

**TEACHING STRATEGIES FOR LEARNERS WITH AUTISM SPECTRUM
DISORDER IN JOHANNESBURG: A CASE STUDY**

by

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DECLARATION

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I declare that **Teaching strategies for learners with Autism Spectrum Disorder in Johannesburg: A Case Study** is my own work and that all the sources that I have used or quoted have been indicated and acknowledged by means of complete references.

Signature

Date.....

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ABSTRACT

The current study explored teaching strategies for learners with Autism Spectrum Disorder (ASD) at a purposefully sampled special school in Johannesburg East District in the Gauteng Province of South Africa as the context for proposing strategies to enhance the teaching of these learners. Embedded in the capability approach, the present interpretive qualitative case study executed semi-structured face-to-face individual interviews with 12 participants, three males and nine females, with experience in teaching learners with ASD, document analysis and non-participant observations to collect data. Braun and Clarke's (2006) thematic analysis was used to analyse data. Teachers used various teaching strategies including pre-learning activities, classroom based morning assembly, praxis entrenched pedagogy, visual schedules, behaviour management, curriculum adaptation, active learning, Makaton and speech, class assistant support, therapists support, concrete and picture media, play, social stories, structured routines and TEACCH. Teachers experienced various challenges including cluelessness, management, negative family dynamics, non-cooperation of parents and misbehaviour of learners with ASD in teaching these learners. Teachers experienced successes including the development of verbalisation, self-dependency, reading and writing, confidence and leadership roles of learners with ASD in teaching these learners. Pre-service and in-service training, provision of requisite physical and material resources, fostering public awareness of ASD, stakeholder support, use of modern technology, child centred pedagogy, teacher-parent collaboration and fostering life skills in learners with ASD could enhance the teaching of these learners. This study is a baseline for future studies on teaching strategies for learners with ASD in South Africa and elsewhere.

KEY TERMS:

Autism Spectrum Disorder, Barriers to learning, Inclusive Education, Learners, Special School, South Africa, Teaching strategies.

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Special thanks to the Department of Education of South Africa for granting me permission to execute my fieldwork at a purposefully sampled special school in Johannesburg East District.

DEDICATION

To my late mother, Mrs. Jane Nyatanga, and my father Mr Ben Nyatanga

For the love, principles and guidance they instilled in my life.

LIST OF ABBREVIATIONS

ASD	Autism Spectrum Disorder
CDC	Centre for Disease Control and Prevention
DBE	Department of Basic Education
DBST	District Based Support Team
DoE	Department of Education
ECD	Early Childhood Development
EFA	Education for All
GDE	Gauteng Department of Education
IEP	Individualised Educational Plan
IDEA	Individuals with Disabilities Education Act of 2004
PECS	Picture Exchange Communication System
SASA	South African Schools Act
SGB	School Governing Body
TEACCH	Treatment and education of Autistic and related communication-handicapped children
UNESCO	United Nations Educational, Scientific and Cultural Organization
VET	Vocational Education Training
WP6	White Paper 6

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CHAPTER 1: THE PROBLEM AND ITS CONTEXT

1.1 Introduction

Because ASD is characterised by social skills deficit and communication with restricted interests and/or repetitive behaviours, teaching strategies for learners with the condition is an international challenge to teachers (Autism Speaks, 2014; Crosland & Dunlap, 2012; Hughes-Lynch, 2010; Majoko, 2018). Thus, embedded in the capability approach, the present interpretivist/constructivist qualitative single case study explored the teaching strategies for learners with ASD at a special school in Johannesburg East District in the Gauteng Province of South Africa as the context for proposing strategies to enhance the teaching of these learners. To this end, the present chapter presents the problem and its context, including the background to the study, statement of the problem, main research question, sub-research questions, research objectives, rationale for the study and the significance of the study. It also presents a synopsis of the theoretical framework for the study. The chapter further presents a summary of the research methodology and design including logistical and ethical considerations, limitations of the study, overcoming limitations, delimitations of the study, definitions of key terms, preliminary outline of the chapters and summary of the chapter.

