face FGDs, which could take longer than an hour (Smith, Sullivan & Baxter, 2009). Elliot and Associates (2005) recommended a duration of between 45 and 90 minutes, alluding to issues of concentration and productivity that can affect participants in FGDs. The Grade R educators (n=3) and SBST committee members from School C (n=3) opted for telephone FGD.

Virtual focus group

This type of focus group is conducted via the internet using various communication technologies (Rivaz, Shokrollahi & Ebadi, 2019). The researcher and participants are live at the same time of data collection (Rivaz, Shokrollahi & Ebadi, 2019). It is believed to promote data as it encourages participants to speak up (Rivaz, Shokrollahi & Ebadi, 2019). Physiotherapists (n=7) chose this option as they were geographically dispersed, thus, making it convenient for them.

Face-to-face focus group

This focus group was conducted in person with all the participants in the same room. The SBST committee members at School B (n=6) chose this traditional method as they were not internet savvy.

3.4.3.8 Data collection procedure

At the start of collecting data, the researcher identified prospective participants that met the inclusion criteria. The researcher wrote invitation letters to invite them to participate in the FGDs. Firstly, the letter described the approach of the FGDs as being Critical Dialectical (Onwuegbuzie & Frels, 2013) which is the same as the Respondent moderator focus group. Secondly, the consent form and the interview guide were attached to the invitation (for them to make input and approve the questions). The interview guide had five questions. Sullivan-Bolyai, Bova and Harper (2005) recommended developing questions to guide and maintain focus.

Furthermore, the questions should at least reflect the relevant published literature. Questions on the implementation of the SIAS policy in schools were guided by the literature. Thirdly, the researcher indicated that their identity will be hidden as they will choose pseudonyms for themselves. Lastly, the researcher indicated that the researcher would request that the FGDs be audio recorded. The invitation letter was sent by email and WhatsApp to all prospective participants.

The researcher sent reminders after seven days by calling prospective participants individually. These calls also allowed the researcher to clarify those unsure, especially regarding choosing a moderator. The researcher also found out that participants did not have a problem per se with the focus group; it was just that they were busy. Hence, the researcher indicated that FGDs could be conducted in various ways rather than insisting on face-to-face.

The researcher formed group chats for ease of communication with each category of focus group (physiotherapists, SBST B, SBST C and Grade R educators). Dates and the type of FGDs were agreed upon. In preparation for the FGDs, the researcher sent a data collection sheet comprising demographic information and employment details for completion.

<u>SBST from School B</u>

The FGD was face-to-face. At the start, we agreed on house-keeping rules, such as no use of cellphones, using pseudonyms when responding, and not interjecting each other when asking or responding to a question. The FGD was held in the staff room at school. There were six participants (three were long-serving, and three were newly elected). One of the participants was a moderator, and the researcher wrote down field notes. Participants were seated one meter apart, wore face masks and sanitised their hands. Participants spoke with their masks on. Consent forms were signed on the same of the FGD. The duration of the FGD was 45

minutes. Participants were already familiar with the questions in the interview guide; thus, prepared their responses.

SBST from School C

The FGD was in the form of a conference call via the telephone. At the start, we agreed on house-keeping rules such as being in a quiet room, using pseudonyms when responding, and not interjecting each other when asking or responding to a question. There were 3 participants. One of the participants was a moderator, and the researcher wrote down field notes. Consent forms were signed and emailed prior to the date of the focus group. The duration of the FGD was 45 minutes. Participants were already familiar with the questions in the interview guide as the researcher had already emailed them; thus, prepared their responses.

Grade R educators

The FGD was in the form of a conference call via the telephone. At the start, we agreed on house-keeping rules such as being in a quiet room, using pseudonyms when responding, and not interjecting each other when asking or responding to a question. There were 3 participants. One of the participants was a moderator, and the researcher wrote down field notes. Consent forms were signed and emailed prior to the date of the focus group. The duration of the FGD was 45 minutes. Participants were already familiar with the questions in the interview guide; thus, prepared their responses.

Physiotherapists

The FGD was conducted virtually. The first session was a meet-and-greet session and took place after working hours on Zoom. Only one participant could not join at the time set. The participants gave consent for the Zoom meeting to be recorded. As the host, the researcher requested their cameras to be on so we could see each other's faces to simulate a face-to-face meeting. They were keeping cameras on assisted with establishing rapport with participants and reading their facial expressions.

The purpose of this first meeting was also to list and delegate tasks, select a moderator, review the questions, determine how much time participants are willing to engage / sacrifice and let participants choose pseudonyms. Participants welcomed the approach the FGD would take. The researcher was given the task of scheduling meetings and transcribing audio recordings. A moderator and an assistant were selected. The role of the moderator was to direct questions to the group and probe for maximum response from each participant.

There was no indication from the participants that questions needed to be added or changed. Everyone chose their pseudonym, even though we helped each other to come up with pseudonyms. Participants agreed that discussions could occur over several days instead of

discussing all questions in one day. Thus, the focus group was conducted over four days. Sessions one to three took 40 minutes, while sessions four took 77 minutes over Microsoft Teams. This last session took longer as participants were already used to the group discussion, and they had time to reflect on their challenges. Participants were free to deliberate on issues and give possible solutions.

3.4.3.9 Data analysis

Data for the FGDs were analysed inductively with thematic data analysis on *ATLAS.ti*. Inductive implies that codes and themes are derived from the content of the data (Braun & Clarke, 2006). These patterns of meaning need to be about the topic and research question (Braun & Clarke, 2006). The researcher chose the six-phase approach to thematic analysis by Braun and Clarke (2006) because they provided novice qualitative researchers with a step-by-step guide on conducting data analysis.

Phase 1: Familiarising myself with data

Audio recordings were transcribed verbatim, and each transcript was allocated a unique identification number for confidentiality purposes. The researcher read through all the transcripts at least twice and made notes on key issues or elements commonly raised by participants and those that were unique. The researcher kept notes, codebooks and memos for individual transcripts on ATLAS.ti. This process helped the researcher in viewing data analytically and starting to think about the meaning of the data.

Phase 2: Generating initial codes

After being familiar with the data, the researcher began labelling (coding) each transcript line by line on ATLAS.ti. There was no limit to the number of codes assigned to a line or the entire transcript. At this phase, codes were more descriptive. The *ATLAS.ti* keeps a record of applied codes and the text (quotations) associated with them. Thus, the same code could be re-applied to the following data segment. The coding process was iterative, but the researcher was improving as a coder as she had already coded semi-structured interviews.

Phase 3: Searching for themes

In this phase, the researcher reviewed my codes, and some of the codes that had the same meaning or referred to the same issue were merged and color coded differently. In the next step, I grouped codes and formed categories. For example, there was a category for training, and within this category, there were codes relating to a lack of workshops and poor knowledge. Not every code belonged to a category, and inevitably they became redundant. The researcher started to search for possible themes. Themes represent some level of patterned responses or meaning within the data set. In addition, although themes can stand alone, they

need to relate to other themes (Braun & Clarke, 2006). Although there are no rules on how many themes can be generated, Braun and Clarkes (2006) suggested a maximum of six themes in a 10,000-word document. The main idea is to have rich, meaningful themes and not to lose coherence. The researcher kept this valuable tip in mind when searching for themes. The researcher noted possible themes in my code book.

Phase 4: Reviewing potential themes

The researcher reviewed themes in relation to the quotations and the codes. The researcher used a table format and labelled the columns; *quotations, code, category* and *theme*. The process allowed me to verify if the quotations were rich enough for the code, category and theme. Some of the themes were renamed and refined. The researcher worked with my supervisors, who were co-coding with me. The supervisors also helped with reviewing the codes and themes.

Phase 5: Defining and naming themes

Every generated theme was defined in isolation first and then in relation to other themes to tell an overall story. An individual theme was defined according to its scope.

Phase 6: Producing a report

This phase assisted in building up the results and discussion chapters of the thesis.

3.4.4: DOCUMENT REVIEW

3.4.4.1Objective

To determine and evaluate support programmes developed for learners with physical disabilities following SNA 1 and SNA 2 (components of the SIAS toolkit).

3.4.4.2 Population

The population comprised SIAS toolkits (LP, SNA 1, SNA 2 & ISP) for learners with physical disabilities at the three special schools in Limpopo Province. School A had 325 learners (Grade R to Grade 12), and only 12 in Grade R. School B had 177 learners (Grade R to Grade 7). Only 24 in Grade R. School C had 335 learners (Grade R to Grade 7). Only 25 learners were in Grade R. Thus, 61 learners in Grade R. Individual learners needed to have their toolkits filled in.

3.4.4.3 Inclusion criteria

Available SIAS toolkits for Grade R learners in the year 2020. School principals who signed informed consent were included in the study.

3.4.4.4 Exclusion criteria

The SIAS toolkits of learners with other disabilities were excluded. The absence of SIAS toolkits for Grade R learners with physical disabilities in 2020. School principals who did not sign informed consent forms were excluded from the study. School B was excluded from the study as their Grade R learners did not have their SIAS toolkits developed.

3.4.4.5 Sampling method

The purposive sampling method was used to sample the population. Purposive sampling is a non-random method where each unit in a population does not have an equal chance of being selected.

Purposive sampling in qualitative research does not require a set number of participants or sites (Etikan, Musa & Alkassim, 2016). There are various strategies to sample the population purposively (Patton, 2015; Creswell & Poth, 2018). Common strategies include; criterion; typical cases; extreme cases, and maximum variation (Patton, 2015; Creswell & Poth, 2018). The Criterion sampling method selects the predetermined cases that meet the inclusion or exclusion criteria for comparison purposes. Typical case sampling selects cases that are understandable to illustrate what is normal, usual and average (Patton, 2015). Extreme case sampling selects unusual cases to learn about the atypical dimensions of the phenomenon (Creswell & Poth, 2018). The Maximum variation sampling selects a wide variety of cases in order to highlight diversity and identify patterns (Patton, 2015; Creswell & Poth, 2018). The researcher used maximum variation sampling to select the toolkits of the Grade R learners from the different special schools (Schools A, B & C). These learners were both males and females presenting with different physical disabilities.

3.4.4.6 Sample size

The sample size was determined by the number of participants that met the inclusion criteria. Palinkas, et al. (2015) advised that with purposive sampling, documents should be selected according to some pre-specified inclusion criteria. Thus, rather than examining everything, only documents most likely to meet the purpose should form the sample size (Palinkas, et al. 2015).

As indicated in the population, the total number of learners in Grade R in the year 2020 was 61; however, this number became even less when learners who only had a physical disability as a primary diagnosis were included. School B was excluded from the study as their Grade R learners did not have their SIAS toolkits developed. The size of the sample using total population sampling was 22 (12 in School A & 10 in School C) learners with their Individual Support Plans. Thus, 22 ISPs (support plans) were reviewed in conjunction with LPs, SNA 1 and SNA 2 toolkits.

3.4.4.7 Data collection tool

A document review is a data collection strategy by means of going through available records (Morgan, 2022). In addition, Kayesa and Shung-King (2021) highlight that a document review is a systematic way of reviewing existing documents that may be available online or as hard copies. These documents are reviewed to measure policy actions against what was stated or planned (Kayesa & Shung-King, 2021). In this study, existing documents were in the form of hard copies kept at schools. Documents comprised LPs, SNA 1, SNA 2 and ISPs. The tool was self-designed (Annexure P) and modified from the Implementation Driver: Assessing Best Practice Tool (Fixen, et al., 2013) (Annexure P). The implementation driver assessment tool measures implementation components such as competency driver, organisation and leadership in order to be able to assess progress in implementation. Permission to modify the tool was obtained (Annexure L). Thus, the document review of the SIAS toolkits was used to measure the implementation of the SIAS policy through the toolkits and to evaluate support programmes indicated in the ISPs. The document review aimed to determine whether implementation of the SIAS toolkit mirrors its objectives and triangulate the findings.

3.4.4.8 Data collection procedure

The purpose of conducting the document review was two-fold. Firstly, to determine whether the SIAS toolkit implementation mirrors its objectives, and, secondly, for data triangulation. Permission to review SIAS toolkits of learners in Grade R was requested from the school principals. The researcher was informed that the toolkits were confidential documents and could not leave the school premises. The researcher was only allowed to go through them at the school in the presence of the class educator. An appointment at the schools was scheduled during the same week of collecting survey data. As a result of conducting parallel mixed method research design, the appointments were combined with the other activity of distributing and collecting paper questionnaires.

In School A, the class educator and the SBST coordinator sat with the researcher while she reviewed the SIAS toolkits. Initially, the researcher discussed the method she would be using with them. The researcher also emphasised that my position was not to pass judgment on them but rather to gain insight and understand, in practical terms, what limits and enables the implementation of the SIAS toolkits.

The Implementation Driver: Assessing Best Practice Tool (Fixen, et al., 2013) was used as the framework to develop the document review. The tool had three scoring options such as "*in place*", "*partially in place*", and "*not in place*" (Annexure M). We agreed on the tool, and educators had the opportunity to clarify instances where documents were only partially in place. The class educator found the session empowering as the SBST coordinator got to clarify essential elements, such as the need to note the correct learner's diagnosis in the LP.

The educator also got the chance to engage meaningfully with the SBST coordinator. Each learner was allocated a unique identification number for the sake of confidentiality.

In School C, only the class educator was available for the session. The researcher went through the same process of discussing the tool and how it will be rated, as in School A. The class educator indicated that there were many things that teachers did not know. They reviewed the SIAS toolkits for learners in class. In both cases, the session took about 20 minutes.

3.4.4.9 Data analysis

Data for every individual learner per school were populated on a Microsoft Excel spreadsheet as raw data. Data were then manually analysed with descriptive statistics. Data were coded 1 (in place), 2 (partially in place) and 3 (not in place). Percentages for the rating of "*in place*", "*partially in place*", and "*not in place*" was calculated for each SIAS toolkit per school. For example, School A had 12 learners, that is, 12 ISPs. The researcher calculated the number of learners with ISPs developed for them and converted it to a percentage.

3.5 STUDY 2: QUANTITATIVE STUDY

Quantitative research uses quantifying a problem by generating numerical data that can be transformed into useable statistics (Wyse, 2011). It is used to quantify categories, attitudes, opinions, behaviour and other variables descriptively (Wyse, 2011). The quantitative part of the study assisted in quantifying the implementation of the SIAS policy through the toolkits at special schools.

3.5.1 Objective

To evaluate and describe the implementation process of the SIAS toolkits at the three special schools for learners with physical disabilities in Limpopo Province.

3.5.2 Population

The study population refers to a set or group of all units (human or non-human) to which the research findings can be applied (Shukla, 2020). The population needs to be well-defined, so there is no ambiguity and to be able to select the appropriate sample size representative (Shukla, 2020). There are various types of populations. A population in which the number of units can be counted precisely is called a finite population, whereas if the units cannot be counted is called an infinite population. In cases where the units in a population have similar characteristics, the population is called homogenous; however, if the units differ, the population is called heterogeneous. Lastly, a population can exist where individuals have a concrete physical existence or hypothetical where individuals do not exist, but the probability of their existence is found by statistical methods (Shukla, 2020).

The population for this quantitative part of the study involved school educators, principals and the core SBST committee members of the three special schools (School A, School B and School C) for learners with physical disabilities. School A had 28 educators, School B had 14 educators, and School C had 35 educators, including principals, totalling a population of 77 individuals targeted.

3.5.3 Inclusion criteria

The inclusion criteria outline the characteristics of the participants included in the study, such as demographics, occupation and geographic locations (Polit & Beck, 2018). In this study, participants were educators in special schools for learners with physical disabilities. Moreover, participants needed to consent by signing an informed consent which was built into the survey (Annexure N), have access to the internet, have a smartphone, have valid email addresses, and be able to complete an online survey.

3.5.4 Exclusion criteria

The exclusion criteria are not only the opposite of the inclusion criteria but identify the attributes preventing an individual from becoming a study participant (Gray, Grove, & Sutherland, 2017). Individuals who did not give consent to participate in the study were excluded.

3.5.5 Sampling method

The sampling method describes the method used to select a sample from the population (Shukla, 2020). The method used was voluntary response sampling (Robergs, 2010). As the name indicates, the final sample comprises individuals who opted to participate in the survey freely and willingly (Robergs, 2010; Murairwa, 2015). This sampling method is preferred when researching sensitive fields where potential participants may not want to participate (Murairwa, 2015). The researcher considered SIAS at schools a sensitive topic for educators since the policy places them at the centre of implementation (DBE, 2014). However, they are not adequately equipped and supported (Hodgson & Khumalo, 2016; Majoko & Phasha, 2018), making it difficult to share limitations or weaknesses.

To employ the voluntary response sampling method, firstly, an intent to conduct the study was circulated so that respondents could have sufficient time to think about their decision. Secondly, a pilot sampling was conducted to determine respondents' willingness from their responses (Murairwa, 2015). Before conducting this study, an information letter was emailed detailing the research topic, aims, objectives, study significance, and consent forms to the principals of the three targeted special schools. The researcher requested that the school principals disseminate the information to their educators during staff meetings. Returned

signed consent forms implied willingness to participate. A pilot study was conducted with a different population to validate the data collection tool.

There are challenges associated with voluntary response sampling, such as low response rate and response bias (Nield & Nordstrom, 2016). A population with specific gender or age may be under or over-represented. Although not proven, Groves (2006) recommends a response rate of over 70% sufficient to avoid bias.

3.5.6 Sample size

The sample size is the size of the sample that is representative of the population (Murairwa, 2015). A sample size is needed to obtain statistically significant results that can be generalised cautiously. The sample size required was pre-determined before conducting the study to establish the targeted number of participants (Bujang, 2021). The sample size was estimated with the following parameters; N at 105, 5% margin of error, Z score at 1.96, P at 0.5, 95% confidence level and response distribution at 50% (Survey Monkey, 2020). The sample size formula was used.

$$\text{Sample size} = \frac{\frac{z^2 \times p\,(1-p)}{e^2}}{1 + \left(\frac{z^2 \times p\,(1-p)}{e^2 N}\right)}$$

Figure 3.4: Sample size formula.

The sampling size was estimated at 52 participants with the above formula. Establishing the sample size was cost-effective as the study had limited resources (Bujang, 2021). This study was self-funded.

3.5.7 Data collection tool

Data were collected using an online survey on Qualtrics XM survey developer. Qualtrics XM is a powerful web-based survey tool with pre-built templates of surveys with question types and a built-in survey expert that reviews questions as the researcher build the survey (Qualtrics, 2020).

The researcher modified the Implementation Driver: Assessing Best Practice Tool developed by Fixen et al. (2013) to compile questions to assess progress in implementing the SIAS toolkits. The implementation driver assessment tool measures implementation components with regard to competency, organisation and leadership (Fixen, et al., 2013). Permission to modify the Drivers Best Practice Assessment tool is granted by the National Implementation Research Network (Annexure L).

The survey comprised seven blocks (Annexure N), including categories of questions with different methods of answering styles such as checklists, drop-down lists and descriptive text. Block 1 was the introduction of the study to the participants; Block 2 was the consent form; Block 3 included questions related to the demographics; Block 4 included questions related to the LP, Block 5 included questions related to the SNA 1, Block 6 included questions related to the SNA 2 and Block 7 included questions related to the ISP. In summary, questions in Block 4 to Block 7 were about the SIAS toolkits and were framed as they appeared in the SIAS policy.

The questions to be included in the survey were loaded on Qualtrics XM manually by the researcher. The process of designing and loading the questions took about two hours. The Qualtrics XM survey developer has a built-in ExpertReview functionality which reviews the survey once all the questions are loaded. The ExpertReview functionality checked the survey in respect of measuring data quality of survey elements (questions, logic & quota) and predicted the quality of the collected data. Furthermore, this functionality gave recommendations on improving the survey elements by providing a report with research-based explanations (Annexure O) (Qualtrics, 2020). The online survey was first tested for validity and a reliability test, followed by a pilot study, before distributing the survey to the main participants.

3.5.7.1 Validity test

The process of validating the online survey involved the active participation of five experienced officials in the field of Inclusive Education in the Limpopo DoE, my research supervisor and a colleague with Qualtrics XM experience. Altogether seven participants formed part of the expert panel. The researcher called the officials individually to brief them about the research topic. The officials were informed that they would receive a link to the online survey, and they were requested to give feedback based on the appearance, design, clarity, comprehensibility of questions asked, and appropriateness for the target-group, and types of questions asked. The survey was distributed to participants by email via an anonymous link. The abovementioned explained the content (comprehensibility of questions asked and appropriateness for the target-group) and face validity (appearance and design) of the survey.

The first round of the process to validate the survey content took four days (9-12 November 2020). Individual responses were received on my student account email, and other respondents sent feedback via WhatsApp. Individual responses are listed in Table 3.1. The expert panel gave meaningful and significant feedback that improved the survey content. The researcher realised the benefit of employing a panel of experts to review the online survey. The researcher has overlooked the significance of writing out abbreviations in full. The inputs received were effected on the online survey. The ExpertReview Functionality from Qualtrics

also contributed to the online survey's content validity and face validity. The overall ExpertReview rated the online survey ‘Fair’. The ExpertReview report indicated the estimated duration to complete the online survey was about ten (10.1) minutes, whereas the goal was seven minutes. The report explained that the longer it took respondents to fill in the survey, the response rate would be anticipated to be low.

Furthermore, eight questions were rated ‘severe’ because they were not mobile-friendly. Two more questions were incompatible with the Web Content Accessibility Guidelines 2.0 (WCAG). As a result, those questions were inaccessible to persons living with disabilities (regardless of the disability).

The second round was conducted after effecting inputs from the first round, both from the participants and the ExpertReview report. The link to the survey was distributed to the panel of experts again. The responses showed that no significant adjustments needed to be made. It was recommended that the estimated duration to complete the online survey be indicated to the participants. The overall ExpertReview report improved from a rating of ‘Fair’ to ‘Great’ (Annexure O). The anticipated duration to complete the online survey decreased from 10.1 to 9.7 minutes. The ExpertReview recommended that mobile-friendly surveys not exceed nine minutes to improve the response rate. The researcher thinks the survey was longer because it contained the introduction and the consent form. The consent form was separated into multiple questions instead of just one question. As recommended, alerting the participants about the anticipated time to complete the survey may cause them to remain interested. The report also highlighted that questions were concise and to the point. This second round of content and face validity took a day.

Table 3.1: Round 1 of the content validity of the survey

	Position at work	Gender	Received feedback
1.	Deputy Director General	Male	Use of simple language – preferably with no more than five words. Use personal language, e.g. I can/not. Spell out all acronyms. Avoid multiple-choice items that can accept more than one answer. Use guides to minimize ambiguities.
2.	Director Monitoring and Evaluation	Male	I see there is nowhere you indicate your topic. You may also need to introduce yourself in full name, e.g. I..., of student number... Is conducting a study under the topic...The first time you mention SIAS first, put it in full and SIAS in brackets. In other parts, you can use the abbreviation.
3.	Chief Education Specialist	Female	In the field of age, it says that the value must be equal to or less than 2. I cannot go further than that because it cannot submit.
4.	District Coordinator	Female	Explain all the acronyms.
5.	Senior Education Specialist	Female	Explain all the acronyms.

6.	Research supervisor	Male	Include ethical approval number. The study leader is the supervisor The timeline for the study should rather be a minimum of four months instead of just four months.
7.	Physiotherapist	Male	Use more multiple-choice questions. Assign participant numbers. Break up the consent form into questions as the whole document exceed the maximum number of characters allowed.

3.5.7.2 Reliability test

The researcher approached special schools that were not part of the main study. The researcher wrote letters to the school principals requesting participation from educators in the pilot study. The letters were emailed to the schools' email addresses. Attached with the letters of request were ethical clearance approval certificates from the University of Pretoria and Limpopo DoE. The researcher contacted the schools telephonically to check whether they understood the request and if they were interested. The researcher had planned to include a full-service school in the pilot study, but only one school responded. The remaining schools that participated were special schools for learners with Intellectual Disabilities (x1 full-service school & x3 schools for learners with intellectual disabilities). In total, 14 educators were interested in participating in the pilot study.

The researcher created a WhatsApp group per school for the three special schools to share the anonymous link on the group. Participants from the full-service school opted to receive the anonymous link on the school email address. The anonymous link was reusable and did not collect identifying information such as names and email addresses (Qualtrics, 2020). Participants were given participant identity numbers for tracking responses. Once everyone received the link, an email to remind non-respondents to complete the survey was set to be distributed after three days. Respondents received a thank you email for completing the online survey. There was a hundred per cent response rate (14/14). Responses were captured on Qualtrics XM, and data analysis was generated. Internal consistency was measured post-content validity. The general rule of thumb, as indicated by George and Mallery (2003), is that a value $\alpha \geq 0.9$ is excellent, $0.9 > \alpha \geq 0.8$ is good, $0.8 > \alpha \geq 0.7$ is acceptable, $0.7 > \alpha \geq 0.6$ is questionable, $0.6 > \alpha \geq 0.5$ is poor and $\alpha < 0.5$ is unacceptable. The internal consistency of the online survey tool was $\alpha \geq 0.9$ (0.98), which implied excellent internal consistency. The anonymous link was disabled after a week of data collection, and the WhatsApp groups were also deleted.

Results of the pilot study

Raw data on Qualtrics XM was exported to Microsoft Excel and captured as string variables. String variables hold zero or more characters, such as letters, numbers, spaces, commas and

many more (SPSS tutorial, 2020). A codebook was developed to convert string variables to nominal categorical variables.

The results were analysed together with one of my research supervisors. The exercise of analysing the pilot study results further highlighted ambiguous survey elements that needed to be modified. This exercise marked round three of content and face validity of the online survey. On average, 75 per cent of respondents took about fifteen minutes (15 min) to complete the online survey. The minimum time taken was about four minutes (4min). The researcher realised that respondents who did not have a challenge opening the anonymous link took less time than those who experienced challenges. It could also be that respondents who had challenges opening the anonymous link took several days to complete, meaning they were partially filling it in over days. These results indicated that an online survey could take less than five minutes of the respondent's time if they did not experience technical challenges and completed it without breaks.

The researcher noticed that some respondents did not give the participant identity numbers allocated to them. They gave South African identity numbers 13 digits long. Thus, the participant identification number was changed to 'study number' instead. The 'years of experience' question seemed incomplete and thus was rephrased as 'years of experience working in a special school'. The question on 'position at work' was designed as a text entry. Responses to this question indicated the use of educators versus teachers. This question was redesigned to be a multiple-choice question where responses were set for them.

3.5.8 Data collection procedure

Data were collected from three special schools (A, B & C) for learners with physical disabilities in Limpopo Province. When schools prepared for end-of-year examinations, the researcher obtained an ethical clearance certificate from the University of Pretoria (668/2020) (Annexure B). Ethical approval from the Limpopo Department of Education (Annexure E) set conditions that the research should not interfere with schools' examinations. The researcher communicated with school principals from the three special schools (A, B & C) and agreed that the researcher would start with data collection in the following year, 2021. School B, however, scheduled an appointment whereby I introduced myself, the research topic and what was required from the school.

On the day of the visit to School B, the principal called a brief meeting with staff members, and an attendance register was kept. The researcher explained to all educators the background of the study with study objectives. The researcher further extended an invitation to volunteers to participate in the online survey using a link sent via email or WhatsApp. Therefore, The researcher requested their cellphone contacts and email addresses. It was agreed that a WhatsApp group would be created to share the link to the online survey in the following year.

When schools reopened, the link to the online survey was shared on the WhatsApp group. Only volunteers participated in the study. The arrangement with Schools B and C was different as they requested the link to the online survey to be emailed to the school email address. Weekly survey reminders were sent for a duration of a month. Following no response, the researcher asked the schools if they would prefer the survey to be changed from online to paper-based. The schools indicated network challenges and requested that the researcher print the survey for them to complete.

Qualtrics XM had the function to export the survey to Microsoft Word. The survey was edited to allow ease of completion in the form of hard copies. The drop boxes were changed to multiple-choice questions, and the slider questions were modified to allow text entry. The display logic questions whereby follow-up questions appeared if the response to the previous question was a 'yes' remained unchanged. The Microsoft version of the survey was saved to a pdf version. The researcher visited the three special schools (A, B & C) as per appointment to distribute paper surveys. The surveys were completed on the same day and were ready for collection. The online survey was therefore closed so that no more responses could be collected.

3.5.9 Data analysis

The results from the survey were categorised as either categorical or continuous variables. A categorical variable is a type of variable that records quantitative results by placing them in two or more fixed groups. Unlike continuous variables, results are placed on a continuous scale (Lund research, 2018). Categorical variables are classified as nominal, ordinal and dichotomous. Nominal variables have about two or more categories, although they do not follow a specific order as nominal variables. Dichotomous variables are restricted to only two categories, of which responses are usually either yes or no. Continuous variables are classified as either interval or ratio variables. Interval variables have a numerical value and can be scored along a continuum. Ratio variables are similar to interval variables, yet with the condition that the measurement of zero implies there is none of that variable (Lund research, 2018). Responses 'agree/unsure/disagree' were converted to continuous scale scores by assigning numbers. For example, agree=0, unsure=1, disagree=2.

The study's categorical, socio-demographic variables comprised gender, ethnicity, disability, nature of disability, highest level of education and position at work. These categorical variables were analysed with descriptive statistics, meaning frequencies and percentages. Continuous variables for the socio-demographics included age and years of experience in a special school. These continuous variables were also analysed with descriptive statistics by mean group scores (Connelly, 2016). To hamper the amount of variation amongst schools, a one way ANOVA test (Das, Jha & Sahu, 2022) was then used and the level of significance

determined at p≤0.05. Descriptive statistics are best used to summarise quantitative data in a meaningful way, like percentages (Lund research, 2018).

Nominal categorical variables were displayed on contingency tables. Contingency tables are used in research to illustrate results from the sample size concerning different variables that may depend on each other. Thus, contingency tables facilitate data analysis regarding the presence of relationships (Ehwerhemuepha, 2019). Fisher's exact test of significance was used to test the null hypothesis indicating no statistical difference between the results. Fisher's exact test was preferred as it is most suitable for small sample sizes (less than 1000) and is more accurate in identifying the difference from the null hypothesis (McDonald, 2014). The level of significance was set at less or equal to 0.05 (p≤0.05).

The SIAS toolkits for learners included Learner Profiles, SNA 1 and SNA 2, and the ISPs Data were collected for each SIAS toolkit per school and compared across. The group means per school for each SIAS toolkit was generated. The overall mean for the three special schools per SIAS toolkit was also generated.

The Analysis of Variance (ANOVA) is a statistical technique used to analyse the difference in variances (Das, Jha & Sahu, 2022). There are two kinds of ANOVA tests, being One-Way and Two-Way. One-Way ANOVA only has one independent variable, whereas a Two-Way ANOVA has two independent variables. One-way ANOVA tests the claim that three or more population means are equally referring to the null hypothesis. One-way analysis of variance assumes that data were randomly sampled, the variances in each sample were equal, and the residuals were distributed normally (Das, Jha & Sahu, 2022). Bartlett's test for equal variances was added to confirm that the assumption is not violated. This test was also sensitive to nonnormal data. Thus, the Bartlett's test was also used to test non-normality in data distribution. The small value for Bartlett's statistic confirms that the assumption was not violated, and the use of ANOVA was justified.

Thus, One-Way ANOVA was used to assess whether there were statistically significant differences across the three special schools in the implementation of the SIAS toolkits. In cases with statistically significant differences, a Bonferroni test was used to examine which special school differed from another. A Bonferroni test is a posthoc test ('analysis after the fact') which assesses mean differences between groups. As a result, using the Bonferroni's correction, special schools were paired for comparison, for example, School B with A and School C with A, to see which school differed from which. (Das, Jha & Sahu, 2022).

3.5.10 Rigor

There was a triangulation of data strands from qualitative and quantitative studies. Concurrent validity was ensured by correlating scores of the same questionnaire from the three different

special schools. Rigorous analysis of data (back-and-forth) and voluntary participation contributed to the validity and reliability of the study (Johnson, 2017). Multiple validity legitimation by Johnson and Christensen (2014) recommends that researchers address and resolve all relevant validity types to produce inferences and meta-inferences suitable for Mixed Methods Research.

3.6 STUDY 3: META-SYNTHESIS

A meta-synthesis is a statistical procedure that integrates the results of multiple individual studies (Haidich, 2010). The outcomes of the meta-synthesis are usually more precise and better than the outcome obtained from one study (Haidich, 2010). The rationale for conducting a meta-synthesis was based on the philosophical underpinning of Dialectical Pluralism with the parallel convergent mixed method research design. The truth is multiple; thus, Dialectical Pluralism allows for the combination of multiple paradigms in order to produce a whole or new understanding (Greene, 2007) instead of a single paradigm (Greene & Hall, 2010). Data were merged with the use of the side-by-side joint display.

3.6.1 Objective

To quantitatively synthesise findings from individual studies in order to have one data set.

3.6.2 Population

The population comprised the results from the quantitative study, where n=50, the qualitative study, where n=30 and the document review, where n=22. The total data units were one hundred and two (102).

3.6.3 Inclusion criteria

Results from the survey, semi-structured interviews, FGDs and document review of the SIAS toolkits.

3.6.4 Exclusion criteria

Data that was not eligible from the survey, semi-structured interviews, FGDs and document review was not included.

3.6.5 Sampling method

The total population sampling method was used for this part of the study. The researcher selected the entire population that met the inclusion criteria. The entire population is often chosen when the size of the population with a particular set of characteristics of interest is petite. Thus, parts of the units of data were not excluded from the sample (Etikan, Musa and Alkassim, 2016).

3.6.6 Sample size

There was a sample size of 102 data units.

3.6.7 Data collection tool

ATLAS.ti is another kind of Computer Assisted Qualitative Data Analysis software (CAQDAS). As the name implies, it assists with analysing qualitative data, although the researcher remained the critical analyst of the data. After attending a short course, the researcher obtained a license key from the University of Pretoria. The license key needed to be renewed after expiration and when a new version existed. The researcher used the latest version of *ATLAS.ti v9*. The *ATLAS.ti v9* has a Content Analysis function.

Content analysis is a research method for making replicable and valid inferences from data to their context. It provides knowledge, new insights, a representation of facts and a practical guide to action (White & Marsh, 2006). Content analysis can either take a qualitative or quantitative approach in an inductive or deductive manner (Elo & Kyngäs, 2008). Qualitative content analysis in an inductive method was chosen to quantify QUAL data.

3.6.8 Data collection procedure

The first step was transforming qualitative data to quantitative data using content analysis. The researcher followed three phases of content analysis by Bardin (2011): pre-analysis, material exploration and treatment of results, and inference and interpretation.

3.6.8.1 Pre-analysis phase

Transcripts from semi-structured interviews and FGDs were uploaded on *ATLAS.ti v9,* where a project was created and named. The researcher read through the transcripts and understood the meaning.

3.6.8.2 Material exploration and treatment of results phase

In this phase, the researcher started assigning codes to quotations based on the research objectives. The frequency of codes applied was visible in the code manager as “grounded”. Codes with similar meanings were then grouped to form categories. These categories were named using characteristic content words.

3.6.8.3 Inference and interpretation phase

In this phase, data were interpreted for meaning. The researcher conducted the conceptual and relational analysis. The researcher used the code-document table for conceptual analysis. Each code was calculated for the number of times it appeared in different transcripts. Some codes were more grounded than others. The researcher used the code-occurrence table for

relational analysis. The relationship between codes was measured in terms of counts meaning the higher the value, the higher the relationship (c-coefficient). In order to determine the strength of the relationship between codes, the c-coefficients were calculated on *ATLAS.ti*. The c-coefficient number is similar to a correlation coefficient in statistics without obtaining a p-value. It is a method of performing quantitative analysis on qualitative data. The value of the c-coefficient is between zero and one. The closer the number is to one, the stronger the relationship between the codes (Lewis, 2016). Data were exported to a Microsoft Excel spreadsheet.

3.6.9 Data analysis

Creswell and Plano-Clark (2018) stated that it was more common to transform qualitative data into numeric data. The joint display is an essential integrative strategy for a more profound synthesis of primary evidence (Younas, Inayat & Sundus, 2021). The discussion of the joint display took into account the quotes and themes already presented as results in the qualitative strand of the study.

Summary

This chapter showed how the Parallel Convergent Mixed Method research design was followed, underpinned by dialectical pluralism. The study was categorised into three studies, namely, study 1 (qualitative), study 2 (quantitative) and study 3 (meta-synthesis). Data collection through semi-structured interviews, focus group discussions, document analysis and surveys occurred concurrently, in line with the research design. This approach emphasised the equal weight of each study method. Qualitative data were analysed thematically to saturation, whereas descriptive statistics were used for quantitative data. The final stage of data interpretation occurred at the point where qualitative and quantitative data converged. Qualitative content analysis was employed at the meta-synthesis stage by first transforming qualitative data to numeric data.

The following chapter presents the results of the whole study in three parts (Part A, B & C), including the results of the individual study methods and the meta-synthesis. Part A presents data from the qualitative study (semi-structured interviews and FGDs), and Part B presents data from the quantitative study (survey). In contrast, Part C interprets data following the point of convergent, meaning the meta-synthesis.

CHAPTER 4 (PART A): RESULTS OF THE QUALITATIVE STUDY

4.1 INTRODUCTION

The study objectives were, firstly, to identify and describe challenges encountered in implementing the SIAS toolkit in the three special schools for learners with physical disabilities in Limpopo Province. Secondly, to identify and describe methods and strategies to be employed to address the challenges. The caregivers (n=11) of Grade 7 learners responded using Semi-Structured Interviews. The SBSTs (n=9), physiotherapists (n=7) and Grade R class educators (n=3) responded with the use of FGDs.

4. 2 PRESENTATION OF RESULTS

Data were analysed thematically on *ATLAS.ti v9* software. The results are presented as theme tables (Table 4.1 to 4.14). Table 4.1 to Table 4.9 presents the challenges experienced with implementing the SIAS policy through the SIAS toolkits from caregivers, educators, SBSTs and physiotherapists. Table 4.10 to Table 4.14 presents the suggestions for improving the implementation of the SIAS policy through the SIAS toolkits from the same participants. The tables contain quotations, codes, categories, sub-categories, themes and sub-themes.

The Quotation Manager in ATLAS.ti was used to track, edit and retrieve quotations. The quotations were tracked with an ID number and reference. The ID consists of two numbers best explained by an example: An ID 3:10 means that the quotation came from document 3, the 10th quotation created in this document. In the quotations provided below in Table 4.1, a quotation indicated as 9:244 ¶ 240 reads thus: document number 9, quotation number 244 and paragraph number 240. Quotations were numbered in chronological and not in sequential order.