1.2 Background to the study

Since the reaffirmation of the commitment to education for all, as enshrined in the Universal Declaration of Human Rights (United Nations, 1948) and the renewal of the pledge of the World Conference on Education for All (UNESCO, 1990), to ensure that right for all learners, including those with ASD, regardless of their individual differences, in the Salamanca Statement and Framework for Action on Special Needs Education (UNESCO, 1994), several countries have adopted inclusive education (Olcay-Guy & Vuran, 2015; Pantic & Florian, 2015). Despite the global pursuit of inclusive education, it is a complex, multifaceted and controversial concept (Ainscow, 2010). Consequently, there is no single universally accepted definition for inclusive education internationally

because of conceptual difficulties in defining the concept including what constitutes it and what counts as evidence of its model practice (Majoko, 2018; Pantic & Florian, 2015). Nevertheless, overall, inclusive education is globally viewed as a process of addressing and responding to the diversity of needs of all learners through increasing participation in learning, cultures and communities, and reducing exclusion within and from education (Ballard, 2012; Majoko, 2017; UNESCO, 1994). Inclusive education involves changes and modifications in content, approaches, structures and strategies, with a common vision, which caters for all learners of the appropriate age range and a conviction that it is the responsibility of the regular school system to educate all of them (Murungi, 2015). Inclusive education is not only about the physical placement of learners with diverse unique needs in regular school classrooms but entails their access, participation, acceptance and success in these settings through the provision of appropriate individual and systemic support (Buli-Holmerg & Jeyaprabhan, 2016). Underpinning the pursuit of inclusive education in several countries, and in South Africa, are its benefits to both learners with and without unique needs and the generality of the population (Henninger, Sarika, & Gupter, 2014). These include enhanced literacy skills (Dessemontet, Bless, & Morin, 2012), improved skills in mathematics (Cosier, Causton-Theoharris, & Theoharris, 2013), the exhibition of positive social and emotional behaviours (Henninger et al., 2014), the development of positive understandings of themselves and others (Justice, Logan, Lin, & Kaderavek, 2014), the development of high self-esteem (Schifter & Cipollone, 2015) and increased possibilities for various peer interactions (Able, Sreckovic, Schultz, Garwood, & Sherman, 2015). Thus, inclusive education is both an ideology and a practical solution to support the education for all learners irrespective of their individual differences to realise equity and equality in education.

Several global and African region human rights instruments, inclusive of conventions, declarations, statements, treaties and charters, propel the worldwide pursuit for inclusive education (UNESCO, 1994; Florian & Black-Hawkins, 2011). These include the Universal Declaration of Human Rights (United Nations, 1948), the Convention Against Discrimination in Education (United Nations, 1960), the International

Convention on the Elimination of All Forms of Racial Discrimination (United Nations, 1965), the Convention on the Rights of the Child (United Nations, 1989), the Standard Rules on the Equalisation of Opportunities for Persons with Disabilities (United Nations, 1993), the African Charter on the Rights and Welfare of the Child (Organisation of African Unity [OAU], 1999), the Convention on the Rights of Persons with Disabilities (United Nations, 2006) and the Incheon Declaration (United Nations, 2015). These all mandate the inclusion of all learners in regular education regardless of their individual differences manifesting from diverse individual and systemic variables influencing human diversity such as gender, age, ethnicity, language, class, race, disability or health status.

Inclusive education is implemented in different countries including Australia (Soto-Chodiman, Pooley, Cohen, & Taylor, 2012), Botswana (Mukhopadhyay & Musengi, 2012), Canada (MacKichan & Harkins, 2012), Zimbabwe (Musengi & Chireshe, 2012), USA (Ford, 2013), Ethiopia (Zelewu, 2016), Hungary (Toth, 2014) and India (Madan & Sharma, 2013) in alignment with these human rights instruments, among others. Several countries have also passed and enforce policies and legislation on or related to inclusive education in compliance with the above mentioned global and African region human rights instruments. These include the No Child Left Behind of 2001 in the United States of America (USA) (Pantic & Florian, 2015), the Disabled Persons Act of 1996 in Zimbabwe (Deluca, Tramonta, & Kett, 2013), the Special Educational Needs and Disability Act of 2001 in Australia (Boon, Wilson, & Curwood, 2014), the Integrated Education for Disabled Children (IEDC) of 1974 in India (National Council of Education Research and Training [NCERT], 2011) and the Equality Act of 2010 in the United Kingdom (Gibson, 2015).

Consistent with the above-mentioned countries among others, South Africa adopted inclusive education in 1994 in compliance with the above mentioned global and African region human rights instruments (Makoelle, 2014). The attainment of democracy in South Africa also prompted a paradigm shift from exclusive to inclusive education in 1994 in alignment with the international fraternity (Murungi, 2015). This entailed a shift

from a segregated education system of the apartheid era to an inclusive education system of the democratic dispensation (Murungi, 2015). Comparable to other countries, South Africa has passed and enforces several policies, legislation and guidelines on inclusive education since 1994 (Majoko & Phasha, 2018). These include the South African Constitution (Act 108 of 1996) Section 9(2), (3), (4) and (5), the White Paper 6 (DoE, 2001), the South African Schools Act 84 of 1996 (SASA), the White Paper on an Integrated National Disability Strategy (INDS) (1997), the Draft National Disability Policy Framework, the guidelines for the implementation of the National Disability Framework (2008), the Guidelines for Special Schools as Resource Centres (2007) and Guidelines for Full-service Schools (2010). These mandate the education of learners, including those with ASD, in ordinary or special schools depending on their levels of support needs that manifest from their individuality. Apart from passing and enforcing such policy and legislative infrastructure, South Africa has institutionalised several structures, systems and practices to support the implementation of inclusive education (Makoelle & Malindi, 2015). These include national advocacy, the conversion of special schools into resource centres, the establishment of full-service schools, the establishment of District Based Support Teams (DBSTs), White Paper 6 (DoE, 2001), general orientation and management of governing bodies, and the mobilisation of approximately 300,000 children and youths with disabilities of compulsory school going age who are outside the school system (Du Plessis, 2013).

Countries have institutionalised a continuum of services in inclusive education including the education of learners with disabilities in regular schools, hospital schools and special schools depending on their level of support needs (Du Plessis, 2013). They include the USA (Ford, 2013), Zimbabwe (Majoko, 2018), Kenya, (Wanjiku, 2014), India (Sharma & Das, 2015), Ireland (Dimitriadi, 2014) and Bangladesh (Das & Ochiai, 2012). The continuum of services is founded on a guarantee to address the diverse individual unique needs of learners including those with ASD. In several countries, including the USA (Ford, 2013), (Majoko, 2017), China (Wang & Feng, 2014), Uganda (Chitiyo & Muwana, 2018), England (Hodkinson, 2010) and Zambia (Mbewe, 2016), Scotland (Pantic & Florian, 2015), China (Kritzer, 2012), Greece (Syriopoulou-Deli, Cassimos,

Tripsianis, & Polychronopoulou, 2012) and Zimbabwe (Majoko, 2016), most learners with low to medium support needs are educated in regular schools while those with high support needs are educated in special schools. Learners with low to medium support needs are educated in regular school classrooms because they are able to work independently with little or no supervision (Leko, Brownell, & Lauterbach, 2010). Conversely, learners with high support needs are educated in special schools in most countries because they require maximum attention, assistance and continuous supervision (Du Plessis, 2013). The placement of learners with low support needs and those with high support needs in ordinary and special schools respectively in different countries is grounded in ensuring that they are all afforded pedagogical content, environments, processes and assessments that meet their individual learning needs. The education of these learners in special schools complies with the Salamanca Statement and Framework for Action on Special Needs education (UNESCO, 1994). The statement ensures that learners can be educated in special schools or regular classrooms depending on the level of their support needs (Chireshe, 2013). Consistent with other countries, South Africa has a continuum of services in inclusive education that include special schools and full-service schools. Special schools serve as resource centres in inclusive education. They offer support services and approaches that focus on problem solving and the development of the strengths and competencies of learners, inclusive of those with ASD, while full service schools are fully equipped to provide support and meet the needs of all diverse learners (Oswald, 2010). In alignment with the countries mentioned above and others, most learners with low to medium support needs in South Africa are educated in regular schools while those with high support needs are educated in special schools (Naicker, 2009).