Challenges with the implementation of the SIAS policy

Table 4.1:Theme 1: Human Resource Management

Quotations	Codes	Category	Sub-category	Sub-theme
9:244 ¶ 240: "We only have twenty-nine teachers, and next year they will be 28 according to staff establishment… So they would rather decrease the staff than increase it" … Now the principal says they will be only twenty-eight next year" CG, F. 7:427 ¶ 747: "The department took those teachers, and the teachers left are teaching only one thing…. "I started hearing about it last year that they do not have teachers for special learners" CG, F. 9:445 ¶ 565:" Special schools need teachers who did remedial… Those who can understand each and every challenge" CG, F.	Shortage of teachers Shortage of remedial teachers	Staff	Teaching staff	Teaching staff
17:134 ¶ 73: "You do not have someone who can assist you err…like err...some of the learners need to be when they had to write"… "I wanted that particular child to copy something. Because of the positioning, he cannot even take what I am supposed to colour his position; you find that maybe he falls in one direction. You have to go there" …"the time you are assisting that one to come up straight the other is the same thing" SBST, F. 9:271 ¶ 284:" We only have one female class assistant now who helps girls… Boys still need a male assistant to help them…CG, F.	Shortage of Educator assistant		Support Staff	Support Staff
18:33 ¶ 36: "Let us take, for an example, a learner has a problem of speech… and you find that most of our special schools we do not have all special needs… Moreover, we have such learners, so at the end, you find that there is going to be a big problem, err...concerning the communication between the educator and the learner, there going to be a language barrier…SBST, F	Shortage of speech therapists	Therapists	Speech therapists	
16:193 ¶ 170: "It is difficult because they were advertising the post, so no one who was willing to join them" … uh...I think it was because of uh…the monetary...it was not well, and people were taking rural allowance …PT, M. 3:142 ¶ 216:" "Yes, and even at School A, there are no physiotherapists…CG, F 9:461 ¶ 66:" You will be doing certain exercises with the child, but when she gets to school, she no longer does it because there is no one to monitor… She has no one to continue with training" CG, F. 17:380 ¶ 119:" When we admit them, the first question that will ask, they will ask you about the physiotherapists, they will ask…all those… Some (learners) are not walking and think they will walk when they get here…SBST, F. 19:234 ¶ 52:" "Ya, people like the physiotherapists, you do not have them it becomes a problem…E, F.	Shortage of physiotherapists	Therapists	physiotherapists	
19:233 ¶ 52:" Because you find…for instance if there are no OTs …you find you cannot help the child because err…err…we need those therapists at school, and you find they are not there…. "You cannot implement it err…adequately…E, F. 19:238 ¶ 53:" "I think that is main…main…main big issue or main problem…E, F.	Shortage of occupational therapists	Therapists	occupational therapists	
9:163 ¶ 108:" We only have assistant nurses, not professional nurses… So even if you get someone after advertising the post, that person will decline the offer"…CG, F.	Shortage of professional nurses	Nursing	Professional nurses	
16:206 ¶ 176: "It is a challenge because we rely on government hospitals to assist us on that (psychological reports) …PT, M.	Shortage of educational psychologists	Psychologists	Educational psychologists	
9:120 ¶ 45:" "We only have one social worker, and she is not dealing with any physical disability, you understand?"…CG, F	Shortage of social workers	Social workers	Social workers	
9:237 ¶ 228:" And we do not have posts for housemothers" …CG, F 17:117 ¶ 66: "Most of our learners, especially those who cannot do anything on their own, are not attending Secondary Schools just because they do not have housemothers and um...whoever is going to help them in the secondary... SBST, F	Shortage of housemothers	hostel staff		

CG, F = female caregiver, CG,M = male caregiver, SBST, F =female SBST member, SBST, M = male SBST member, E, F = female educator, E, M =male educator, PT, M = male physiotherapist, PT, F = female physiotherapist

Table 4.2: Theme 2: Training on SIAS policy and toolkits

Quotations	Codes	Category	Sub-category	Sub-theme
17:58 ¶ 46:" I do not have that much information about the SIAS… m not sure of the toolkit and the SIAS… Which toolkit are you speaking about?... I did not receive the training about SIAS implementation and the toolkit (SBST, F) 17:75 ¶ 56: "Ok, about the toolkit, I do not know if you are referring to that Go-20 and those things they are using for the learner with speech?" (SBST, F) 14:31 ¶ 32: "Most teachers are reluctant to help learners due to lack of knowledge" (E, F) 18:53 ¶ 37:" The challenge that they see from the learner which needs to be addressed, but they end up not knowing what is it that they have put in those toolkits" (SBST, F) 18:84 ¶ 61: "but some they are also…they are not quite sure on how to fill the ISP, so they end up keep that form" (SBST, F). 17:331 ¶ 25: "We have all the tools, but we never been trained as we know that we know the policy and all" (SBST, F) ... 17:332 ¶ 32: "I, umm…as the previous speaker said that we have all the documents at school that maybe they, if it was not a formal uh...workshop, organised to go through the...through the information with every one of us…And then, another one was taken to a meeting, and we heard of SIAS, but it was never uh...one thing that we learn…You got pieces here and there (SBST, F) 221: "I did not have any workshop or training about that thing" E, F.	Poor knowledge about SIAS policy and toolkits Lack of workshops	Knowledge of SIAS policy and toolkits	SIAS policy and toolkits	Specific knowledge of SIAS policy and toolkits

Table 4.3: Theme 3: SIAS policy implementation and other policies

Quotations	Codes	Category	Sub-category	Sub-theme
16:456 ¶ 163:" someone up there (management) says...told the teacher is like if...you go and continue with this process, it means all the kids here they are going to go out from the system and then when R&R comes, they are going (teachers) to be the first ones to be removed from the school because we want …err...the enrolment will be low because you are the one who is facilitating it…So they will not implement that. Because the moment they implement, some will be removed, and they do not want that. What I have gathered where I work" (PT, F). 17:327 ¶ 237: "They will not bring that other one (who was trained)" (SBST, F) 17:395 ¶ 237:" There many people who came here and were trained on many things R and R take them out…."You understand? That is the main big issue with R and R"… So, it really affects us" (SBST, F) 17:317 ¶ 231: "And it is a challenge we do have because other Special schools, this R and R is not working" (SBST, F) 16:454 ¶ 163:" Most of them are well acquainted with the programme but the fear of implementing it!" (PT, F)	Fear of redeployment	SIAS and other school policies	Recruitment and Redeployment policy	Recruitment and Redeployment policy
17:199 ¶ 112: "But, it is not easy for an ordinary educator to adjust and adapt and change a curriculum…. "We find it difficult… We want...I mean, I am not a curriculum specialist…I am an educator…Now they expect me to change something that was set there in stone almost because you must keep to a time limit; you must keep to a certain amount of work" (SBST, F). 7:187 ¶ 163:" It seems they teach them the way they do at normal mainstream school from the way I see it…. "Eish, to be honest, I am not satisfied with how they teach them... "When the child is like this, they want her to write" (CG, F) 6:188 ¶ 321: "They only do academic…All the children are in class…This child is not fit for mainstream" (CG, M).	Lack of curriculum adaptation	Curriculum		Curriculum adaptation and differentiation
14:3 ¶ 2:" Some Psychological reports mislead us when making admission for the learners…At the end of the day, you find that you admit the child that was indicated that is educable at the end of the day that child is not performing well" (E, F). 17:158 ¶ 89: "Yes. School B is an academic school, and most learners are our candidates according to what the doctor, physio, and occupational…is written there… Then when we went to the class, we realised that they did not diagnose the child according to how the child was. Yes, because we found...realise that problem when it comes to assessment when is assessment time…and some even if you can give them two days they will not be able to complete the assessment" (SBST, F) 17:288 ¶ 199: "We do not get the psychological report…most of the time they do not do this when the child is two years warawara…they wait the years to come to school (SBST, F)	Misleading reports	Learner admission	Psychological reports	School admission policy
9:396 ¶ 475:" She is being progressed, and I am not happy" …(CG, F) 9:397 ¶ 478: "because at the end of the day a progressed child because redundant and knows nothing…it means they will keep on progressing her until Grade 12… because they have just been progressing them throughout (CG, F) 6:172 ¶ 285: "Yes, when writing tests, he does not remember what he was taught"… if he has 2 years in the same grade then they progress him…yes, due to his age he was being progressed"… (CG, M) 2:114 ¶ 103: "Yes, the problem is that he repeated Grade 5 a lot of times…I asked the new school to make him repeat Grade 5 because he was just being progressed at the previous school… It is the same because he still fails in class (CG, F) … 7:273 ¶ 356 – 357: "I see that this child of mine does not qualify at that school… If I am not mistaken, there is no class that my child does not fail… Yes, at school, she gets one report, and every time they progress	Progression of learners	Promotion requirements		National policy pertaining to the programme and promotion requirements (NPPP)

her…then we will end up staying with them at home, and they will say parents are staying with children at home…(CG, F) 6:187 ¶ 321: "It seems they do not have skills projects…I think if they had skills, my child would have been in that class"…Yes, they were saying that they will introduce vocational skills"…We do not know when to be sure because there are those who do not need to be taught in class but can do vocational skills" (CG, M). 16:128 ¶ 151: "I am saying even the initial procedure of learners having LPs is not executed…. "I came in thinking I will be intervening at the SNA 2 level where I will be looking at the SNA 2 forms for those learners needing support … there were no LPs in place ",…but I found that I am actually talking Greek!" (PT, F). 18:59 ¶ 37: "Meaning that even if they fill they just keep those SNA1 and ISP and not referring the child to the SBST for the further assistance…and if they do that, at the end that child when he or she reaches Grade 7 you may that the educator who is...who...who...is the class educator of Grade 7 who identify the problem and is too late for dealing with that barrier that is identified'.(CG, F).	Lack of skills in projects SIAS process not followed	Curriculum Competency		Vocational skills curriculum SIAS policy

Table 4.4: Theme 4: Support structures

Quotations	Codes	Category	Sub-category	Sub-theme
9:137 ¶ 72: "I am aware of those challenges, but those are challenges that the DoE must sort out…at some point I went to the DoE to raise issues, but always it was just in vain"… do you understand the department comes in everywhere?... according to me they do not care and those people based at the school they are trying their best to assist our children" … (CG, F)	Lack of support from provincial Department of Education	Role of support structures	Provincial level	Specific support structures
14:27 ¶ 26: "Lack of support from curriculum advisors and district become a barrier" (E, F). 16:485 ¶ 246:" Now, if a school needs to move from the school to the district, they did not even consult the circuit. You could see that there is a problem with the implementation there (PT, M). 14:24 ¶ 24: "Some challenges that learners face are difficult to solve due to the lack of professional help and curriculum advisors" (E, F).	Lack of curriculum advisors		Circuit level District level	
14:18 ¶ 14: "Under general SBSTs are dysfunctional, and no commitment is shown at all" …(E, F). 17:256 ¶ 152:" in SBST School B FGD 2. "I just want to know; maybe I am also having a challenge. Who formed this SBST? Who forms that?... Because that is a very important thing that we (educators) must know. How many members are supposed to be in that team?"(E, F).	Lack of support from SBST		School level	

Table 4.5: Theme 5: Support to learners with barriers to learning

Quotations	Codes	Category	Sub-category	Sub-theme
9:470 ¶ 491:" the teachers complain about her sleeping in class. This one, they complain about it…they are not sure, but still, even when there is no phone, she still sleeps...so how do you continue teaching when one of the learners is sleeping?... It means they are doing nothing for her" (CG, F). 5:82 ¶ 188:" They just recently phoned me to say she is not doing her school work… she just writes the question numbers and end there…"so they showed the sister her incomplete work" (CG, F) 7:215 ¶ 223: "So I really do not know if they cannot handle her at school how will I handle her better?... and it pains me to always get a call from this teacher saying the child does not write…, so I do not understand why they cannot see what the problem is… This is the third year the teachers are complaining… it is not that I am relaxed as I am home; I cannot know the problem…I think they should be advising me on what to do, but they don't…like where can I take her…they never called to say let us talk about the child…even when I go there, she just hijacks me without having an appointment with me" (CG, F). 8:197 ¶ 249:" Often if you speak, they will use it against the child… I cannot because my child will not be safe if I go there. (CG, F) 14:25 ¶ 26: "Some of the learners' barriers are difficult to overcome"… (E, F) 14:11 ¶ 12: "learners are not supported at all…(E, F) 4:20 ¶ 18: "Learners do not always get support material that they always need" (E, F). 14:28 ¶ 28:" The challenges that I come across is that these learners have more barriers in learning due to their disability" (E, F). 17:116 ¶ 44: "we have got difficult learners with different disabilities whatever" (CG, F). 8:213 ¶ 271: "So I do not want to talk about the challenges I faced…When they reprimand the child, they must not disrespect his home…And they confuse the child when he comes to me he cries"… "The child is failing even to love school"…	Lack of support for learners	Role of educators	Individual learner support	Individual learner support

Table 4.6: Theme 6: Caregiver participation

Quotations	Codes	Category	Sub-category	Sub-theme
19:55 ¶ 59: Uh…the challenge with the parents…some of them, you know, they do not become familiar with the school…like for instance, they will only bring the child on the screening on the day of assessment" (E, F). 17:129 ¶ 71: "Some of them are really not interested ...real problems of the children" (SBST, F) 19:77 ¶ 66: "To add on that also even when the school closes, you know they will not be able to come in time just to fetch their kid…"sometimes they send taxis to come to collect their kids… And again, you find parents coming during the holidays or the weekends while we are home"… If you call them, maybe they do not answer the phone"… You tell them to come and see the performance of the learners...here is classwork …here is colouring what…what...ah! They did not come" (E, F). 6:179 ¶ 303 – 304: "Yes, we also fetch him, so contact with his teachers is not that much… it is not that I do not have time because I can even phone them" (CG, M)…. 7:298 ¶ 427 – 428: "It is like I am wasting time…even if you go there, you do not know whom to speak to because it is not structured like here is the class teacher…I think there is no class teacher…because a class teacher will give direction which teacher to talk to for specific subject…they will tell you to go speak to another teacher like sending you from pillar to post" (CG, F) 19:136 ¶ 149: "Indicated that some of the parents they do not give us more information or correct information about their background" (E, F) 18:38 ¶ 36: "We find that it is difficult for us to find all information related to the parent of what you call…the child" (SBST, F).	Lack of participation from parents Incomplete information	Role of caregivers		
8:202 ¶ 257: "It is a lot of money for parents to travel" … 14:33 ¶ 34:" Meeting with parents is challenging due to distance" (CG, F). 17:146 ¶ 77:" You find that you...you want to discuss something with the parent and then they tell us 'we are staying far and we do not have the transportation" (SBST, F). 8:145 ¶ 144: "To tell you the truth, I have never gone…so I save up transport money during the quarter" (CG, F) 12:137 ¶ 273: "Sometimes I attend, but sometimes I do not have money"…(CG, F) 2:152 ¶ 210: "They are not telling me anything at school…I never had a meeting with them…I was still planning to…the problem is where will I get the money because now I am not working…So where will I get the transport money? It is stressful" (CG, F) 7:288 ¶ 397:" Eish...that is why I say in School A transport is killing me and the year just goes by without improvement…(CG, F).	Lack of finances			
17:139 ¶ 75:" I think one of the challenges is the denial from the parents…"you find that a child has dyslexia but that...a parent does not allow that...that a learner cannot write… you find that he or she… she would like to see her child like other children" (SBST, F). 17:144 ¶ 77:" So, he…he the parents, are having a challenge also of accepting the child the way he or she is… (SBST, F)…. 19:119 ¶ 131: "I do not know, maybe they do not accept, or they have ...I do not know how can I put it… us" (E, F)…	Denial from parents			
8:203 ¶ 257: "They said my child is walking why I do not take him to a normal school…I told them that is not what the doctor said I must do"… In that way, he was not guiding me…If he wanted to guide me, it would not be in public…He should have called me and asked why I wanted him here…He wants everyone to see that he is a teacher since I am not…It will never be ok we disrespect each other like that (CG, F)	Poor communication			

Table 4.7: Theme 7: Knowledge of roles of therapists

Quotations	Codes	Category	Sub-category	Sub-theme
16:119 ¶ 142: "You know one of the greatest challenges is to understand in this… I could say the role of physio or the role of other health professionals… as long as, err...at the school level, they do not understand the role of different health professionals, that will be a problem with the implementation of this SIAS because...even if the teacher can identify whatever the problem might be. What, then, do they need to do? At some point, they (teachers) do not even know whom to consult. Who should they refer the child to…. "So, the SIAS policy is there, but different roles are unclear as to who should do…who comes in when is what. I think that is the main… main …problem. That is why at the school level where I worked, as a physio, you are not involved in anything because they do not even know what you are bringing there… They did not even know what it was you needed to do. In my opinion, the time they want you to intervene is even too late…Now, for as long as at a school level...or let me say the SBST team, they do not understand at what point we should call a physio or any other health professional, that problem will remain!" (PT, M) 16:483 ¶ 244:" So, I am not too sure whether whoever formulated that SIAS really had an understanding as to if now education brings in health professional did they really understand the role that we are going to play? 16:325 ¶ 223: "so now you have to assess that child; you have to be a physio, especially our role as DBST is not clear… do you understand? It is not there!... we were confused (PT, M)... 16:373 ¶ 236: I thought you guys, at the district levels, are having it easy...I see you have similar challenges to me, who specialise in the same institution because you have nowhere to feature (PT, F).	Educator's poor knowledge of the role of physiotherapists	Competency	Role of physiotherapists	

Table 4.8: Theme 8: Collaboration

Quotations	Codes	Category	Sub-category	Sub-theme
16:451 ¶ 130: "Yes, I think um...since I am working within a school and the SIAS…I would say that health professionals or other professionals other than teachers are not really well welcomed… and there is still that…I do not know whether it is a perception or what, but we are excluded in certain …to a certain level and included in some minor things…"You will never even see me anywhere… It means some of the decisions are taken maybe without my consult, and some those are my areas of speciality" (PT, F) 16:409 ¶ 244: "because you intervened at the end, not at the beginning…and you might even realise that if I have been involved at the beginning, that case might not even be there…for instance, the child might not be in that particular school…at the beginning, you are not involved you will be involved at the end of the process" (PT, M).	Lack of teamwork between educators and physiotherapists	Collaboration		Collaboration between therapists and educators

Table 4.9: Theme 9 Assistive devices

Quotations	Codes	Category	Sub-category	Sub-theme
11:148 ¶ 461: "Yes, she only goes for crutches… We were just used to going to the hospital when they were finished…. "Yes, we wait for her so that we can change her crutches"… (CG, F). 12:107 ¶ 175: "I go to the hospital without her…. "They give me a new pair for me to take to her at school…"Then I would come back with the old ones" (CG, F)	Lack of crutches at special school	Assistive devices	Mobility assistive devices	Mobility assistive devices
9:124 ¶ 51: "She has boots and callipers… Those callipers need a professional"…. "You will just find her walking without callipers"…. "Yes, who will put them on for her truly speaking"…? She needs assistance; that is why I say I cannot blame the school…(CG, F). 12:174 ¶ 353: "Yes, to be honest, shoes from ordinary shops are not suitable for her…She needs special ones where they took measurements" … No, I ordered them at Mokopane, but they never came"…. Since they said they would call us until today" (CG, F)… 5:106 ¶ 227: "They wanted to make boots and cock for her, but they said they are not available"… "until now we did not receive the cock her foot has a contracture"… "But they are too small for her now that is we are hoping for shoes from the MOP section"… (CG, F).	Lack of Orthopaedic devices at special school			
7:369 ¶ 597:" I am stressed, to be honest, because to get a wheelchair in hospitals it is tough… Is there a hospital that can give you a wheelchair every year?... But now there it is without the armrest and footrest… Its broken things fall from it as it moves"… We cannot buy every year; even at the hospital, they give us only a sponge (CG, F). 3:170 ¶ 308: "The wheelchair she is using now it is worn out… the hand-rests are worn out… And they are hurting her… That metal… We have since applied for a wheelchair at the hospital… We still have not received it"…."I do not know what will happen next year at the new school the whole year if we do not get it"…(CG, F).	Lack of wheelchairs at special school			
7:202 ¶ 199: "When the child is like this, they want her to write… "The child cannot write, even if the child writes eish"… I do not know why she is not given a computer… She should get a computer instead of using a pen and book"… "I am the one who will go ask if she qualifies, or they will say if she has a problem, so we saw it best to give her"…(CG, F).	Lack of computers		Assistive technology devices	Assistive technology devices

Summary addressing objective two: To identify and describe challenges encountered in implementing the SIAS toolkit in the three special schools for learners with physical disabilities in Limpopo Province.

The results in Table 4.1 to Table 4.9 were obtained from the educators, caregivers, physiotherapists and SBST members. In this manner, Dialectical Pluralism as a meta paradigm was implemented. The following themes emerged from data analysis and helped answer the research objective to determine challenges with implementing the SIAS policy. Challenges with human resources indicated that the shortage of therapists, physiotherapists included, at special schools had a bearing on the SIAS implementation. Timeously, this has led to the inaccessibility of assistive devices for needy learners. In addition to therapists, the need for housemothers to assist learners was also indicated. These themes contributed to providing support to learners with barriers to learning. A lack of training in the SIAS toolkits and curriculum differentiation contributed to the uncertainty in implementing the SIAS policy and vocational skills for school learners. As a result of the lack of training, SBSTs were not knowledgeable of their roles in the SIAS process to support educators and learners. Collaboration was lacking between the educators and therapists. This was because educators were not

knowledgeable about the role and responsibilities of therapists in the SIAS process. Caregivers were not accessible for support by educators. The challenges experienced by caregivers hold back the process of supporting the learner at school. This study has gathered subjective truths regarding the challenges of implementing the SIAS policy.

The following table shows themes that emerged relating to the suggestion for improving the SIAS policy implementation.

Suggestions to improve the implementation of the SIAS policy.

Table 4.10: Theme 1: Human Resource Management

Quotations	Codes	Category	Sub-category	Sub-theme
9:118 ¶ 42: "Need physiotherapists, social workers, occupational therapists and nurses, you understand?... The only amicable way to solve this problem is for the DoE to venture with Health because you know you have benefits in health"…(CG, F). 19:239 ¶ 53 "If we can have therapists in our schools as early as Grade R so that they can be able to assist in the positioning of learners, handling of learners and in all other things ...that the kids can be able to benefit or be assisted as early as Grade R before they go on" (E, F)… 19:239 ¶ 53"If we can have therapists in our schools as early as Grade R so that they can be able to assist in the positioning of learners, handling of learners and in all other things...that the kids can be able to benefit or be assisted as early as Grade R before they go on" (E, F)… 19:270 ¶ 202: "Needing of resources as you have already indicated that we do not have resources at our school like the therapists for example that our main…main…this issue and if we can those things learners and educators can be able to work hand-in-hand together with parents need to be involved in their children's learning so that at the end of the day we form a team or a group that will work hand-in-hand with the likes of therapists…physiotherapists….and social workers as you have already indicated" (E, F)…	Recruitment of therapists, social workers and nurses in a special school	Staff establishment		Improvement in recruitment of staff
16:378 ¶ 236: "They must also include other teams in the education system… Sometimes you can find the school manager being one of the discipline healthcare professionals...I feel like they are doing much better because they know whom to put for whom and where… "So, if maybe they can look into that...the facilitators they try to put all of us not only for the district" ... "I do not know how they are going to address it, but for myself, I will challenge that they include other teams in their planning in their structures not only looking at certain discipline like educators…(PT, F).	Lack of career path	Staff establishment		Career path for therapists

Table 4.11: Theme 2: SIAS policy training

Quotations	Codes	Category	Sub-category	Sub-theme

18:116 ¶ 77: “In other words, training should be broadened to the extent that all educators are trained rather than few of those in the SBST… (SBST, F) 19:289 ¶ 232: “You know, so it would be wise for all educators to be trained”… “You know because ...in one way or another, or we are all err…having children with barriers and you know…in each and every classroom we have children with barriers” (E, F) 19:293 ¶ 235: Because at the end of the day, even the SBST, you will find that some of them do not understand or are not familiar with these things… So it will be helpful if all educators…I support the one that said that”..(E, F). 17:387 ¶ 225: “The other people are not trained that is why it needs to be a continuous thing…So that everybody be trained” (SBST, F)	Training to include all educators			
16:282 ¶ 210:” If we are not willing to invest time doing mini training, it makes our jobs difficult (PT, F). 19:161 ¶ 201 in Grade R Edu FGD 2 “But, we get workshops now, and then I think we can benefit at the same time benefit the children, and the challenges that we have of implementing this can be minimised… I think it will be easy for us to address it, assess the learner accordingly, or maybe have that knowledge” (E, F) … 19:182 ¶ 223: “I think it can be a continuous thing to all Grade R educators or to everyone that is new to that thing or is not familiar…It must not be once off” (E, F) 19:281 ¶ 225: “It must be done continuously so that we can be able to…unless if even next year I will still be here at School B, I will be benefiting again” (E, F) 19:282 ¶ 225: “But, that thing it needs to be done continuously so that we can be able to be more acquired and be more err…hands-on in everything that we are doing for the sake of the benefit of the learners” (E, F) 19:207 ¶ 235: “Yes, I second what Lebo is saying (E, F) 18:106 ¶ 75: “More training is needed because the educators are not just…they are not filling that form because they are lazy” (SBST, F)... 19:267 ¶ 201: …If we get…adequate training…workshop you know…because this issue it is a broad issue this one of SIAS, and it is not easy. It does not need maybe training or a workshop once or twice, and then…Maybe if they can….explain or maybe teach or guide us about SIAS and then umm…help us about maybe problem solving about…let me say problem-solving or implementing of this SIAS in our school” (E, F)… 19:285 ¶ 226: “Because if we are supposed to read on our own err...there are things that we do not understand so if we get an expert to train us…in this SIAS thing we can be…maybe we can be able because reading obviously I cannot read a document…I cannot…sit down and read all that…document by myself…“even if I read it, I will not understand some of the things, and if we do have …an expert, maybe that person can…can workshop us or train us chapter by chapter. So that we can understand everything” (E, F)	Provide continuous workshops			

Table 4:12: Theme 3: Functionality of the SBST

Quotations	Codes	Category	Sub-category	Sub-theme
18:96 ¶ 72: “Again, I think to overcome this challenge, the SBST should be very much functional…. “In the way that…in their people, they have to do the follow-up whether those teachers are filling in those forms in time, whether they have made the concession ….filled the…applied the concessions for the learners so that each and every learner can be on the safe side (SBST, F)...	SBST to be functional	Role of SBST		

Table 4.13: Theme 4: Special school curriculum

Quotations	Codes	Category	Sub-category	Sub-theme
17:375 ¶ 112: "As a school, we would have liked our own curriculum that is set straight for us, and we know if goals to work with…work towards" (SBST, F)		Curriculum adaptation	Curriculum adaptation and adaptation	
9:428 ¶ 541: "Eish (hopeless) I think even if she is sleeping in class, they should wake her up"... They must check if he understands the work or not"(CG, F)	Support of learners	Individual Learner Support		
7:201 ¶ 196: "They should try skills to see if the child can do it" …	Skills project	Vocational skills		

Table 4.14: Theme 5: Collaboration

Quotations	Codes	Category	Sub-category	Sub-theme
17:272 ¶ 174: "So, if you can sit with another professional like the OT or the err…physio when screening, it will help a lot not to admit learners whom you have to be sent home or to another institution halfway through the way because that learner is not really a candidate for uh...academic school" (SBST, F). 19:271 ¶ 202: "If we can have that team, it can be smooth for the teachers and educators, I mean for learners and educators" (E, F) ... 16:466 ¶ 236: "I feel like they need to…like if you can check the Western Cape and Gauteng Provinces, err...you find maybe the physios or the OT or any other team that will work mostly with rehab they are part of a team" (PT, F)	Teamwork with therapists			
16:391 ¶ 239: "No, I think I agree with you because I think as soon as we can talk, then we can decide how do we move forward, and we can tell them the problems that we encounter, and they should be able to help us to solve them since they are in that position…Maybe we can develop something" (PT, F) 16:475 ¶ 256: "I feel like this conversation still needs to go on and on… I will agree with the speaker who mentioned that we need to go there…the meetings alike…I think we need to continue even after this kinda...meeting after the support we can give each other" (PT, F)	Communication with the DBST			
18:27 ¶ 34: "So, here we need umm...a relationship between the teacher and the parent so that the parent can divulge all the information about the learner" (SBST, F)... 19:260 ¶ 167 "If they can come during the week, they can find us, and then maybe they will ask something about their children" (E, F).	Parent participation			
19:295 ¶ 239: "I think during the parental meeting…I think it will help because sometimes you find that it is...the parents meeting is there with the SGB and principal, but there is no educator, whereas this thing I can take it as a three-foot pot"!..."So, a pot must have three feet"!... Yes, parents, teacher and then also SGB …Can you maybe allow us to have that…few moments or time to talk to the parents as an educator about what we have seen in the classroom and then what we want or maybe just our view just to show the parents what we want and what we like (E, F)	Educators to participate in parents meetings			

19:303 ¶ 260: “So I think on that meeting, we also include the social workers to assist maybe the parents can be able to understand and do right by their kids” …. “The social workers must be involved so that they can be the one that will be doing the very big thing because even if…you find that some of the children when they came to school their parents do not take care of them (E, F) 19:224 ¶ 262: “I agree with Zabi, because once the parents err…hear the word social worker they act swiftly!... I do not know whether it is because they are afraid that the…the grant money will be taken or what”… “I think the social worker will be…if the social worker is involved, I think it can help a lot”(E, F).	Social workers to participate in parents meetings			

Summary: to address objective four: Identify and describe methods and strategies to address the challenges.

Table 4.10 to Table 4.14 shows themes that emerged regarding the perceived solutions to mitigate the SIAS policy challenges at schools. It has emerged that special schools needed to increase their staff establishments to assist educators with identifying barriers to learning and providing relevant, individualised support to learners in need. The SBSTs need to be strengthened to facilitate in-service training regarding SIAS toolkits and curriculum differentiation so that learners who do not benefit from the mainstream curriculum can receive a differentiated curriculum. Collaboration amongst educators, therapists and caregivers would benefit the learner who needs support at school. Three themes (presented with a hyphen sign) did not have related suggestions.

The summary of these themes and their sub-themes are presented in Table 4.15 below.

Table 4.15: Summary of overarching themes in regard to challenges and suggestions with SIAS policy implementation

	Challenges	**Solutions**
1.	Human Resource Management Teaching staff and support staff •	Human Resource Management • Recruitment of staff • Career path for therapists

2.	Training on SIAS policy and toolkits • Specific knowledge policy • Specific knowledge of toolkits •	SIAS policy and toolkit training in special school •
3.	SIAS policy and other policies • Recruitment and Redeployment policy • School admission policy • National Policy pertaining to the Programme and Promotion requirements • SIAS policy	-
4.	Special School curriculum • Curriculum differentiation and adaptation • Vocational skills	Special School curriculum • Implementation of alternative curriculum
5.	Support structures • Provincial DoE • DBST • CBST • SBST	Functionality of the SBST • Strengthen functionality of SBST
6.	Support to learners with barriers to learning • Individual learner support	ISPs • Strengthen support of learners with barriers to learning
7.	Caregiver participation in SIAS policy •	-
8.	Knowledge of role of therapists in special schools • Roles and responsibilities of physio, speech and OT	-
9.	Collaboration • Educators and therapists	Collaboration • Strengthen collaboration amongst educators, therapists and parents
10.	Provision of assistive devices in special school • Mobility; crutches, orthopaedic shoes and wheelchairs • Assistive technology; computer	-

4.3 CLARIFICATION OF CONCEPTS

4.3.1 Human Resource Management (HRM)

The process of employing, training, compensating, developing policies, and developing strategies to retain people. There are critical roles in HRM, including administration, change management and people management (Ongkiko, 2020). The administrative role involves hiring people to perform different tasks at work (staffing). The change management role guides employees whenever there are new policies or systems. It ensures that all transitions or movements are smooth. It also ensures that each employee understands the mission, vision, and objectives and visualises their role in the reorganised company. The people management role ensures employees are not stagnant and have learning opportunities. It formulates additional skills training for employees (Ongkiko, 2020).

4.3.2 Training

Training is an organised learning and development method that expands the efficiency of an individual, a group, and the organisation (BasuMallick, 2020). A Training and Development programme is a planned education component with an excellent method for sharing the organisation's culture, which moves from one job skill to understanding the workplace skill, developing leadership, innovative thinking and problem resolution (Meister, 1998). Employee development programmes include a variety of teaching techniques, schedules, and a helping learning environment that ensure employees improve their skills and later apply them to their jobs (Kumar, Kumar, Singh & Kumar, 2017). Usually, companies offered tuition reimbursement packages to their employees to improve their knowledge and education. However, it is not all they can benefit from (Jehanzeb & Bashir, 2013). Therefore, many organisations conduct in-house training programmes for their employees that are more beneficial and cheap (Jehanzeb & Bashir, 2013).

As many as 65% of mainstream teachers do not have a formal initial teacher education qualification that includes training in how to respond, within mainstream classrooms, to diverse learning needs (Dreyer, Engelbrecht & Swart, 2012). They were trained only for general mainstream or “specialised education” in separate educational settings. This initial teacher education and learner support model is based on a medical deficit approach. Specialised intervention is needed, and support focuses on specialists in Education Support Services. However, teacher education has moved towards the social model of disability rooted in the human rights paradigm, whereby inclusion and participation for learners with disability are emphasised. Smit and Mpya (2011) recommended that teachers must be equipped with knowledge, skills, strategies and a positive attitude for an inclusive classroom to be successfully managed. Educators need adequate training and must receive support from specialists (Nel, Tlale, Engelbrecht et al., 2016).

4.3.3 Policy

Policy is generally a document with goals and a set of rules and principles for better administration in the workplace (Niemi, 2021). A policy interlinks the school management, educators, learners, parents, and school laws. Furthermore, it promotes consistent decision-making (Niemi, 2021). The SIAS policy indicates how learners should be screened, identified, assessed and supported (DBE, 2014).

4.3.4 Implementation

Implementation is a detailed set of deliberate and organised tasks built to merge evidence-based practices with reality (Mitchell, 2011). In this study, implementation refers to policy implementation, meaning SIAS policy in schools. Some factors facilitate and hinder the implementation of a policy. Implementation is facilitated by competency, organisation and leadership (Fixen, et al. 2013). Donohue and Bornman (2014) argued that the more unclear the policy is, the more difficult it will be to implement. The abovementioned authors referred to the EWP 6 policy. The implementation of the SIAS policy is mainly hindered by the lack of teachers' training on the policy (Hodgson & Khumalo, 2016; Majoko & Phasha, 2018).

4.3.5 Support structure

Support structures refer to the formal support structures placed for learners and educators at schools and located in the mesosystem of Bronfenbrenner's ecological model (Berns, 2012). These support structures include the SBST, DBST, full-service school SSRC, Learning Support Educators (LSE) and the community (DoE, 2001). Teachers reported that their experience implementing inclusive practices in classrooms was stressful and that contextual dilemmas such as the lack of formal support structures contributed (Walton & Rusznyak, 2014; Engelbrecht, et al., 2003).

However, certain barriers also hindered the DBST's service delivery to districts, including inadequate facilities and infrastructure to provide education support, transport to visit schools and a shortage of human resources, which led to overburdening of the available human resources (Makhalemele, 2011; Nel, et al., 2016).

4.3.6 Teachers

Teachers are the closest persons next to the parents who are the motivator, advisors, knowledge givers and caregivers to the learners. Teachers are the source of creating the teaching and learning process to be productive and effective (Han & Yin, 2016). The teaching profession is based on specialisation in a particular field (knowledge of a subject), teaching skills, didactics and personal characteristics that the profession requires (Han & Yin, 2016).

4.3.7 Caregivers

Caregivers are people who have the responsibility of looking after someone, and in this context, children. The child's parents are referred to as primary caregivers. In contrast, relatives, such as the grandmother, are called secondary caregivers. Parents/caregivers must

support their children's education (DBE, 2021). Caregivers' participation in school is valuable; the caregiver can support the teacher to support the learner (Suc, Bukovec & Karpljuk, 2017). Caregivers have roles in sharing information about their children with the teachers to complete LPs. They discuss with teachers the best way to support the child with barriers to learning in the SNA1 toolkit (DBE, 2014).

4.3.8 Roles and responsibility

Roles refer to one's position in a team. Responsibilities refer to the tasks and duties of the particular role or job description. Employees are held accountable for completing several tasks in the workplace (Indeed, 2021). According to the Model of Team Effective Management, the initial step is to create a team that will work together and establish each member's role and responsibilities within the team (Skrypnyk, et al., 2020). Hemmingsson, Gustavsson and Townsend (2007) indicated that some limiting factors of embracing collaboration resulted from ambiguity regarding roles and responsibilities. Outlining clear roles and responsibilities within a team was associated with increased team efficiency, productivity, morale and momentum (Indeed, 2021). Implementing the SIAS toolkits requires collaboration where teams, the SBST and the DBST have communicated roles and responsibilities.

4.3.9 Collaboration

Collaboration is a style of interaction on the premise of voluntary participation. All participants have equal status meaning shared decision-making, resources and outcomes accountability. Stakeholders also work towards a common goal. In the transdisciplinary approach, the Special School Resource Centres, DBSTs, and hospital (therapists) services must be employed to assess the needed devices. They should do the fitting of mobility assistive devices required by learners. At the same time, the school must assist in giving learners free access to assistive devices through the Department of Health. Teachers should receive continuous support in using assistive technology. The DBST should also assist the subject advisors with the curriculum to make it more accessible to all learners (Makhalemele, 2011).

SSRCs should, in collaboration with the DBST and full-service schools, exchange knowledge with surrounding mainstream schools, provide professional development to teachers, and sustainable support to learners and teachers (DoE, 2001; DoE, 2005).

4.3.10 Curriculum

A statement of intended outcomes to be achieved, knowledge content to be acquired, competencies and skills to be developed, and the level of performance to be expected from learners. A curriculum further defines what needs to be taught, what learners ought to learn and what needs to be assessed (Department of Higher Education and Training, 2017). South Africa has undergone various curriculum changes since 1994 due to poor academic achievements by learners (Phasha, Bipath & Beckmann, 2016). The curriculum changes aimed to improve the quality of education (Phasha, Bipath & Beckmann, 2016). For example,

the current curriculum, Curriculum and Assessment Policy Statement (CAPS), were endorsed in 2012. According to Themane and Mamabolo (2011), CAPS systematically provides content and knowledge to satisfy the specific aims of the curriculum in a time-bound (pace-set) manner (Nakidien, Singh & Sayed, 2021).

4.3.11 Learner admission

The determination of the admission policy is the preserve of a school governing body in ordinary public schools in terms of section 5 (5) of SASA, 1996. This authority also includes determining the capacity of the school to accommodate learners (RSA, 1996b).

4.3.12 Learner progression

Progression implies the learner's advancement from one grade to the next, excluding Grade R, despite the learner not having complied with all the promotion requirements. The norm for repetition is one year per school phase, where necessary (DBE, 2021). Progression is used to hinder a learner from being retained in a phase for a period exceeding four years on condition that the underperformance of the learner in the previous grade will be addressed in the next grade the learner is promoted to (*National Policy Pertaining to the Programme and Promotion Requirements of the National Curriculum Statement Grade R-12, 2017*).

4.3.13 Assistive devices

External devices are designed, made or adapted to assist a person in performing a particular task (Khasnabis, et al., 2010). Assistive devices are critical mechanisms by which disabled people can participate as equal citizens within society (Standardisation of Provision of Assistive Devices in South Africa, 2003). There is a wide variety of assistive devices for mobility and support. These include wheelchairs, crutches, positioning devices such as standing frames and positioners, orthopaedic shoes, daily living devices such as commodes and shower seats, vision and hearing devices (Khasnabis, et al., 2010).

4.3.14 SBST

The SBST, previously known as the Institutional-Level Support Team, is a support structure established within the school to serve as a school-level mechanism to drive inclusion through the identification and provision of support to the school, educator and learner (DoE, 2001). Teachers must be able to harness support from within their school first (DoE, 2011).

4.3.15 Learner Support

Teachers believed they were not able to provide the support needed in classrooms and that the needs of learners with disabilities were best met in separate classrooms (Black-Hawkins, & Florian, 2012; Florian & Rouse, 2010; Devecchi, et al., 2012; Donohue & Bornman, 2014; Geldenhuys & Wevers, 2013). Such perception results from teachers' limited initial training in learner support. Subsequently, most learners with disabilities still attend special schools and are not integrated into mainstream schools (Donohue & Bornman, 2014).

4.4 RELATIONSHIP BETWEEN CONCEPT

4.4.1 Human Resource Management

Lack of special needs teachers and therapists at special schools had a bearing on the provision of appropriate support towards learners experiencing barriers to learning. The available teachers were insufficient to support learners in classrooms as they lacked educator assistants physically, and the learner: teacher ratio was not applied. Teachers complained that they were not able to provide relevant support to learners. The lack of training in SIAS policy and curriculum differentiation was a big part of the problem. Without training, teachers were not able to assess and support learners adequately. The learner suffered due to challenges with Human Resource Management at their schools. The lack of educational psychologists led to schools not having psychological reports on time when learners were to be admitted to special schools. Learners were not admitted to the correct category of schools based on the support needs they required regarding cognitive and physical functioning. In turn, learners did not benefit from the curriculum being taught because teachers could not differentiate the curriculum. Again, due to a lack of therapists, they were not supported to participate to the maximum. Furthermore, learners did not have recent and valid psychological reports as they developed. It was recommended that learners be reassessed every two years to update the findings in the previous report. If learners are not being reassessed, teachers may be unable to adapt their curriculum to suit them best as they develop.

4.4.2 Implementation

A lack of adequate training hindered implementation. Teachers found it difficult to implement the SIAS policy due to a lack of knowledge. In turn, learners were negatively affected by processes beyond their control. ISPs for learners were lacking because teachers and the SBSTs lacked knowledge and staff - as in therapists - to help them support learners.