Comparable to several countries, including Canada (MacKichan & Harkins, 2012), India (Madan & Sharma, 2013), USA (Ford, 2013), China (Kritzer, 2012) and Zambia (Muwana, 2012), most learners with ASD are educated in special schools in South Africa. A common neurological disorder the world over, ASD is characterised by social skills and communication deficits with restricted interests and/or repetitive behaviours (Aronson-Ramos, 2014; Brown, Gerber, & Oliva, 2014). ASD encompasses a range of

disorders varying from mild Asperger's syndrome to severe Rett's syndrome where the child may develop very limited or no language creating communication barriers with others (The Scottish Government, 2011). Due to the prevalence of these challenges, learners with ASD encounter many difficulties and experience barriers to learning in educational settings (Davidson, 2015). With characteristics ranging from mild to severe, individuals with ASD are unique and present varying behaviours (De Boer, 2009; Shulsky, 2015). ASD is usually diagnosed during early childhood, between two and three years old (Hilton, Harper, Kueker, Lang, Abbacchi, Todorov, & LaVesser, 2010). ASD affects anyone irrespective of racial, economic, educational, ethnic or social background (Safe Minds, 2012) and is a lifelong disorder (Centre for Disease Control and Prevention [CDC], 2012). The prevalence of ASD has increased dramatically within the last three decades across the globe (Newschaffer, Croen, Daniels, Giarelli, Grether, Levy, & Windham, 2007). Such increases present challenges within the educational system (Crosland & Dunlap, 2012) leading to special schools for learners with ASD in several countries, including South Africa. ASD affects boys four to five times more than girls with an estimate of one in 42 boys and one in 189 girls (Autism Speaks, 2014; Hoaglund, Birkenfeld, & Box, 2014). Currently, it is estimated that one in 68 individuals in the USA have been diagnosed with ASD (CDC, 2014) while the prevalence in Mexico is one in 115. In India, one in 88 children is born with ASD (CDC, 2014) and an estimate of one in 100 individuals, in both Australia and the UK, has been diagnosed with ASD (Social Care Foundation Australia, 2016). However, the prevalence of ASD and statistical data on individuals with ASD in Africa is unknown (Bakare & Munir, 2011). Despite several studies indicating ASD is a neurodevelopmental disorder, there is still no conclusive biological test to confirm this diagnosis (Abrahams & Gerschwind, 2008). Thus, the causes of ASD remain unknown (Crosland & Dunlap, 2012) but it is assumed that biological, environmental and genetic factors are the likely causes (CDC, 2012). In addition, concerns of diarrhoea, digestion, bowel disturbances and allergic reactions to wheat, corn and dairy are common amongst individuals with ASD (Seroussi, 2014; Hughes-Lynch, 2010).

Although learners with ASD are mostly challenged with verbal and non-verbal

communication, social relations, awareness of others and present repetitive behaviours and movements (Nuner & Griffith, 2011), there are several other characteristics that are associated with this disorder including intellectual and academic challenges, poor coordination with gross and fine motor abilities and the inability to focus on activities (Autism Speaks, 2014). According to Majoko (2018), learners with ASD have difficulties with changes of routine and tend to avoid eye contact. They also find it difficult to be touched and are not interested in physical contact. If language develops, children with ASD tend to repeat words and/or phrases with no meaning to them, known as echolalia (Brereton, 2014). Thus, because of their high support needs, learners with low functioning ASD are commonly educated in special schools the world over where teaching strategies are integral in successful and effective pedagogy of all learners including those with ASD (Humphrey, 2008).

Several international studies have examined teaching strategies for learners with ASD in different countries. For instance, Majoko's (2017) qualitative study on 18 teachers in Zimbabwe found that these Zimbabwean teachers lacked the knowledge and skills to teach learners with ASD in mainstream primary school classrooms. A qualitative study by Lindsay, Proulx, Scott and Thompson (2014) on 13 elementary school teachers, who were experienced in teaching learners with ASD, established that the consistent use of structured routines and notifying learners about changes in advance facilitated the teaching of these learners. Ngara's (2014) mixed methods instrumental case study research in New Zealand in inclusive secondary schools found that collaboration and teamwork of teachers promoted the teaching of learners with ASD because they pooled knowledge and skills. A quantitative study on 50 teachers at a primary school in Kenya by Mwendo in (2011) found that these teachers struggled to teach learners with ASD in regular classes due to a lack of professional training. Goodrow's (2016) case study research on four general education teachers, two from middle school and two from high school in the USA found that these teachers failed to manage the emotional and social behaviour of learners with ASD in their regular classrooms. These international studies have established different and inconsistent findings on teaching strategies for learners with ASD.