4.4.3 Support structures

Support structures at school are meant to support the school in its areas of lack or need. When these support structures are lacking or malfunctioning, the schools and teachers are not adequately equipped to support the learners. The teachers will experience challenges in implementing the SIAS policy through the toolkits. Lack of support from DBST affected the SBST when cases were escalated to them and were not being resolved. Teachers made mentioned that they needed support with differentiating the curriculum.

Such differentiation was not realised, as support from the circuit was lacking. Learners with cognitive impairments were not benefiting from the curriculum (CAPS) being taught. As a result, learners were repeating classes and being progressed even though they would not be supported in their next grade as recommended by the National Policy Pertaining to the Programme and Promotion Requirements of the National Curriculum Statement Grade R-12 (2017). The SBST would be limited in their functioning to support both teachers and learners. When schools lack proper functioning SBSTs, teachers will likely not be motivated to implement SIAS toolkits. Neither will there be a follow-up to ensure that learners with barriers are identified and supported with relevant support.

Caregivers of learners did not fully participate in schools as they lived far away and lacked the financial means to visit schools and support teachers. Teachers were disadvantaged as they needed information from the caregivers to fill in the LPs. Incomplete LPs led to the teacher not identifying a learner in class and lacking the collaboration to discuss the means of support available in the SNA 1 toolkit. The caregiver is believed to know the child best; thus, their participation enlightens the teacher. When both LPs and SNA 1 toolkits were incomplete, learners were less likely to be referred to the SBST for more support. The communication barrier between the teacher and caregiver hindered progress in implementing the SIAS policy.

4.4.4 Collaboration

Lack of collaboration between school-based teachers and therapists and those in the hospitals hindered knowledge sharing that could benefit the learner when providing support. The absence of collaboration still advances the medical model whereby the learner is isolated from other stakeholders involved in his / her care. Even if schools had established SBSTs, when roles and responsibilities are not clearly defined, there would still be a threat of overstepping each other's professional roles. Furthermore, there would be delays in implementation of SIAS

toolkits at schools. Learners' toolkits would remain blank and not be supported sufficiently; thus, collaboration is needed amongst educators, therapists and parents.

4.4.5 School policy

Poor understanding of policies leads to improper implementation. Learners were being progressed without the relevant support required. Thus, learners were kept in schools until they became adults and could no longer be admitted. Learners who may benefit from basic skills were not being taught. Instead, they were being progressed with the curriculum that the teacher did not know how to adapt.

4.4.6 Assistive devices

Poor collaboration between schools and therapists in the nearby hospitals leads to learners possessing worn-out assistive devices that pose a risk. Learners waited until schools closed to change crutches, rubbers and wheelchairs at the local hospitals where they came from. The learner's physical impairments may complicate in severity and/or develop new injuries.

4.4.7 Curriculum differentiation

The educators at special schools indicated that they require training to differentiate the current curriculum taught at their schools. The three participating special schools in this study were offering a CAPS curriculum. Through training, educators would be better equipped to teach learners in a way they can benefit from. This would be supporting learners and assisting them to participate optimally in class. It is the role of the SBST to support educators and the circuit to assist with differentiating and adapting the curriculum where needed.

The relationship with the abovementioned concepts was best illustrated on *ATLAS.ti,* as shown in Figures 4.1 and 4.2. In each box is a code (as quoted from the quotations), letter G for Grounded and letter D for Density. The density showed the number of links between codes that existed. For example, CH- curriculum (challenge - curriculum) was linked to five other codes. Grounded showed the number of times a code was applied. For example, CH-curriculum was applied nine times as a code. ATLAS.ti also provided name links, as shown with the different lines. For example, "is associated with" is demonstrated with a double arrow line. Thus, all codes were connected with name links.

In summary, implementation as a challenge was most grounded (G=200) and had more relations with other codes. Figure 4.1 below shows the relationship with other codes about the challenges related to SIAS policy implementation

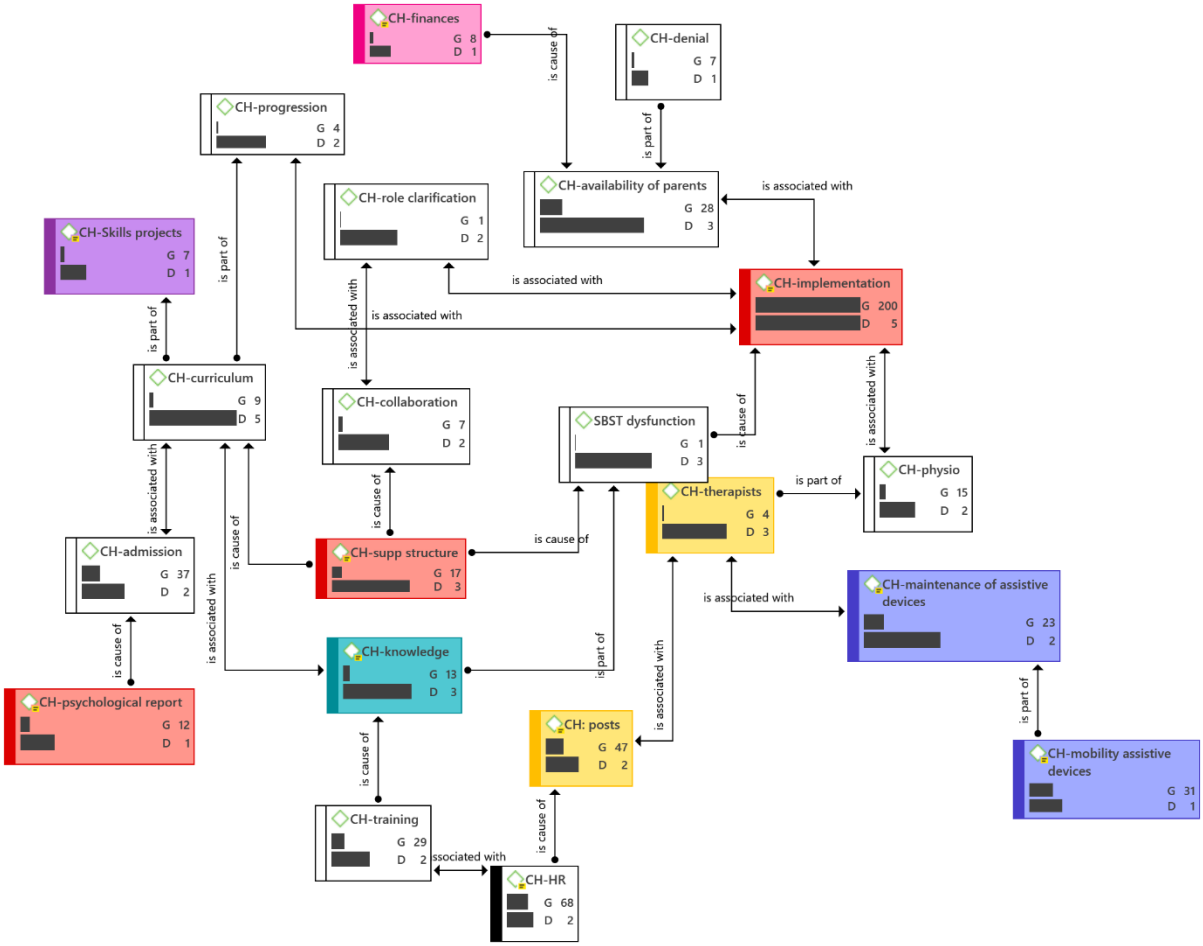


Figure 4.1: Relationship of concepts on challenges affecting the implementation of the SIAS policy.

Curriculum and implementation were the only two codes with more density (D=5) each. Implying that they had most relationships with other codes.

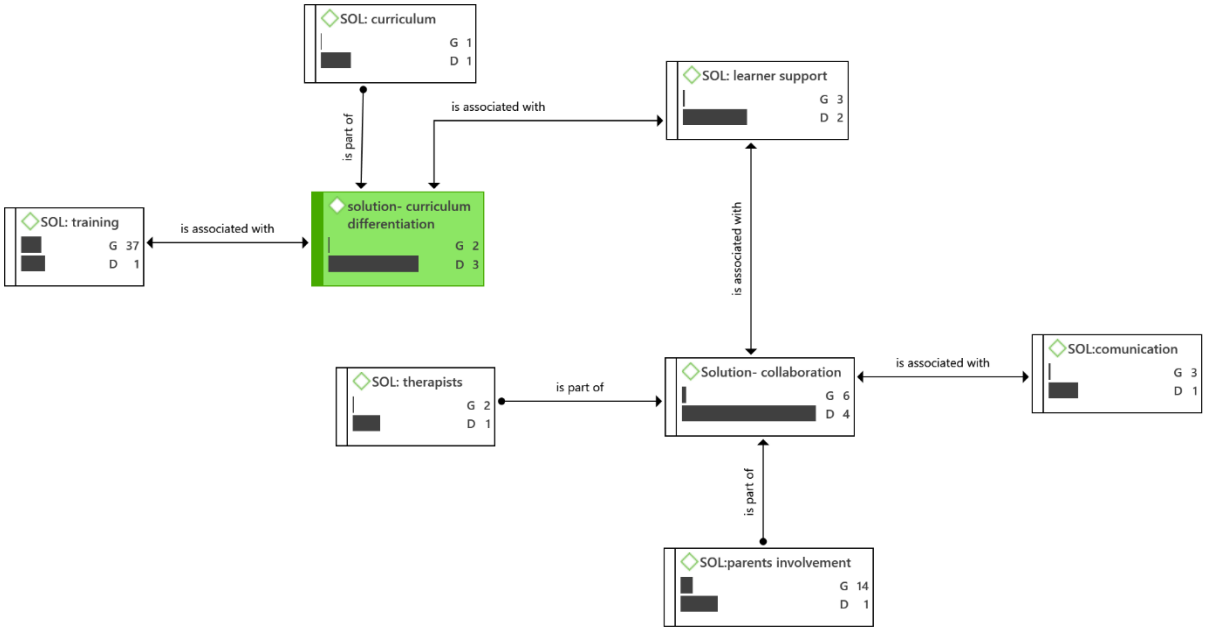


Figure 4.2: Relationship of concepts on solutions to improve the implementation of the SIAS policy.

The above figure shows that training was mostly grounded (G=37) and was linked to curriculum differentiation. Parents' involvement (G=14) was also highly grounded compared to other codes and linked to collaboration. It is essential to realise that collaboration and curriculum differentiation had more density, meaning they had more relations with other codes.

CHAPTER 4 (PART B): RESULTS OF QUANTITATIVE STUDY

Objective: To evaluate and describe the implementation process of the SIAS toolkit at the three special schools for learners with physical disabilities in Limpopo Province.

The study was conducted at three special schools for learners with physical disabilities (School A, B & C) in Limpopo Province. The targeted population was educators from the three special schools. All the special schools combined had a total of 77 educators. A link to the survey was emailed to each special school. Only 50 educators agreed to participate in the survey, with a response rate of 65%. Table 4.16 shows participation by individual special schools.

Table 4.16: Participation by individual special school (n=50)

	School A	**School B**	**School C**	**Total**
n	20	13	17	50
n	28	14	35	77
%	71	**93**	49	65

*n = sample size N =population size

School B had the most participation (93%), followed by School A (71%). School C had most educators (N=35), but less than half agreed to participate in the survey (49%).

4.5 The demographic characteristics of the participants

Participants were asked about their gender, disability status, ethnicity, highest level of education and current position at work. Table 4.17 shows the demographic characteristics of participants per special school.

Table 4.17 Participants' demographic data (n=50)

	School A (n=20)	School B (n=13)	School C (n=17)	Total
Gender (n=50) Female	14	13	16	**43 (86%)**
Male	06	00	01	07 (14%)
p value= 0.036				
Disability (n=50) Yes	00	02	01	03 (6%)
No	20	11	16	**47 (94%)**
p value= 0.175				
Nature of disability (n=3) Visual	00	01	01	02 (4%)
Hands	00	01	00	01 (2%)
p value= 0.216				
Ethnicity (n=50) Black African	20	11	17	**48 (96%)**
White	00	02	00	02 (4%)
p value= 0.064				
Highest level of education (n=50) Certificate	00	01	00	01 (2%)
PhD	00	00	00	00 (0%)
Diploma	04	05	00	09 (1, 8%)
Degree	14	06	17	**37 (74%)**
Masters	01	01	00	02 (4%)
Other	01	00	00	01 (2%)
p value= 0.008				
Position at work (n=50)	16	11	16	43 (86%)
Non-teaching staff	01	00	00	01 (2%)
HOD	01	01	00	02 (4%)
Deputy Principal	01	00	01	02 (4%)
Principal	01	01	00	02 (4%)
Teacher aid	00	00	00	00 (0%)
p value = 0.926				

4.5.1 Gender

The majority of the participants in the survey were females (86%) compared to males (14%). The schools differed significantly ($p<0.05$) concerning gender distribution. There were smaller proportions of females in School A compared with the other two schools (B and C).

4.5.2 Disability

Few participants in the survey were living with disabilities (n=3) in schools B and C. The nature of the disability was visual (n=2) and hands (n=1) related.

4.5.3 Ethnicity

The ethnicity among participants was mixed, with the majority being black African (96%).

4.5.4 Highest level of education

The majority of participants in the survey had obtained a degree (74%) in schools C and B, respectively. The schools differed significantly ($p<0.05$) with the distribution of educators according to their qualifications. Only 18 per cent (n=9) of the participants had obtained a Diploma in schools A and B.

4.5.5 Position at work

The majority of educators (86%) were occupying College School level 1 (CS1) posts at special schools.

Participants were asked about their ages and years of experience at the special school. Table 4.18 illustrates the age of participants and the number of years they have worked in a special school.

Table 4.18 Participant age and years of experience

Age	n		Std. Dev (years)	Median (years)
School A	19		7.72	49.0
School B	13		8.38	55.0
School C	12		6.00	53.0
p value= 0.009	chi2(2) = 1.2267			
Years of experience				
School A	20		10.90	10.00
School B	13		10.69	15.00
School C	17		8.65	10.00
p value=0.592	chi2(2) = 0.9787			

4.5.6 Age and years of experience

Participants differed significantly ($p<0.01$) concerning age across the schools. There was no significant difference ($p>0.05$) regarding years of experience per school. The age and the years of experience were compared per school A, B and C. Table 4.19 below shows the comparison by using a post-hoc analysis with a Bonferoni correction.

Table 4.19 Comparison of age and years of experience per school

Age	School A	School B
School B	6.7 p value= 0.053	-
School C	8.0 p value= 0.018	1.3 1.000
Years of experience		
School B	2.5 1.000	-
School C	-1.3 p value= 1.000	-3.8 p value= 0.939

Educators in school B differed from educators in school A by almost seven years (6.7), and it was marginally significant (p=0.05). Educators in school C differed from educators in school A

by eight years (8.0), and it was statistically significant ($p<0.05$). There was no significant difference regarding the years of experience across the schools.

4.6 The implementation of the SIAS toolkit

The SIAS toolkit comprises the LP (information about the learner), SNA 1 (assessment and intervention by the educator), SNA 2 (assessment and intervention by SBST), SNA 3 (assessment and intervention by the DBST) and the ISP (support for the learner). The results regarding the implementation of the LP, SNA 1, SNA 2 and the ISP were presented per special school.

Participants were asked about the implementation of the LPs for their learners (Table 4. 20), SNA1 (Table 4.9), the involvement of parents (Table 4. 22), the functionality of the SBSTs (Table 4. 23), implementation of the SNA 2 (Table 4. 24), the support by the DBSTs (Table 4.25) and the implementation of the ISPs (Table 4. 26) for their learners at school. Table 4. 20 below illustrates the implementation of LPs at three special schools for learners with physical disabilities.

Table 4.20 Implementation of LPs (n=50)

	LP Availability			Disability noted			Screened for gross motor			Ongoing support noted			Support relates to the disability		
	Y	M	N	Y	M	N	Y	M	N	Y	M	N	Y	M	N
School A (n=20)	19	01	00	18	02	00	07	11	02	12	08	00	10	06	04
School B (n=13)	12	01	00	10	03	00	05	08	00	10	03	00	10	03	00
School C (n=17)	17	00	00	07	10	00	05	12	00	07	00	00	17	00	00
Total	48	02	00	35	15	00	17	31	02	39	11	00	37	09	04
%	96%	4%	0%	70%	30%	0%	34%	62%	4%	78%	22%	0%	74%	18%	8%
p-value	0.722			0.005			0.653			0.007			0.003		

*Y=Yes M= Maybe (not sure) N= No

Overall, almost every participant (n=48) reported that learners had LPs. However, special schools differed significantly ($p<0.01$) with implementing certain aspects of the LP. There was a statistically significant difference ($p<0.01$) amongst schools in taking note of the learner's disability, noting ongoing support that the learner requires ($p<0.01$) and relating the support to be provided with the learner's disability ($p<0.01$).

Table 4.21 Implementation of SNA1 (n=50)

	SNA1 developed	Areas of concern noted	Concerns to learning related	Factors that impacts	Ability to provide	SBST provides extra support

										learning identified			support in class					
	A	N	D	A	N	D	A	N	D	A	N	D	A	N	D	A	N	D
School A n=20	06	09	05	15	05	00	15	04	01	16	04	00	15	05	00	11	06	03
School B n=13	09	04	00	11	01	01	11	02	00	07	05	00	13	00	00	11	02	00
School C n=17	13	04	00	03	06	08	12	04	01	16	01	00	16	01	00	16	01	00
T	28	17	05	29	12	09	39	09	02	39	10	00	44	06	00	38	09	03
%	56 %	34 %	1 %	58 %	24 %	18 %	78 %	18 %	4 %	78 %	20 %	0 %	88 %	12 %	0 %	76 %	18 %	6 %
P value	0.013			0.000			0.805			0.109			0.102			0.051		

*A=Agree N= Not sure D=Disagree T=Total %=percent (proportion)

More than half (56%) of the participants reported that they had developed SNA 1 toolkits for learners although there was a small proportion of participants in School A. Schools differed significantly ($p<0.05$) with regards to educators filling in the SNA 1 form. Fewer participants from School C agreed to being able to note areas of concern for learners ($p<0.01$). Although participants from all the schools were of the view that their SBSTs were providing additional support, 30% of participants from School A were not sure and 15% were in disagreement ($p=0.05$).

Table 4.22 Involvement of parents in SNA1 (n=50)

	Parents consulted			Parents' views noted			Parents co-signed with teacher		
	A	N	D	A	N	D	A	N	D
School A (n=20)	12	06	02	09	10	01	09	05	06
School B (n=13)	05	08	00	06	07	00	03	08	02
School C (n=17)	08	09	00	05	12	00	04	03	10
Total	25	23	02	20	29	01	16	16	18
%	50%	46%	4%	40%	58%	2%	32%	32%	36%
p-value	0.253			0.611			0.043		

*A=Agree N= Not sure D=Disagree

Half of the participants (50%) reported that parents were consulted during the implementation of SNA1; however, most participants (36%) reported that parents did not get to Co-sign with the teacher. There was a statistically significant difference ($p<0.05$) across schools regarding parents being involved at the level of co-signing the SNA 1 form.

Table 4.23 Functionality of the SBST (n=50)

	SBST functional?			SBST committee?		
	Y	S	N	Y	S	N
School A (n=20)	11	05	04	07	00	13
School B (n=13)	08	05	00	05	00	08
School C (n=17)	17	00	00	04	00	13
Total	36	10	04	16	00	34
%	72%	20%	8%	32%	0%	68%
p-value =	0.002			0.692		

***Y=Yes S= Sometimes N= No

The majority of the participants (72%) in the survey reported that their SBSTs were functional. There was a high statistical significant difference ($p<0.01$) seen across the schools regarding the functionality of the SBSTs. These were seen in School A and School B. In school A, 25% viewed the SBST been functional sometimes and 20% viewed the SBST as not being functional. In school B, about 39% viewed the SBST been functional sometimes.

Table 4.24 Implementation of SNA2 (n=50)

	SBST referral (teacher)			Identify barriers to learning (Teacher)			Identify support (Teacher)			Alternative learner support (SBST)			Alternative Educator support (SBST)		
	Y	S	N	Y	S	N	Y	S	N	Y	S	N	Y	S	N
School A (n=20)	04	15	01	12	07	01	09	10	01	10	09	01	09	09	02
School B (n=13)	05	08	00	07	06	00	07	06	00	05	07	00	05	08	00
School C (n=17)	02	14	01	16	01	00	13	03	01	05	12	00	03	14	00
Total	11	37	02	35	14	01	29	19	02	21	28	01	17	31	02
%	22%	74%	4%	69%	29%	2%	57%	39%	4%	43%	55%	2%	35%	61%	4%
P value =	0.443			0.031			0.177			0.442			0.116		

*Y= yes S= sometimes N= no

The majority of participants (74%) reported that teacher referral of cases to SBST by teachers occurred sometimes. There was a statistically significant difference ($p<0.05$) seen across schools regarding the ability to identify learners with barriers to learning. Participants reported they were not always able to identify learning barriers, for instance almost half in school B and School A.

Table 4.25 Support by DBST (n=50)

	DBST is helpful with cases escalated to them		
	Y	S	N
School A (n=20)	04	09	07
School B (n=13)	05	08	00
School C (n=17)	13	04	00
Total	22	21	07
%	45%	41%	14%
p value=	0.001		

*Y=Yes S= Sometimes N= No

Less than half of the participants (45%) reported that the DBST in their districts were helpful with the cases escalated to them. There was a statistically significant difference ($p<0.01$) across schools regarding the support received from the DBST. The majority of participants

from school A and B felt that the DBST was not always helpful whereas almost half in school A felt they were not helpful.

Table 4.26 Implementation of ISP (n=50)

	ISP available			ISP addresses learning barrier			Stakeholders held accountable			ISP have review dates			ISP have reasonable time frames		
	A	H	N	A	H	N	A	H	N	A	H	N	A	H	N
School A (n=20)	05	10	05	08	10	02	03	10	07	03	07	10	04	06	10
School B (n=13)	04	09	00	05	08	00	03	07	03	03	09	01	05	08	00
School C (n=17)	11	06	00	12	05	00	12	05	00	12	05	00	12	05	00
Total	20	25	05	26	22	02	18	22	10	18	21	11	21	19	10
%	40%	50%	10%	52%	44%	4%	36%	44%	20%	36%	42%	22%	42%	38%	20%
p-value	0.016			0.063			0.002			0.000			0.000		

*A= Always H= about half the time N= Never

Half of the participants (50%) reported that ISPs for learners were only available just about half the time at schools. There was a statistically significant difference ($p<0.01$) across schools regarding the availability of ISPs, stakeholders being held accountable ($p<0.01$), review dates on ISPs ($p<0.01$) and ISPs having reasonable time frames ($p<0.01$).The outliers were seen in school A and B.

A one-way ANOVA test was used to compare variation (between and within groups) in the implementation of each SIAS toolkit (LP, SNA 1, SNA 2 & ISP) across the three participating special schools. A post-hoc analysis using a Bonferroni test was used to compare variation between two schools where thera was a statistical significance difference. The results are shown in Tables 4.27 to 4.31.

Table 4.27 below represent data on Leaner Profiles from the three special schools.

Table 4.27 LP

Source		**df**		**F**	**p-value**
Between groups		2		1.40	0.257 chi2(2) = 5.6723
Within groups		47			
Total		49			

*SS= Sum of Squares df= Degree of Freedom MS= Mean Sum F= F statistic

There was no variation amongst the three schools in the implementation of the Learners Profiles.

Table 4.28 below represent data on SNA 1 from the three special schools.

Table 4.28 6 SNA1

Source		**df**		**F**	**p-value**
Between groups		2		1.38	0.260 chi2(2) = 3.2908

Within groups		47			
Total		49			

There was no variation amongst the three schools in the implementation of the SNA 1.

Table 4.29 below represent data on SNA 2 from the three special schools.

Table 4.29 SNA2

Source		**df**		**F**	**p-value**
Between groups		2		0.22	0.806 chi2(2) = 4.1479
Within groups		47			
Total		49			

There was no variation amongst the three schools in the implementation of the SNA 2.

Table 4.30 and Table 4.31 below represent data on ISPs from the three special schools.

Table 4.30 ISPs

Source		df		F	p-value
Between groups		2		12.42	0.000 chi2(2) = 1.2623
Within groups		47			
Total		49			

There was a variation amongst the three schools in the implementation of the ISPs for learners.

Table 4.31 Comparison of ISP (total scores) by schools

Row Mean- Col Mean	**School A**	**School B**
School B	-1.78077 p value= 0.149	
School C	-4.07941 p value= 0.000	-2.29864 p value= 0.046

It was observed that schools were different in developing ISPs. There was a statistical significant difference between School C and School A ($p<0.01$). There was a marginally significant difference between School C and B ($p=0.05$).

Implementing the SIAS policy through the SIAS toolkits across the three special schools for learners living with physical disabilities was similar except for the ISPs. This may be a result of policy misinterpretation and lack of collaboration. Table 4.32 below shows the overall implementation of the SIAS toolkits.

Table 4.32 Overall implementation of the SIAS toolkit

Variable	N	Mean	Std. Dev	Med
LP total				
School A	20	2.000	1.686	2.000
School B	13	1.385	1.387	1.000
School C	17	1.294	0.920	2.000
SNA 1 total				
School A	20	4.500	3.035	4.000
School B	13	3.231	2.048	4.000
School C	17	4.647	2.090	6.000
SNA 2 total				
School A	20	3.100	2.125	3.000
School B	13	2.692	1.974	3.000
School C	17	2.824	1.286	3.000
ISP total				
School A	20	5.550	2.819	5.000
School B	13	3.769	2.204	4.000
School C	17	1.471	2.239	0.000

Schools only differed in implementing the ISPs.

CHAPTER 4 (PART C): RESULTS OF THE META SYNTHESIS

Data were analysed with over 15 transcripts of various data sets: semi-structured interviews and FGDs. Codes were added with a prefix (CH and SUGG) to denote their meaning. CH- referred to a code about challenges, whereas SUGG- referred to suggestions. Data in bold

indicate more grounded codes (applied many times) and more prevalent (frequency) using content and conceptual analysis on *ATLAS.ti*. Table 4.33 below shows codes related to challenges with the SIAS toolkit implementation.

Table 4.33 Challenges with the implementation of the SIAS tool kit

	Codes	Grounded	Total
1.	CH-Special Need Teachers	01	01
2.	CH-Availability of parents	**23**	23
3.	CH-Communication	04	04
4.	CH-Curriculum adaptation	01	01
5.	CH-DBST	01	01
6.	CH-Diagnosis unreliable	08	08
7.	CH-DoE benefits	04	04
8.	CH-Enrolment	03	03
9.	CH-Hostel staff	01	01
10.	CH-Identification of barriers	11	11
11.	CH-Implementation	**17**	17
12.	CH-Knowledge	**13**	13
13.	CH-Learner support	**16**	16
14.	CH-Linking of services	02	02
15.	CH-Mainstream curriculum	**15**	15
16.	CH-Nurses	04	04
17.	CH-Orthopaedic shoes	03	03
18.	CH-Occupational Therapists	02	02
19.	CH-Parent scared to complain	05	05
20.	CH-Parent unemployed	04	04
21.	CH-Parents in denial	05	05
22.	CH-Physiotherapists	**15**	15
23.	CH-Progression	**13**	13
24.	CH-Psychologists	03	03
25.	CH-Recruitment and Redeployment policy	10	10
26.	CH-Referral to SBST	03	03
27.	CH-Repetition	08	08
28.	CH-Replacement of crutches	04	04
29.	CH-Replacement of wheelchair	12	12
30.	CH-Vocational skills	04	04
31.	CH-Speech Therapists	02	02
32.	CH-Support structure	**13**	13
33.	CH-Teacher assistant	01	01
34.	CH-Teacher's attitudes	01	01
35.	CH-Teamwork between teacher and therapist	05	05
36.	CH-Therapists	09	09
37.	CH-Training	**19**	19
38.	CH-Transport fare	07	07
39.	CH-Understanding of roles of therapists	08	08
40.	CH-Wheelchair was worn out	10	10
41.	Effect of lack of parent involvement	09	09
42.	Effect of lack of hostel staff	02	02
43.	Effect of delayed referral to SBST	02	02
44.	Effect of lack of implementation	01	01

45.	Effect of lack of physiotherapists	02	02

Content and conceptual analysis showed that the main challenges included availability of parents (Gr 23; Total 23), training (Gr 19; Total 19), implementation (Gr 17; Total 17), learner support (Gr 16; T 16) mainstream curriculum (Gr 15; Total 15), physiotherapists (Gr 15; Total 15), knowledge (Gr 13; Total 13) and support structure (Gr 13; Total 13).

Table 4.34 shows codes related to suggestions for the SIAS toolkit implementation.

Table 4.34 Suggestions to improve the implementation of the SIAS tool kit

	Codes	Grounded	Total
1.	SUGG-Social worker to increase parent participation	04	04
2.	SUGG-Teacher involved in parents' meeting	06	06
3.	SUGG-Advertise post	01	01
4.	SUGG-Assistive technology	01	01
5.	SUGG-Clear roles and responsibilities	03	03
6.	SUGG-Collaboration	**12**	12
7.	SUGG-Communication	06	06
8.	SUGG-DBT involvement	01	01
9.	SUGG-Design of the training	**16**	16
10.	SUGG-Identification of barriers	05	05
11.	SUGG-Learner support	02	02
12.	SUGG-Linking of services	03	03
13.	SUGG-Motivation	01	01
14.	SUGG-Parent participation	02	02
15.	SUGG-Physiotherapists	01	01
16.	SUGG-SBST functional	02	02
17.	SUGG-School to look after wheelchairs	01	01
18.	SUGG-Vocational skills	04	04
19.	SUGG-Suitable curriculum	03	03
20.	SUGG-Therapists	03	03
21.	SUGG-Support structure	07	07
22.	SUGG-Training	09	09
23.	SUGG- Caregivers participation	**22**	22
24.	Effects of physiotherapists	01	01
25.	Effects of teacher assistants	01	01
26.	Effects of therapists	01	01
27.	Effects of training	02	02
28.	School donations	05	05

Content and conceptual analysis showed that caregiver participation (Gr 22; Total 22), design of the training (Gr 16; Total 16), and collaboration (Gr 12; Total 12) were leading suggestions raised by participants as ways to improve the SIAS implementation of the policy through toolkits at the three special schools.

Relational analysis

Data are presented as code-occurrence tables showing the relationship between codes and the strength of their relationship. The higher the value (count), the higher the relationship. The strength of the relationship (coefficient) is indicated in brackets. This correlation coefficient is a single number that measures the strength and direction of the linear relationship between two continuous variables. Values can range from -1 to +1. The correlation size of 0.8 - 1.0 equals a very strong relationship; 0.6 - 0.8 equals a strong relationship; 0.4 – 0.6 equals a moderate relationship; 0.2 – 0.4 equals a weak relationship; and 0.0 – 0.2 equals a very weak relationship (Turney, 2022). I have reduced data by deleting codes that had no relationship with each other. The following part presents a relational analysis of codes relating to challenges with implementation at schools.

Table 4.35 to Table 4.39 illustrate the relationship of codes about challenges with the SIAS tool kit implementation.

Table 4.35 Staff

	Learner support	Effect of lack of hostel staff	Nurses	PT	OT	SW	ST	Therapists	Identification of barriers
Hostel staff	1 (0.06)	1 (0.5)	-	-	-	-	-	-	-
Nurses	-	-	-	1 (0.06)	-	-	-	-	-
Occupational Therapists (OT)	-	-	-	1 (0.06)	-	1 (0.03)	1 (0.03)	**2** (0.22)	-
Physiotherapists (PT)	-	-	1 (0.06)	-	1 (0.06)	1 (0.06)	1 (0.06)	**2** (0.09)	-
Psychologists	-	-	-	-	-	-	-	-	1 (0.08)
Social Workers (SW)	-	-	-	1 (0.06)	1 (0.33)	-	1 (0.33)	**2** (0.22)	-
Speech Therapists (SW)	-	-	-	1 (0.06)	1 (0.33)	1 (0.33)	-	1 (0.10)	-
Therapists	-	-	-	**2** (0.09)	**2** (0.22)	**2** (0.22)	1 (0.10)	-	-
Effect of lack of hostel staff	**2** (0.13)	-	-	-	-	-	-	-	-

The effect of a lack of hostel staff was related to learner support. However, the strength of the relationship was very weak. There was a positive relationship between therapists and Social Workers, although the relationship's strength was very weak. There was a positive relationship between the identification of barriers and psychologists. However, the strength of the relationship was very weak.

Table 4.36 Parents

	Denial	Transport fare	Effect of lack of parents	Implementation
Availability of parents	2 (0.08)	1 (0.03)	**3** (0.10)	-
Unemployment	-	1 (0.10)	-	-
Effect of lack of parents	-	-	-	1 (0.04)

Availability of parents was related to the effect of lack of parents and denial. However, the strength of the relationship was very weak.

Table 4.37 Competency

	Vocational skills	Rationalisation and redeployment policy	Learner support	Knowledge
Mainstream curriculum	1 (0.06)	-	-	-
Enrolment	-	1 (0.08)	-	-
Identification of barriers	-	-	**7** (0.35)	-
Training	-	-	-	1 (0.03)

Identifying barriers had a highly positive relationship with learner support, although the relationship's strength was very weak.

Table 4.38 Teamwork

	Implementation	Knowledge	Rationalisation and redeployment policy	Support structure	Teacher's attitudes	Understanding of roles of therapists	Effect of lack of parents
Teamwork between teachers and therapists	1 (0.05)	-	-	-	-	**3** (0.30)	-
Understanding of roles of therapists	1 (0.04)	-	-	-	-	-	-
Implementation	-	**4** (0.15)	1 (0.04)	1 (0.03)	1 (0.06)	1 (0.04)	1 (0.04)

Implementation was more related to knowledge, although the relationship's strength was very weak. Teamwork between teachers and therapists was related to understanding therapists' roles. However, the strength of the relationship was weak.

Table 4.39 Assistive devices

	Replacement of wheelchair
Wheelchair is worn out	**2** (0.10)

Wheelchair worn out had a positive relationship with the replacement of wheelchair. However, the strength of the relationship was very weak.

The following part presents a relational analysis between codes relating to suggestions to improve school implementation.

Table 4.40 to Table 4.42 illustrate the relationship between codes about suggestions to improve the SIAS tool kit implementation.

Table 4.40 Collaboration

	Effect of therapists	Involvement of Social worker to increase parent participation	Involvement of teachers in parents meetings	Communication	Parent participation	Therapists	Support structure
Collaboration	1 (0.08)	1 (0.07)	1 (0.06)	**3** (0.20)	**2** (0.17)	1 (0.07)	
Clear roles and responsibilities	-	-	-	-	-	-	1 (0.11)
Parent participation	-	-	-	-	-	1 (0.25)	-

The collaboration had a positive relationship with communication and parent participation, although the relationship's strength was very weak.

Table 4.41 Training

	Design of the training
Training	1 (0.04)

Training had a positive relationship with the training design, although the relationship's strength was very weak.

Table 4.42 Learner support

	Identification of barriers
Learner support	1 (0.17)
Suitable curriculum	1 (0.14)

Identifying barriers had a positive relationship with learner support and a suitable curriculum. However, the strength of the relationship was very weak.

A side-by-side joint display was used to integrate all the results. Table 4.43 below displays the implementation of the individual toolkits with the variables of interest, for this research. These variables of interest from each toolkit were cross analysed quantitatively, and inferences were reached.

Table 4.43 Joint Display Analysis for meta-analysis

Side-by-side display to integrate all the data gathered using various data collection tools.

Toolkit	Variable of interest Taken from the toolkit	Results of QUAN data (n=50)	Results of quantified QUAL data (102 data units)	Interpretation
LP	Gross motor screening	34% responded that learners were screened, even though most participants were unsure (62%). The results were similar across schools (p=0.65)	Participants reported the lack of physiotherapists at special schools as a challenge. The challenge with physiotherapists was prevalent (Gr=15) and had positive relationships with other therapists (Gr=2; ρ=0.09) such as occupational therapists and speech therapists (Gr=1; ρ=0.06).	Learners were not screened due to a lack of School-based physiotherapists. The uncertainty from teachers reflected a lack of knowledge. Thus, the need for physiotherapists was highlighted, and even to transfer knowledge to teachers.
	Support relates to disability	Although 74% responded positively, 8% responded that the support they provided learners did not relate to their disability. The schools differed in providing support (p<0.01).	Participants reported challenges with supporting learners (Gr=16). The challenge of learner support was positively related to the effect of having a shortage of hostel staff (Gr=2; ρ=0.13).	Learner support did not only require the involvement of teachers but also of support staff such as hostel staff. The need to increase hostel staff at schools was highlighted.
SNA 1	Area of concern noted	58% responded that they could note the learner's areas of concern, whereas 24 % were unsure how to note them. Thus, the schools differed in this regard (p<0.01).	Participants reported challenges with identifying barriers to learning (Gr=11). The challenge of teachers being unable to identify learning barriers had a weak positive	The more the teachers can identify learning barriers, the more they can support learners. Teachers need to be equipped with the knowledge which can be achieved through therapist collaboration. Thus, the

			relationship with the challenge of learner support (Gr=7; ρ= 0.35) and lack of psychologists (Gr=1; ρ= 0.08).	need for collaboration between therapists and teachers to support learners was highlighted. Psychologists have a role to play by conducting cognitive assessments on learners to indicate their level of cognitive functioning. The availability of psychological reports would assist in placing learners in the right special school where they will be better supported academically. Thus, the need for educational psychologists was highlighted.
	Parental participation	Only half of the participants (50%) reported that parents were consulted when discussing whether a learner was needed. The results were similar across schools (p=0.25). However, parents were not co-signing with the teacher on the SNA 1 toolkit to show that they have both agreed on how to support the learner (36% of the 50%). The findings were different across schools (p=0.04).	The challenge with the availability of parents was more prevalent (Gr=23). Teachers complained of parents being unable to help them complete SNA 1. As a result, the unavailability of parents was more related to the negative effect (Gr=3; ρ=0.10) it had on the toolkit's implementation (Gr=1; ρ=0.04). In addition, there was also a positive relationship between parents being in denial (Gr=2; ρ=0.08) and not having transport money to travel to schools (Gr=1; ρ=0.03) due to unemployment (Gr=1; ρ=0.10). The challenge of parent participation had a positive relationship with lack of collaboration (Gr =2; ρ=0.17) and therapists (Gr=1; ρ=0.25). A suggestion was to involve Social workers (Gr1; ρ=0.0) and teachers (Gr=1; ρ=0.06) during parent's meetings.	Parents' involvement in SIAS policy was lacking and had a bearing on the implementation of the SNA 1 toolkit by the class teacher. Considering that parents were unemployed and had challenges with money for transport, a concession for parents was therefore highlighted. For example, parents could discuss ways of supporting the learner with the teacher telephonically and sign the toolkit at the nearest school. This would require collaboration among schools. As indicated, therapists and parents had a positive relationship; therefore, therapists could collaborate with parents to support the learner at school. The need for collaboration among teachers, parents and therapists was highlighted.
SNA 2	Functionality of the SBST	Although the majority (72%) reported that their SBST was functional, it was different across schools (p<0.01). At least 20% reported that they were not sure. The functionality of the SBST was also reflected	A challenge with support structure at schools was reported (Gr= 13). The lack of support structure had a positive relationship with not having clear roles and responsibilities within the SBST (Gr=1; ρ=0.11).	There is a need to strengthen support structures like the SBST and to clearly define roles and responsibilities within the committee to improve the implementation of the SIAS policy at schools. There is also a need to foster collaboration between teachers and therapists in order for the teachers to

		in the ISPs. A low percentage of the participants reported that half the time: Stakeholders were held accountable (44%), and ISPs had review dates (42%) within reasonable time frames (38%). These findings differed across schools (p<0.01), respectively.	Lack of teamwork between teachers and therapists was related to poor understanding of therapists' roles (Gr=3; ρ=0.03), which also affected implementation (Gr=1; ρ= 0.04).	have a better understanding of their roles and responsibilities in the SBST.
	Referral to SBST	22% of teachers reported that learners were referred to the SBST when needed; however, the majority (74%) made referrals sometimes. The findings were similar across schools (p=0.44).	The challenge with implementation (Gr=17) was reported. The lack of learners' referral with barriers to learning to the SBST to receive relevant support was hindered by teachers due to a lack of knowledge and negative attitudes. As a result, lack of implementation related positively to lack of knowledge (Gr=4; ρ 0.15) and teachers' attitudes (Gr=1; ρ= 0.06).	There is a need to provide training on the SIAS policy for teachers to gain knowledge and develop positive attitudes.
ISP	Availability of ISPs	Only 40% reported that learners had ISPs developed, whereas the majority (50%) reported they were developed about half the time. The findings differed across schools (p=0.02).	The challenge with learner support was reported (Gr=16). Challenges with learner support were positively related to challenges in identifying learning barriers (Gr=1; ρ=0.17). ISPs require collaboration and effective communication with stakeholders. Thus, lack of collaboration was positively related to challenges with communication (Gr=3; ρ=0.20).	The need for collaboration and effective communication within the SBST and amongst teachers, therapists and parents was highlighted.
	Training	Only 40% of the participants reported they received training on SIAS policy.	In addition to knowledge, teachers reported challenges with the SIAS policy training (Gr=19). The training was positively related to the training design (Gr=1; ρ=0.04) regarding the duration.	There is a need to improve the design of the SIAS policy training at schools, meaning how training needs to be delivered.