In South Africa, several studies have examined teaching strategies for children with different disabilities. Unlike the rest of the world, there is a dearth of studies on teaching strategies for learners with ASD in South Africa, according to the best knowledge of the researcher based on a literature review. One of the few related studies in South Africa is that of Enock (2011) who established that mainstream preschool teachers engaged learners with ASD in small groups, teams or in pairs to teach them social skills.

As revealed in the above-cited studies, teaching strategies for learners with ASD is an international challenge (Humphrey & Symes, 2013; Lindsay, Proulx, Thomson, & Scott, 2013). Studies on special and inclusive education reveal that teaching strategies for learners with barriers to learning, including ASD, embody individual achievement monitoring and the utilisation of particular, directed, individualised, intensive remedial instruction (Landsberg, Kruger, & Swart, 2012). Teaching strategies are foundational in the holistic development of these learners (Allday, Nelsen-Gatti, & Hudson, 2013; Tsarikidou & Polyzopoulou, 2014). International research findings on 27 strategies used to teach learners with ASD are inconsistent and context specific (Wong et al., 2015). Thus, the current study sought to explore teaching strategies for learners with ASD at a purposefully sampled special school in Johannesburg East District in Gauteng Province of South Africa. The following sub-section presents the statement of the problem.

1.3 Statement of the problem

As revealed in the background to the study, comparable to the global world, South Africa adopted inclusive education in 1994 in compliance with civil rights movements as expressed in several global and African region human rights instruments inclusive of charters, declarations, conventions, treaties and statements (Makoelle, 2014). South Africa has passed and enforces several policies and legislation on inclusive education (Landsberg et al., 2012) that include the Education White Paper 6 (DoE, 2001) and the South African Constitution (Act 108 of 1996), in particular, Chapter 2 and the Bill of Rights section 9(3). The country thus has a national and international mandate to ensure the institutionalisation of teaching strategies that meet the needs of all learners,

including those with ASD in special schools (Naicker, 2009). Nevertheless, teaching strategies for learners with ASD challenge teachers internationally despite the existence and enforcement of supportive policies and legislation (Mwendo, 2011). Several studies have been carried out in India (Tiwari & John, 2017), Zimbabwe (Majoko, 2017), Scotland (Davidson, 2015), Zambia (Mbewe, 2016), the USA (Crosland & Dunlap, 2012), Canada (Lindsay et al., 2014) and New Zealand (Ngara, 2014), among others, on teaching strategies for learners with ASD but there seem to be limited studies on the subject in South Africa. Studies on teachers' strategies for teaching learners with disabilities, including ASD, have also been carried out in several countries, including India (Madan & Sharma, 2013), Canada (MacKichan & Harkins, 2012), Hungary (Toth, 2014), New Zealand (Ngara, 2014) and Ethiopia (Zelewu, 2016), but what constitutes successful teaching strategies for learners with ASD remain to be established (Emam, 2008) and is country specific (Majoko, 2018). Although the education of learners with ASD is a national priority in South Africa in alignment with the global world, the teaching strategies for these learners seem not to have been explored in this country. Consistent with the global world, learners, including those with ASD who are served in special schools in South Africa, have a fundamental right to be taught using teaching strategies comparable to their peers in ordinary schools that address their individual learning needs. Global research reveals that teaching strategies for learners with ASD in special schools is an international knowledge gap (Emam, 2008; Humphrey & Parkinson, 2006). Thus, embedded in the capability approach, this qualitative study examined teaching strategies for learners with ASD at a selected special school in Johannesburg East District in Gauteng Province of South Africa as the context for proposing to enhance the teaching of these learners.