Summary

The implemention of the SIAS policy through toolkits at special schools is summarised into three components: opportunity, thread and gaps. These three components are colour-coded with light traffic colours to denote meaning. The first component is opportunities, highlighted in green. This component refers to things the schools were doing well at but could still improve. For instance, SBST committees have been established, LPs and SNA 1 toolkit were in place at these schools. Some efforts were made to reach out to parents though not effective. The second component is threats, highlighted in yellow. This component refers to things the schools were doing wrong and need to be careful about. This included the once-off SIAS policy training targeted at SBSTs and not all educators' and progressing learners without relevant support. The third component is the gaps highlighted in red. This component refers to things the schools were not doing. These included a lack of Circuit-Based Support Team (CBST), SNA 2, ISPs, vocational skills curriculum, curriculum differentiation and collaboration. This summary is best illustrated in Figure 4.3 below.

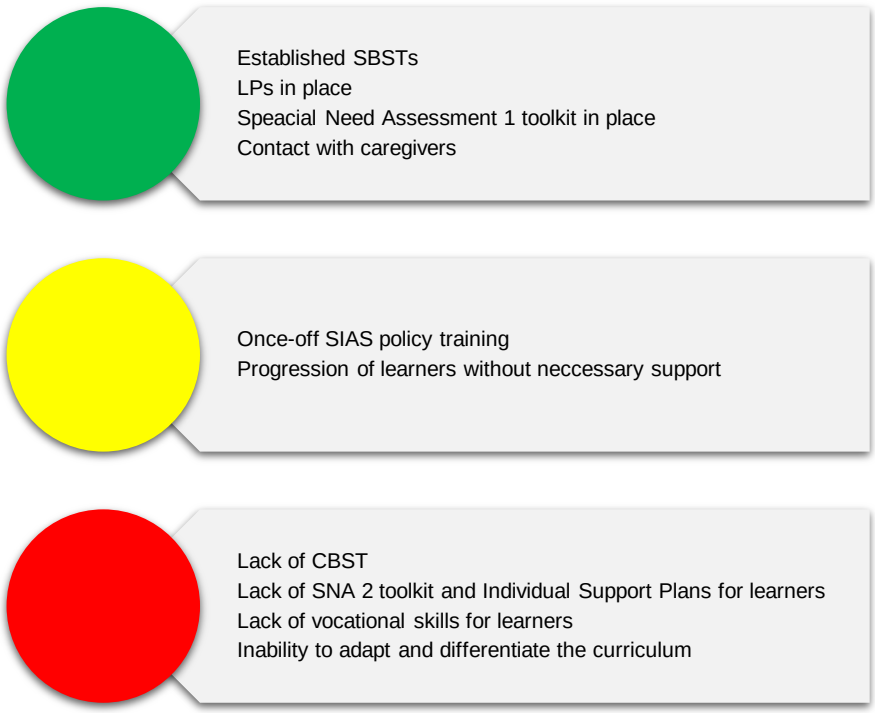


Figure 4.3: Summary of the implementation of SIAS policy at special schools.

In the next chapter, the results of the study are discussed.

CHAPTER 5: DISCUSSION

In line with the mixed-method parallel convergent research design, the results are discussed after the point of convergence to convey integration (Figure 3.1). The integration resulted in one set of results for discussion. The discussions follow the SIAS process meaning individual toolkits (LP, SNA1, SNA 2 & ISP) are discussed in detail. First, the response rate from the data collection tool of the quantitative study is discussed.

5.1 Response rate

Mutepfa and Tapera (2018) study titled *traditional surveys and questionnaire platforms* encouraged researchers not to compare social media and traditional data sources. These authors reiterated that researchers should select the appropriate data collection method based on the cost, time frame, topic, type, goal and geographical site of the research (Mutepfa & Tapera, 2018). The researcher initially intended to conduct online surveys with participants because they were widely scattered geographically. An online survey would have been convenient and less costly. However, participants alerted the researcher of network challenges in their areas after waiting for a month and not receiving survey responses. The researcher overlooked cellphone network issues in her planning, especially in Limpopo Province, a rural province (Malatji, 2020). Data connectivity is reported to be an ongoing challenge in Sub-Sahara Africa.

Thus, paper surveys were feasible for this study. This shows that even if the world is moving towards the Fourth Industrial Revolution (4IR), paper surveys will still have a place in research (Mutepfa & Tapera, 2018). Paper surveys were expensive when travelling to the special school in different districts. There is also a risk of missing values in paper surveys (Ebert, et al., 2018). It could be that participants are completing them in a rush. In this study, missing values were on age, and six female participants did not fill in their ages.

Paper surveys reduced bias by offering a more representative sample of the population (Ebert, et al., 2018). High sample representativeness was evident in Table 4.4, indicating that School A (71%) and School B (83%) were highly represented. Sample representativeness from School C (49%) was borderline. The study had a non-response bias of 35%.

The study had a high response rate of 65% using a paper survey. Nisar and Siddiqui (2019) recommended an acceptable response rate of around 60%. The high response rate in this study may be due to educators' special interest in the SIAS policy or prior interactions when explaining the purpose of the research and clarifying their concerns.

The SIAS policy toolkits (LP, SNA 1, SNA 2 & ISP) are discussed under their own sub-headings to have a systematic flow of the contents of this chapter. Bronfenbrenner's ecological

model principles underpin the discussions as a theoretical framework, the International Classification of Functioning, Disability and Health Model as a conceptual framework and the Dialectic Pluralism as a metaparadigm.

5.2 Participant charecteristics

Data were collected from educators at special schools for learners with physical disabilities. First, the demographics of educators are discussed.

5.2.1. Gender

Overall, the majority of participants (86%) were females (Table 4.17). This finding aligned with Subramoney's (2017) study, where the researcher assessed support strategies in inclusive education amongst educators in the foundation phase. The participants were also females in their majority. According to Moosa and Bhana (2017a), most educators worldwide are women in primary school education. The special schools that participated in this study were primary schools with grades R to 7. There was only one special school with classes up to Grade 12. Moosa and Bhana (2017b) believed that teaching younger children required nurturing and caring, and those attributes were associated with women. Furthermore, teaching in the foundation phase was not viewed as a masculine profession. Hence, only a few male participants (14%) were found in the special schools that took part in this study (Table 4.17). In general, South Africa has a gender imbalance within the education profession. According to the Organisation Economic Co-operation Development (OECD) Teaching and Learning International Survey (TALIS), results for the year 2018 amongst lower secondary teachers in mainstream public and private schools showed that 3/5 (60%) educators in South Africa were women (TALIS, 2018). It appears that more women are taking teaching as a profession compared to men.

5.2.2. Age

The mean age of participants from the three special schools was 48 years which was higher than the mean age (44 years) of teachers across OECD countries (United Kingdom, Canada, New Zealand amongst others) participating in TALIS (TALIS, 2018). Only participants from School A were on par with the average age (44 years) of teachers in OECD countries. Schools B and C had mean age of 52 years. These schools risk losing educators due to old age if the DoE does not recruit new educators in the next eight (8) years. The failure to replace educators at schools will place more strain on the remaining educators. It will likely reduce the quality of education. Maphalala and Mpofu (2019) noted that the supply and demand of educators in South Africa were challenging. Fifteen thousand new teachers were being produced per year from teaching institutions. This figure was below the twenty-five thousand mark required to maintain an effective teacher-pupil ratio.

5.2.3. Years of experience

The mean years of experience participants have worked at special schools was 16.7 years (Table 4.18). This finding differed with teachers who participated in the study by Hess (2020) whereby the researcher investigated the perception of the implementation of the SIAS policy in mainstream schools. Participants in the above mentioned study were found to have qualified more than 25 years ago. This finding implies that this cohort of educators started working before the launch of the SIAS policy in the year 2014. This explains the lack of knowledge in the SIAS policy implementation and the inability to identify learning barriers. SIAS policy workshop service providers should be aware of this issue.

5.2.4. Highest level of education

Overall, the majority of participants (74%) had attained a Bachelor's degree (Table 4.17). This finding is impressive for South Africa. The OECD TALIS report found that about one in five (20%) teachers attained a Bachelor's qualification (TALIS, 2018). A bachelor's degree is required to become a teacher in South Africa. Teachers with a bachelor's degree can teach grades 1 to 12 wheras those with a diploma teaches Grade R (DBE, 2021). Thus, it appears that most teachers were teaching Grade 1 to 12. A small proportion of participants (4%) obtained a Master's degree which was similar to the trends seen in the OECD TALIS report (TALIS, 2018). Few educators (2%) were in possession of a postgraduate qualification in the form of a Master's degree in this study (Table 4.17). Most educators were not in possession of a higher postgraduate qualifications as it does not qualify them for a promotion nor a higher salary at work (Mbokazi, Mkhasibe & Ajani, 2022). Most of these educators (86%) were on the Curriculum Specialist / post level 1 which is the entry level.

5.2.5. Disability

Statistics in South Africa regarding educators at schools living with disabilities are scarce to non-existent. The Disability Teachers Network (DTN) survey also found a lack of research on statistics on teachers living with disabilities (Disability Teachers Network, 2018). In this study, only three educators (n=3) declared they had a disability (Table 4.17). In the United Kingdom, statistics from the DoE indicated that less than 1% of educators were disabled (Lepkowska, 2012). This reflects the low statistics that is reported on educators living with disabilities. Thus, statistics regarding disability amongst educators may not be reliable as it depends on self-reporting, and some educators may withhold the information.

The following sub-section discusses the components of the LP.

5.3 Learner Profile

5.3.1 Gross motor screening

The item on gross motor screening is included in the learner profile (a component of the SIAS toolkit) (DBE, 2014). The administration of the LPs involves screening learners for school

admission (DBE, 2014). According to the school admission policy by the DBE (DBE, 2021), learners admitted to Grade R should be between four and five years old. In the gross motor screening component, educators were unsure whether learners were screened for gross motor. The uncertainty was due to the lack of knowledge of screening tests for gross motor function and the confusion about who should conduct the test. Another reason was the lack of physiotherapists at special schools to carry out screening tests. This confusion brought about inconsistencies ($p<0.01$) with implementation. There was only one school (out of the three) for learners with motor-related physical disabilities with a school-based physiotherapist.

Learners are typically screened by their educators, otherwise known as the admission committee at the schools. Although screening tests do not make a formal diagnosis, they assist in identifying learners with particular challenges in the domains of development (Hatch, 2022). Additional documents are always requested to complete the screening process. These documents include but are not limited to Road to Health booklet, Integrated School Health Programme reports, school reports, reports from professionals (therapists), parents, teachers and other relevant stakeholders (DBE, 2014).

5.3.2. Disability of learners

Document review of the Learner Profiles for Grade R (reception year) learners (schools A & C) showed the different disability types that were recorded. The majority of learners (85%) had CP recorded as the type of disability in the learner profile. This finding was supported by literature as it depicts CP as the most common cause of childhood disability (Oskoui, et al., 2013; Stavsky, et al., 2017; Mohamed Madi, Mandy & Aranda, 2019). The other types of childhood disabilities were less represented, accounting for less than 10 per cent each (5%). These were Muscular Dystrophy Disorders, Hydrocephalus and paraplegia. The prevalence of Muscular Dystrophy Disorders (Duchenne & Becker) differs between developed and developing countries. For instance, in Africa, there is a low frequency (1.7%) compared to Latin Americans (5.1%) (Salari, et al., 2022). The prevalence of hydrocephalus was as high as 88%. The frequency was notably lower in high-income countries (Isaacs, et al., 2018). This may be as a result of more patients in low income countries having a high incidence of neural tube defects and postinfectious etiology (Isaacs, et al., 2018). This finding differed from data collected at the special schools document review of the Grade R learners' SIAS toolkits. On the other hand, paediatric paraplegia due to spinal cord injury was reported to be rare. The incidence was estimated at 0.49 % children under 16 years (Sharpe, et al., 2013). Thus, the frequency of children with paraplegia found at the special school (schools A & C) represented the prevalence rate reported in the literature.

It is important to note that classes in special schools generally accommodate fewer children than in mainstream schools. In a statement by the minister of education, there is no policy on

class sizes but rather ideal maximum class sizes. For state-paid educators, it is thirty-five learners per class, and in special schools, it can be fifteen (Independent Online, 2022). For instance, School A had twelve learners, whereas school C had only nine. This shows there still space to accommodate more learners to reach the recommended class size. More intake of learners will reduce the number of learners that are not yet in schools. However, the low capacity and few special schools, some learners are still excluded due to exclusion practices (despite efforts to include children with disabilities) attributable to inaccessibility, discrimination and lack of resources (Makwela & Smith, 2022).

There are insufficient physiotherapists in South Africa. As per the Health Professions Council of South Africa (HPCSA) registrar last updated 1st July 2021, there were 8345 registered physiotherapists (HPCSA, 2022) against the population of 58 million (57.790000). This gave an estimated physiotherapist: population ratio of 1:7472. The shortage of physiotherapists is a challenge in most developing countries, including the Philippines.

In the Philippines, therapists (speech and physiotherapists included) were primarily based in the big cities rather than rural areas (Valenzuela, 2017). They supported schools using outreach services twice monthly (Valenzuela, 2017). Most physiotherapists in Limpopo Province (Republic of South Africa) are based in public rather than special schools. Therefore, teachers are found to be conducting basic screening tests and referrals in addition to their workload due to resource constraints (Dhanesha, et al., 2018; Hatch, 2022). Data from screening is used to refer identified learners to relevant specialists for thorough assessment and support. Furthermore, the screening results assist in developing individual education plans for learners, lesson planning for educators, allocation of resources by the school, and continuous teacher development through training (Hatch, 2022).

Thus, screening at schools is essential to ensure that learners are not restricted from participating in sports and other activities at school. Learners needing assistive devices (elbow crutches, walking frames and wheelchairs) and concessions would also be identified during the screening process. Most learners at the special schools were diagnosed with CP, meaning relevant screening tests will be used. Some learners were also affected in other domains of development because they had associated intellectual disabilities. (Patel, et al., 2020). In this case, a screening test has to be modified with activities that can be adapted to allow for general use across the accompanying conditions.

As a result of a shortage of physiotherapists, those at the district level have a role in selecting a screening tool and training teachers and support staff on how to apply it and interpret scores (Downs, et al., 2020). This arrangement would be a standing protocol that needs to be followed with all learners enrolled and seeking admission at special schools. Physiotherapists at the district level would need to provide on-site training on screening tools in order to demonstrate

to teachers with learners. In another study, teachers were trained On-site screening for visual impairment at schools to mitigate the shortage of specialised support services. Their scores were compared with the optometrist, and teachers who failed had to repeat training until they passed (Dhanesha, et al., 2018). This implies that training should not be a once-off event but continuous. The ability of teachers to screen learners for visual impairments was proven to be cost-effective in a resource-shortage setting. Where schools cannot afford to pay the salaries of physiotherapists, the route of sharing knowledge and skill empowerment is indicated.

With the implementation of the LPs, the components of the ICF, such as the health condition and body function, activity and participation be incorporated. The nature of the disability of the learner informs the stakeholders involved in the caring and rehabilitation of the learner of the parts of the body that are affected. Learners with CP have more than one affected body part due to accompanying CP-related conditions (Patel, et al., 2020). The LP also portrays the roles of stakeholders at the school and facilitates active participation. The caregivers must bring supporting documents (as mentioned above), and physiotherapists conduct gross motor screening whilst educators capture all relevant information about the learner. In line with the ecological model, this is at the microsystem level. Knowledge of the learner's health condition, affected body structures and findings from the screening conducted to assist in providing relevant support on an ongoing basis. Such would bring consistency in schools when implementing the LPs in the SIAS process.

5.4 SNA1

The information of learners identified as having barriers to learning during the screening process would be captured on the SNA 1 form (a component of the SIAS toolkit) by the class teacher (DBE, 2014). The SNA 1 toolkit is the form that had to be filled in by the educator who identified learning barriers and, together with the parent, agreed on better ways to support the learner (DBE, 2014).

The results (Table 4.21) from the special school showed a statistical significant difference ($p<0.05$) in identifying areas of concern, even though the purpose of the SIAS toolkits is to provide uniform procedures to screen, identify, assess and support learners. This finding indicated the need to use standardised tools specific to physiotherapy to identify learners with barriers. The study by Struthers (2005) and Moleme (2020) showed that educators had challenges identifying learning barriers, especially neurodevelopmental ones. This finding was also similar to my findings among educators. The challenge with identifying barriers to learning was attributable to various factors (amongst others) undergraduate training, lack of human resources and lack of parent participation.

5.4.1. Undergraduate training

The study by Hess (2020) found that inclusive education has not always been incorporated into the undergraduate curriculum. Thus, a particular cohort of educators would be challenged to identify learning barriers. However, a cohort for those with less than 10 years of working experience reported that modules dealt with inclusive education and addressing learning barriers in the curriculum. However, there was no real focus on the SIAS policy, as it was only implemented in 2015. The Limpopo Department of Education is mitigating this knowledge gap by sponsoring educators registering for postgraduate certificates and Master's degrees in inclusive education through ETDP SETA (Schooling sector skills plan 2019 – 2020). Only 4% of participants whom were school principals had obtained the Masters' degree. Thus, majority of educators lacked knowledge in the SIAS policy.

5.4.2. Human Resources

According to the South African Human Rights Commission (SAHRC) report in Limpopo Province, posts have not been filled since 2015, hence the chronic shortage of human resources in the Limpopo Department of Education. This finding was accentuated in the report about the implementation of EWP6 from 2013 to 2018. It was highlighted that special schools did not have adequate specialist professional support and non-teaching staff (Report of the Implementation of EWP6, 2015). Participants suggested that Rationalisation and Redeployment policy led to shortages of posts and educators. However, it ensures equity and redresses human resources challenges (White Paper on Education and Training, 1995). Provincial Education Departments are guided by this policy to redeploy educators from over-staffed to under-staffed institutions (Resolution 6/98 of Educators Labour Relations Council). However, this policy has been misinterpreted and causes low morale amongst educators (Mgojo, 2019) in that they do not view it as a solution towards human resources challenges. To mitigate the shortage of educators, especially in Limpopo Province, vacant posts must be filled at special schools. Educators' posts may either be temporary to relieve the pressure or permanent to maintain stability.

5.4.2.1 Physiotherapists

Demographics of physiotherapists employed by the Limpopo DoE are discussed below. Seven participants (n=7) took part in the FGDs.

5.4.2.1.1 Gender

A high proportion (4/7) of physiotherapists were females compared to males (3/7). These results reflected the trend that the physiotherapy profession consists of more females than males globally (Stevens, et al., 2017; Manamela, et al., 2020). In line with the demographic distribution of physiotherapists from the Health Professions Council of South Africa (HPCSA) register up to the year 2018, females were more than

Four-fifths (83%) in the majority (HPCSA, 2018). Despite females dominating the profession, it was also interesting to note that the distribution of male physiotherapists was growing. The results gave the impression that in future, the gender disparities within the profession would be narrowed or balanced.

5.4.2.1.2 Age group

The majority of the physiotherapists (n=4) were adults over the age of 40 (ranging from 29 to 48 years). In South Africa, a career in physiotherapy can start as early as twenty-one years, especially if there are no gap years. The reason most of the physiotherapists were above the age of 40 years was that the post for the DBST required candidates to have a minimum of ten years of working experience. Hence, the participants' working experience was between ten and fifteen years. However, depending on the universities' incorporation of inclusive education policies in their undergraduate modules, ten years of working experience will be a long time for graduates to wait if they posess the knowledge.

5.4.2.1.3 Employment

More than 45 (86%) worked at the district level under the Inclusive Education directorate. The Western Cape High Court, following a complaint from the Western Cape Forum for Intellectual Disability (WCFID), has directed the DBE (WCFID, 2010; case no 18678/2007) along with other national government departments to support the provision of quality education to learners with Severe to Profound Intellectual Disabilities. The DBE responded with a conditional grant for providing education at Special Care Centres for learners with Severe to Profound Intellectual Disabilities. Thus, nine Provincial Education Departments recruited itinerant physiotherapists to be integral to the DBST. Limpopo Department of Education employed fewer school-based physiotherapists (n=1) and more district-based (n=7) physiotherapists. The education sector has seen more physiotherapists appointed in the district level than when there was no special grant.

The situation in Limpopo Province is that of the three academic, special schools for learners with physical disabilities; only one school-based physiotherapist is appointed. The other therapists' posts remain vacant (SAHRC, 2021). The shortage of physiotherapists in schools where there are learners with special needs is a global concern. For instance, learners have problems with muscle tone, muscle stiffness, abnormal movements and poor balance, which affect their participation in learning activities in class (Patel, et al., 2020; Harjpal, et al., 2022). With the shortage of physiotherapists, learners' functional levels deteriorate as the severity progresses. Educators in India noted that when learners become teenagers, the severity of their physical barriers tends to affect their self-esteem (Gulwani, 2022). Therefore, learners are prone to restricted participation academically and socially. Therefore, as the Limpopo DoE acknowledges that they have a serious shortage of physiotherapists when they advertise

posts, they should consider benchmarking their salary offer and benefits, such as rural allowance from the Department of Health, so that the offer can be attractive for physiotherapists to apply. It is reported that (Gulwani, 2022) physiotherapists at schools earn less than physiotherapists employed by the Department of Health.

The meta-synthesis results (Table 4.34) showed a positive relationship among therapists (physiotherapists, occupational therapists and speech therapists), social workers, nurses and psychologists. This positive relationship calls for an active interdisciplinary collaboration of professionals to identify learners with barriers to learning as they are varied. Such interdisciplinary collaboration was displayed in Ghana during learner admission (Nyaaba, Aboyinga & Akanzire, 2021). Professionals from different departments (Health, Social Development and Education) were involved in the identification of learners with barriers to learning and collectively reached a consensus on where to place (type of school) them such that they will be optimally supported (Nyaaba, Aboyinga & Akanzire, 2021). This approach has not yet been adopted nor practiced in South Africa as the system is fragmented. For instance, the creation of the CBST is still not yet implemented. Hence, the SIAS policy recognises support from the DBST. Learners can be placed in a mainstream, special, or full-service school, according to the level of support required (DBE, 2014).

5.4.2.2 Psychologists

Although schools are not privileged to have Educational Psychologists (due to shortage as per the HPCSA register), learners were expected to have undergone psycho-educational assessment (Korthals, Schils & Borghans, 2022) in order to be placed in the correct programme. Parents were referred to the Department of Health for these assessments if they could not afford to pay psychologists in private practice. The majority of parents opted for government facilities, but bottlenecks in the system caused delays. The implication was that learners were not placed appropriately according to the level of support they needed and might not benefit from the curriculum the school provides. Reassessment is required every two to three years to review the learning strengths and weaknesses of the learner (Australian Psychological Society, 2022). This allows time for support interventions from educators, physiotherapists and all other stakeholders before the learner gets re-evaluated and support is adjusted. However, there is a delay in renewing these assessments following admission into the school. Often, parents do not return to service providers for re-assessments as they are costly for those utilising private practitioners or the public sector does not have capacity in terms of human resource to conduct re-assessments for learners. This delay has a bearing on the identification of learners with barriers to learning.

5.4.2.3 Hostel staff

The non-teaching staff in this study refers to the hostel staff, such as housemothers. There was a positive relationship between the identification of barriers and lack of hostel staff and the effect of the lack of hostel staff (Table 4.34). The finding implied that hostel staff members (housemothers/fathers) played a role in identifying learners with barriers to learning. The hostel staff members were better placed to inform the educators and support staff about challenges learner experiences regarding ADL's and furniture in the hostel. Furthermore, they can advocate for more personnel, especially housefathers, to assist the male learners. The Limpopo Education Department alluded that School Governing Bodies (SGBs) could appoint support staff using their available funds to bridge the gap whilst pending the filling of vacant posts (Dispatch LIVE, 2021). Due to school budget constraints, they can only appoint a limited number of these staff. Hostel staff members could form part of the admission committee with educators, physiotherapists and other support staff members to form a consensus on the number of learners to be admitted to the hostel based on the staff: learner ratio. This collaboration would ensure that learners with learning challenges are identified and supported.

5.4.2.4 Parent participation

Demographics of caregivers for Grade 7 learners in Schools A, B and C. There were eleven (n=11) participants in the semi-structured interviews.

5.4.2.4.1 Gender

Almost all participants (n=10) were females, and only one (n=1) was male (father). Of these, the majority were primary caregivers (biological mothers) (n=9), and few (n=1) were secondary caregivers referring to aunt and grandmother. These results reflect what was found in the study where caregivers' perceptions of caring for children living with Long Term Health Conditions were explored (Dhada & Blackbeard, 2019). Females comprised the majority of participants (100%) compared to males. Similarly, biological mothers took up the responsibility of caregiving (Dhada & Blackbeard, 2019).

5.4.2.4.2 Age

There was a tie with caregivers in the thirty to forty years (n=3) age band, forty-one to fifty years (n=3) and fifty-one to fifty-five years (n=3) age band. The under thirty and beyond 45 years age band was represented by one caregiver (n=1), respectively. Caregivers ranged from 33 to 55, with a mean age of 44.

5.4.2.4.3 Employment

About half of the caregivers (n=5) were employed in the educator, clerk, nurse and domestic worker categories, whilst more than half were not employed. Contrary to the study by Dhada and Blackbeard (2019), my study showed a balance between employed and unemployed

caregivers. It is the researcher's opinion that CP as a childhood disability occurs even in the working class. This is also because there are high litigations against hospitals due to negligence on the part of the staff which result in the high number of children with CP.

5.4.2.4.4 Disability

The parents of learners with special needs are reported to experience mental and physical health issues (Marquis, Hayes & McGrail, 2019; Mkabile, et al., 2021). Caregivers in this study reported no disability, meaning they were not living with disabilities. This was based on self reporting and no assessment was conducted. Furthermore, a question asked was limited to physical disability and not other health issues. This made it difficult to report on mental health.

5.4.2.4.5 Parent participation

Participation of parents is emphasised in the SNA 1 form. Parents/caregivers must co-sign with the educators on how best the learner can be supported to overcome barriers to learning (DBE, 2014). Parental school involvement is known to yield better academic and behavioural outcomes for learners (Wong, et al., 2018; Barger, et al., 2019). Their involvement will enlighten stakeholders such as educators and therapists on properly supporting their children. Thus, the success of the implementation of SNA 1 depends on active participation from caregivers.

However, the document reviews revealed gaps in filling in the toolkits due to a lack of information not supplied by caregivers. There was no proof of parental intervention signatories, and most commented that parents were not responsive. This finding was similar to Subramoney's (2017) and Von Solms's (2020) study, where partially filled forms led to delayed referrals to the SBST and DBST. The researcher gained insight through engagement with parents' semi-structured interviews and educators' focus group discussions. Educators have attributed this challenge (availability of parents) to parents lacking interest in their children and being in denial. The lack of interest from parents was also a finding in the study by Moleme (2020) and Von Solms (2020), where the participants speculated that perhaps parents believed that educators should know how to support their children.

On the other hand, parents had financial constraints as they were unemployed. Parents were living far; consequently, they could not afford to pay for transport to visit schools during the term except for opening and closing days of the schools. The researcher asserts that the three dedicated special schools for learners with physical disabilities in Limpopo Province are insufficient; hence, there are enrolled learners from afar. The study by Philpott and McLaren (2011) found that caregivers were frustrated and disappointed by the lack of schools in their communities to educate Children with special needs. As a result, some caregivers would opt to keep them in their homes. However, they would be violating their children's right to receive an education. Strategies to improve parent participation should consider the geographical

locations of parents. The School Governing Body (SGB), which is the body that represents parents, should be engaged more on how to get individual parents to participate in the SIAS policy. To mitigate the challenges of poor parent participation at schools, the SGB member closer to the school can advocate for learners and collaborate with educators on behalf of parents. As the SGB, they can represent the parent/caregiver in implementing the SNA 1 toolkit. The SGB would have the best interest of the parent who cannot visit the school at heart and simultaneously catalyse the provision of support to learners in demand. The SGB would need to obtain informed consent from individual parents in the school.

Another strategy will be to decentralise the learner's SIAS documents to the nearest school (any school) the parent can reach. This arrangement would need the two schools to collaborate and be in a position to explain further and clarify any concerns to the parents.

Although this has been mitigated with boarding facilities, parents are still inconvenienced. These schools must explore alternative ways to engage parents/caregivers besides their physical presence. Educators used the parents' cellphones to contact them. However, they reported that SIM cards are constantly changing and network issues are in other areas. The researcher experienced this challenge when calling parents to request their participation in the study. The school also did not have reliable contact numbers for parents, as most lines were invalid. This implied that schools also had challenges reaching parents when they needed to. Parents should be encouraged to update their contact details with the schools so that they can be reached in cases of emergency. Grobbelaar (2020) believed that School Management Teams (SMTs) should encourage teachers to inform parents of their role in the SIAS policy. In the researcher's view, these empowerment sessions are essential as parents may indicate to teachers their preferred methods of communication and how involved they want to be in the SIAS policy.

Another way to obtain the participation of caregivers in the SIAS policy is if the function of the LURITS system on SASAMS is decentralised to the circuit. In the case of Limpopo Province, the researcher would not recommend decentralisation to the districts because the areas are widely dispersed. Thus, school circuits are in closer proximity to the community. Limpopo Province has between five and 10 education districts, with 114 circuits, showing how widely dispersed the province is. The learner's SIAS toolkits can be sent to the local circuit of the learner so that the caregiver will not need to spend much money on transport. The caregiver will be engaged on issues and means of support the special school renders to the learner. This will be a great opportunity for the caregiver to add recommendations and sign the SNA1 toolkit to allow the educator and the school to provide relevant support for the learner. Thus, the administration of SIAS toolkits needs decentralisation from the special school to any other

school closest to the circuit. This decentralisation uses a devolution strategy (Liwanag & Wyss, 2018).

The Circuit-Based Management Team (CBMT) will be responsible for loading and tracking toolkits for each learner on LURITS. This approach of decentralising services is used in the health sector (Liwanag & Wyss, 2018). Health services are brought closer to the community members. In addition, the authors reiterated that the multi-stakeholder approach and implementation monitoring were some conditions enabling effective decentralisation. In the case of education, the school and the circuit stakeholders need to collaborate closely and continuously monitor the capacity of the circuit to manage LURITS and to adopt the case manager responsibility between the schools and parents. The decentralisation approach has been reported to increase the utilisation of services needed in the education sector on the SIAS policy. More caregivers need to be involved in order to enhance implementation.

It is therefore highlighted that with the implementation of SNA 1, the components of the ICF, such as activity limitation and participation restrictions, are incorporated. A learner with barriers to learning is not identified because teachers are limited in their scope to identify barriers outside the curriculum. As a result, unidentified learners with physical disabilities affecting hand function, balance and gait are restricted with mobility (Patel, et al., 2020; Degerstedt, et al., 2019). In this case, fear of falling and sedentary lifestyles hinder full participation (Degerstedt, et al., 2019). In line with the ecological model, this is at the microsystem level where the learner is affected. The poor relationship between educators and caregivers, resulting in information gaps in the SNA 1 toolkit, affects the learner at the mesosystem level.

5.5 SNA2

At this stage, the teacher approaches the SBST when the intervention does not yield positive results (DBE, 2014). The SBST completes an SNA 2 form (a component of the SIAS toolkit). The SNA 2 form is used to review learning barriers identified by the teacher and the support provided in addressing the barriers. Thus, the SBST supports the teacher and learner (DBE, 2014).

As indicated above (under SNA 1), incomplete forms, due to lack of information from parents, hindered teachers from assisting learners. This is another area where the SBST can support teachers, implying that reaching out to parents should not become the teacher's responsibility alone. A lack of referrals greatly hindered the learners' support (Table 4.34). Furthermore, most educators (74%) did not consistently refer identified learners to the SBST (Table 4.34). This inconsistency was attributable to a lack of knowledge, according to the participants in this study (Table 4.34). Inevitably, a lack of knowledge leads to a lack of implementation by the SBST.

Similarly, the Von Solms (2020) study found that the challenges of implementing the SIAS toolkits were compounded by a lack of knowledge, negative attitudes and the extra paperwork required by educators and the SBST. The researcher was enlightened during the document analysis of the SIAS toolkits. Information gaps in the toolkits resulted not only from parents but also because educators did not know what to fill in. Although participants in the current study did not report on the challenge pertaining to the extra paperwork required, the findings can be related. Suppose the implementation of the SIAS toolkits is seen as an administrative burden. In that case, learners' toolkits will be incomplete, and few cases will be referred for support. The SBSTs have to be functional and empower teachers about when to refer cases to them.

The results from Table 4. 23 showed that the functionality of SBSTs across the participating special school differed significantly ($p<0.01$). This inconsistency showed that the functionality of the SBSTs in most schools was still unresolved (Mpanza & Govender, 2022). Functionality pertains to existence and performance. Although the special school had established SBSTs, the members were school management (usually three people). In a FGD from another school, teachers did not even know about the SBST. The study by Makhalemele and Tlale (2020) found that the SBST at certain schools could not function optimally due to poor leadership displayed by school principals in selecting committee members. It was found that SBST members comprised the school principal's favourite educators. This selection by principals made it challenging to provide the necessary support (Makhalemele & Tlale, 2020). There has to be objectivity in selecting committee members of the SBST, and accountability is expected. The school principals may appoint SBST members to serve on a rotational basis to overcome issues of non-performance. Thus, school principals need to be equipped with leadership skills.

Regarding performance, meetings were not being held, and cases of learners were not being followed up. Thus, this is how the SBSTs were reported to be dysfunctional. In addition, the dysfunctionality of the SBST was related to a lack of clear roles and responsibilities within the SBST (being only teachers) and between teachers and therapists (Table 4.34). That had a negative impact on the SIAS toolkit implementation. These findings concurred with those from a study by Skrypnyk, Martynchuk, Klopota, et al. (2020) in Ukraine. They found low organisation-level meetings between educators and the support teams; educators preferred to work independently; learners' accompanying documents (only teacher's documents to prepare reports were available and not for support teams) were not being developed, which indicated a lack of teamwork between teachers and support teams, the objectives of the learners' education and development did not reflect their actual situation meaning they were not formulated according to the learners' current situation. Teachers, parents, and the support team did not agree on the goals concerning the learner. It appears there is still some resistance towards collaboration at schools. However, it is indicated in providing support to learners and

implementing the SIAS policy in this context. The SBST mainly focused on supporting learners instead of learners and educators (Makhalemele & Tlale, 2020).

The other findings from the FGDs revealed that most educators, including the SBST, were not trained on the SIAS policy. Those trained (40%) reported they were “just microwaved”, implying that the training was concise and did not impart knowledge that could be transferred or applied; similar findings were reported by Ntseto et al. (2021). The participants from the abovementioned study reported they were not trained on the SIAS policy, and the few that were trained deemed the training inadequate. Majoko and Phasha (2018) opined that lacking training would build negative attitudes. In both studies, teachers demonstrated negative attitudes towards the SIAS policy to the extent of calling it “a SIAS thing or this SIAS thing”. It shows they did not identify with or take ownership of it.

The provision of training would alleviate the challenges reported in this study. However, the type of training received by educators described as once-off is discouraged as it has not been shown to capacitate educators (Jita and Mokhele, 2014; Kennedy, 2005). Thus, continuing professional development is necessary to build capacity (Jita & Mokhele, 2014; Mpanza & Govender, 2022). Collaborative professional development was researched among educators in South Africa in two provinces (Gauteng and Mpumalanga) by Jita and Mokhele, 2014; Kennedy, 2005. These authors found that educators learnt best from their colleagues. Therefore, this collaborative professional development can also be applied in Limpopo Province to capacitate educators on the SIAS toolkits of the SIAS policy. Although geographically dispersed, educators from the three participating special schools can be clustered. The reason for clustering them is that two special schools feed the third, a high school. Once this professional development is established and ongoing, these special schools will be resourceful and establish clusters with their neighbouring schools within the circuit.

Collaborative professional development was beneficial for sharing knowledge, skills and attitudes (Kempen, 2013) on teaching complex subjects. For example, it also released educators' leadership skills regarding planning meetings and monitoring progress (Kempen & Steyn, 2016). The researcher thinks this strategy can complement the SBSTs with school organisational matters.

The participants in the abovementioned study by Ntseto et al. (2021) also highlighted some mitigating factors for the lack of training and implementation. The following were highlighted; teamwork, recruitment of professionals, adopting professional roles and responsibilities, commitment to in-service training of SIAS at schools, networking and commitment at the district level. It is recommended that recruitment of therapists (physiotherapists, occupational therapists, speech therapists), psychologists and social workers should be actioned at schools to support teachers in supporting learners with barriers to learning.

The SBST is close to the learner because it is a support structure. Their inability to support the learner would result in learners not performing well and inevitably dropping out of school. The learner is therefore affected at the level of the mesosystem of the ecological model. The SBST lacked knowledge of the SIAS policy implementation. Thus, the DBSTs were not supportive of the SBSTs at schools. There were no clear roles and responsibilities at exo and macrosystem levels. In line with the ICF model, this dysfunctionality contributed to the environment the learner finds herself/himself in at school, meaning environmental factors pertaining to a lack of support from support structures within the school and the district.

5.6 Individual Support Plan (ISP)

The educator and the SBST complete an ISP. This is the intervention planned for the identified learner with barriers to learning. The SBST will then review the ISP within reasonable time frames for progress or non-progress (DBE, 2014). The case will then be referred to the DBST for intervention should the SBST not see progress (DBE, 2014).

The results in Table 4.26 showed a lack of consistency in developing ISPs for learners. The implementation in ISPs differed significantly across participating special schools ($p=0.02$). These results revealed discrepancies in practice from what the SIAS policy prescribed. In the document analysis, ISPs were not developed for learners. This finding was similar to Subramoney's (2017) study, whereby learners who were supposed to have ISP developed did not have them. This emphasises the educator's lack of knowledge on the SIAS toolkits and negatively affects learners.

Furthermore, some ISPs were developed under pressure when progress reports and schedules were needed for submission at the district office. During the FGD with SBSTs, one participant explained that the Grade 7 teacher is the one that will feel the pressure at the end of the year when the learner has to start a new school. This is because the learner has to move to the new school with his / her SIAS toolkits. Therefore, these toolkits seemed only filled in once and not reviewed. The researcher believes this relates to poor quality of work and disadvantaged learners that require optimal support from educators and therapists.

The challenge of supporting learners with barriers to learning was positively related to the inability to identify learning barriers (Table 6.34). Teachers were not equipped to identify learning barriers and, as a result, could not provide the support indicated. Hauwadhanasuk et al. (2019) also reiterated a similar finding. In other instances, educators interpreted Individual Educational Programmes (IEP) as providing individual attention and extra time for learners (Subramoney, 2017). Their programmes were not customised for specific learners of interest. This appeared to be a common problem as document analysis of the SNA 1 toolkit revealed the same from teachers who indicated the same challenges with their learners (need for

individual attention and extra time). Of interest is that the participants in the abovementioned study acknowledged that their programmes were not helping their learners.