1.4 Research aims and objectives

1.4.1 Aim

The current study explored teaching strategies for learners with ASD at a purposefully sampled special school in Johannesburg East District in Gauteng Province of South

Africa. The study serves as the context for proposing strategies to enhance the teaching of learners with ASD in special schools.

1.4.2 Objectives

The objectives of the study were to:

- explore teachers' strategies for teaching learners with ASD at a special school in Johannesburg East District in Gauteng Province of South Africa.
- describe teachers' experiences in teaching learners with ASD at a special school in Johannesburg East District in Gauteng Province of South Africa.
- propose strategies to enhance the teaching of learners with ASD at a special school in Johannesburg East District in Gauteng Province of South Africa

1.5 Main research question and sub-research questions

1.5.1 Main research question

- What are the teaching strategies for learners with ASD at a special school in Johannesburg East District in Gauteng Province of South Africa?

1.5.2 Sub research questions

- How do teachers teach learners with ASD at a special school in Johannesburg East District in Gauteng Province of South Africa?
- How do teachers experience teaching learners with ASD at a special school in Johannesburg East District in Gauteng Province of South Africa?
- How can the teaching of learners with ASD at a special school in Johannesburg East District in Gauteng Province of South Africa be enhanced?

1.6 Rationale for the study

Various scholarship/research, practice, policy and practice-related reasons prompted the execution of this study. According to the best knowledge of the researcher, based on the literature review, unlike in other countries including the United Kingdom (Emam & Farrell, 2009), Zimbabwe (Majoko, 2016), Australia (Soto-Chodiman et al., 2012), India (Tiwari & John, 2017), USA (Crosland & Dunlap, 2012), there seems to be a dearth of studies on teaching strategies for learners with ASD in special schools in South Africa and in Johannesburg East District in Gauteng Province, in particular. As revealed in section 1.2 above, the findings of several international studies that have examined teachers' strategies for teaching learners with ASD are context specific and unique to the countries in which they were conducted. Thus, it was necessary for a study to be conducted that focused on South Africa, as the transferability of the findings of international studies to this country is unknown. In several countries, including Zimbabwe (Majoko, 2017), Canada (Lindsay et al., 2014), USA (Crosland & Dunlap, 2012), Scotland (2015) and China (Wang & Feng, 2014), parents of learners with ASD are not satisfied with teaching strategies for learners with ASD (Lynch & Irvine, 2009). Because of the worldwide pursuit of inclusive education, studies in most countries focus on teaching strategies for learners with ASD in ordinary schools. Thus, a study of this nature that focused on teaching strategies for learners with ASD at a special school in South Africa is timely. According to Evans (2016), the South African Government is investing in the establishment of more special schools for learners with ASD. Thus, it was important to examine the teaching strategies for learners with ASD at one of the special schools in South Africa to propose strategies to enhance the teaching of these learners. Because of their high support needs, in South Africa (Naicker, 2009), most learners with ASD attend special schools. This study examined teachers' strategies for teaching these learners to improve service provision to these learners and to uncover their unique potentialities for their own self-advancement. The researcher has a passion for learners with ASD because she teaches them at another special school in South Africa.

1.7 An overview of the theoretical framework

The capability approach underpinned this study. Originally formulated by Amartya Sen (1985; 1992), the capability approach places human capabilities at the centre in order to ensure justice, equality, quality of life and development (Oosterlaken & Van den Hoven, 2012). Chapter 2 deals with the reasons for the use of the capability approach as a theoretical framework for this study. The capability approach focuses on what learners can do rather than what learners cannot do (Nussbaum, 2011). This is an approach that uses the strengths of the learners with ASD to select suitable teaching strategies for them. The capability approach is founded on the principle of altering existing beliefs and conceptions on disability and education (Norwich, 2014). Thus, it engages learners, teachers and families in principled practices that recognise differences rather than deficits and focuses attention on enhancing the capabilities of learners with disabilities in pedagogical environments (Dalkilic & Vadeboncoeur, 2016). The collaboration of teachers and parents is foundational in the use of appropriate teaching strategies for learners with ASD. The capability approach emphasises freedom of choice, individual heterogeneity and the multi-dimensionality of welfare (Vergunst, Jenkinson, Burns, & Simon, 2014). Five constitutive elements, namely, capability, functionings, agency, endowments and conversion characterise this framework (Chiappero-Martinetti & Roche, 2015). Using these elements as the lens, this study examined strategies for teaching learners with ASD at the participating special school.

1.8 An overview of the research methodology and design

1.8.1 Research paradigm

Although there are a number of research paradigms including positivism, post positivism, critical realism and advocacy (Fisher, 2010), this study was embedded within the constructivist research paradigm that perceives that meaning is constructed and not discovered (Merriam, 2009). The ontological assumption of the constructivist research paradigm is that there are multiple subjective realities that people construct socially (Mertens, 2015) which means that there is no objectivity but rather subjectivity (Lincoln

& Guba, 2001). Teaching strategies used in teaching learners with ASD were solicited and understood from the expressions of individual teachers. The teaching strategies of these teachers at a special school were discerned from a synthesis of data accumulated through individual interviews, document analysis and non-participant observations. Through these methods of collecting data, I derived themes that constituted the content of theory regarding teachers' strategies for teaching learners with ASD at a special school. Epistemologically, constructivists believe that, although the researcher is a unique individual with personal views, he or she should not be independent from what is being researched as the knower and unknown are co-created during inquiry (Fisher, 2010). When I interacted with the participants during informal conversations and individual interviews, I co-created reality as revealed by the findings obtained from their lived experiences.

Constructivists are concerned with the way in which knowledge is acquired through meanings attached to the phenomena under study hence the researcher and participants should be linked in an interactive process (Ritchie, Lewis, Nicholls, & Ormston, 2013). As I interacted with participants through individual interviews, they shared their social world and views which generated data for this study. According to constructivists, methodology is inductive, emergent and is shaped by the experiences of the researcher in data collection and analysis (Fisher, 2010). Thus, I used qualitative methods, including interviews, non-participant observations and document analysis, in a constructivist paradigm where the researchers' value is acknowledged because reality is co-created (Chilisa & Kawulich, 2012). I followed all ethical considerations to address the issue of value that is laden through bracketing and addressing issues of trustworthiness in this study.

1.8.2 Research approach

The qualitative research approach that underpinned this study entails approaching a setting with an open mind aiming to understand and give thick descriptions of events in the setting (Flick, 2018). The nature of the study had a strong influence on the choice of

this particular approach because the researcher intended to interrogate teachers regarding teaching strategies for learners with ASD at a special school. The qualitative research approach enabled the researcher to conduct an in-depth study that provided detailed narratives (Yin, 2016). The approach facilitates an understanding of a social situation from the participants' perspectives and allows the researcher to learn more from participants through exploring and developing a detailed understanding of a central phenomenon as it occurs in its natural setting (Creswell, 2012; Hancock & Algozzine, 2017). I was able to glean data and information through formal and informal conversations and non-participant observation. The purpose of qualitative research is to collect open-ended data directly from a small group of participants by soliciting their views (Creswell, 2014). Twelve participants were asked semi-structured questions during individual interviews to solicit strategies for teaching learners with ASD at a special school. The researcher was flexible during individual interviews and allowed participants to express themselves freely while responding to the questions (Demetrius & McClain, 2012).

1.8.3 Research design

This study used a single case study research design to explore teaching strategies for learners with ASD at a special school. According to Merriam (2009), a case study is an in-depth understanding and description of an issue within its surroundings. I selected one special school in Johannesburg East District to explore teaching strategies for learners with ASD. Often described as a qualitative investigation (Denzin & Lincoln, 2011), the case study design is in alignment with constructivism/interpretivism, which posits that many realities and meanings exist in any central phenomenon (Lincoln, Lynham, & Guba, 2011; Yin, 2014). During data collection within the setting, I obtained diverse information and experiences regarding strategies for teaching learners with ASD at a special school.

A case study increases the researchers' chances to explore and understand a setting (Gustafsson, 2017). A single case study research relies on many sources of data

collection, making research more detailed and informative (Yin, 2014). I used individual interviews, non-participant observation and document analysis to collect data in this study. The use of multiple methods of data collection affords the researcher the opportunity for an in-depth exploration of the matter across various lenses (Baxter & Jack, 2008). Due to the nature of the main research question and sub-research questions formulated for the purposes of this study (see section 1.4), which intended to answer the “how” and “what” questions, the researcher was justified in her choice of research design. According to Yin (2009), “how” and “what” questions are answered through case study research.