In another study, Motitswe (2014), it was found that time frames to support learners were long (about four to six months) because the DBST took a long to give feedback. Furthermore, parents must pay when referring learners to therapists because schools do not have therapists. Some parents could not pay private practitioners because they were unemployed and depended on the learners' social grants. These challenges caused learners not to get relevant and timeous support. Consequently, the learner is negatively affected at the level of the exosystem and macrosystem of the ecological model in that the SBSTs are not getting support from the DBSTs as the nature of their work is itinerant, and they have personnel shortages. On the macrosystem level, the DBE has launched the SIAS policy and expects implementation, which educators lack knowledge of. As mentioned earlier, the provincial departments have been unable to recruit more human resources since 2015. The ISPs were not developed and customised according to the learner's contextual factors in line with the ICF model. Teachers were aware of their limitations when identifying learners with barriers and supporting them in following the SIAS procedures. Some challenges were a lack of employer training and collaboration within the school (educators and parents; SBST and educators) and with the district.

Summary:

According to the presented discussions, a lack of knowledge, resources and time hinders the implementation of the SIAS policy at special schools. The educators cannot holistically identify learning barriers. As a result, the only support they can provide learners with is extra time. The SBSTs need to be supported and strengthened by the DBST to support educators and learners effectively. Creating knowledge platforms through training and sharing knowledge through therapist collaboration can empower educators to identify learners with learning barriers.

In the next chapter, the School-based Framework is presented.

CHAPTER 6: DEVELOPMENT OF THE SCHOOL-BASED FRAMEWORK

In this chapter, the School-based Framework to support the implementation of the SIAS policy at special schools is presented. In line with the Dialectical Pluralism approach as a meta paradigm, the researcher considered the various experiences of stakeholders in the SIAS policy implementation. This framework was built based on various stakeholders' contributions: educators, SBST members, physiotherapists and caregivers. Furthermore, the School-based Framework rest on the Bronfenbrenner ecological model, which shows how the interaction between the school and community can be mobilised to improve the development of the learner. In addition, the framework has also factored in the International Classification of Functioning, Disability and Health model by showing how the interprofessional collaboration of physiotherapists, educators and caregivers can improve the learner's participation. Data analysis of the merged data showed that knowledge empowerment was crucial in implementing the school policy.

The School-based Framework would look like the knowledge process model. The process in the knowledge model emphasises a particular process to maximise the school knowledge

potential (Raudeliūnienė, Davidavičienė & Jakubavičius, 2018). This knowledge process comprises eight components:

A. Knowledge goals: Goals the school staff have with their learning and professional development.

B. Knowledge identification: The staff and stakeholders identify their knowledge gaps.

C. Knowledge creation: The staff and stakeholders create platforms that build new knowledge.

D. Knowledge acquisition: The staff and stakeholders learn and gain new knowledge.

E. Knowledge transfer: The staff and stakeholders share acquired knowledge.

F. Knowledge use: The staff and stakeholders apply new knowledge.

G. Knowledge preservation: The staff and stakeholders ensure continuous learning and guard against its loss.

H. Knowledge measure: The staff and stakeholders measure the success of the learning process through evaluation. The model is illustrated in the figure below (Figure 5.1).

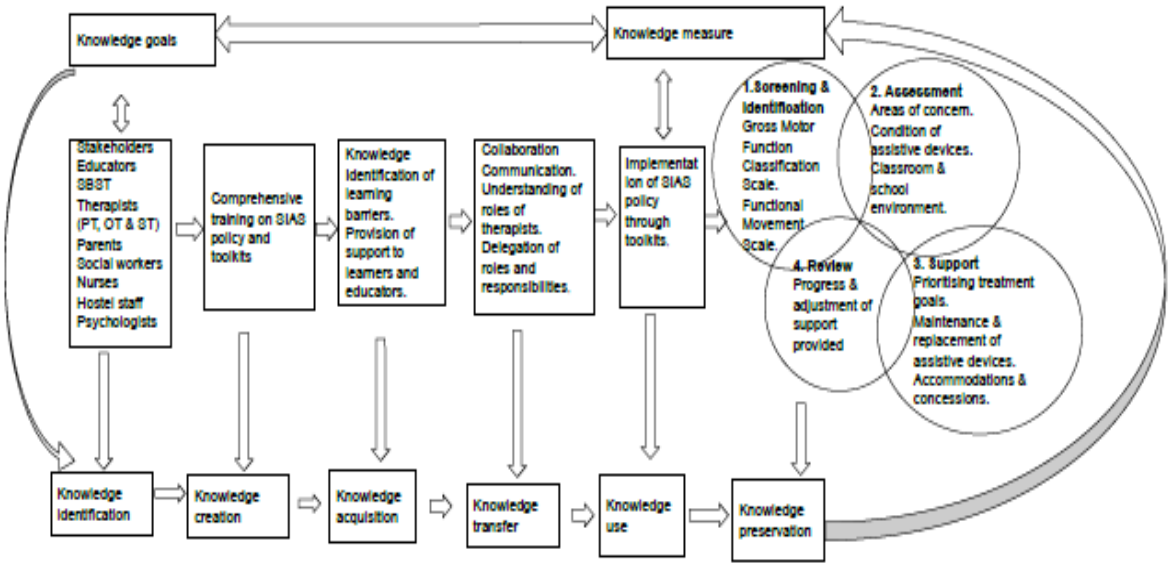


Figure 5.1: school-based framework to support implementation of SIAS policy

The straight arrows indicate a process followed, whereas the curved arrows show that the process is cyclical. The cycle starts again after measuring the knowledge gained. The explanation of the school-based framework is provided below in detail.

Explanation of the SIAS Implementation School-based Framework

6.1 Knowledge goal and identification

The stakeholders need to set goals for their learning and identify current knowledge gaps. For the implementation to work at schools, stakeholders must be available. The School-based Framework to support the SIAS policy implementation identified certain stakeholders as key drivers. Each stakeholder's role concerning the SIAS policy was highlighted.

1. Educators

The SIAS policy places educators at the centre of its implementation (DBE, 2014). Thus, implementing the SIAS policy begins with the availability of educators at schools. Educators assume the role of case managers, initiating and facilitating the support required from all stakeholders directly involved with the learners (Hess, 2020). According to the qualitative data however; there was a shortage of educators at special school (Table 4.1). The findings of the QUAL data corroborated the report by the DBE, which indicated that the national teacher vacancy rate stood at 5.8% at the end of February 2021. The highest number of vacancies was reported in Limpopo Province at 9.2% (BusinessTech, 2021). The available school educators must establish a support structure to support the school, educators and learners.

2. SBST

According to the SIAS policy, the SBST is the support structure at the school level. It gives account to the school principal (DBE, 2014). The composition of SBST includes expert educators in learner support and life skills, school management team (school principal, deputy principal and heads of departments) and non-teaching staff, learner representatives from a senior phase in the primary school and secondary schools, educators, parents represented in the School Governing Body (SGB) and therapists according to the available human resources at schools (DoE, 2001). The school principal must ensure that the SBST is established and strengthened and that support is directed to educators and learners (DBE, 2014).

3. Therapists

The role of therapists in a resource-shortage context and inclusive education is to adopt the social model of providing support to learners and educators (Pillay, 2010; Struthers, 2005; Swinth & Hanft, 2002; Effgen & Kaminker, 2014; Rapport, 2002). The qualitative data findings showed that schools were in short supply of therapists, such as physiotherapists, speech therapists and occupational therapists (Table 4.1). As a result of this shortage, educators worked alone. They could not provide learners with the relevant support for their rehabilitation needs.

3.1 Physiotherapists

There was only one school (for learners with motor-related physical disabilities) with a School-based physiotherapist. There are insufficient physiotherapists in South Africa. As per the Health Professions Council of South Africa (HPCSA) registrar last updated 1st July 2021, there were eight thousand three hundred and forty-five (8345) registered physiotherapists (HPCSA, 2022) versus the population of 58 million (57.790000). This gave an estimated physiotherapist: population ratio of 1: 7472. The shortage of physiotherapists is reflected at the national level.

3.2 Occupational Therapists

A special school that participated in the study did not have a school-based occupational therapist. According to the statistics reported in July of 2021, there were five thousand eight hundred and forty-nine (5849) occupational therapists registered with the HPCSA (HPCSA, 2022). This gave an estimated occupational therapist: population ratio of 1: 11 066. The shortage of occupational therapists is reflected at the national level.

3.3 Speech Therapists

a special school that participated in the study did not have a school-based speech therapist. Recent statistics from the HPCSA revealed a severe shortage of speech therapists compared to physiotherapists and occupational therapists. There were 1400 registered speech therapists. This gave an estimated speech therapist: population ratio of 1: 52204. According to Pillay, et al. (2020), there was a supply–need gap of around two thousand eight hundred (2800) professionals. It was predicted that unless there were an intervention to increase supply capacity, the shortfall would likely remain the same by 2030 (Pillay, et al., 2020).

Although tertiary institutions may increase their undergraduate output of therapists, graduates are still challenged by unemployment in the public sector (Maqhina, 2019; Msomi, 2019). Therefore, the Limpopo Provincial Departments of Health and Education should increase the number of budgeted posts for therapist in order to fill vacant posts. Posts for medical officers are rather prioritised above those of therapists (Departmental circular no. 26 of 2022). Physiotherapists posts were rather advertised for temporary positions to assist with patient care during the COVID-19 pandemic (Departmental circular no. 39 of 2022). The department of education has rather opened up posts for therapists on an itinerant basis as members of the DBST (Departmental circular no. 144 of 2022). Thus, more therapists would likely be employed inder the Department of education.

4. Parents

The results of the qualitative data showed that parents' participation at schools was lacking, predominantly due to financial constraints. (Table 4.6). Most learners resided far from their schools, causing parents to spend money on transport. A distance of about 260km costs an

estimated ZAR200.00 for a single trip by public transport. Therefore, it becomes unaffordable for parents to visit the school.

The SIAS policy requests the participation of parents in supporting learners. The authors, Skrypnyk, et al. (2020), also highlighted that the support team's success depended on parents being active and equal participants. This included involvement in the educational plans, decision-making, synchronised development of SMART goals at home, using a communication diary, and monitoring (Skrypnyk, et al., 2020). Parents of learners with identified learning barriers must collaborate with the educator, especially in implementing the SNA1. However, this was impossible because some parents were not involved due to transport being expensive and they could not afford. In addition, parents were not easily reacheable on the cell phones due to network challenges in certain rural areas and inother cases, cell phone numbers were changed without updating them at the school.

5. Social workers

Participants in the qualitative study indicated that the involvement of social workers in schools could assist in improving parent participation (Table 4.14). According to educators, parents respond positively to social workers because they perceive social workers as being able to withhold their child's social grant. This perception may be stemming from the the role and responsibility of social workers amongst others to build the community's social capital (Sesane & Geyer, 2017). Thus, since social workers facilitates the process of community members receiving social grants, they are viewed as being able to withdraw it. The South African social worker shortage was reflected in schools (Skhosana, 2020). In a media statement on Independent Online, the Minister of the Department of Social Development (DSD) revealed that South Africa had a shortage of at least fifty-two thousand five hundred (52 500) social workers (Independent Online, 2022). Currently, the ratio of social workers to the population is 1:5000 (South African Council for Social Service Professions, 2023). It is crucial, therefore, to fund and increase the number of posts for social workers at schools to assist educators in connecting with caregivers and other social issues. An alternative would be to engage the school governing body to organise a parent peer support whereby parents support each other pertaining to issues with their children at school.

6. Nurses

Participating special schools had clinic facilities with nurses. Participants in the qualitative study expressed concerns about the lack of professional nurses at their schools (Table 4.1). Participants alluded that schools did not offer similar employment benefits as hospitals. Therefore, schools were struggling to attract professional nurses. School nurses manage learners' chronic conditions to limit the severity of the health condition, which may result in

absenteeism from class (Leroy, Wallin & Lee, 2017). Therefore, the DoE must consider improving working conditions for nurses to be similar to those in the Department of Health in terms of benefits to attract more exceptionally professional nurses.

7. Hostel staff

Participants from the qualitative study reported that the lack of hostel staff has led to learners dropping out of school, especially in high school (Table 4.1). There was also a lack of male house-fathers who should be looking after boy learners. Shortage of hostel staff had a bearing on the support of learners with physical disabilities at hostels. Admission of learners should be made in consideration of hostel capacity. Suppose there are more learners admitted than available hostel staff. In that case, learners who need assistance with transfers, self-care tasks and putting on and taking off assistive devices will be neglected (Tswellang Special School, 2020). Although educators are appointed to perform supervisory duties in hostels of public schools and public special schools (Circular no 285 of 2011), it is not enough. One educator is appointed to supervise the boys' hostel and another for the girls' hostel, irrespective of the enrolment numbers of the hostel (Circular no 63 of 2012). The schools should prioritise the appointment of hostel staff by funding posts and filling vacant posts.

8. Psychologists

Part of the admission criteria at a special school is the psychological report conducted by the psychologist. The psychological report indicates the level of cognitive functioning of the learner, the type of school the learner should be placed at, and the type of support to be provided. However, parents must seek help from public hospitals and private practitioners due to the school psychologist shortage. According to the HPCSA register, last updated in 2021, there were 9183 psychologists (HPCSA, 2022). Amid the shortage, South Africa is sitting at 1.4 psychologists per 100000, which is lower than high-income countries with 2.7 psychologists per 100000 people (PsySSA, 2017).

The lack of human resources seen at the three special schools should be mitigated by recruitment through advertisement of posts to increase job opportunities. Although universities may increase their undergraduate output, graduates will still face unemployment challenges. Thus, strengthening of collaborations between the Department of Education, Health and the private sector is indicated.

6.2 Knowledge creation

Participants of the qualitative study reported that most educators were not trained on the SIAS policy. However, material like hard copies of the SIAS documents was delivered and available at schools. The reason why educators were not trained was that the SBST members were prioritised. The few SBST members that were trained reported that the training was

inadequate for them as it was just one day and Once-off (Table 4.2). As a result, they could not acquire sufficient knowledge to share with other educators at schools. These findings corroborated what has been reported in the literature (Hodgson & Khumalo, 2016; Majoko & Phasha, 2018). Traditional training models (training and cascade models) were discouraged as they had not been shown to capacitate educators (Jita and Mokhele, 2014; Kennedy, 2005). Thus, continuing professional development is encouraged as it has been shown to build capacity (Jita & Mokhele, 2014; Hope, 2010; Satpathy, et al., 2018). In addition, it can be implemented in various ways as long as it is collaborative and not imposed upon others (Hope, 2010).

Hope (2010) and Zawedde-Muyanja, et al. (2018) advocated for on-the-job training as it ensured sustainability. On the other hand, Jita and Mokhele (2014) and Kempen and Steyn (2016) employed the approach of clustering educators from different schools at a host school. This collaborative professional development enhanced knowledge, skills, attitudes (Kempen, 2013) and leadership skills (Kempen & Steyn, 2016). This framework will adopt the cluster training approach to break the negative attitudes of the SIAS policy in one school. The three special schools would be trained together at the host school quarterly. Ensuring compliance would no longer be the responsibility of the school principal but of the cluster team leader. Educators were reported to learn more from their peers (Kempen & Steyn, 2016); therefore, they might look forward to attending these training sessions. Another way to enhance compliance would be to acquire CPD credit points for the training sessions. CPD points motivated individuals to attend training (Stevens, et al., 2017). The province can register to become a service provider for accreditation and provide CPD-accredited training programmes.

The training will be facilitated by incorporating reading material, pictures and videos that best explain complex topics or themes (Satpathy, et al., 2018; Stevens, et al., 2017). This digital training would require an uninterrupted network connection. Although special schools in Limpopo Province were equipped with Wi-Fi, they still experienced network challenges. To mitigate this challenge, educators must be provided with dongles and laptops; however, few participants were internet savvy. This was seen when participants requested the survey to be distributed in hardcopies. Thus, there is also a need to break the fear and culture of resistance towards the internet. The digital training will be user-friendly. There will be training on how to work online (download, upload, save and share documents) to successfully migrate to digital training at schools.

Groupware (collaborative technology) is a class of computer programmes that enables individuals to collaborate on projects with a common goal from geographically dispersed locations through shared Internet interfaces to communicate within the group. Groupware may also include remote access storage systems to archive frequently used data files. Workgroup

members can alter, access and retrieve these (Technopedia, 2012). Similar to the Groupware software, schools can use Google Drive and sharepoint to harvest on-the-job knowledge (training tools) and for team collaboration. The team (or individual) from stakeholders will store knowledge on various but common impairments, their interventions and referrals, and how to fill in the toolkits.

6.3 Knowledge acquisition

This study has revealed that educators are expected to implement SIAS policy without knowing how to do so. According to participants from the qualitative study, the SIAS toolkits were not being implemented adequately due to a lack of knowledge (Table 4.3). Literature has shown that a lack of knowledge yields negative attitudes and does not produce desired results (Jita & Mokhele, 2014). In this case, implementation of the SIAS policy is met with serious challenges of poor knowledge due to a lack of training. The few participants that received training alluded that sessions were just very short. Once school training continues, stakeholders can expand their knowledge (Satpathy, et al., 2018) on implementing the SIAS policy through toolkits. As a result of adequate, continuous training and interdisciplinary collaborations, they will also gain knowledge (Kempen, 2013; Kempen & Steyn, 2016) on identifying learning barriers and providing relevant support for learners.

6.4 Transfer of knowledge

According to the participants from the qualitative study, challenges to implementing the SIAS policy were attributed to several factors (Table 4.3). Firstly, educators were not communicating with the SBST when they did not understand what to do. As a result, the toolkits were not being filled in. Secondly, educators and SBSTs did not understand the role of physiotherapists. Hence, physiotherapists (where available) were not involved in the school support structures and the support of learners. Thirdly, there was a lack of role clarification within the SBST and DBST. As a result of this lack of clarification of roles, there was no referral of learners to the SBST and ISP for learners was not drawn and followed up.

According to Kurth (2014) and Rotte (2014), effective teachers in the era of inclusion at schools must communicate effectively with colleagues, students and parents and form partnerships. To mitigate the poor communication between educators and the SBST, and therapists, there must be inclusive school meetings where all stakeholders are included. These meetings must be included in the school's yearly programme, and stakeholders must honour scheduled meetings. Stakeholders need to be educated on the roles of different disciplines (physiotherapists included) and even delegate responsibilities. Hallahan et al. (2019) emphasised that in inclusive setting environments like schools, all stakeholders should be trained to perform their respective roles and, over and above that, must be trained to work together for a common purpose. Referral pathways would also be established. In these

meetings, the SBST can be strengthened by adding new members. Due to a shortage of school therapists, meetings can occur virtually over online platforms. There will be the adoption of joint decisions and a detailed process to be followed by the stakeholders, forming collaborative teams. (Skrypnyk, et al., 2020).

Professionals like therapists (physiotherapists, occupational therapists and speech therapists) were not readily available in the rural areas of the Philippines as they were saturated in the big cities. Therapeutic services in rural areas were outsourced from professionals who did not work directly with Children with special needs. However, they could advise on strategies (Valenzuela, 2017). In the current study, there was a lack of collaboration between the provincial Departments of Health and Education. Learners were sent back to their local hospitals (close to their homes) to access support as they were not seen as members of the community where the school is based. Lack of collaboration has delayed replacing assistive devices and learners defaulting to their home exercise programmes. Learners were using assistive devices that were no longer safe for use, and they were no longer accessing rehabilitation. Collaboration also needs to occur between therapists in nearby hospitals and those in education districts. This collaboration between provincial departments (DoH & DoE) will assist educators and learners to access support promptly.

There is a need to test and develop new and innovative strategies in a collaborative and multi-centred way to provide appropriate rehabilitation for learners at schools. Collaboration is best indicated during school admissions. Schools have established internal admission committees that decide to accept or reject a learner. Looking at the few special schools for learners with physical disabilities per district, learner admission and placement should be handled by the DBST in collaboration with the SBST. Since school admissions are ongoing, they can be tabulated. Once a month, a panel with members of the DBST, including physiotherapists, would meet to assess the learner seeking school placement. This will be the opportunity to meet the parent again and start filling in the toolkits (LP, SNA 1, SNA 2 & ISP) in the parent's presence.

Activities during the admission day would involve each team member acting in their area of expertise. Activities commence at the level of assessment to continue through the development of the Individual Educational Programme (IEP), implementation and evaluation (Cawthon, 2010; Utley & Rapport, 2002). The synthesis of data from multiple stakeholders, including physiotherapists, occupational therapists and speech therapists, determines the appropriate school placement following confirmation of a condition or disability that warrants special education services (Valenzuela, 2017). Therapists would set the direction for the intervention and management in an interdisciplinary set-up (Valenzuela, 2017). Following school placement, the DBST will communicate with the CBST and SBST of the identified

school for admission. The DBST will give the SBST a support package that should be implemented to benefit the learner academically and therapeutically. The CBST and DBST will conduct monitoring of this support package quarterly.

6.5 Knowledge application

The SIAS toolkits are organised in separate booklets for different stakeholders. How the toolkits are organised reflects anti-collaboration. The CBST is excluded from implementing the SIAS policy, yet schools report to their circuits before the district. The CBST has to be established to support the special school within the circuit regarding curriculum and curriculum adaptations. The reported challenges of the DBSTs regarding travelling long distances to reach schools can be mitigated by the presence of the CBSTs since they are within reach. The DBST becomes the overseer of the SBST and the CBST. This arrangement will allow the DBST to function better remotely.

6.6 Knowledge preservation

The School-based Implementation Framework describes how individual toolkits can be implemented in a manner that promotes interdisciplinary collaboration.

6.6.1 Learner Profile

This section requires information about the learner regarding the school attended since Grade R. These identified areas required the learner to receive ongoing support regarding academic, emotional, behaviour, social, learning, hearing, vision, mobility and communication needs. (DBE, 2014). In addition, the LP also required the learner's participation in extra-curricular activities and achievement, whether academic, sports, arts and culture (DBE, 2014). The learning profile should be used as a screening tool for barriers to learning. The teacher is not well equipped to conduct screening for the developmental domains. Thus, an interdisciplinary approach to screening needs to be adopted at an early stage. A Functional Mobility Scale (FMS) can be used as a tool to screen functional mobility for learners. The FMS categorises functional mobility for children with CP between the ages of four and 18. The FMS also considers that children may depend on assistive devices (Shirley Ryan AbilityLab, 2022).

6.6.2 SNA 1: Assessment and intervention by a teacher

- Completed in Learner Profile or teacher observation shows that a learner needs additional support.
- Captures information needed when the teacher requests support from the Institution Level Support Team (DBE, 2014).

1. Areas of concern

This section is completed by the teacher, parent and therapists so that the health condition and disability of the learner can be considered. The parent will provide additional information regarding other challenges related to learning and development. This collaboration with parents will assist in establishing areas of concern that need more attention (priority) amongst other challenges that may exist.

2. Strengths and needs of the learner

This section requires the involvement of a multi and interdisciplinary team in order to identify learning barriers. The teacher alone is not equipped to complete this section. A panel (speech therapist, teacher, psychologist, nurse, occupational therapist, physiotherapist, school principal and a social worker) is required to identify learning barriers related to communication, subject content and assessment, behavioural and social skills, health condition, self-care, classroom, school, and the family environment.

3. Teacher intervention/support

The teacher would require the support of the curriculum advisor from the circuit to assist with curriculum adaptation/differentiation. In addition, the teacher would also require support from other stakeholders that have identified learning barriers.

In summary, SNA 1 needs to be completed by various stakeholders, including parents working as a team. SNA 1 should be implemented during learner admission to get the involvement of caregivers. This information will be preserved on the departmental LURITS system and SASAMS.

6.6.3 SNA 2: Institution-Level Support Team's Assessment and interventions (in consultation with the teacher)

This is the toolkit the SBST completes when requesting support from the DBST (DBE, 2014). Firstly, the SNA 2 toolkit would be modified to remove certain aspects in the original template. This pertains to aspects such as reviewing the teacher's ability to identify the strengths, challenges and support the learner requires because learning barriers would have been identified through stakeholder collaboration during SNA 1. The role of the SBST a this stage would be to monitor the support recommended during SNA 1 regarding the learner, educator and school through interprofessional collaborations. In addition to monitoring, they also provide or establish referral pathways for additional support to the DBST via the CBST. The parent/caregiver may be informed when the support provided at the school is not adequate and needs to be referred to the district. However, it may not be necessary for the parent to come and sign in person. Permission from the parent to refer to the DBST can be obtained using a consent form that the parent/caregiver signs once-off during the day of admission.

Referrals and additional support would also be preserved on the departal LURITS and SASAMS.

6.6.4 ISP: completed by class teacher and the SBST

The ISP should reflect learning barriers and the support identified in SNA 1. Each stakeholder that provided support should make a note, i.e. complete the ISP to indicate the support's purpose, frequency and duration. The SBST will use this tool to review the support provided and hold relevant stakeholders accountable for service delivery. This step-by-step implementation of the toolkit is illustrated in the figure below.

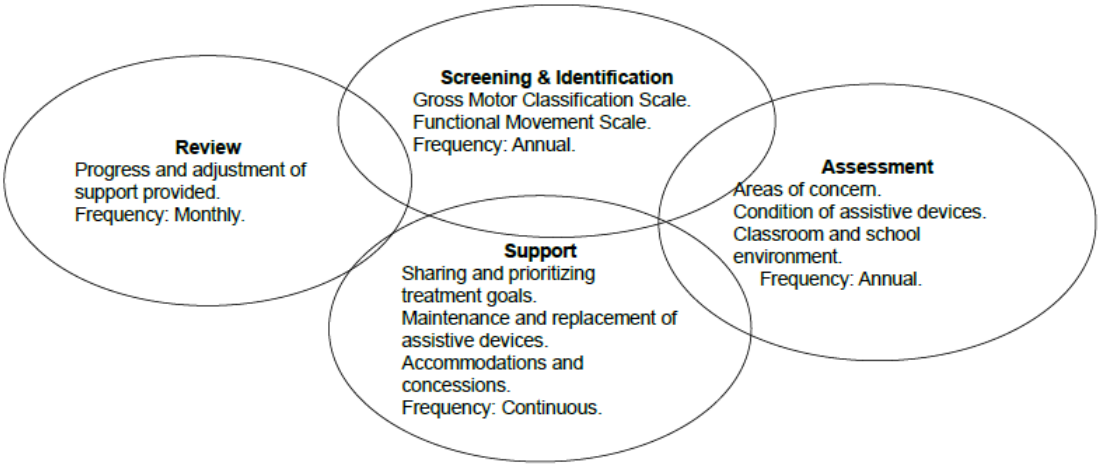


Figure 5.2: Illustration of the implementation of the toolkits-**SIASR**

The above shows that the components of the toolkits are intrinsically linked. This link provides a map for interdisciplinary professionals to render evidence-based treatment that best fits the client. This is otherwise missing with the ordinary SIAS toolkits. Thus, the implementation provides a support plan that resembles the components of the SIAS policy. However, an addition has been made to the Review component at the end. This review component emphasises the need to measure knowledge and its application.

In nursing, a support plan is seen as a tool that enables collaboration among nursing practitioners, doctors, patients, and other healthcare providers, including physiotherapists. It also facilitates continuity of care. Similarly, using this support plan (SIASR) will enhance interprofessional collaboration and communication as an added advantage.

6.6.5 Screening and Identification

The majority of learners at the special school (schools A, B & C) were diagnosed with CP. As a consequence of the condition, learners were also affected in other domains of development, particularly cognitive. Other learners seemed to have intellectual disabilities. Although learners are admitted to a special school based on the diagnosis, their level of function should also be

determined. The Functional Movement Scale can be used to assess balance (Philip, et al., 2018; Scudamore, et al., 2019), whilst the Gross Motor Function Classification Scale (GMFCS) can be used to describe the gross motor function of learners with CP. The GMFCS is preferred because it focuses on what the individual can do (Patel, et al., 2020; Rosenbaum, Palisano, Bartlett, 2008). This focus on the strength of the individual is in line with the Asset-Based Approach used in the field of Education. Thus, the GMFCS compliments the Asset-Based pedagogies applied in the classrooms.

Due to the shortage of physiotherapists, those at the district level must train teachers and support staff on applying it and interpreting scores. In the same way, optometrists in another study had to train educators on using a screening test (Downs, et al., 2020). At the end of the in-service training, educators were assessed for competency. Those who passed the assessment were released to conduct screening whereas those who did not pass had the opportunity to write again prior to conducting screening tests. In addition, Community Health Care Workers were trained to screen for household Tuberculosis (Zawedde-Muyanja, et al., 2018). In another study, physiotherapists were trained on the use of the Patient Specific Goal setting tool (PSG) to incorporate in the management of patients (Stevens, et al., 2017). Thus, the introduction of a new tool/test training was indicated. Screening and identifying learners would occur when a learner enters a new grade and when there is a new admission to the school during the year.

6.6.6 Assessment

This assessment component would include conducting a subjective and objective learner assessment. Caregivers have a role in providing subjective and personal information. The findings of the assessment would indicate the needs of the learner pertaining to, for instance, respiratory management, mobility aids, concessions and accommodation, pain management, and strength training to mention a few. Services can be provided through outreach to compensate for the shortage of physiotherapists at special schools. This approach was also employed in the Philippines, where physiotherapists supported schools through an outreach service twice a month (Valenzuela, 2017). Thus, assessments would be conducted by a relevant healthcare professional.

6.6.7 Support

Treatment plans employ approaches that are strength-based and collaborative. In addition, they aim to reflect the individual's best interests in therapy and their caregivers. Treatment plans are collaborative because different healthcare professionals agree on a common goal to work on as a team (Vera, 2021; Toney-Butler & Thayer,2020). Caregivers and learners would be empowered to prioritise treatment goals (Stevens, Koke, van der Weijden et al.,

2017). The goal-oriented strategies would be used in setting goals that are specific, measurable, achievable, realistic and time-bound (SMART).

In the study by Stevens et al. (2017), the researchers experienced challenges with participation in the treatment plan among patients with cognitive and communication problems. These patients could not articulate clearly their activity limitations. Furthermore, not all patients wanted to participate. The challenge that could hinder sharing and prioritising goals for this study is the lack of participation from caregivers, as already indicated. In this case, the involvement of educators and hostel staff members would be indicated as they spend more time with the learner in the school environment. However, not that physiotherapists should work alone, but it has been reported that clients are generally happy with physiotherapy treatment irrespective of their participation (Baker, Marshak and Zimmerman, 2001; Schoeb and Burge, 2011). The ultimate goal of the support plan would be to ensure that the learner optimally participates in activities in the classroom, hostel and the school environment.

6.6.8 Review

In this last component of the support plan, a review would be conducted by the interdisciplinary team members to check whether the shared treatment goals have been met. The finding from this report will indicate how the support plan can be adjusted to better respond to the diverse needs of the learner. Some treatment plans must be reviewed monthly, whereas for mental health outpatient care, treatment plans may be reviewed quarterly (Mental Health Care Act No.17 of 2002). As a result, ISPs will be reviewed on a case-by-case basis and at least once within a school term.

6.7 Knowledge measurement

In this component, the SBSTs of each school evaluate the support they have provided to educators and learners. An improvement or non-improvement would be measured regarding the training activities provided to stakeholders. New goals can be identified based on the evaluation outcomes, and the process recurs to acquire further knowledge.

6.8 Summary

The School-based framework to support the SIAS policy at special schools in Limpopo Province looked like the knowledge process model in which it followed a cyclical process. The cycle commences with setting goals, identifying gaps in knowledge whilst creating platforms to gain knowledge, sharing, applying the knowledge, and preserving the knowledge gained and ends with measuring progress. In addition, this framework showed how physiotherapists could be involved in the SIAS process with toolkits.

In the next chapter, the discussions are presented.

CHAPTER 7: CONCLUSION, LIMITATIONS AND RECOMMENDATIONS

7.1 Conclusion

The aim of the study was to develop a school-based framework for the three special schools to support a SIAS toolkit for learners with physical disabilities in Limpopo Province. The data collected from qualitative and quantitative studies through mixed methods was sufficient to respond to the study objectives. Both these data strands converge through a side-by-side joint display to show the data integration, which led to the development of the school-based framework (as illustrated in Chapter 6).

The implementation process of the SIAS toolkit at the three special schools for learners with physical disabilities in Limpopo Province was described using the SIAS toolkits, namely the LP, SNA1, SNA2 and ISPs for learners. These SIAS toolkits signify implementing the SIAS policy, which provides standardised procedures to screen, identify, assess, and support learners with barriers to learning. There was great variation in implementing the SIAS policy between the three participating special schools. At the time of data collection, only two special schools had commenced with implementation meaning preparing toolkits for learners. The remaining school had not started. This showed that the SIAS process was not treated as part of the school programme. Delays in screening and identifying learners with learning barriers include the participation of learners in academic, social and sporting activities. Furthermore, it prevents learners from receiving relevant support timeously.

Of the four SIAS toolkits, LPs were mostly implemented. Educators had started capturing academic, social, and medical data for learners. However, there were gaps in capturing relevant data, such as the gross motor screening and providing ongoing support related to the disability of the learners. Educators did not know how to complete these components of the LP. This study has confirmed that educators had limited knowledge about health and anatomy. The lack of parent participation hindered the needed collaboration between educators and parents. According to the Bronfenbrenner ecological model, this poor relationship affected the learner at the mesosystem level. As a result, there are no common goals set to support learners. This was evident when parents were not co-signing on ways of supporting learners in SNA 1 forms.

The SNA 1 toolkits lacked contributions from physiotherapists and caregivers. Therefore, the implication arises that the learner's activity limitation, participation restrictions, and context were not considered when educators identified learning barriers. The ICF model is an important model that would enable educators to understand how the school and the home

environment and the learner's factors impact the nature of the disability. Educators will also understand the learner's activity limitations and participation restrictions in class, hostel, sports activities and school life. Thus, as the school-based framework indicates, knowledge gaps must be identified. This study points out the need for educators to be knowledgeable about the International Classification of Functioning, Health and Disability model, which will assist in implementing the SIAS policy through toolkits.

The developed school-based framework demonstrated that collaboration with physiotherapists would enlighten educators on gross motor development and screening. Physiotherapists are knowledgeable about health conditions and anatomy, which would present as learning barriers. Thus, implementing the SIAS toolkits requires the involvement of physiotherapists and other therapists collaborating with educators. Collaboration and training sessions would provide platforms to share and transfer knowledge. Through this collaborative practice, roles and responsibilities would then be made clear.

The lack of implementation of the SNA2 toolkits reflected negatively on the school's leadership. The school principal is the head of the SBST which is the main support structure of the school. Thus, the school principal should ensure this committee delivers service to educators and learners. However, the results showed that the SBSTs did not know how to implement the SIAS policy. The main support structure in school was, therefore, not fit for purpose. The SBSTs should be strengthened and supported to curb the number of progressed learners without receiving support. Learners identified as having learning barriers did not have ISPs developed for them. Educators were limited in their capacity as they did not have the support of the SBSTs. These learners eventually become over age and reach a point where they are not accepted back at schools. This exacerbates the problem of learners dropping out of school without skills they can use to fend for themselves. It was evident that there was a gap between policy and practice.

Although the SBSTs were prioritised above educators to receive the once-off SIAS policy training, they could not cascade the knowledge to educators. The cascade model was the commonly-used training model, and it was proved to be ineffective. In this case, a collaborative professional development model would be beneficial. As much as the employer (Limpopo Department of Education) was criticised for lacking inadequate training, physiotherapists took responsibility for their professional development. They did self-regulated learning of the SIAS policy and toolkits, which highlighted their competency as lifelong learners. This knowledge puts them at an advantage in being able to train and share knowledge with educators.

The developed school-based framework illustrated the role physiotherapists play in implementing the SIAS policy through the toolkits. Physiotherapists are involved in the

beginning stage with LPs. At this stage, they conduct screening tests. They have an opportunity to train educators on barriers related to motor development and screening tools. In the SNA1 stage, physiotherapists, through collaboration with class educators and parents, would identify the main barrier and provide relevant support for the learner to participate optimally academically and socially. At the stage of the SNA2, there is implementation and monitoring of the support. Physiotherapists are better placed to support both learners and educators. Physiotherapists support educators through training and learners through indirect therapy.

According to Bronfenbrenner's ecological model, this study has pointed out that challenges hindered the implementation of the SIAS policy at the participating special schools in the mesosystem. At this level, the relationships between educators and SBSTs, caregivers, physiotherapists and the DBSTs hindered the development and participation of learners with physical disabilities at schools. In line with the ICF model, environmental factors were a barrier. Special schools faced chronic challenges of lacking human and non-human resources. Therefore, to enhance the environment to benefit the learner, special schools need to be injected with competent human resources and leadership qualities to support their people. The researcher believes that the poor relationships were due to a lack of knowledge of what the next person can do and of the SIAS policy. Thus, the school-based framework fosters collaboration to enhance working relationships and knowledge for learners to receive a quality education that addresses their needs.

7.2 Recommendations/take-home message

1. The global shortage of physiotherapists calls for itinerant posts at the district level so that they are not confined to a specific school but can support many schools.
2. The physiotherapist’s role at the district level would be to support schools indirectly through:
    a. Training of educators on screening tools, gross motor development, application of ICF model and SIAS toolkits
    b. Support learners by providing mobility assistive devices, modifying the school and class environment, increasing participation in physical activities and preventing musculoskeletal complications.
    c. Support SBTs in referral processes for cases referred to them.
3. The SBSTs need to champion collaborative professional development within their schools and circuits. Applying the school-based model would foster ongoing evaluation

of knowledge gaps and increase platforms for knowledge gain. For example, therapists can offer mini-training sessions and demonstrations with learners at that school during school staff meetings.

4. School principals need to be supported with ongoing leadership management courses.
5. SACE needs to strengthen its function of monitoring educators' professional development regarding the SIAS policy.
6. Higher Education institutions must support provincial departments through DBE and become service providers for short courses in SIAS and even curriculum differentiation.
7. Decentralisation of the function of LURITS on SASAMS must be shifted to the circuits. The CBMT should be responsible for loading and tracking toolkits for each learner on the LURIT system.
8. Inclusive strategies to increase parent participation at school must consider their socioeconomic status and network connectivity issues.
9. Parents also need to be made aware of their critical role in supporting educators at schools and the SIAS policy.
10. Increase posts for hostel staff, especially housefathers, to support male learners.
11. Special schools need to expose learners to vocational skills programmes as an alternative for those not benefitting from the CAPS programme.
12. The aims and objectives of the SIAS policy need to be clarified at schools to avoid misinterpretations.
13. Special schools need to be transformed into full-service schools that better represent the principles of inclusive education for learners with special needs.
14. The framework has to be tested before implementation. Thus, the education physiotherapists can test at one of the special schools.

7.3 Strength of the study

According to the researcher's knowledge, this study is the first in the Limpopo Province of South Africa to investigate the experiences of physiotherapists and caregivers on the policy to screen, identify, assess, and support (SIAS) learners. The study has pointed out the role of hostel staff and psychologists in identifying and supporting learners with learning barriers. This is also the first literature on the SIAS policy. The study has demonstrated that applying the

ICF model is helpful in holistically identifying learning barriers. The study utilised relevant data collection tools to collect sufficient data from the intended participants. The questionnaire was validated and reliable, and the FGDs were able to reach data saturation.

This study follows the recommendation by Hess (2020). The author recommended in her study that further research regarding the implementation of the SIAS policy should include parents, strategic role players such as the learning support teachers and the district officials and document analysis as another means of data collection. To understand the challenges educators experience when implementing the SIAS policy, this study included all the abovementioned means to describe the implementation of the SIAS policy at the three selected special schools in Limpopo province. Subramoney (2017), in her thesis, recommended that further research regarding the effectiveness of SIAS policy and the DoE support guidelines should be conducted. Schools implementing the support guidelines from the SIAS policy need to be identified and assessed. Two of the three special schools were identified as implementing the SIAS policy in this study. These participating schools were assessed through document analysis and were found to have limitations.

The school-based framework emphasised interprofessional collaboration, and the SIAS policy could not demonstrate this to stakeholders. This interprofessional collaboration included parents of learners and the hostel staff.

7.4 Limitations of the study

As this study was the first to be investigated, there was limited recent literature to reference. The study was limited to special schools for learners with physical disabilities within a particular province (Limpopo Province) and did not include other special schools. As the study has pointed out the need for hostel staff, this study could have included housemothers as stakeholders in the school.

The study also did not include full-service schools and mainstream schools. The study omitted the experiences of other therapists, such as occupational and speech therapists. Their experiences would have added richness to this study. Interviews conducted in vernacular languages were translated into English before data analysis. Some of the authentic meaning could have been lost. The researcher could not reach all caregivers telephonically due to network challenges; thus, their experiences were not included.

The data analysis could have been approached differently by transforming quantitative and qualitative data. The sample size was small, although a total population sampling method was used. Thus, the inadequate sample size could allow the finding in this study to be generalized.

REFERENCES

Adewumi, T. M., and Mosito, C. 2019. Experiences of teachers in implementing inclusion of learners with special education needs in selected Fort Beaufort District primary schools, South Africa. *Cogent Education*, *6*(1): 1703446.

African Child Policy Forum. 2011. Children with disabilities in South Africa: The hidden reality. The African Child Policy Forum, Addis Ababa.

African Child Policy Forum. 2014. The African report on children with disabilities: Promising starts and persisting challenges, The African Child Policy Forum, Addis Ababa.

Ahmed, A., Ali, H. S., & Mahmoud, M. A. 2020. Prioritizing Well-being of Patients through Consideration of Ethical Principles in Healthcare Settings: Concepts and Practices. *Systematic Reviews in Pharmacy*, *11*(5), 643-648.

Allen, M. Dallas. 2013. Telephone focus groups: Strengths, challenges, and strategies for success. Qualitative Social Work. 13. 571-583. 10.1177/1473325013499060.

Allen-Collinson, J. 2013. Autoethnography as the engagement of self/other, self/culture, self/politics, selves/futures. In Holman Jones, S., Adams, T.E and Ellis, C. (eds), *Handbook of Autoethnography*. Walnut Creek, CA: Left Coast Press, 281-299.

Allport, A.W. 1935. Attitudes. *In a handbook of Social Psychology*, Worcester, MA, Clark University Press.798-844.

Ando, H., Cousins, R., and Young, C. 2014. Achieving saturation in thematic analysis: Development and refinement of a codebook. *Comprehensive Psychology*, *3*: 03-CP.

Andraweera, N. D., Andraweera, P. H., Lassi, Z. S., and Kochiyil, V. 2021. Effectiveness of botulinum toxin A injection in managing mobility-related outcomes in adult patients with cerebral palsy: a systematic review. *American Journal of Physical Medicine and Rehabilitation*, *100*(9): 851-857.

ATLAS.ti. https://atlasti.com. Online. [Accessed 27 April 2020].

Australian Disability Clearing house on Education and Training. https://www.adcet.edu.au/inclusive-teaching/specific-disabilities/physical-disability Online. [Accessed 27 December 2022].

Australian Disability Clearing House on Education and Training. https://www.adcet.edu.au Online. [Accessed 27 April 2020].

Australian Psychological Society. 2022. https://psychology.org.au/about-us/news-and-media/media-releases/2022 online. [Accessed 27 December 2022].

Bailly, D., and Nys, C. 2018. Methodology guide for semi-structured interviews. R*esearch Gate*, 20p.

Baker, S. M., Marshak, H. H., Rice, G. T., and Zimmerman, G. J. 2001. Patient participation in physical therapy goal setting. *Physical Therapy*, *81*(5): 1118-1126.

Baltussen, R., Naus, J., and Limburg, H. 2009. Cost-effectiveness of screening and correcting refractive errors in school children in Africa, Asia, America and Europe. *Health Policy* (Amsterdam, Netherlands), 89,201–215. doi:10.1016/j.healthpol.2008.06.003

Barber, W. 2018. Inclusive and accessible physical education: rethinking ability and disability in pre-service teacher education. *Sport, Education and Society*, *23*(6): 520-532.

Bardin, L. Análise de Conteúdo. Lisboa, Portugal: Edições 70, LDA, 2011.

Barger, M. M., Kim, E. M., Kuncel, N. R., and Pomerantz, E. M. 2019. The relation between parents' involvement in children's schooling and children's adjustment: A meta-analysis. *Psychological Bulletin, 145* (9), 855–890. https://doi.org/10.1037/bul0000201

Basister, M. P., and Valenzuela, M. L. S. 2021. Model of Collaboration for Philippine Inclusive Education. In *Instructional Collaboration in International Inclusive Education Contexts*. Emerald Publishing Limited.

Bastemeijer, C.M., Boosman, H., van Ewik, H, Verweij, L.M., 2019. Patient experiences: a systematic review of quality improvement interventions in a hospital setting. *Dove Press,* 10: 157-169.

BasuMallick, C. 2020. 5 Reasons to Focus on Workplace Equity Alongside Diversity and Inclusion. HR Technologist. Retrieved from: https://www.hrtechnologist.com/articles/diversity/workplace-equity-diversity-inclusion/

Berman-Bieler, R., Petroni, S., Abdi, O., and Wijesekera, S. 2023. UNICEF: a model for disability-inclusive policy and strategy. *The Lancet Child and Adolescent Health*.

Bernard, H.R. 2002. *Research Methods in Anthropology: Qualitative and quantitative methods*. 3rd edition. AltaMira Press, Walnut Creek, California.

Berns, R. 2012. Child, family, school community: Socialisation and support. Wadsworth Publishing: Belmont, CA

Björvell, C., Thorell-Ekstrand, I., and Wredling, R. 2000. Development of an audit instrument for nursing care plans in the patient record. *BMJ Quality and Safety*, *9*(1): 6-13.

Black-Hawkins, K., & Florian, L. (2012). Classroom teachers' craft knowledge of their inclusive practice. Teachers and Teaching, 18(5), 567-584.

Brabson, L. A., Herschell, A. D., Snider, M. D., Jackson, C. B., et al., 2021. Understanding the effectiveness of The Cascading Model to implement parent-child interaction therapy. *The Journal of Behavioral Health Services and Research*, *48*(3): 427-445.

Braun, V. and Clarke, V. 2006. *Using thematic analysis in psychology. Qualitative Research in Psychology*, 3 (2), 77-101. http://eprints.uwe.ac.uk/11735.

Bronfenbrenner, U. 1979. *The ecology of human development: Experiments by nature and design.* Cambridge, MA: Havard University Press.

Bucci, M.P., Gerald, C.L. and Bui-quoc, E. 2013. The effect of a cognitive task on the postural control of dyslexic children. *Research in Developmental Disabilities,* 34: 3727-3735.

Bujang, M. A. 2021. A step-by-step process on sample size determination for medical research. *The Malaysian journal of medical sciences*, *28*(2): 15.

Bureau of Labor Statistics. 2017. Persons with a Disability: Labor Force Characteristics Summary. https://www.bls.gov/news.release/disabl.nr0.htm

Burns, J. R., and Rapee, R. M. 2022. Barriers to universal mental health screening in schools: The perspective of school psychologists. *Journal of Applied School Psychology*, 38(3): 223-240.

BusinessTech. 2021. https://businesstech.co.za/news/

Cabrera, L. Y., and Reiner, P. B. 2018. A novel sequential mixed-method technique for contrastive analysis of unscripted qualitative data: Contrastive quantitized content analysis. *Sociological Methods and Research*, *47*(3): 532-548.

Čagran, B., and Schmidt, M. 2011. Attitudes of Slovene teachers towards the inclusion of pupils with different types of special needs in primary school. *Educational studies*, *37*(2), 171-195.

Cambridge University Press and Assessment. 2023. https://dictionary.cambridge.org/dictionary/english/framework (accessed 03.03.2023)

Cawthon, S. W. 2010. Assessment accommodations for English language learners: The case of former-LEPs. *Practical Assessment, Research, and Evaluation*, *15*(1): 13.

Center for Substance Abuse Treatment. *Substance Use Disorder Treatment For People With Physical and Cognitive Disabilities*. Rockville (MD): Substance Abuse and Mental Health Services Administration (US); 1998. (Treatment Improvement Protocol (TIP) Series, No. 29.) Chapter 3—Treatment Planning and Service Delivery. Available from: https://www.ncbi.nlm.nih.gov/books/NBK64875/

Chong, W. W., Aslani, P., and Chen, T. F. 2013. Shared decision-making and interprofessional collaboration in mental healthcare: a qualitative study exploring perceptions of barriers and facilitators. *Journal of Interprofessional Care*, *27*(5): 373-379.

Christensen, C. A. 2018. Learning disability: Issues of representation, power, and the medicalization of school failure. In *Perspectives on learning disabilities* (pp. 227-249). Routledge.

Circular no 63 of 2012. http://mfma.treasury.gov.za/Circulars/Documents/Forms/AllItems.aspx?RootFolder=%2FCirculars%2FDocuments%2FCircular%2063%20%E2%80%93%20Annual%20Report%20Update%20%E2%80%93%2026%20September%202012&FolderCTID=0x012000E772703726E2A8479752CF24A134692B&View=%7B06AB24E7-1C64-4A80-A0FA-273E6A829094%7D

Coenen, M., Stamm, T. A., Stucki, G., and Cieza, A. 2012. Individual interviews and focus groups in patients with rheumatoid arthritis: A comparison of two qualitative methods. *Quality of life research*, *21*(2): 359-370.

Colorafi, K. J., and Evans, B. 2016. Qualitative descriptive methods in health science research. *Health Environments Research and Design Journal*, *9*(4): 16-25.

Connelly, L. M. 2016. Trustworthiness in qualitative research. *Medsurg Nursing*, *25*(6), 435.

Constantinou, C. S., Georgiou, M., and Perdikogianni, M. 2017. Medical students' attitudes and beliefs towards psychotherapy: A mixed research methods study. *Behavioral Sciences*, *7*(3): 55.

Corbin, J., and Strauss, A. 2008. *Strategies for qualitative data analysis*. Basics of Qualitative Research. Techniques and procedures for developing grounded theory, 3(10.4135): 9781452230153.

Creswell, J. W. 2014. *Research design: Qualitative, quantitative, and mixed methods approaches*. 4th edition. Thousand Oaks, CA: Sage

Creswell, J. W. and Plano Clark, V. L. 2011. *Designing and Conducting Mixed Methods Research*. 2nd edition. Los Angeles: Sage.

Creswell, J. W., and Plano Clark, V. L. 2017. *Designing and conducting mixed methods research*. 3rd edition. CA. Sage publications.

Creswell, J. W., and Poth, C. N. 2018. *Qualitative inquiry and research design: Choosing among five approaches* (4th ed.). Los Angeles, CA: Sage Publications.

Czerwonka, E 2022. How To Improve Collaboration Among Employees. Online. https://buddypunch.com/blog/collaboration-among-employees/ . [Accessed 14 November 2022].

Dakar Framework for action. 2000. Education for All: Meeting Our Collective Commitments. *Text adopted by the World Education Forum 26-28 April 2000.* Dakar: Senegal.

Danforth, S., and Naraian, S. 2015. This new field of inclusive education: Beginning a dialogue on conceptual foundations. *Intellectual and developmental disabilities*, *53*(1), 70-85.\

Das, B. K., Jha, D. N., Sahu, S. K., Yadav, A. K., Raman, R. K., & Kartikeyan, M. (2022). Analysis of Variance (ANOVA) and Design of Experiments. In Concept Building in Fisheries Data Analysis (pp. 119-136). Singapore: Springer Nature Singapore.

DBE, 2021. Annual teaching plans for 2021-2023. https://www.education.gov.za/Home.aspx

DBE. 2021. Education in South Africa. https://www.education.gov.za/EducationinSA.aspx [accessed online 11 June 2023].

De Witt, M.W. 2009. *The young child in context*. Van Schaik: Pretoria.

Degerstedt, F., Enberg, B., Keisu, B. I., and Björklund, M. 2020. Inequity in physiotherapeutic interventions for children with Cerebral Palsy in Sweden—A national registry study. *Acta Paediatrica*, *109*(4): 774-782.

Dela Fuente, J. A. 2021. Implementing inclusive education in the Philippines: College teacher experiences with deaf students. *Issues in Educational Research*, *31*(1): 94-110.

Department of Basic Education. 1997. *Quality Education for All: Overcoming barriers to learning and development*. NCSNET Report. Pretoria: Government Printers.

Department of Basic Education. 2011a. Curriculum and Assessment Policy Statement (CAPS) - Foundation Phase Home Language Grades R-3. Pretoria: Government Press.

Department of Basic Education. 2014. Policy on Screening Identification Assessment and Support. Department of Basic Education, Pretoria.

Department of Basic Education. 2021. Admission of learners to public schools. https://www.education.gov.za/Informationfor/ParentsandGuardians/SchoolAdmissions.aspx Online. [Accessed 19 September 2022].

Department of Basic Education. Vote no 14 Annual Report 2015/2016.

Department of Basic Education. 2021. Initial Teacher Education. https://www.education.gov.za/Informationfor/Teachers/InitialTeacherEducation.aspx [accessed 23.March.2023].

Department of Education. 2001. Education White Paper 6: Special Needs Education: Building an Inclusive Education and Training System, Pretoria.

Department of Education. 2005. Implementing Inclusive Education: Conceptual and Operational Guidelines for District-based Support Teams. Pretoria.

Department of Education. 2007. Guidelines to ensure quality education and support in Special schools and Special School Resource Centres. Pretoria.

Devecchi, C., Dettori, F., Doveston, M., Sedgwick, P., & Jament, J. (2012). Inclusive classrooms in Italy and England: The role of support teachers and teaching assistants. European journal of special needs education, 27(2), 171-184.

Dhada, B. L., and Blackbeard, D. R. 2019. Caregivers of children with diabetes mellitus: challenges of caring for and perceptions of consultations in a South African public sector context. *South African Family Practice*, *61*(4):117-135.

Dhanesha, U., Polack, S., Bastawrous, A., and Banks, L. M. 2018. Prevalence and causes of visual impairment among schoolchildren in Mekelle, Ethiopia. *Cogent Medicine*, *5*(1): 1554832.

Diagnostic review of early childhood development. 2012. Human Sciences Research Council.

Dicicco-Bloom, B. and Crabtree, B.F. 2006. The Qualitative Research Interview. Medical Education, 40: 314-321. http://dx.doi.org/10.1111/j.1365-2929.2006.02418.x Online. [Accessed 27 September 2022].

Dimpal Gulwani. 2022. Physiotherapy Needs Unmet in Special schools. The soft copy. http://thesoftcopy.in/2022/03/03/physiotherapy-needs-unmet-in-special-schools/. Online. [Accessed 29 September 2022 13h21].

Disability Teachers Network. 2018. https://disabledteachersnetwork.weebly.com/

DispatchLIVE. 24 Dec 2021. https://www.dispatchlive.co.za/news/2021-12-24-sahrc-to-tackle-post-vacancies-at-limpopo-special-needs-schools/ Online. [Accessed 7 July 2022].

Doorenbos, A. Z. 2014. Mixed methods in nursing research: an overview and practical examples. *Kango kenkyu. The Japanese journal of nursing research*, *47*(3), 207.

Downs, S. J., Boddy, L. M., McGrane, B., Rudd, J. R., et al., 2020. Motor competence assessments for children with intellectual disabilities and/or autism: a systematic review. *British Medical Journal open sport and exercise medicine*, *6*(1):e000902.

Dreyer, L., Engelbrecht, P., & Swart, E. (2012). Making learning support contextually responsive. Africa Education Review, 9(2), 270-288.

Du Plessis, P., and Mestry, R. 2019. Teachers for rural schools–a challenge for South Africa. *South African Journal of Education*, *39*.

Ebert, J. F., Huibers, L., Christensen, B., and Christensen, M. B. 2018. Or web-based questionnaire invitations as a method for data collection: a cross-sectional comparative study of differences in response rate, completeness of data, and financial cost. *Journal of medical Internet research*, *20*(1), e8353.

Effgen, S. K., Chiarello, L., and Milbourne, S. A. 2007. Updated competencies for physical therapists working in schools. *Pediatric Physical Therapy*, *19*(4), 266-274.

Effgen,S.K. and Kaminker, M.K. 2014. Nationwide survey of school-based physical therapy practice. *Pediatric Physical Therapy,* 26: 394-403.

Ehwerhemuepha, L., Sok, H., and Rakovski, C. 2019. A more powerful unconditional exact test of homogeneity for 2× c contingency table analysis. *Journal of Applied Statistics*. 46(14), 2572-2582

Elo, S., & Kyngäs, H. 2008. The qualitative content analysis process. *Journal of Advanced Nursing*, 62(1), 107-115.

Engelbrecht, J., Borba, M. C., Llinares, S., and Kaiser, G. 2020. Will 2020 be remembered as the year in which education was changed? *Zdm Mathematics Education*, *52*, 821-824.

Engelbrecht, P. 2006. The implementation of inclusive education in South Africa after ten years of democracy. *European journal of psychology of education*, *21*, 253-264.

Engelbrecht, P., Oswald, M. M., and Forlin, C. 2006. *Transforming schools: using the" Index for Inclusion" in South Africa*.

Engelbrecht, P., Oswald, M., Swart, E., and Eloff, I. 2003. Including learners with intellectual disabilities: stressful for teachers? *International Journal of Disability, Development and Education*, 50(3), 293–308.

Erickson, H. 2017. How do parents choose schools, and what schools do they choose? A literature review of private school choice programs in the United States. *Journal of School Choice*,11, 1-16.

Etikan, I., Musa, S.A. and Alkassim, R.S. 2016. Comparison of Convinience Sampling and Purposive Sampling. *American Journal of Theoretical and Applied Statistics,*5(1),1-4.

Ferreira, N. 2019. *In-Service Teacher Preparation To Implement Inclusive Education In Grade R.* Doctoral dissertation, University of South Africa).

Fixen, D., Blase, K., Naoom, S., and Duda, M. 2013. Implementation Drivers: Assessing Best Practices. *National Implementation Research Network*, 4,1-32.

Fixsen, D.L., Blase, K., Naoom, S., Metz, A., Louison, L., and Ward, C. 2015. Implementation Drivers: Assessing Best Practices. Chapel Hill, NC: *National Implementation Research Network*, University of North Carolina at Chapel Hill.

Florian, L., and Rouse, M. 2010. Teachers' professional learning and inclusive practice. In Confronting obstacles to inclusion (pp. 203-218). Routledge.

Florina, L. and Spratt, J. 2013. Enacting Inclusion: A framework for Interrogating Inclusive Practice. *European Journal of Special Needs Education,* 28(2), 119-135.

Fofana, F., Bazeley, P., and Regnault, A. 2020. Applying a mixed methods design to test saturation for qualitative data in health outcomes research. *PloS one*, *15*(6), e0234898.

Friend, M., and Cook, L. 2013. *Interactions: Collaboration skills for school professionals* (7th ed.). Upper Saddle River, NJ: Pearson Education.

Frontline. https://www.csp.org.uk/frontline/article/making-impact-physiotherapy-special-schools. *Physiotherapy magazine*.. Frontline. [Accessed 29 September 2022].

Gallahue, D.L., Ozmun, J.C. and Goodway, J. 2012. *Understanding motor development: Infants, children, adolescents, adults*. 7th ed. New York, NY: McGraw-Hill Education.

Galvez, M. 2000. *Towards an inclusive education.* Paper presented at the international special educational congress. University of Manchester: 20-28 July, 2000. Unpublished paper.

Gardiner, M. 2008. Education in rural areas. *Issues in education policy*, *4*, 1-33.

Geldenhuys, J. L. and Wevers, N. E. J. 2013. Ecological aspects influencing the implementation of inclusive education in mainstream primary schools in the Eastern Cape, South Africa. *South African Journal of Education,* 33(3): 1-18.

Geldenhuys, J. L., and Wevers, N. E. J. 2013. Ecological aspects influencing the implementation of inclusive education in mainstream primary schools in the Eastern Cape, South Africa. South African Journal of Education, 33(3).

George, D. and Mallery, P. 2003. *SPSS for Windows step by step: A simple guide and reference. 11.0 update* (4th ed.). Boston: Allyn and Bacon.

Gibb, K., Tunbridge, D., Chua, A. and Frederickson, N. 2007. Pathways to inclusion: Moving from special school to mainstream. *Educational Psychology in Practice*. 23(2),109-127.

Gidwitz, R. J., and Wish, C. E. R. 2003. Illinois State Board of Education.

Gillard, J. 2020. One-Way Analysis of Variance (ANOVA). In: A First Course in Statistical Inference. Springer Undergraduate Mathematics Series. Springer, Cham.

Graneheim, U. H., & Lundman, B. 2004. Qualitative content analysis in nursing research: concepts, procedures and measures to achieve trustworthiness. Nurse education today, 24(2), 105-112.

Gray, J.R., Grove, S.K. and Sutherland, S. 2017. *Burns and Grove's the practice of nursing research: Appraisal, synthesis, and generation of evidence* (8th ed.). Elsevier.

Greene, J. C. 2007. *Mixed methods in social inquiry* (Vol. 9). John Wiley and Sons.

Greene, J.C. and Hall, J.N. 2010. Dialectics and pragmatism. *In SAGE handbook of mixed-methods in social and behavioural research, Eds.* Abbas Tashakkori and Charles Teddlie, 2nd, 119-167. Los Angeles: Sage.

Greene, L. 2001. Theoretical and contextual background. In P. Engelbrecht, and L. Green (Eds.), *Promoting Learner Development Preventing and Working with Barriers to Learning,* 3-16. Pretoria: Van Schaik.

Grobbelaar, M. 2020. *School Management Teams' Perception of the Strategy of Screening, Identification, Assessment and Support in a Mainstream School*. University of Johannesburg (South Africa).

Groves, R.M. 2006. Nonresponse Rates and Nonresponse Bias in Household Surveys, *Public Opinion Quarterly*, 70(5):646–675, https://doi.org/10.1093/poq/nfl033.

Grynova, M., & Kalinichenko, I. 2018. Trends in Inclusive Education in the USA and Canada. *Comparative Professional Pedagogy*, *8*(2), 28-34.

Guest, G., Bunce, A. and Johnson, L. 2006. How many interviews are enough? An experiment with data saturation and variability. *Field Methods*, *18*(1), 59-82.

Guest, G., Namey, E. and McKenna, K. 2016. How many focus groups are enough? Building an Evidence Base for Non-Probability sample sizes. *Field Methods*, 9(1), 3–22. doi:10.1177/1525822X16639015.

Guzmán-Valenzuela. 2017. Universities, knowledge and pedagogical configurations: glimpsing the complex university. Educational Philosophy and Theory. http://www.tandfonline.com/eprint/zKbCcka4zyn3GFbsVD8k/full. *Educational Philosophy and Theory*. 50. 10.1080/00131857.2017.1313717.

Haidich, A.B. 2010. Meta-analysis in medical research. *Hippokratia*.14(Suppl1):29-37.

Hall, J. 2018. *Integration, Inclusion–What does it all mean? In Whose Choice*? Routledge: 82-102.

Hallahan, D., Pullen, P., Kauffman, J. and Badar, J. 2019. Exceptional Learners. *Oxford Research Encyclopedia of Education.* https://oxfordre.com/education/view/10.1093/acrefore/9780190264093.001.0001/acrefore-9780190264093-e-926.

Han, J., and Yin, H. 2016. Teacher motivation: Definition, research development and implications for teachers. Cogent education, 3(1), 1217819.

Harjpal, P., Raipure, A., and Kovela, R. K. 2022. The effect of neuro-physiotherapy on gross motor function in a male child with spastic diplegic cerebral palsy: a case report. *Cureus*, *14*(9).

Hatch, R. *R&E SEARCH for Evidence*. 2022. https://researchforevidence.fhi360.org/disability-screening-tools-and-when-to-use-them-lessons-learned-under-the-equity-initiative Online. [Accessed 11 September 2022].

Hauwadhanasuk, T., Zhuang, M., Everson, S. T., Yu, S., et al., 2019. School Leadership to Increase Inclusive Education Practices in China, Thailand, and Turkey. *Leading Schools with Unique Populations: An International Perspective on School Leadership*, *17*.

Hay, J.F., Smit, J., and Paulsen, M. 2007. Teacher preparedness for inclusive education. *SuidAfrikaanseTydskrifvirOpvoedkunde,*21 (4): 213-218.

Hayward, C., Simpson, L. and Wood, L. 2004. Still left out in the cold: problematising participatory research and development. *Sociologia Ruralis*, *44*(1): 95-108.

Health Navigator, “Care planning” https://www.healthnavigator.org.nz/clinicians/c/care-planning/ [Accessed 6 April 2021].

Hemmingsson, H., Gustavsson, A., & Townsend, E. 2007. Students with disabilities participating in mainstream schools: Policies that promote and limit teacher and therapist cooperation. Disability & Society, 22(4), 383-398.

Hennink, M. M., Kaiser, B. N., and Weber, M. B. 2019. What influences saturation? Estimating sample sizes in focus group research. *Qualitative health research*, *29*(10): 1483-1496.

Hess, S. A. 2020. *Teachers perceptions regarding the implementation of the Screening, Identification, Assessment and Support (SIAS) policy in mainstream schools* (Doctoral dissertation, Stellenbosch: Stellenbosch University).

Hodgson, K. and Khumalo, S. 2016. Too many children left behind: exclusion in the South African inclusive education system with a focus on the Umkhanyakude District, KwaZulu-Natal. South Africa: *Ministry of Health Report*.

Holmqvist, M. and Lelinge, L. 2021. Teachers' collaborative professional development for inclusive education, *European Journal of Special Needs Education*,36(5):819-833. DOI: 10.1080/08856257.2020.1842974.

Hossain, M. 2012. An overview of inclusive education in the United States. *Communication technology for students in special education and gifted programs*, 1-25.

HPCSA. 2022. https://www.hpcsa.co.za/ [22 December 2022].

https://www.gov.za/services/education-and-training-bodies/register-private-higher-education-institution [Accessed 19 October 2022].

https://www.usa.edu/blog/how-to-write-a-care-plan/ [Accessed 29 September 2022].

Independent Online, 2022. https://www.iol.co.za/ [Accessed 29 September 2022].

Isaacs, A. M., Riva-Cambrin, J., Yavin, D., Hockley, A., et al., 2018. Age-specific global epidemiology of hydrocephalus: Systematic review, metanalysis and global birth surveillance. *PloS one*, *13*(10):e0204926. https://doi.org/10.1371/journal.pone.0204926.

Jacobs-Nzuzi Khuabi, L.J. 2018. *Occupational Resilience: An Occupational Therapy practice model facilitating high school participation post traumatic brain injury*. PhD dissertation. Stellenbosch University.

Jassim, G. A., and Whitford, D. L. 2014. Understanding the experiences and quality of life issues of Bahraini women with breast cancer. *Social science and medicine*, *107*:189-195.

Jeffries, L. M., McCoy, S. W., Effgen, S. K., Chiarello, L. A., and Villasante Tezanos, A. G. 2019. Description of the services, activities, and interventions within school-based physical therapist practices across the United States. *Physical therapy*, *99*(1), 98-108.

Jehanzeb, K., and Bashir, N. A. 2013. Training and development program and its benefits to employee and organization: A conceptual study. European Journal of business and management, 5(2).

Jita, L.C. and Mokhele, M.L. 2014. When teacher clusters work: selected experiences of South African teachers with the cluster approach to professional development. *South African Journal of Education,* 34: 01-15.

Johnson, R. B. 2012. Dialectical pluralism and mixed research. *American Behavioral Scientist*, *56*(6): 751-754.

Johnson, R. B. 2017. Dialectical Pluralism: A metaparadigm whose time has come. *Journal of Mixed Methods Research,* 11 (2): 156-173.

Johnson, R. B., and Christensen, L. 2014. Educational research: Quantitative, qualitative and mixed approaches (5th ed.). Sage Publications, Inc.

Johnson, R. W., Williams, S. A., Gucciardi, D. F., Bear, N., et al. 2020. Can an online exercise prescription tool improve adherence to home exercise programmes in children with cerebral palsy and other neurodevelopmental disabilities? A randomised controlled trial. *British Medical Journal open*, *10*(12): e040108.

Johnson, R.B. and Christensen, L. 2013. *Educational research: Quantitative, qualitative and mixed approaches* (5th ed.). Thousand Oaks, CA: Sage.

Kaelin, V. C., Ray-Kaeser, S., Moioli, S., Kocher Stalder, C., Santinelli, L., Echsel, A., and Schulze, C. 2019. Occupational therapy practice in mainstream schools: results from an online survey in Switzerland. *Occupational therapy international*, *2019*.

Kamberelis, G. and Dimitriadis, G. 2014 'Focus group research: retrospect and prospect'. In P.Leavy, (ed.), *The Oxford Handbook of Qualitative Research*. Oxford, NY: Oxford University Press, 315–40.

Kauffman, J. M., Anastasiou, D., Badar, J., Travers, J. C., and Wiley, A. L. 2016. Inclusive education moving forward. In *General and special education inclusion in an age of change: Roles of professionals involved* (Vol. 32, pp. 153-178). Emerald Group Publishing Limited

Kayesa, N. K., and Shung-King, M. 2021. The role of document analysis in health policy analysis studies in low and middle-income countries: Lessons for HPA researchers from a qualitative systematic review. *Health Policy OPEN*, *2*: 100024.

Kempen, M. E. 2013. *Developing the professional capacity of educators teaching in the context of a special school through collaboration and peer coaching* (Doctoral dissertation).

Kempen, M., and Steyn, G. M. 2016. Proposing a Continuous Professional Development Model to Support and Enhance Professional Learning of Teachers in Special schools in South Africa. *International Journal of Special Education*, *31*(1), 32-45.

Kennedy, A. 2005. Models of Continuing Professional Development: a framework for analysis. *Journal of In-service Education*, 31(2), 551-569.

Kennedy, E., and Shiel, G. 2010. Raising literacy levels with collaborative on-site professional development in an urban disadvantaged school. *The Reading Teacher*, 63(5), 372-383.

Khasnabis, C., Motsch, K. H., Achu, K., Al Jubah, K., Brodtkorb, S., Chervin, P.,and Lander, T. 2010. About the CBR guidelines. Community-Based Rehabilitation: CBR Guidelines.

King-Sears, M. E., Janney, R., and Snell, M. E. 2015. *Collaborative teaming: Teachers' guides to inclusive practices* (3rd ed.). Baltimore, MD: Brookes.

Korthals, R., Schils, T. and Borghans, L. 2021. Track placement and the development of cognitive and non-cognitive skills. *Education Economics*, 1-20.

Kotze, J. D. 2009. *Barriers and facilitators therapists experience regarding their support provision in an inclusive education system* (Doctoral dissertation).

Kozleski, E. 2020. Disrupting What Passes as Inclusive Education: Predicating Educational Equity on Schools Designed for All. *The Educational Forum*, 84(4), 340355. DOI: 10.1080/00131725.2020.1801047.

Kumar, A., Kumar Singh, S., and Kumar,G. (2017). Effectiveness of In-House Training on Technical Employees in Biotech Industry*. Journal of Technical Education and Training*, 9(1). Retrieved from https://penerbit.uthm.edu.my/ojs/index.php/JTET/article/view/1452

Kurth, J., and Foley J. 2014. *Reframing teacher education: preparing teachers for inclusive education*. Inclusion, 2(4), 286–300.

Kuyini, A. B., and Mangope, B. 2011. Student Teachers' Attitudes and Concerns about Inclusive Education in Ghana and Botswana. *International Journal of whole schooling*, *7*(1), 20-37.

Laverdure, P.A. and Rose, D.S. 2012. Providing educationally relevant occupational and physical therapy services. *Physical and Occupational Therapy in Pediatrics,* 32(4), 347-354.

Lee, R. L., West, S., Tang, A. C., Cheng, H. Y., et al.,2021. A qualitative exploration of the experiences of school nurses during COVID-19 pandemic as the frontline primary health care professionals. *Nursing Outlook*, *69*(3): 399-408.

Legrand, A., Bui-quoc, E., Wiener, V.S., Ribot, J., et al., 2011. Postural control in children with strabismus: Effect of eye surgery. *Neuroscience Letters,* 501, 96-101.

Lepkowska, D. 2012. Where are the disabled teachers? https://www.theguardian.com/education/2012/nov/12/disabled-not-encouraged-teacher-training-costs [Accessed on 2 July 2021].

Leroy, Z. Wallin, R. and Lee, S. 2017.The role of school health services in addressing the needs of students with chronic health conditions: a systematic review. *Journal of School Nursing*,33(1):64–72.

Lesar, I., and Žveglič Mihelič, M. 2020. Beliefs of university staff teaching in pedagogical study programmes on concept (s) of inclusiveness–the case of Slovenia. *International Journal of Inclusive Education*, *24*(7), 739-753.

Lewis, J. (2016). Using ATLAS. ti to facilitate data analysis for a systematic review of leadership competencies in the completion of a doctoral dissertation. *Available at SSRN 2850726*.

Liwanag, H. J., and Wyss, K. 2018. What conditions enable decentralization to improve the health system? Qualitative analysis of perspectives on decision space after 25 years of devolution in the Philippines. *PLoS One*, *13*(11): e0206809.

Lloyd, A., Roberts, AR. and Freeman, J.A. 2014. 'Finding a balance' in involving patients in goal setting early after stroke: a physiotherapy perspective. *Physiotherapy Research International*,19(3):147–57.

Logan, S.W., Ross, S.M., Chee, K, et al., 2018. Fundamental motor skills: a systematic review of terminology. *Journal of Sports Sciences*, 36:781–96.

Lourens, H., McKinney, E. L., and Swartz, L. 2016. Disability and education: More than just access. *The Palgrave international handbook of education for citizenship and social justice*, 121-141.

Louw, Q. A., Berner, K., Tiwari, R., Ernstzen, D., et al., 2021. Demographic transformation of the physiotherapy profession in South Africa: A retrospective analysis of HPCSA registrations from 1938 to 2018. *Journal of Evaluation in Clinical Practice*, *27*(4): 907-916.

Lund research. 2018.https://statistics.laerd.com/ (accessed 17 August 2021)

Lurits and Information Management Systems. 2022. https://www.isasa.org/lurits-and-information-management-systems/

Lurits. https://www.lurits2.doe.gov.za/ [Accessed 16 August 2022].

Mabaso, N. M. 2020. *An exploration of foundation phase teachers' understanding and implemementation [sic] of the inclusive education: experiences of school-based support teams in Ilembe District* (Doctoral dissertation).

Maddock, L., and Maroun, W. 2018. Exploring the present state of South African education: Challenges and recommendations. *South African Journal of Higher Education*, 32(2), 192-214.

Mafa, O. 2012. Challenges of implementing inclusion in Zimbabwe's Education System. *Online journal of Education research*, *1*(2), 14-22.

Majid,A., Othman, M.A., Mohamad, S. F., and Lim, S. 2018. Achieving data saturation: evidence from a qualitative study of job satisfaction. *Social and Management Research Journal*, *15*(2), 65-77.

Majoko, T. and Phasha, N. 2018. *The state of inclusive education in South Africa and the implications for teacher training programmes*. South Africa: British Council.

Makhalemele, T., and Tlale, L. D. 2020. Exploring the effectiveness of school-based support team in special schools to support teachers. *e-BANGI*, *17*(3): 100-110.

Makoelle, T. M. 2012. The state of inclusive pedagogy in South Africa: A literature review. *Journal of Sociology and Social Anthropology*, *3*(2), 93-102.

Makwela, M. M. and Smit, E. I. 2022. Psychosocial challenges of children with disabilities in Sekhukhune District, Limpopo province of South Africa: Towards a responsive integrated disability strategy. *African Journal of Disability*, *11*, 799.

Malatji, M. T. 2020. *Rural development outcomes and policies in South Africa's Limpopo Province* (Doctoral dissertation).

Manamela, M., Eksteen, C., Mtshali**,** B. and Olorunju, S. A. 2021. South African physiotherapists' perspectives on the competencies needed to work in special schools for learners with special needs. *The South African Journal of Physiotherapy*, *77*(1).

Mangope, B., Otukile-Mongwaketse, M., Dinama, B., and Kuyini, A. B. 2018. Teaching practice experiences in inclusive classrooms: The voices of University of Botswana special education student teachers. *International Journal of Whole Schooling*, 14(1), 57-92.

Maphalala, M. and Mpofu, N. 2019. South Africa must up its game and produce more teachers. The conversation. https://theconversation.com/south-africa-must-up-its-game-and-produce-more-teachers-125752 [Accessed 28 June 2021].

Maphumulo, T. B. 2019. *Exploring the role of a school-based support team (SBST) in supporting teachers at a rural primary school* (Doctoral dissertation).

Marquis, S., Hayes, M. V., and McGrail, K. 2019. Factors affecting the health of caregivers of children who have an intellectual/developmental disability. *Journal of Policy and Practice in Intellectual Disabilities*, *16*(3), 201-216.

Matolo, M. F., and Rambuda, A. M. 2022. Evaluation of the Application of an Inclusive Education Policy on Screening, Identification, Assessment and Support of the Learners at Schools in South Africa. *International Journal of Education and Practice*, *10*(1), 11-24.

Mbokazi, M. S., Mkhasibe, R. G., & Ajani, O. A. 2022. Evaluating the Promotion Requirements for the Appointment of Office-Based Educators in the Department of Basic Education in South Africa. *International Journal of Higher Education*, *11*(2), 181-191.

McDonald, R. P. 2014. *Factor analysis and related methods*. Psychology Press.

Measures for determining quotas of hostel supervisors in public schools. Circular no 285 of 2011. https://www.msmonline.co.za/wp-content/uploads/2017/01/MSM-Chapter-8.11.1-Limpopo-appointment-of-educators-to-perform-supervisory-duties-in-hostels-AESDH.pdf

Medical Dictionary for the Health Professions and Nursing, Farlex, “nursing care plan”, 2012. https://medical-dictionary.thefreedictionary.com/nursing+care+plan

Meerhoff, G. A., van Dulmen, S. A., Maas, M. J., Bakker-Jacobs, A., et al., 2021. Exploring the perspective of patients with musculoskeletal health problems in primary care on the use of patient-reported outcome measures to stimulate quality improvement in physiotherapist practice; a qualitative study. *Physiotherapy theory and practice*, *37*(9), 993-1004.

Mental Health Care Act No.17 of 2002. https://www.gov.za/sites/default/files/gcis_document/201409/a17-02.pdf

Mgojo, V. S. 2019. Educators and school governing bodies’ perceptions on rationalisation and redeployment in the Alfred-Nzo West District: advancing an argument for policy change.

Michaela, C., Pascoe, S. E., Parker, A.G. 2020. The impact of stress on students in secondary school and higher education, *International Journal of Adolescence and Youth*, 25(1): 104-112, DOI: 10.1080/02673843.2019.1596823.

Mitchell, P.F. 2011. Evidence-based practice in real-world services for young people with complex needs: New opportunities suggested by recent implementation science. *Children and Youth Services Review,* 33 (2): 2017-216.

Mkabile, S., Garrun, K. L., Shelton, M., and Swartz, L. 2021. African families' and caregivers' experiences of raising a child with intellectual disability: A narrative synthesis of qualitative studies. *African Journal of Disability (Online)*, *10*: 1-10.

Mohamed Madi, S., Mandy, A., and Aranda, K. 2019. The Perception of Disability Among Mothers Living With a Child With Cerebral Palsy in Saudi Arabia. *Global Qualitative Nursing Research, 6*.

Moleme, M. J. 2020. *Addressing Neurodevelopmental Learning Needs by a School-based Support Team in a Full-Service School*. University of Johannesburg (South Africa).

Monika. 2018. Inclusive education in India. *Remarking an Analyzation.* 3(9):54-57.

Moodley, G. 2013. Implementation of the curriculum and assessment policy statements: challenges and implications for teaching and learning. University of South Africa, Pretoria. http://hdl.handle.net/10500/13374>

Moore, G.F., Audrey, S., Barker, M., Bond, L., et al. 2015. Process evaluation of complex interventions: Medical Research Council guidance. *British Medical Journal*,350:1258.

Moosa, S. and Bhana, D. 2017. Men managing, not teaching Foundation Phase: teachers, masculinity and the early years of primary schooling. *Educational Review*, *69*(3):366-387.

Morelle, M. and Tabane, R. 2019. Challenges experienced by learners with visual impairments in South African township mainstream primary schools. *South African Journal of Education,* 39(3):1-6.

Morgan, D. 2008 Snowball Sampling. In: Given, L., Ed., *The SAGE Encyclopedia of Qualitative Research Methods*, SAGE Publications Inc., Thousand Oaks, 816-817.

Morgan, H. (2022). Conducting a Qualitative Document Analysis. Qualitative report, 27(1).

Morgan, W., and Novlette, L. 2015. *The Influence of School Leadership Practices on Classroom Management, School Environment, and Academic Underperformance*.

Moser, A. and Korstjens, I. 2018. Series: Practical guidance to qualitative research. Part 3: Sampling, data collection and analysis. *European journal of general practice*, *24*(1): 9-18.

Motiswe, J. 2014. The Role of Institute Level Support Teams on Addressing Barriers to Learning and Providing Support in Schools. Are They Functional? *Mediterranean Journal of Social Sciences*, 5(8): 2039-2117.

Mpanza, L. P. and Govender, S. 2022. Primary School-based Support Teams' Experiences And Practices When Supporting Teachers. *Multicultural Education*, *8* (2).

Murairwa, S. 2015. Voluntary sampling design. *International Journal of Advanced Research in Management and Social Sciences*, *4*(2): 185-200.

Muranda, A.Z. 2015. Promoting Learning Access for Learners with Physical Impairments: The Case of Three Special Schools in Harare, Zimbabwe. *International Journal of Science and Research 4* (7), 402-405

Murtonen, C. 2020. A comparative study on teachers' attitudes towards inclusive education in Slovenia, Lithuania, and Finland.

Murungi, L. N. 2015. Inclusive basic education in South Africa: Issues in its conceptualisation and implementation. *Potchefstroom Electronic Law Journal/Potchefstroomse Elektroniese Regsblad*, *18*(1), 3159-3195.

Mutepfa, M. M. and Tapera, R. 2018. *Handbook of Research Methods in Health Social Sciences.*

Muthukrishna, N., and Schoeman, M. 2000. From 'special needs' to 'quality education for all': A participatory, problem-centred approach to policy development in South Africa. *International journal of inclusive education*, *4*(4), 315-335.

Naidoo, P. 2019. Perceptions of teachers and school management teams of the leadership roles of public school principals. *South African Journal of Education*, *39*(2).

Nakidien, T., Singh, M., & Sayed, Y. (2021). Teachers and teacher education: Limitations and possibilities of attaining SDG 4 in South Africa. Education Sciences, 11(2), 66.

National Implementation Framework. 2013. Value for money and policy review of disability services. Ireland.

National Planning Commission. 2010. https://www.gov.za/sites/default/files/gcis_document/201409/npcdiagnosticoverview1.pdf

Nel, M., Engelbrecht, P., Nel, N., and Tlale, D., 2014. South African teachers' views of collaboration within an inclusive education system. *International Journal of Inclusive Education*, 18 (9), 903-917.

Nel, N. M., Tlale, L. D. N., Engelbrecht, P., & Nel, M. 2016. Teachers' perceptions of education support structures in the implementation of inclusive education in South Africa. *Koers,* 81(3), 1-14.

Nicholas, M., Rouse, E., and Paatsch, L. 2021. Child-centred teaching: Helping each child to reach their full potential. *Education Sciences*, *11*(6), 280.

Nield, K., and Nordstrom, A. 2016. Response Bias in Voluntary Surveys: An Empirical Analysis of the Canadian Census.

Nieman, R., Swanepoel, Z. and Marias, N. 2010. Challenging the 'Four Corner Press' as framework for invitational leadership in South African schools. *South African Journal of Industrial Psychology,*36 (1): 1-8.

Niemann, R. and Kotze, T. 2006. The relationship between leadership practices and organisational culture: An education management perspective. *South African Journal of Education,* 26 (4): 609-624.

Niemi, H. (2021). Education Reforms for Equity and Quality: An Analysis from an Educational Ecosystem Perspective with Reference to Finnish Educational Transformations. *Center for Educational Policy Studies Journal*, 11(2), 13-35.

Nisar, S. and Siddiqui, D. A. 2019. A Survey on the Role of Fringe Benefits in Employee Satisfaction–An Analysis of Organisations of Pakistan. *International Journal of Human Resource Studies*, *9*(1), 232-252.

Ntombela, S. 2011. The progress of Inclusive education in South Africa: Teachers' experiences in a selected district, Kwazulu-Natal. *Improving Schools,* 14(1): 5-14.

Ntombela, S. and Raymond, E.B. 2013. *Making Inclusive Education Work in Classrooms.* Cape Town: Pearson Holdings.

Ntseto, R. M., Kgothule, R. J., Ugwuanyi, C. S., and Okeke, C. I. 2021. Exploring the impediments to the implementation of policy of screening, identification, assessment and support in schools: Implications for Educational Evaluators. *Journal of Critical Reviews*, *8*(2),1383-1392.

Nyaaba, M., Aboyinga, J., and Akanzire, B. N. 2021. Pre-service Parents Teachers' Attitude and Perceived Challenges about Inclusive Education in Ghana: The Ghanaian Inclusive Education Policy. *American Journal of Educational Research*, *9*(6): 341-346.

Oberer, N., Gashaj, V., and Roebers, C. M. 2018. Executive functions, visual-motor coordination, physical fitness and academic achievement: Longitudinal relations in typically developing children. *Human movement science*, *58*: 69-79.

Onwuegbuzie, A.J and Frels, R.K. 2015. A framework for conducting Critical Dialectical Pluralist Focus Group Discussions Using Mixed Method Research Techniques. *Journal of Educational Issues,* 1(2): 159-177.

Onwuegbuzie, A.J and Teddlie, C.B. 2003. A framework for analysing data in mixed method research. In: Tashakkori A and TeddlieC.B. (eds) *Handbook of Mixed Methods in Social and Behavioural Research.* Thousand Oaks, CA: SAGE: 351-384.

Oskoui, M., Coutinho, F., Dykeman, J., Jette, N., et al. 2013. An update on the prevalence of cerebral palsy: a systematic review and meta-analysis. *Developmental Medicine and Child Neurology*, *55*(6): 509-519.

Öztek Z. Kydd A. A new training approach for vaccinators: Cascade plus training. *Turkish Journal of Public Health* 2022;20(1):164-176.

Palinkas, L. A., Horwitz, S. M., Green, C. A., Wisdom, J. P., Duan, N., & Hoagwood, K. (2015). Purposeful Sampling for Qualitative Data Collection and Analysis in Mixed Method Implementation Research. Administration and policy in mental health, 42(5), 533–544. https://doi.org/10.1007/s10488-013-0528-y

Pandor, N. 2005. Address by the Minister of Education, Ms Naledi Pandor, MP. Presented at the Ntataise Conference on Early Childhood Development, Riversdale Hotel and Conference Centre.

Parmigiani, D., Benigno, V., Giusto, M., Silvaggio, C., et al. 2020. E-inclusion: online special education in Italy during the Covid-19 pandemic." Technology, *Pedagogy and Education*, DOI: 10.1080/1475939X.2020.1856714.

Parry, R.H. 2004. Communication during goal-setting in physiotherapy treatment sessions. *Clinical Rehabilitation*, 18(6):668–82.39.

Pascoe, M. C., Hetrick, S. E., and Parker, A. G. 2020. The impact of stress on students in secondary school and higher education. *International Journal of Adolescence and Youth*, *25*(1), 104-112.

Paseka, A. 2017. *Stand der Inklussion Aus Eltemsicht* [inclusion from a Parents' Perspective]. Munster and New York: Waxmann. 99-122.

Patel, D. R., Neelakantan, M., Pandher, K., and Merrick, J. 2020. Cerebral palsy in children: a clinical overview. *Translational pediatrics*, *9* (Suppl 1):S125.

Patton, M. Q. 2015. *Qualitative research and evaluation methods: Integrating theory and practice* (4th ed.). Thousand Oaks, CA: Sage.

Phasha, T., Bipath, K., & Beckmann, J. 2016. Teachers' experiences regarding continuous professional development and the curriculum assessment policy statement. International *Journal of Educational Sciences*, 14(1-2), 69-78.

Philp, F., Blana, D., Chadwick, E. K., Stewart, C., et al. 2018. Study of the measurement and predictive validity of the functional movement screen. *British Medical Journal open sport and exercise medicine*, *4*(1): e000357.

Philpott, S., McLaren, P. and Rule, S. 2020. Toward 'Rehab 2030': building on the contribution of mid-level community-based rehabilitation workers in South Africa. *South African Health Review*, *2020*(1): 155-162.

Physical therapy goal setting. 2001. *Physical Therapy*, 81(5),1118–26.

Pillay, M., Tiwari, R., Kathard, H., and Chikte, U. 2020. Sustainable workforce: South African audiologists and speech therapists. *Human Resources for Health*, *18*(1):1-13.

Pillay, SG. 2010. *The role of physiotherapy in Inclusive Education*. Unpublished master's degree dissertation. University of the Western Cape.

Polit, D.F. and Beck, C.T. 2017. *Nursing Research: Generating and Assessing Evidence. For Nursing Practice*. Lippincott Williams and Wilkins, Philadelphia.

Powell, J.P. 2010.The messiness of readiness. *Kappan Magazine*, 92 (3): 26-28.

Power DMS. Policy vs Procedure. https://www.powerdms.com/policy-learning-center/what-is-a-policy-vs.-a-procedure [Online accessed on 12 June 2023].

Pratt, B., and Peterson, M. L. 2019. The role of physical therapists in advancing special education. In *Interdisciplinary Connections to Special Education: Key Related Professionals Involved*. Emerald Group Publishing Limited.

Prior, M., Bavin, E. and Ong, B. 2011. Predictions of school readiness in five-to- six-year old children from an Australian longitudinal community sample. *Educational Psychology,* 31 (1): 3-16.

Psychological Society of South Africa. 2017. https://www.psyssa.com/psyssa-congress/1st-pan-african-congress-2017/

Purkey, W.K. and Novak, J. 1988. Education: By invitation only. In *Phi Delta Kappa Educational Foundation.* 1-33. New York: Bloomington.

Qualtrics. Qualtrics.com/uk/?r .Online. [Accessed 20 April 2020].

Quijano, Y. S. 2011. Inclusive Education: The Philippine Perspective. *Presentations for Vietnam*.

Raosoft. www.raosoft.com. Online. [Accessed 23 April 2020].

Rapport, M.J., Furze, J., Martin, K., Schreiber, J., et al. 2014. Essential competencies in entry level pediatric physical therapy education. *Pediatric Physical Therapy,* 26: 7-18.

Rapport, M.J.K. 2002. Personnel issues in school-based physical therapy: Supply and demand, professional preparation, certification and licensure (COPSSE Document NO.IB-2). Gainesville, FL: University of Florida, Center on Personnel Studies in Special Education

Raudeliūnienė, J., Davidavičienė, V., and Jakubavičius, A. 2018. Knowledge management process model. *Entrepreneurship and Sustainability* 5(3): 542-554. https://doi.org/10.9770/jesi.2018.5.3(10).

Rehman, A. A., & Alharthi, K. 2016. An introduction to research paradigms. *International Journal of Educational Investigations*, *3*(8), 51-59.

Report of the Implementation of EWP6. 2015. https://static.pmg.org.za/160308overview.pdf

Resolution 6/98 of Educators Labour Relations Council. https://elrc.org.za/wp-content/uploads/2020/10/No-6-of-1998.pdf.

Rivaz, M., Shokrollahi, P. and Ebadi, A. 2019. Online focus group discussions: An attractive approach to data collection for qualitative health research. *Nursing Practice Today*, *6*(1): 1-3.

Robergs, R. 2010. PEP 507: Research Methods. Introduction to Empirical Research. www.unm.edu> Online. [Accessed 27 April 2020].

Rodrigues, F. B., Campos, S., Chaves, C., and Martins, C. 2015. Family-school cooperation in the context of inclusion of children with special educational needs. *Procedia-Social and Behavioral Sciences*, *171*, 309-316.

Rosenbaum, P. L., Palisano, R. J., Bartlett, D. J., Galuppi, B. E. et al. 2008. Development of the gross motor function classification system for cerebral palsy. *Developmental Medicine and Child Neurology*, *50*(4): 249-253.

Rotte, K. 2014. IEP Use by General and special education teachers. SAGE Open 4(2). doi: 10.1177/2158244014530410.

Rutgers. Physical Disability. https://kines.rutgers.edu/dshw/disabilities/physical/1060-physical-disabilities

Saavedra, S.L. and Goodworth, A.D. 2020. Postural Control in Children and Youth with Cerebral Palsy. In: Miller, F., Bachrach, S., Lennon, N., O'Neil, M.E. (eds) Cerebral Palsy. Springer, Cham. https://doi.org/10.1007/978-3-319-74558-9_161

Salari, N., Fatahi, B., Valipour, E., Kazeminia, M., et al. 2022. Global prevalence of Duchenne and Becker muscular dystrophy: a systematic review and meta-analysis. *Journal of orthopaedic surgery and research*, *17*(1): 1-12.

Sandelowski, M. 2008. Reading, writing and systematic review. *Journal of Advanced Nursing* 64(1): 104–110 doi: 10.1111/j.1365-2648.2008.04813.x

Satpathy, D. I., Litt, D., Patnaik, B. C. M. and Mohapatra, M. D. 2019. Work-life balance as a parameter of job satisfaction in the manufacturing sector. *International Journal of Mechanical Engineering and Technology,* 10.

Saumure, K. and Given, L.M. 2008. Data saturation. In L.M Given (Ed.), The Sage.

Schein, E.H. 2000. *Organisational culture and leadership. A dynamic view.* San Francisco: Jossey-Bass Publishers.

Schmidt, M., and Vrhovnik, K. 2015. Attitudes of teachers towards the inclusion of children with special needs in primary and secondary schools. *Hrvatska revija za rehabilitacijska istraživanja*, 51(2), 16-30.

Schoeb, V. and Burge, E. 2011. Perceptions of patients and physiotherapists on patient participation: a narrative synthesis of qualitative studies. *Physiotherapy Research International*,17(2):80–91.

Schooling sector skills plan 2019 – 2020. https://www.etdpseta.org.za/education/sites/default/files/2018-09/SSP-2019-2020.pdf. [Accessed 9 October 2022].

Scudamore, E. M., Stevens, S. L., Fuller, D. K., Coons, J. M., et al. 2019. Use of functional movement screen scores to predict dynamic balance in physically active men and women. *The Journal of Strength and Conditioning Research*, *33*(7): 1848-1854.

Sesane, M., & Geyer, S. 2017. The perceptions of community members regarding the role of social workers in enhancing social capital in metropolitan areas to manage HIV and AIDS. *Social Work*, *53*(1), 1-25.

Sharpe, A. N., and Forsyth, R. 2013. Acute paediatric paraplegia: a case series review. E*uropean journal of paediatric neurology*, *17*(6): 620-624.

Shenton, A. K. 2004. Strategies for ensuring trustworthiness in qualitative research projects. *Education for information*, *22*(2): 63-75.

Shirley Ryan. AbilityLab, 2022. https://www.sralab.org/rehabilitation-measures. [Accessed 9 October 2022].

Shuck, K.D. and Rauer, W. 2018. The development of Content-Based Competencies and Emotional – Social Experiences in Inclusive Schools in Hamburg. *Die Deutsche Schule.*110 (2): 153-168.

Shukla, S. 2020. *Research Methodology and Statistics*. Ahmedabad: Rishit Publications.

Skhosana, R. M. 2020. The dilemma faced by NPOs in retaining social workers: A call to revisit the retention strategy. *Social Work*, *56*(2): 109-124.

Skrypnyk, T., Martynchuk, O., Klopota, O., Gudonis, V., et al. 2020. Supporting of children with special needs in inclusive environment by the teachers collaboration. *Pedagogika*, *138*(2): 193-208.

Smit, E., & Mpya, G. N. (2011). How educator perception has shaped inclusive teaching at a rural village school in South Africa. Child Abuse Research in South Africa, 12(2), 25-35.

Smith, J. M., John Sullivan, S., and David Baxter, G. 2009. Telephone focus groups in physiotherapy research: potential uses and recommendations. *Physiotherapy theory and practice*, *25*(4): 241-256.

Smith, M. 2022. Mothers' experience of having a child with cerebral palsy. A systematic review. *Journal of Pediatric Nursing*, *64*: 64-73.

Smits, D. W., Gorter, J. W., Riddell, C. A., Voorman, J. M., et al., 2019. Mobility and self-care trajectories for individuals with cerebral palsy (aged 1–21 years): a joint longitudinal analysis of cohort data from the Netherlands and Canada. *The Lancet Child and Adolescent Health*, *3*(8): 548-557.

Sokal, L., Woloshyn, D., Wilson, A. 2017. Pre-service Teachers with Disabilities: Challenges and Opportunities for Directors of Student Teaching in Western Canada. *The Canadian Journal for the Scholarship of Teaching and Learning*, 8(3).

South African Council for Social Service Professions. 2023. https://www.sacssp.co.za/statistics/ [accessed on 23 March 2023].

South Africa Institute of Race Relations 91st ANNUAL REPORT. https://admin.irr.org.za/about-us/annual-report/91st_annual_report_2020.pdf/view

South African Human Rights Commission. 2021. https://www.sahrc.org.za/

Stadio. https://stadio.ac.za/what-grade-r

Stanley, M. 2014. Qualitative descriptive: A very good place to start. In *Qualitative research methodologies for occupational science and therapy,* 37-52.

Statistics Solutions. https://www.statisticssolutions.com. Online. [Accessed 27 April 2020].

Stavsky, M., Mor, O., Mastrolia, S. A., Greenbaum, S., et al. 2017. Cerebral palsy—trends in epidemiology and recent development in prenatal mechanisms of disease, treatment, and prevention. *Frontiers in pediatrics*, *5*: 21. Doi: 10.3389/fped.2017.00021

Stefurak, T., Johnson, R.B. and Shatto, E. 2015. Mixed methods and dialectical pluralism. In L.A. Jason and D.S. Glenwick (Eds), *Handbook of methodological approaches to commnutiy-based research.* New York, NY: Oxford University Press.

Stevens, A., Köke, A., van der Weijden, T., and Beurskens, A. 2017. Ready for goal setting? Process evaluation of a patient-specific goal-setting method in physiotherapy. *BioMed Central health services research*, *17*(1): 1-10.

Stevens, A., Moser, A., Köke, A., van der Weijden, T., et al. 2016. The patient's perspective of the feasibility of a patient-specific instrument in physiotherapy goal setting: a qualitative study. *Patient preference and adherence*, *10*: 425.

Steyn, G.M. 2005. Exploring factors that influence the effective implementation of professional development programmes on invitational educational. *Journal of invitational Theory and Practice,* 11: 7-34.

Stofile, S., Raymond, E. and Moletsane, M. 2013. Understanding barriers to learning. In E. Raymond,E. and Piennaar, C. (Eds). *Making inclusive education work in classroom.* Cape Town: Pearson.

Struthers, P.M. 2005. The role of occupational therapy, physiotherapy and speech and language therapy in education support services in South Africa. Systematic Review. *British Medical Journal open sport and exercise medicine*, *6*(1): e000902.

Subramoney, K. A. 2017. *Assessment of support strategies in inclusive education in the Foundation Phase in the Umlazi District* (Doctoral dissertation, University of Zululand).

Suc, L., Bukovec, B., and Karpljuk, D. 2017. The role of inter-professional collaboration in developing inclusive education: Experiences of teachers and occupational therapists in Slovenia. *International Journal of Inclusive Education*, *21*(9): 938-955.

Sulasmi, E., and Akrim, A. 2019. Management construction of inclusion education in primary school. Kumpulan Makalah, *Jurnal Dosen*, *1*(1).

Sullivan-Bolyai, S., Bova, C., and Harper, D. 2005. Developing and refining interventions in persons with health disparities: The use of qualitative description. *Nursing outlook*, *53*(3): 127-133.

Surty, E. 2011. Quality education for rural schools in South Africa-challenges and solutions. *South African Rural Educator,* 1:8-15.

Swart, E. and Pettipher, R. 2016. A framework for understanding inclusion. In Landsberg, E. (ed). *Addressing barriers to learning: A South African perspective.* Pretoria: Van Schaik, pp. 3-28

Swinth, Y. and Hanft, B. 2002. School Based Practice: Moving Beyond 1:1 *Service Delivery. OT Practice* 7(16).

Talis. Teaching and Learning International Survey. 2018. Teachers and School Leaders as Lifelong Learners and Valued Professionals. https://www.oecd.org/education/talis/ [Accessed 27 September 2022].

Tashakkori, A. and Teddlie, C. 2010. *SAGE Handbook on mixed methods in Social and Behavioural science*. Thousand Oaks, CA: Sage.

Technopedia, 2012. https://www.datacenterknowledge.com/archives/2012/08/24/technopedia-normalizes-it-language. [Accessed 27 September 2022].

Techtarget.Implementation.https://www.techtarget.com/searchcustomerexperience/definition/implementation [Accessed 29 December 2022].

Thoele, K., Ferren, M., Moffat, L., Keen, A., and Newhouse, R. 2020. Development and use of a toolkit to facilitate implementation of an evidence-based intervention: a descriptive case study. *Implementation Science Communications*, *1*(1): 1-12.

Toney-Butler, T. J. and Thayer, J. M. 2022. Nursing process. In *StatPearls [Internet]*. StatPearls Publishing. https://www.ncbi.nlm.nih.gov/books/NBK499937/ [Accessed 27 September 2022].

Tswellang Special School, 2020. https://tswellang.co.za/ [Accessed 27 September 2022].

Turney, S. 2022. *Pearson Correlation Coefficient (r)* | *Guide and Examples.* Scribbr. https://www.scribbr.com/statistics/pearson-correlation-coefficient/ [Accessed 11 December 2022].

Unesco. 1994. The Salamanca statement and framework for action on special needs education. Adopted by the World Conference on Special Needs Education: Access and Quality, Salamanca, Spain, 7-10 June 1994. Paris: Unesco.

UNICEF, D. 2021. Seen, Counted, Included: Using data to shed light on the well-being of children with disabilities. New York, NY: UNICEF.

Unwin, J. and Sullivan, M. 2000. Satisfaction with a physiotherapy service to preschools. *Australian Journal of Physiotherapy*, 46:133-137.

Utley, B. L., and Rapport, M. J. K. 2002. Essential Elements of Effective Teamwork: Shared Understanding and Differences between Special Educators and Related Service Providers. *Physical disabilities: Education and related services*, *20*(2): 9-47.

van der Kemp, J., Ketelaar, M., and Gorter, J. W. 2021. Environmental factors associated with participation and its related concepts among children and youth with cerebral palsy: a rapid review. *Disability and Rehabilitation*, 44(9): 1571-1582. https://doi.org/10.1080/09638288.2021.1923839.

Van Eeuwijk, P., and Angehrn, Z. 2017. How to conduct a Focus Group Discussion (FGD). *Methodological Manual*.

Vera, M. 2021. "Nursing Care Plans (NCP): Ultimate Guide and Database" https://nurseslabs.com/nursing-care-plans/

Visser, M., Nel, M., De Klerk, M., Ganzevoort, A., Hubble, C., Liebenberg, A., ... and Young, M. 2020. The use of assistive technology in classroom activities for learners with motor impairments at a special school in South Africa. *South African Journal of Occupational Therapy*, *50*(2), 11-22.

Von Solms, N. 2020. *Exploring the experiences in mainstream schools with the implementation of the Policy on Screening, Identification, Assessment and Support (2014)* (Doctoral dissertation, University of the Free State).

Wahyuni, D. 2012. The research design maze: Understanding paradigms, Cases, Methods and Methodologies. Journal of applied management accounting research, 10(1): 69-80.

Waitoller, F. 2020. *Why are we not more inclusive? Examining neoliberal selective inclusionism. In Inclusive education: Global issues and controversies*. Edited by Boyle, C., Anderson, J., Page, A., and Mavropoulou, S. 89–107. Netherlands: Brill / Sense Publishers. https://doi.org/10.1163/9789004431171.

Walker, A.D. 2018. Disabled Teachers Network. https://disabledteachersnetwork.weebly.com/survey-results.html (Accessed 2 July 2021)

Walton, E., & Rusznyak, L. 2014. Affordances and limitations of a special school practicum as a means to prepare pre-service teachers for inclusive education. International Journal of Inclusive Education, 18(9), 957-974.

Walton, E., Nel, N., Hugo, H., and Muller, H. 2009. The extent and practice of inclusion in independent schools in South Africa. *South African Journal of Education*, *29*(1), 105-126.

Ward, C., Metz, A., Louison, L., Loper, A., & Cusumano, D. (2018). *Drivers Best Practices Assessment*. Chapel Hill, NC: National Implementation Research Network, University of North Carolina at Chapel Hill

Washington, WJO. 2010. *An investigation into the provision of support services for learners with physical disabilities in the two selected schools in Kisumu East District, Kenya*. Unpublished master's degree dissertation. Kenyatta University.

Wat, A. 2015. *Transforming the workforce for children birth through age 8: A unifying foundation*.

WCFID, 2010; case no 18678/2007. https://www.escr-net.org/caselaw/2011/western-cape-forum-intellectual-disability-v-government-republic-south-africa.

West, J. and Meier, C., 2020, 'Overcrowded classrooms – The Achilles heel of South African education?', *South African Journal of Childhood Education* 10(1): a617. https://doi.org/10.4102/ sajce. v10i1.617.

White, M. D., and Marsh, E. E. (2006). Content analysis: A flexible methodology. *Library Trends*, 55(1), 22-45.

Whitworth, J.E. 1993. Shortage of Occupational Therapy and Physical Therapy Personnel in Schools: Implications and Actions. *The American Journal of Occupational Therapy*.48 (4): 367-370.

Wildeman, A.E. and Nomdo, C. 2007. *Implementing inclusive education. How far are we? Occasional paper*, South Africa: IDASA

Wong, R. S. M., Ho, F. K. W., Wong, W. H. S., Tung, K. T. S., et al. 2018. Parental Involvement in Primary School Education: its Relationship with Children's Academic Performance and Psychosocial Competence through Engaging Children with School. *Journal of Child and Family Studies*, *27*(5): 1544-1555. https://doi.org/10.1007/s10826-017-1011-2.

World Health Organization (WHO) .https://www.who.int/teams/health-product-policy-and-standards/assistive-and-medical-technology/medical-devices/ppe [Accessed 5 September 2020].

World Health Organization (WHO). 2001. International Classification of Impairments, Activities and Participation. Geneva, Switzerland: WHO.

Wyse, S. E. 2011. What is the difference between qualitative research and quantitative research? *Research Gate*.

Young, H.R, Glerum, D.R, Wang, W. and Joseph, D.L. 2018. Who are the most engaged at work? A meta-analysis of personality and employee engagement. *Journal of Organizational Behaviour*, 39: 1330– 1346. https://doi.org/10.1002/job.2303

Zawedde-Muyanja, S., Nakanwagi, A., Dongo, J. P., Sekadde, M. P., et al. 2018. Decentralisation of child tuberculosis services increases case finding and uptake of preventive therapy in Uganda. *The international journal of tuberculosis and lung disease*, *22*(11):1314-1321.

Zhang, Y. 2006. Urban-Rural literacy gaps in Sub-Saharan Africa: the roles of socioeconomic status and school quality. *Comparative Education Review*, 50 (4): 581-602.

ANNEXURE A: Ethical clearance certificate

UNIVERSITEIT VAN PRETORIA
UNIVERSITY OF PRETORIA
YUNIBESITHI YA PRETORIA

Faculty of Health Sciences

Institution: The Research Ethics Committee, Faculty Health Sciences, University of Pretoria complies with ICH-GCP guidelines and has US Federal wide Assurance.

- FWA 00002567, Approved dd 18 March 2022 and Expires 18 March 2027.
- IORG #: IORG0001762 OMB No. 0990-0278 Approved for use through August 31, 2023

Faculty of Health Sciences **Research Ethics Committee**

14 April 2022

Approval Certificate
Annual Renewal

Dear Mrs MM Sibuyi,

Ethics Reference No.: 668/2020 – Line 2
Title: DEVELOPMENT OF A SCHOOL-BASED FRAMEWORK TO SUPPORT A TOOLKIT FOR LEARNERS WITH PHYSICAL DISABILITIES IN LIMPOPO PROVINCE

The **Annual Renewal** as supported by documents received between 2022-03-16 and 2022-04-13 for your research, was approved by the Faculty of Health Sciences Research Ethics Committee on 2022-04-13 as resolved by its quorate meeting.

Please note the following about your ethics approval:

- Renewal of ethics approval is valid for 1 year, subsequent annual renewal will become due on 2023-04-14.
- Please remember to use your protocol number (668/2020) on any documents or correspondence with the Research Ethics Committee regarding your research.
- Please note that the Research Ethics Committee may ask further questions, seek additional information, require further modification, monitor the conduct of your research, or suspend or withdraw ethics approval.

Ethics approval is subject to the following:

- The ethics approval is conditional on the research being conducted as stipulated by the details of all documents submitted to the Committee. In the event that a further need arises to change who the investigators are, the methods or any other aspect, such changes must be submitted as an Amendment for approval by the Committee.

We wish you the best with your research.

Yours sincerely

On behalf of the FHS REC, Dr R Sommers
MBChB, MMed (Int), MPharmMed, PhD
***Deputy Chairperson** of the Faculty of Health Sciences Research Ethics Committee, University of Pretoria*

The Faculty of Health Sciences Research Ethics Committee complies with the SA National Act 61 of 2003 as it pertains to health research and the United States Code of Federal Regulations Title 45 and 46. This committee abides by the ethical norms and principles for research, established by the Declaration of Helsinki, the South African Medical Research Council Guidelines as well as the Guidelines for Ethical Research: Principles Structures and Processes, Second Edition 2015 (Department of Health)

Research Ethics Committee
Room 4-60, Level 4, Tswelopele Building
University of Pretoria, Private Bag x323
Gezina 0031, South Africa
Tel +27 (0)12 356 3084
Email: deepeka.behari@up.ac.za
www.up.ac.za

Fakulteit Gesondheidswetenskappe
Lefapha la Disaense tša Maphelo

ANNEXURE B: Biostatistician clearance letter

Date: 11 / 08 / 2020

LETTER OF CLEARANCE FROM THE BIOSTATISTICIAN

This letter is to confirm that,

Name(s): Makwena Midah Sibuyi

from the University of Pretoria

discussed with me the study titled: Development of the School-Based Tool Implementation Framework For Learners with Physical Disabilities in Limpopo province: Dialectical Pluralism Mixed-Method

I hereby confirm that I am aware of the project.

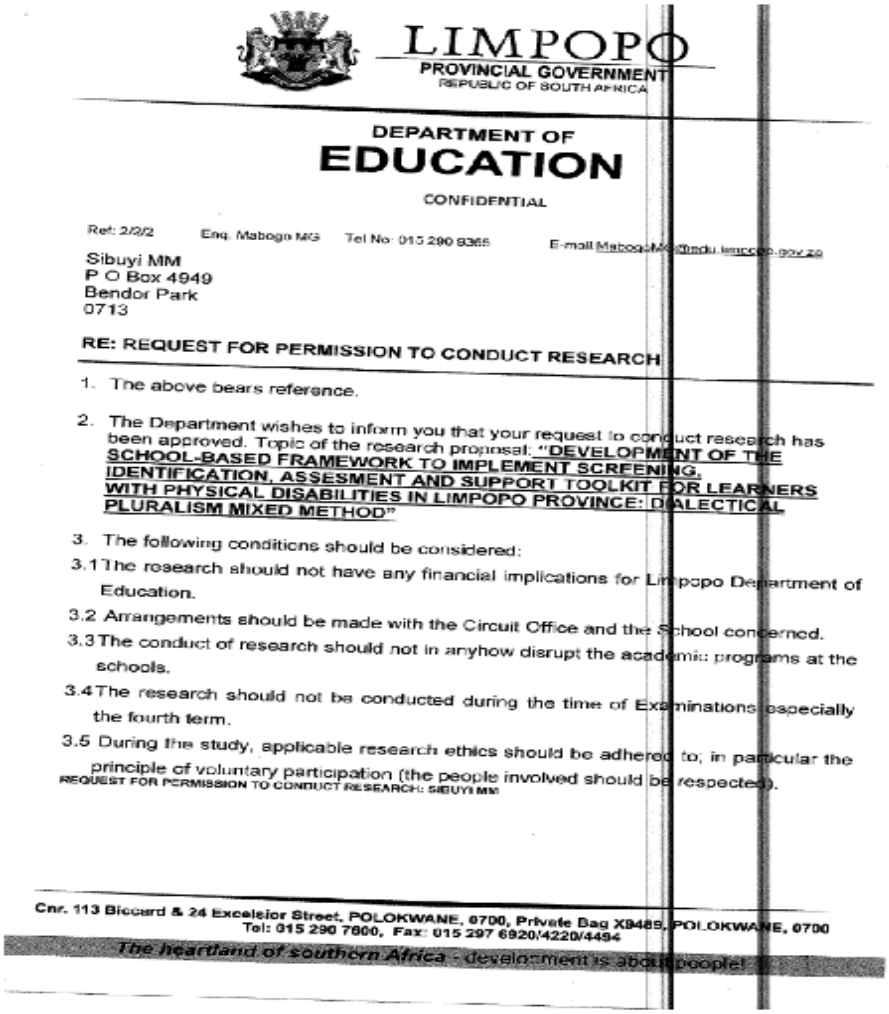
The analytical tool(s) that will be used is(are): This study is primarily qualitative in nature to be assessed with appropriate Qualitative analysis methodology. The quantitative component mainly deals with associations/relationships, taking clustering into account. For the data analysis the student/statistician will employ SPSS. Sample size should be adequate **to achieve the objective(s) of the study.**

Signature

Name: PJ Becker (Tel: 012-319-2203)

Research Office, Faculty of Health Sciences

ANNEXURE C: Permission letter Limpopo Department of Education



LIMPOPO
PROVINCIAL GOVERNMENT
REPUBLIC OF SOUTH AFRICA

DEPARTMENT OF
EDUCATION

CONFIDENTIAL

Ref: 2/2/2 Enq: Mabogo MG Tel No: 015 290 9365 E-mail: Mabogo.MG@edu.limpopo.gov.za

Sibuyi MM
P O Box 4949
Bendor Park
0713

RE: REQUEST FOR PERMISSION TO CONDUCT RESEARCH

1. The above bears reference.

2. The Department wishes to inform you that your request to conduct research has been approved. Topic of the research proposal: "**DEVELOPMENT OF THE SCHOOL-BASED FRAMEWORK TO IMPLEMENT SCREENING, IDENTIFICATION, ASSESMENT AND SUPPORT TOOLKIT FOR LEARNERS WITH PHYSICAL DISABILITIES IN LIMPOPO PROVINCE: DIALECTICAL PLURALISM MIXED METHOD**"

3. The following conditions should be considered:

3.1 The research should not have any financial implications for Limpopo Department of Education.

3.2 Arrangements should be made with the Circuit Office and the School concerned.

3.3 The conduct of research should not in anyhow disrupt the academic programs at the schools.

3.4 The research should not be conducted during the time of Examinations especially the fourth term.

3.5 During the study, applicable research ethics should be adhered to, in particular the principle of voluntary participation (the people involved should be respected).

REQUEST FOR PERMISSION TO CONDUCT RESEARCH: SIBUYI MM

Cnr. 113 Biccard & 24 Excelsior Street, POLOKWANE, 0700, Private Bag X9489, POLOKWANE, 0700
Tel: 015 290 7600, Fax: 015 297 6920/4220/4494

The heartland of southern Africa - development is about people!

ANNEXURE D: Permission letter Letaba School

LETABA SKOOL SCHOOL

POSBUS / P.O. BOX 3445
TZANEEN 0850
letabaskool@gmail.com
CELL : 079 8723 771

Ps. 36 : 10 Deur u lig lowe ons.
Ps. 36 : 9 Because of your light we see the light.

Verwysing/Reference

19 June 2020

Ms Sibuyi MM
Physiotherapist Inclusive education
SibuyiMM@edu.limpopo.gov.za or makwenasibuyi@gmail.com

RE: REQUEST FOR PRELIMINARY APPROVAL TO CONDUCT RESEARCH IN LETABA SPECIAL SCHOOL.

1. Preliminary approval was given by the SGB on 18 June 2020 for you to use our school in your studies.

2. You are most welcome to come to the school at any time to come and see your research area.

I hope you find this in order.

J Schouwstra
Acting Principal

J Mathebula
Chairperson SGB

ANNEXURE E: Counselling services for research participants

LIMPOPO
PROVINCIAL GOVERNMENT
REPUBLIC OF SOUTH AFRICA
DEPARTMENT OF
EDUCATION

ATT: Sibuyi MM
Date: 8/10/2020

RE: COUNSELLING SERVICES FOR RESEARCH PARTICIPANTS

1. The above matter bears reference.
2. I hereby acknowledge your request to provide counselling services for your research participants.
3. Kindly note that I will be willing and available to provide counselling services should the need arise.

Hope you find the above to be in order

Kind regards

BH Baloyi

09/10/2020
Date

Dr BH Baloyi
Educational Psychologist
Cell no: 0636847798
Email: BaloyiBH@edu.limpopo.gov.za

ANNEXURE F: Informed consent for focus group discussions

UNIVERSITEIT VAN PRETORIA
UNIVERSITY OF PRETORIA
YUNIBESITHI YA PRETORIA

PARTICIPANT'S INFORMATION AND INFORMED CONSENT DOCUMENT FOR:

FOCUS GROUP INTERVIEW RESEARCH STUDY

Study title: TO DEVELOP A SCHOOL-BASED FRAMEWORK TO SUPPORT A TOOLKIT FOR LEARNERS WITH PHYSICAL DISABILITIES IN LIMPOPO PROVINCE

Principal Investigator: Makwena Midah Sibuyi

Supervisor: Dr D. Mathye

Institution: UNIVERSITY OF PRETORIA

DAYTIME AND AFTER-HOURS TELEPHONE NUMBER(S):

Daytime number/s: 0636882442

Afterhours number: 0636882442

Date and time of first informed consent discussion:

Day	Month	Year	Time

Page 1 of 6

Dear Prospective Participant Dear Mr. / Mrs .....

1) INTRODUCTION

You are invited to volunteer for a research study. I am doing this research for PhD (Physiotherapy) degree purposes at the University of Pretoria. This document gives you information. The information in this document is provided to help you decide if you would like to participate. Before you agree to take part in this study you should fully understand what is involved. If you have any questions, which are not fully explained in this document, do not hesitate to ask the investigator. You should not agree to take part unless you are completely happy about what we will be discussing during the FGD.

2) THE NATURE AND PURPOSE OF THIS STUDY

The aim of the research is two fold. The first aim will be to establish challenges experienced in the implementing the SIAS toolkit in schools for learners with physical disabilities and collaborative ways of overcoming these challenges. The second aim will be to develop a school-based framework that can be used at schools to assist with the implementation of the SIAS toolkit. I hope this study will contribute towards the meaningful inclusion of learners with physical disabilities in classrooms and increasing their participation academically and socially. Furthermore, to capacitate educators and the school in how to remove barriers to learning in learners with motor development problems.

Part of the study will be a FGD. A focus group is where a few people – usually about 8 or 10 – get together with the researcher to discuss a specific topic. The discussion will be arranged at a time that is convenient to you and will take place in a venue most suitable for all concerned.

3) EXPLANATION OF PROCEDURES AND WHAT WILL BE EXPECTED FROM PARTICIPANTS

If you agree to participate, you will be asked to participate in a FGD which will take about sixty minutes. You and the other participants will be asked some questions about your opinion about the manner in which the SIAS toolkit is implemented at schools for learner with physical disabilities and how your skills can be utilized to assist. With your permission, the discussions will be recorded on a recording device to ensure that no information is missed.

4) RISKS AND DISCOMFORTS INVOLVED

We do not think that taking part in the study will cause any physical or emotional discomfort or risk. You do not have to share any knowledge you are not comfortable with. During the FGD, you may find that some questions are sensitive; for instance, questions about your knowledge about physical disabilities and how you assist learners in your class. In addition, Knowledge about SIAS the policy. If questions feel too personal or make you uncomfortable, you do not have to answer them. If you need psychological support or counselling during or after the FGD, I will be able to refer you to trauma counsellors at your nearby hospital.

5) POSSIBLE BENEFITS OF THIS STUDY

You will not benefit directly by being part of this study. But your participation is important for us to better understand how the SIAS policy can be better implemented to improve the lives of learners. The information you give may help the researcher improve academic and social participation of learners living with physical disabilities.

6) COMPENSATION

You will not be paid to take part in the study. However, any cost you have because of taking part in the study, for example transport costs will be paid back to you (reimbursed). You will not be paid to take part in the study. There are no costs involved for you to be part of the study.

7) VOLUNTARY PARTICIPATION

The decision to take part in the study is yours and yours alone. You do not have to take part if you do not want to. You can also stop at any time during the interview without giving a reason. If you refuse to take part in the study, this will not affect you in any way. You will still have your job.

8) ETHICAL APPROVAL

This study was submitted to the Research Ethics Committee of the Faculty of Health Sciences at the University of Pretoria, Medical Campus, Tswelopele Building, Level 4-59, telephone numbers 012 356 3084 / 012 356 3085 and written approval has been given by that committee. The study will follow the Declaration of Helsinki (last update: October 2013), which guides doctors on how to do research in people. The researcher can give you a copy of the Declaration if you wish to read it.

9) INFORMATION ON WHO TO CONTACT

If you have any questions concerning this study, you should contact:

Makwena Sibuyi. Cell no: 0636882442

10) CONFIDENTIALITY

We will not record your name anywhere and no one will be able to connect you to the answers you give. Your answers will be linked to a fictitious code number or a pseudonym (another name) and we will refer to you in this way in the data, any publication, report or other research output.

All records from this study will be regarded as confidential. Results will be published in medical journals or presented at conferences in such a way that it will not possible for people to know that you were part of the study.

The records from your participation may be reviewed by people responsible for making sure that research is done properly, including members of the Research Ethics Committee. All of these people are required to keep your identity confidential. Otherwise, records that identify you will be available only to people working on the study, unless you give permission for other people to see the records.

All hard copy information will be kept in a locked facility at the Physiotherapy Department at the University of Pretoria, for a minimum of 15 years and only the research team will have access to this information.

Although all participants of the FGD will be requested to keep the discussion confidential, the researcher cannot guarantee that they will do so. I therefore request that you do not disclose any information of a very personal or sensitive nature.

11) CONSENT TO PARTICIPATE IN THIS STUDY

- I confirm that the person requesting my consent to take part in this study has told me about the nature and process, any risks or discomforts, and the benefits of the study.
- I have also received, read and understood the above written information about the study.
- I have had adequate time to ask questions and I have no objections to participate in this study.
- I am aware that the information obtained in the study, including personal details, will be anonymously processed and presented in the reporting of results.
- I understand that I will not be penalized in any way should I wish to discontinue with the study and my withdrawal will not affect my treatment and care.
- If photos are taken it may only be used after I have seen it and agreed that it may be used.
- I am participating willingly.
- I have received a signed copy of this informed consent agreement.

_____ _____

Participant's name (Please print) Date

_____ _____

Participant's signature Date

_____ _____

Researcher's name (Please print) Date

_____ _____

Researcher's signature Date

I understand that the FGD will be audiotaped. I give consent that it may be audio recorded.

YES NO

AFFIRMATION OF INFORMED CONSENT BY AN ILLITERATE PARTICIPANT (if suitable)

I, the undersigned, ……..…, have read and have explained fully to the person, named …… , the participant informed consent document, which describes the nature and purpose of the study in which I have asked the person to participate. The explanation I have given has mentioned both the possible risks and benefits of the study and the alternative treatments available for his/her illness. The person indicated that they understand that they will be free to withdraw from the study at any time for any reason and without jeopardizing their standard care.

I hereby certify that the person has agreed to participate in this study.

_____ _____

Participant's name (Please print) Date

_____ _____

Participant's signature or thumbprint Date

_____ _____

Investigator's name (Please print) Date

_____ _____

Investigator's signature Date

_____ _____

Name of the person who witnessed

the informed consent (Please print) Date

_____ _____

Signature of the witness Date

ANNEXURE G: Informed consent for parents

UNIVERSITEIT VAN PRETORIA
UNIVERSITY OF PRETORIA
YUNIBESITHI YA PRETORIA

PARTICIPANT'S INFORMATION AND INFORMED CONSENT DOCUMENT

Title of the Study:

TO DEVELOP A SCHOOL-BASED FRAMEWORK TO SUPPORT A TOOLKIT FOR LEARNERS WITH PHYSICAL DISABILITIES IN LIMPOPO PROVINCE

Researcher:

Makwena Midah Sibuyi

P.O. Box 494. Bendor Park, Polokwane, 0713

Cell: +27636882442

E-mail: makwenasibuyi@gmail.com

Date and time of first informed consent discussion:

Day	Month	Year	Time

Dear prospective participant

1. Introduction

You are cordially invited to volunteer for a research study. I am doing research for a fulfilment of the requirements for a Doctoral degree at the University of Pretoria. The information in this document is to help you to decide if you would like to participate. Before you agree to take part in this study you should fully understand what is involved. If you have any questions, which are not fully explained in this document, do not hesitate to ask the researcher. You should not agree to take part unless you are completely happy about all the procedures involved.

2. The nature and purpose of this study

The aim of the research is twofold. The first aim will be to establish challenges experienced in the implementing the SIAS toolkit in schools for learners with physical disabilities and collaborative ways of overcoming these challenges. The second aim will be to develop a school-based framework that can be used at schools to assist with the implementation of the SIAS toolkit. I hope

this study will contribute towards the meaningful inclusion of learners with physical disabilities in classrooms and increasing their participation academically and socially. Furthermore, to capacitate educators and the school in how to remove barriers to learning in learners with motor development problems.

3. Explanation of procedures and what will be expected from participant

The study will be conducted over a period over four months and its projected date of completion is December 2021. During my first visit I will introduce the purpose of the research and clarify concerns that may arise. Following this, I will request an appointment with those willing to participate and issue informed consent forms. You will complete an online survey and may again be invited to participate in the FGDs with other participants for further detailed discussions.

4. Possible risks and discomforts involved

The possible risks and discomfort involved would be talking about a topic that my sensitive to you. You may become emotional during discussions.

5. Possible benefits of this study

You may benefit from the study by knowing that your views, concerns and suggestions are being heard and validated and such will be used to develop a framework to benefit you, school and learners. The study may help us and the Education Department to improve on the implementation of the SIAS policy.

6. Compensation

You will not be paid to take part in the study. There are no costs involved for you to be part of the study except for your data when completing the online survey.

7. Your rights as a research participant

Your participation in this study is entirely voluntary and you can refuse to participate or stop participating at any time without stating any reasons. Your withdrawal will not affect your career. You, as participant, may contact the researcher at any time in order to clarify any issues pertaining to this research. The respondent as well as the researcher will both keep a copy of this signed document.

8. Ethics approval

This protocol was submitted to the Faculty of Health Sciences Research Ethics Committee, University of Pretoria, telephone numbers 012 356 3084 / 012 356 3085 and written approval (668/2020) has been granted by that committee. The study has been structured in accordance with the Declaration of Helsinki (last update: October 2013), which deals with the recommendations guiding researchers in biomedical research involving human / subjects. A copy of the Declaration may be obtained from the investigator should you wish to review it.

9. Information

If you have any questions concerning this study, you should contact:

Dr. Mathye Desmond Cell: +27734890911 e-mail: desphysio@hotmail.com

10. Confidentiality

All information obtained during the course of this study will be regarded as confidential. Each participant that is taking part will be provided with codes as identification. This will ensure confidentiality of information collected. Your identity as a participant will not be disclosed to

unauthorized people, only the researcher will be able to identify you as a participant. Results will be published or presented in such a fashion that participants remain unidentifiable. The hard copies of all your records will be kept in a locked facility at the Physiotherapy department of the University of Pretoria.

11. Consent to participate in this study

- I confirm that the person requesting my consent to take part in this study has told me about the nature and process, any risks or discomforts, and the benefits of the study.
- I have also received, read and understood the above-written information about the study.
- I have had adequate time to ask questions, and I have no objections to participate in this study.
- I am aware that the information obtained in the study, including personal details, will be anonymously processed and presented in the reporting of results.
- I understand that I will not be penalised in any way should I wish to discontinue with the study and that withdrawal will not affect my further treatments.
- I am participating willingly.
- I have received a signed copy of this informed consent agreement.

WRITTEN INFORMED CONSENT

_____	_____
Participant's name (Please print)	Date
_____	_____
Participant's signature	Date
_____	_____
Researcher's name (Please print)	Date
_____	_____
Researcher's signature	Date

VERBAL INFORMED CONSENT *(Only applicable if respondent cannot write)*

I, the undersigned, _____have read and have explained fully to the participant, named _____ and his/her relatives, the informed consent document, which describes the nature and purpose of the study in which I have asked him/her to participate. The explanation I have given has mentioned both the possible risks and benefits of the study. The participant indicated that he/she understands that he/she will be free

to withdraw from the study at any time for any reason and without jeopardizing his/her standard care.

I hereby certify that the participant has agreed to participate in this study.

Participant's name (Please print)	Date
Participant's signature	Date
Researcher's name (Please print)	Date
Researcher's signature	Date
Witness's name (Please print)	Date
Witness's signature	Date

ANNEXURE H: Interview guide for Physiotherapists

Interview guide for Focus Group Discussions: Physiotherapists

My name is Makwena Sibuyi, a physiotherapist at Limpopo Department of Education. Currently, I am a PhD candidate at University of Pretoria. The aim of my study is to develop a school-based framework to support the implementation of the SIAS toolkit for learners with physical disabilities. The framework is going to be developed on the experiences from class educators, parent/ guardian portfolio of the SBST, education and support portfolio of the SBST, learner support portfolio of the SBST, caregivers and physiotherapists. The significance of this study will be to inform policy reviewers and increase the inclusion of learners with physical disabilities in school through the implementation of the SIAS toolkit. I will request you to respond fully and openly when asked questions so that the results of the study can be strengthened.

1. Are you familiar with the policy on Screening, Identification, Assessment and Support (SIAS)?

2. Did you receive training on the SIAS policy?

3. If yes, kindly reflect on the training i.e. duration, content and style

4. In your view, what do you see as challenges affecting the implementation of the SIAS policy through the SIAS toolkit?

5. In your view, how can the challenges associated with implementing the SIAS toolkit be addressed to benefit learners and educators?

ANNEXURE I: Interview guide for SBST and Grade R educators

ANNEXURE B: Interview guide for Focus Group Discussions

My name is Makwena Sibuyi, a physiotherapist at Limpopo Department of Education. Currently, I am a PhD candidate at University of Pretoria. The aim of my study is to develop a school-based framework to support the implementation of the SIAS toolkit for learners with physical disabilities. The framework is going to be developed on the experiences from class educators, parent/ guardian portfolio of the SBST, education and support portfolio of the SBST, learner support portfolio of the SBST, caregivers and physiotherapists. The significance of this study will be to inform policy reviewers and increase the inclusion of learners with physical disabilities in school through the implementation of the SIAS toolkit. I will request you to respond fully and openly when asked questions so that the results of the study can be strengthened.

Day 1

1. Are you familiar with the SIAS policy?
2. Did you receive training on the SIAS policy and how to implement the SIAS toolkit?
3. In your view, is the SIAS toolkit helpful for you and the learners?

Day 2

1. In your view, what do you see as challenges affecting the implementation of the SIAS toolkit?
2. How do you work together to fill in SNA2 form?
3. In your view, how can the challenges associated with implementing the SIAS toolkit be addressed to benefit learners and educators?

ANNEXURE J: Permission to adapt Drivers Best Practices Assessment 26.03.2020

To me

NIRN via adminliveunc.onmicrosoft.com

Hello Makwena,

The National Implementation Research Network (NIRN) grants you permission to adapt the Drivers Best Practices Assessment (DBPA) for use in your study, as long as you properly attribute the original work to NIRN using the following citation:

Ward, C., Metz, A., Louison, L., Loper, A., & Cusumano, D. (2018). *Drivers Best Practices Assessment*. Chapel Hill, NC: National Implementation Research Network, University of North Carolina at Chapel Hill. Based on: Fixsen, D.L., Blase, K., Naoom, S., Metz, A., Louison, L., & Ward, C. (2015). Implementation Drivers: Assessing Best Practices. Chapel Hill, NC: National Implementation Research Network, University of North Carolina at Chapel Hill.

Sincerely,

Amelia Krysinski, on behalf of NIRN leadership and the authors of the 2018 DBPA

ANNEXURE K: Survey

Implementation of the Screening, Identification, Assessment &Support toolkit

Survey Flow

Block: Introduction (2 Questions)
Standard: Consent Form (2 Questions)
Standard: Demographics (8 Questions)
Standard: Implementation of the SIAS (2 Questions)
Standard: SNA 2 (10 Questions) Standard: Individual Support Plan (ISP) (1 Question)

Page Break

Page 1 of 10

Start of Block: Introduction

Q1 Dear Colleague,

My name is Makwena Sibuyi. Thank you for showing interest in this research study.

This survey will not take more than ten minutes to complete. After completing the questions, your responses will be automatically submitted.

Q28 Kindly text the study number allocated to you

End of Block: Introduction

Start of Block: Consent Form

Q30 **Title of the Study: TO DEVELOP A SCHOOL-BASED FRAMEWORK TO SUPPORT A TOOLKIT FOR LEARNERS WITH PHYSICAL DISABILITIES IN LIMPOPO PROVINCE**

Researcher	Makwena Midah Sibuyi	makwenasibuyi@gmail.com	+27636882442
Supervisor Name	Dr. Mathye Desmond	desphysio@hotmail.com	+27734890911

I am doing research for a fulfilment of the requirements for a Doctoral degree at the University of Pretoria. The information in this document is to help you to decide if you would like to participate. Before you agree to take part in this study you should fully understand what is involved. If you have any questions, which are not fully explained in this document, do not hesitate to ask the researcher. You should not agree to take part unless you are completely happy about all the procedures involved.

1. The nature and purpose of this study The first aim will be to establish challenges experienced in the implementing the SIAS toolkit in schools for learners with physical disabilities and collaborative ways of overcoming these challenges. The second aim will be to develop a school-based framework that can be used at schools to assist with the implementation of the SIAS toolkit. I hope this study will contribute towards the meaningful inclusion of learners with physical disabilities in classrooms and increasing their participation academically and socially. Furthermore, to capacitate educators and the school in how to remove barriers to learning in learners with motor development problems.

2. Explanation of procedures and what will be expected from participant The study will be conducted over a period over four months and its projected date of completion is December 2021. You will complete an online survey and may again be invited to participate in the FGDs with other participants for further detailed discussions.

3. Possible risks and discomforts involved The possible risks and discomfort involved would be talking about a topic that my sensitive to you. You may become emotional during discussions.

4. Possible benefits of this study You may benefit from the study by knowing that your views, concerns and suggestions are being heard and validated and such will be used to develop a framework to

benefit you, school and learners. The study may help us and the Education Department to improve on the implementation of the SIAS policy. **5. Compensation** You will not be paid to take part in the study. There are no costs involved for you to be part of the study except for your data when completing the online survey.

❑I consent

❑I do not consent

Skip To: End of Survey If Title of the Study: TO DEVELOP A SCHOOL-BASED FRAMEWORK TO SUPPORT A TOOLKIT FOR LEARNERS WITH PH... = I do not consent

---

Q31 **1. Your rights as a research participant** Your participation in this study is entirely voluntary and you can refuse to participate or stop participating at any time without stating any reasons. Your withdrawal will not affect your career. You, as participant, may contact the researcher at any time in order to clarify any issues pertaining to this research. The respondent as well as the researcher will both keep a copy of this signed document.

2. Ethics approval This protocol was submitted to the Faculty of Health Sciences Research Ethics Committee, University of Pretoria, telephone numbers 012 356 3084 / 012 356 3085 and written approval (668/2020) has been granted by that committee. The study has been structured in accordance with the Declaration of Helsinki (last update: October 2013), which deals with the recommendations guiding researchers in biomedical research involving human / subjects. A copy of the Declaration may be obtained from the investigator should you wish to review it.

3. Confidentiality All information obtained during the course of this study will be regarded as confidential. Each participant that is taking part will be provided with codes as identification. This will ensure confidentiality of information collected. Your identity as a participant will not be disclosed to unauthorized people, only the researcher will be able to identify you as a participant. Results will be published or presented in such a fashion that participants remain unidentifiable. The hard copies of all your records will be kept in a locked facility at the Physiotherapy department of the University of Pretoria.

4. Consent to participate in this study ü I confirm that the person requesting my consent to take part in this study has told me about the nature and process, any risks or discomforts, and the benefits of the study. ü I have also received, read and understood the above-written information about the study. ü I have had adequate time to ask questions, and I have no objections to participate in this study. ü I am aware that the information obtained in the study, including personal details, will be anonymously processed and presented in the reporting of results. ü I understand that I will not be penalized in any way should I wish to discontinue with the study and that withdrawal will not

affect my further treatments. ü I am participating willingly. ü I have received a signed copy of this informed consent agreement.

❑I consent

❑I do not consent

End of Block: Consent Form

Start of Block: Demographics

Q4 Gender

1) Male

2) Female

Q33 Age

Age in years

0 0 0 0 0 0 0 0 0 00

Drag

Q5 Disability

Yes ; No

Display This Question:

If Disability = Yes

Page 4 of 10

Q32 Kindly indicate the nature of the disability

Visual; Hearing; speech; hands; mobility

Q6 Ethnicity

African

White

Other

Q7 Highest level of education

Certificate; PhD; Diploma; Degree; Masters;

Q22 what is your position at work?

CS1 educator; Non-teaching staff; HOD; Deputy Principal; Principal; Teacher aid

Q8 Years of experience working in special school

0 0 0 0 0 0 0 0 0 00

drag ()

Q10 LPs

	Yes	Maybe	No
Learners have LPs (1)	o	o	o
Disability / chronic condition of the learner noted (2)	o	o	o
Learner screened for gross motor skills (3)	o	o	o
Areas needing ongoing support are noted (4)	o	o	o
Ongoing support relate to the disability (5)	o	o	o

Q11 SNA 1

	agree	not sure	disagree
Developed for all learners (1)	o	o	o
I am able to note areas of concern (2)	o	o	o
I am able to relate areas of concern to learning (3)	o	o	o
I can identify factors in class and school that impact participation (4)	o	o	o
I can support the learner in the classroom (5)	o	o	o
SBST provides additional support (6)	o	o	o
Parents consulted when supporting learners (7)	o	o	o
Views expressed by parents are noted (8)	o	o	o
Parents signs the form together with teacher (9)	o	o	o

Chapter 2 End of Block: Implementation of the SIAS

Start of Block: SNA 2

Q12 SBSTs are functional

Yes; Maybe; No

Q14 Are you an SBST committee member?

Yes ; No

Display This Question:

If Are you an SBST committee member? = Yes

Q15 Teachers refer learners to the SBST committee

Yes; Sometimes; No

Display This Question:

If Are you an SBST committee member? = Yes

Q16 Class teachers are able to identify barriers to learning experienced by learners

Yes; Sometimes; No

Display This Question:

If Are you an SBST committee member? = Yes

Q17

Class teachers are able to identify the support needed to remove barriers to learning

Yes; Sometimes; No

Display This Question:

If Are you an SBST committee member? = Yes

Q18 The SBST suggests alternative ways of supporting the learner

Yes ; No ; Sometimes

Display This Question:

If Are you an SBST committee member? = Yes

Q23 The SBST suggests alternative ways of supporting the class educator

4) Yes

5) Sometimes

6) No

Display This Question:

If Are you an SBST committee member? = Yes

Q19 The DBST is helpful with cases that are escalated to them

9) Yes

10) Sometimes

11) No

Display This Question:

If Are you an SBST committee member? = Yes

Q26 Kindly share your personal experiences including challenges that you come across as a SBST member for your school

Chapter 3 End of Block: SNA 2

Start of Block: ISP

Q21 ISP

	Always	About half the time	Never
Learners have ISPs (1)	o	o	o
Addresses learning barriers (2)	o	o	o
Stakeholders are held accountable (3)	o	o	o
Have review dates (4)	o	o	o
Have reasonable time frames (5)	o	o	o

Chapter 4 End of Block: ISP

ANNEXURE L: Qualtrics Expert Review Report

We found one way
to improve your survey.
Great
OVERALL SCORE
FILTER BY ISSUE TYPE
Provide Feedback
9.7 MINS
GOAL 7.0
Predicted Duration
Moderate
Our data indicate that surveys longer than 9 minutes start to see substantial levels of respondent break-off on mobile devices - sometimes, long surveys are necessary. However, in order to increase your survey completion rate, we would suggest that you make sure this is one of those rare cases. Learn More
Valid Display Logic
Passed
Smooth move! By using correct display logic, your survey should flow nicely. Learn More
The Last Question In the Survey Is Not Descriptive Text
Passed
What a beautiful ending! It is smart to avoid ending a survey with a descriptive question. Learn More
Minimal Use of Matrix Tables
Passed
You are a pro! By limiting the number of Matrix questions, you will have better chances of survey completion. Learn More
Mobile Optimized
Passed
Good call making your survey mobile friendly! Learn More
Valid Piped Text
Passed
Nice, all of your piped text is functioning properly! Learn More
End of Survey Scoring Set Up
Passed
Score! Your end of your survey scoring is good to go. Learn More
Minimal Use of Text Entry Boxes
Passed
Smart move! By keeping the number of text-entry questions low, you have a better chance of survey completion. Learn More
Complete Translations
Passed
Translation complete! Your survey can be taken in different languages. Learn More
Timing/Metadata Questions Are Accompanied By Other Questions
Passed
Right on! All of your Timing/Metadata is paired with a valid question type. Learn More
Accessibility: WCAG
Passed
Nice going! Your survey is formatted to allow people with disabilities to participate. Learn More
Question Text Is Clear and Concise
Passed
Fantastic! Your questions are concise and to the point! Learn More

ANNEXURE M: Document analysis template

Best practice	In place	Partially in place	Not in place	Don't know	Don't understand	Notes
Learners have learner profiles						
Disability / chronic condition of the learner noted						
Learner screened for gross motor skills						
Areas needing ongoing support are noted						
Ongoing support relate to the disability						
Best practice score ( )/5						
SNA1	Strongly agree	Agree	Neutral	Disagree	Strongly disagree	Notes
Learners have SNA 1 forms						
Are you able to note learner's area of concern?						
Are you able to relate how the area of concern affects learning and development?						
Are you able to identify factors within classroom and school environment that impacts learner's effective participation?						
Are you able to support the learner in the classroom?						
The SBST provides additional support when requested						
Parents are consulted when supporting learners						
Views expressed by parent are noted						
Parents signs the form together with teacher						
Best practice score ( )/9						
Teachers refer learners to the SBST committee						
The SBST is functional						

SBST has scheduled meetings						
Class teachers are able to identify barriers to learning experienced by learners						
Class teachers are able to identify the support needed to remove barriers to learning						
The SBST suggests alternative ways of supporting the learner						
The DBST is helpful with cases that have are escalated to them						
Best practice score ( )/7						
ISPs are developed for learners						
The ISP addresses learning barriers of the learners						
There is accountability from the relevant stakeholders meant to provide support for learners						
There is accountability from the relevant stakeholders meant to provide support for educators						
ISP have review dates						
ISP have reasonable time frames						
Best practice score ( )/6						

ANNEXURE N: Turnit In report

Development of a school-based framework to support a toolkit for learners with physical disabilities in Limpopo Province

ORIGINALITY REPORT

13%	12%	4%	5%
SIMILARITY INDEX	INTERNET SOURCES	PUBLICATIONS	STUDENT PAPERS

PRIMARY SOURCES

1	hdl.handle.net Internet Source	2%
2	uir.unisa.ac.za Internet Source	1%
3	ir.cut.ac.za Internet Source	1%
4	Michel P. Basister, Maria Luisa S. Valenzuela. "Model of Collaboration for Philippine Inclusive Education", Emerald, 2021 Publication	1%
5	repository.up.ac.za Internet Source	<1%
6	www.scielo.org.za Internet Source	<1%
7	www.researchgate.net Internet Source	<1%
8	scholar.ufs.ac.za Internet Source	

ANNEXURE O: Ethics letter

UNIVERSITEIT VAN PRETORIA
UNIVERSITY OF PRETORIA
YUNIBESITHI YA PRETORIA

Faculty of Health Sciences

Institution: The Research Ethics Committee, Faculty Health Sciences, University of Pretoria complies with ICH-GCP guidelines and has US Federal wide Assurance.

- FWA 00002567, Approved dd 22 May 2002 and Expires 03/20/2022.
- IORG #: IORG0001762 OMB No. 0990-0279 Approved for use through February 28, 2022 and Expires: 03/04/2023.

23 October 2020

Approval Certificate
New Application

Ethics Reference No.: 668/2020
Title: DEVELOPMENT OF A SCHOOL-BASED FRAMEWORK TO SUPPORT A TOOLKIT FOR LEARNERS WITH PHYSICAL DISABILITIES IN LIMPOPO PROVINCE

Dear Mrs MM Sibuyi

The **New Application** as supported by documents received between 2020-09-23 and 2020-10-21 for your research, was approved by the Faculty of Health Sciences Research Ethics Committee on 2020-10-21 as resolved by its quorate meeting.

Please note the following about your ethics approval:

- Ethics Approval is valid for 1 year and needs to be renewed annually by 2021-10-23.
- Please remember to use your protocol number (668/2020) on any documents or correspondence with the Research Ethics Committee regarding your research.
- Please note that the Research Ethics Committee may ask further questions, seek additional information, require further modification, monitor the conduct of your research, or suspend or withdraw ethics approval.

Ethics approval is subject to the following:

- The ethics approval is conditional on the research being conducted as stipulated by the details of all documents submitted to the Committee. In the event that a further need arises to change who the investigators are, the methods or any other aspect, such changes must be submitted as an Amendment for approval by the Committee.

We wish you the best with your research.

Yours sincerely

Dr R Sommers
MBChB MMed (Int) MPharmMed PhD
Deputy Chairperson of the Faculty of Health Sciences Research Ethics Committee, University of Pretoria

The Faculty of Health Sciences Research Ethics Committee complies with the SA National Act 61 of 2003 as it pertains to health research and the United States Code of Federal Regulations Title 45 and 46. This committee abides by the ethical norms and principles for research, established by the Declaration of Helsinki, the South African Medical Research Council Guidelines as well as the Guidelines for Ethical Research: Principles Structures and Processes, Second Edition 2015 (Department of Health)

Research Ethics Committee
Room 4-60, Level 4, Tswelopele Building
University of Pretoria, Private Bag x323
Gezina 0031, South Africa
Tel +27 (0)12 356 3084
Email: deepeka.behari@up.ac.za
www.up.ac.za

Fakulteit Gesondheidswetenskappe
Lefapha la Disaense tša Maphelo

ANNEXURE P : SIAS TOOLKITS

LEARNER PROFILE

LEARNER PROFILE

GRADES R – 12

CONFIDENTIAL

- This is a legal document and information may not be removed. It must be made available by the principal of the school from which the learner has been transferred once the transfer document has been issued, to the principal of the school to which the learner is being moved. It should be posted or personally and officially handed over to the receiving principal and not given to the learner's parents/guardian (of the learner).
- This profile must be completed in print at least annually by the register teacher. No Tippex may be used.
- When information is included in the area marked by an asterisk (*), the teacher should complete the Support Needs Assessment Form of the Strategy on Screening, Identification, Assessment and Support (SIAS).

Learner No													

FOUNDATION PHASE	INTERMEDIATE PHASE	SENIOR PHASE	FET PHASE
Photo must be attached at the beginning of phase	*Photo must be attached at the beginning of phase*	*Photo must be attached at the beginning of phase*	*Photo must be attached at the beginning of phase*

PERSONAL INFORMATION *(Please use BLACK ink and update if there are changes)*

Surname						
Names						
Name by which learner is called		Home language				
ID number (birth certificate)		Sex (M/F)				
Number of children in household or family						
Position in family (Indicate with X)	Only child	First child	Second child	Third child	Fourth child	Fifth / more

Religion	African	Bahai	Buddist	Christian	Hindu	Islam	Jewish	Other:	

* **Disability (if any)**	
* **Type of social grant** (e.g. foster care, care dependency grant, child-support grant, etc.)	

MEDICAL INFORMATION *(Please use a PENCIL and update when there is change, except for allergies)*

Family doctor/Clinic		Contact no	
Allergies (indicate in RED)		Chronic illness	
Name of Medical Aid		Medical Aid no.	
Name of principal member (Medical Aid)			
Contact person (not parent or guardian) in case of emergency		Contact no	

Road to Health Card shown?	Yes	No	Number	

*Any indication of problems with regard to			*Remark(s) if "YES"
Child's growth progress	Yes	No	
Prenatal/postnatal information	Yes	No	
Immunisation record (birth to 5 years)	Yes	No	
Visual/hearing/height/weight/speech/physical/locomotor screening results	Yes	No	
Hospital admissions	Yes	No	
Any developmental problems in the "In need of special care" section?	Yes	No	
Any chronic condition?	Yes	No	

INFORMATION REGARDING PARENT(S) OR GUARDIANS *(Please use a PENCIL and update if there are changes)*

	Father	Mother	Guardian
Surname & Initials			
Occupation			
Physical address			
Postal address			
City/Town			
Telephone (home)			
Telephone (work)			
Cell phone			
Email address			

PERSON(S) WITH WHOM THE LEARNER LIVES *(Fill in only when this is different from parents/guardians mentioned above)*

Surname & initials		ID Number	
Contact details		Relationship	

PERSONS AUTHORISED TO COLLECT THE LEARNER FROM SCHOOL

Surname & initials		ID Number	
Contact details		Relationship	

*** EARLY INTERVENTION SERVICES RENDERED**

(All services related to barriers to learning e.g. poverty, health, disability, social assistance)

0 – 5 year	Area of need	Services and interventions received

SCHOOLS ATTENDED (Grade R included) *(Use a BLACK PEN and update annually if (when) there are changes)*

Name of school	EMIS no	LOLT	Admission		Departure	
			Date	Gr	Date	Gr

*** AREAS NEEDING ONGOING SUPPORT**

(e.g. academic, emotional, behaviour, social, learning, vision, mobility, communication – detailed reports may be included in the profile) *Please use a BLACK PEN*

MM/YY	Gr	Area of need	Nature of support	Review Date

43

*** AREAS NEEDING ONGOING SUPPORT (Continued)** (e.g. academic, emotional, behaviour, social, learning, vision, mobility, communication – detailed reports may be included in the profile) *Please use a BLACK PEN*

MM/YY	Gr	Area of need	Nature of support	Review Date

PARTICIPATION IN EXTRA (CO)-CURRICULAR ACTIVITIES

(School, as well as non-school related – include certificates required for Life Orientation in FET)

Year	Gr	Activity	Certificate	Organisation/other

ACHIEVEMENTS - e.g. Academic, arts & culture, sport. *(Please use a BLACK PEN and complete annually)*

Year	Gr	Activity

SUPPORT NEEDS ASSESSMENT (SNA 1 & 2)

(School-Level Intervention)

Both SNA 1 and 2 must be completed at school level

A Learner Profile, SNA 1 and SNA 2 will be required when support is requested from the District-based Support Team (DBST).

SNA 1: ASSESSMENT AND INTERVENTION BY TEACHER

- *To be completed by the class teacher and/or subject teachers if the learner is taught by more than one teacher.*
- *To be completed if the Learner Profile or Screening Report or teacher observation or parent interview shows that a learner has additional support needs.*
- *Captures information that will be needed when support is requested from the School-based Support Team (SBST) by the teacher concerned.*

1. AREAS OF CONCERN

Describe your concern about the learner.

_____

_____

_____

When did you become aware of this? _____

How did you become aware of this – own observation or was it reported?

_____

_____

_____

How is this observation currently affecting the learner's learning and development? Describe.

_____

_____

Complete the following table with regard to the learner's scholastic profile (information extracted from Learner Profile)

YEAR								

GRADE								
RESULT (Pass/more time/progressed)								
NUMBER OF SCHOOLS ATTENDED								

Has any disability been diagnosed by a healthcare professional?
(as captured in *the Medical and Health Assessment Form [Annexure D]*)

If Yes, complete the following and attach reports.

Health-care Professional	Date of assessment	Summary of results

2. STRENGTHS AND NEEDS OF THE LEARNER

Indicate the strengths and needs of the learner by completing the sections below.

2.1 Communication:

- The learner's ability to understand what other people are saying as well as to express him/herself in a way that other people understand – receptive and expressive language

Strengths	Needs/At risk factors	Support needed

2.2 Learning:

- The learner's ability to participate satisfactorily on grade level regarding subject content and assessment

Strengths	Needs/At risk factors	Support needed

2.3 Behaviour and social competence:

- The learner's ability to interact and work with other learners, as well as follow classroom routines

Strengths	Needs/At risk factors	Support needed

2.4 Health, wellness and personal care:

- The learner's physical appearance (looking healthy, clean, well-fed), emotional well-being and health status (consult School Health Screening Report/Road to Health Card)

Strengths	Needs/At risk factors	Support needed

2.5 Classroom and school:

- Factors within the classroom and school environment (**policies, ethos, attitudes, skills, resources, safety, etc.)** that are impacting on the learner's effective participation in the learning process and programmes offered at the school

Strengths	Needs/At risk factors	Support needed

2.6 Family, home and community situation:

- Factors that may be impacting on the learner's ability to achieve satisfactorily at school (e.g. family structure, family stability, biological parents, siblings, other significant adults, orphan, child-headed household, number of schools attended, homeless, in foster care, refugee, immigrant, substance abuse, domestic violence, divorce, neglect, disabled/ill parents, poverty-stricken home background)

Strengths	Needs/At risk factors	Support needed

3 TEACHER INTERVENTIONS/SUPPORT

3.1 Curriculum Intervention:

What curriculum interventions have you as teacher implemented to address your concerns?

*3.1.1 Comment on/explain how the **curriculum content has been differentiated,** e.g. taking into account that every learner should have access to the grade level teaching and assessment best suited to his/her needs. Have the learner's needs been met by a differentiated curriculum? Have the learner's abilities determined what is expected of him/her without discrimination? Etc.*

Successes	Challenges

*3.1.2 Comment on how **teaching methods** have been adapted/differentiated, e.g. how classroom management has been changed to accommodate learners working at different levels of knowledge; how activities have been modified to ensure that they are meaningful; how a range of graded materials has been used (how material has been modified to allow for a learner's disability, for instance); how the*

presentation has been modified (e.g. by using pictures/pictures with descriptions/explanations, etc.)

Successes	Challenges

*3.1.3 Comment on how the **assessment** has been modified, e.g. by organising the learner's tasks, using different methods of assessment, without compromising the curriculum standards.*

Successes	Challenges

*3.2 What interventions have you as a teacher implemented in the **learning environment** (classroom/school) to address your observations and concerns about the learner?*

Comment, for example, on how the following have been modified: classroom management (e.g. culture/class rules/attitudes/awareness of disabilities); playground management, e.g. buddy system.

Successes	Challenges

*3.3 Comment on how the **physical environment** has been modified/adapted*

E.g. the seating arrangement of the learner has been changed to limit distractions, use of flexible grouping(s) to accommodate learner, the environment has been made wheelchair-friendly.

Successes	Challenges

presentation has been modified (e.g. by using pictures/pictures with descriptions/explanations, etc.)

Successes	Challenges

*3.1.3 Comment on how the **assessment** has been modified, e.g. by organising the learner's tasks, using different methods of assessment, without compromising the curriculum standards.*

Successes	Challenges

*3.2 What interventions have you as a teacher implemented in the **learning environment** (classroom/school) to address your observations and concerns about the learner?*

Comment, for example, on how the following have been modified: classroom management (e.g. culture/class rules/attitudes/awareness of disabilities); playground management, e.g. buddy system.

Successes	Challenges

*3.3 Comment on how the **physical environment** has been modified/adapted*

E.g. the seating arrangement of the learner has been changed to limit distractions, use of flexible grouping(s) to accommodate learner, the environment has been made wheelchair-friendly.

Successes	Challenges

3.4 *Any additional comments that you want to make about the barrier(s) to learning experienced by the learner, the support/interventions provided and continuing challenges that are experienced.*

3.5 *What additional support/intervention do you as a teacher require from the School-based Support Team (skills, resources, knowledge about curriculum differentiation (both in teaching and assessing)?*

3.6 *Schedule/Log of consultation(s) with: Parent/Legal Guardian/Caregiver/Learner himself or herself.*

Date	*Purpose*	*Outcome*

3.7 *Views expressed by Parent/Legal Guardian/Caregiver/Learner during the consultation(s):*

Role player	Initials and surname of person (print)	Signature	Date
Teacher/ Manager			20... / ... / ...
Parent/Legal Caregiver			20... / ... / ...
Learner (if applicable)			20... / ... / ...

SNA 2: ASSESSMENT AND INTERVENTION BY SCHOOL-BASED SUPPORT TEAM (SBST)

- *To be completed by the SBST in consultation with the teacher*
- *To be completed when requesting support from the DBST by the school*

1. REVIEW

SBST reviews the information provided by the teacher: Section 1, supporting documents, verbal reporting.

1.1 Does the SBST agree with the teacher's **identification** of the learner's barrier(s) to learning, strengths and needs/challenges? If not, provide comments:

YES		NO		Comments:

1.2 Does the SBST agree with the teacher's **support** to deal with the barrier(s) to learning? If not, provide comments or suggest alternative support:

YES		NO		Comments:

2. SUMMARY OF IDENTIFIED BARRIERS TO LEARNING AND SUPPORT THAT WAS/IS/WILL BE PROVIDED BY SBST

3. INDIVIDUAL SUPPORT PLAN (COMPLETED BY CLASS TEACHER AND SBST)

List the area(s) in which the support needs to be provided: Communication; Learning; Behaviour and social competence; Health, Wellness and personal care; Classroom and school; Family, home and community; Teacher development/training, etc. (See SNA1)

Area(s) in which support is needed	**Target to be achieved**	**Strategy of intervention** *(If the learner needs concessions, or is an immigrant who needs exemptions, use Annexure B* *If a medical condition must be investigated by a medical or other specialist, use Annexure D)*	**Responsible person**	**Time frame**	**Review date** (to assess achievement of the target)	**Comment on progress made in achieving target(s)**
E.g. Behaviour and social competence	*Stop bullying behaviour*	• *Assign a mentor teacher to support learner* • *Raise awareness during assembly* • *Review school conduct policy* • *Call in the parent/legal caregivers*	*Principal*	*Within a week*	*15 April 20...*	

ANNEXURE Q

Implementation Drivers: Assessing Best Practices

Scoring Key

In Place	Item is part of the system and "evidence" of this component are observable and/or measurable
Partially in Place	Part of the component has been established, the component has been conceptualized but not fully used, or the component exists, but is not being utilized on a regular basis
Not in Place	The component does not exist or has not yet been initiated
Don't Know	Use this category if the information is not known. It is recommended that an action plan item is generated to gather this information or identify individuals who should be part of the assessment team. This item is not scored, nor part of the denominator when calculating scores.
Don't Understand	Use this if the item is not understood. Contact nirn@unc.edu for item explanation. This item is not scored, nor part of the denominator when calculating scores.
Notes	This section can be used to note ideas generate for action planning or follow up

ANNEXURE R: INTERVIEW GUIDE FOR SEMI-STRUCTURED INTERVIEWS

My name is Makwena Sibuyi, a physiotherapist at Limpopo Department of Education. Currently, I am a PhD candidate at University of Pretoria. The aim of my study is to develop a school-based framework to support the implementation of the SIAS toolkit for learners with physical disabilities. The framework is going to be developed on the experiences of class educators, parent/ guardian portfolio of the SBST, education and support portfolio of the SBST, learner support portfolio of the SBST, caregivers and physiotherapists. The significance of the study will be to inform policy decisions and increase the inclusion of learners with physical disabilities through the implementation of the SIAS toolkit. I will request you to respond fully and openly to questions below in order to strengthen the results of the study.

A. Personal information

Date of birth:

Age:

Gender:

Disability:

Employment:

Residential address:

Preferred language to speak:

B. List of questions

1. Which year did you enrol your child at the current school?
2. How do you enjoy the school so far?
3. How is your relationship with your child's educator?
4. What is the nature of your child's disability and what are some of the challenges he/she experiences? Does your child use assistive devices?
5. Do you know how your child is coping in class?
6. What does your child need help with to adjust better here at the school?
7. Have you spoken to the educator about your child's challenges and how in your view your child can be supported?
8. Are you involved with the decisions the school or educator makes about your child?

ANNEXURE S: PROOFREADER

3 March 2023

To whom it may concern

This letter serves as confirmation that BLOCK28 (Pty) Ltd. assisted with proofreading the Doctoral thesis titled *Development of a school-based framework to support SIAS toolkit for learners with physical disabilities in Limpopo Province* for Makwena M. Sibuyi, Student number: 20161141.

Charlene Williams

BLOCK28 (Pty) Ltd.
Your Business Matters

Postnet Suit 32 | Private Bag X26 | Sunninghill | 2157