1.8.4 Data collection methods

In case studies, findings are likely to be more convincing and accurate if they are based on several different sources of information (Yin, 2009). In the current study, data were collected through individual interviews, non-participant observation and document analysis. These are presented below.

Individual interviews

Individual interviews are guided conversations that are usually one of the most important sources of case study evidence (Yin, 2009). A principal strategy in qualitative data collection (Fraenkel, Wallen, & Hyun, 2012), individual semi-structured interviews were employed in this study. During these interviews, participants were allowed to respond to semi-structured predetermined questions (Jamshed, 2014). There was direct interaction and reciprocity between each participant and the interviewer (Galletta, 2013). Due to the flexibility and adaptability of face-to-face semi-structured individual interviews (Kallio, Pietila, Johnson, & Kangasniemi, 2016), it was easy to probe for more information by formulating follow up questions (Polit & Beck, 2010). During the interviews, question wording was changed for clarification purposes (Van Teijlingen, 2014). Face-to-face, semi-structured, individual interviews of 45 to 60 minutes were audio taped with participants’ consent to facilitate accurate data collection. Handwritten notes were also taken. An interview guide, in the form of questions, was used (see

Appendix H). According to Bryman (2012), an interview guide, in the form of questions or specific topics, must be used in semi-structured interviews. The guide enabled the researcher to maintain systematic interview sessions and to manage time effectively.

Non-participant observation

Non-participant observation entails hearing and seeing, passively from a distance, events unfolding in the setting of the phenomenon of interest (Merriam & Tisdell, 2016). It facilitates a deeper understanding of the context and participant behaviour especially in situations where participants are not willing to discuss certain issues (McMillan & Schumacher, 2014). In this study, non-participant observation was used to discern strategies for teaching learners with ASD as the teachers delivered lessons to these learners. I did not interfere with the daily learning routine of these learners, as I was a non-participant observer. Using an observation checklist (see Appendix I), 12 participants were observed individually in their classes as they engaged with their learners during their delivery of lessons. Fraenkel et al. (2012) asserts that questions asked during any research can be answered by observing actions and situations.

Document analysis

Document analysis is a form of qualitative research in which documents are interpreted by the researcher to give voice and meaning to a research topic (Bowen, 2009). Very limited or no interaction between the researcher and participant is maintained during this process (McMillan & Schumacher, 2014). According to Owen (2014), facts are gathered through document analysis by pointing at questions that need to be observed, thus ensuring critical comprehensive research. Documents that were analysed in this study included individualised educational plans (IEPs), teachers' lesson plans, timetables, learners' workbooks, learners' activity sheets, learners' homework books, charts, teachers' record books, duty rosters, visual schedules, communication books and reward charts. Multiple sources of data were used to generate data in research for triangulation of emerging findings (Merriam & Tisdell, 2016). Thus, in this study, document analysis was used in conjunction with individual interviews and non-

participant observation for triangulation of the findings.

1.8.5 Population, sampling technique and sample

A population is a group of study objects from which the researcher desires to collect the data (McMillan & Schumacher, 2014). Participants are selected from a larger population (Vanderstoep & Johnson, 2009). The population of the current study were teachers at a purposefully sampled special school in Johannesburg East District that participated in this study. In this study, participants were purposively selected using critical case sampling that is a method where a few important cases are chosen and analysed (Etikan, Musa, & Alkassim, 2016). Participants are selected based on their usefulness to the study in terms of the unique and rich information they can present about a researched phenomenon (Creswell & Clarke, 2011). Thus, the inclusion criteria for participants in this study included a minimum of three years of experience teaching learners with ASD and an undergraduate teaching qualification. Twelve teachers, nine females and three males, who were purposefully selected from the participating special school, took part in this study.

1.8.6 Data analysis method

The current qualitative study employed a thematic data analysis approach, which emphasises pinpointing, examining and recording patterns or themes within data (Guest, 2012). Themes are patterns across data sets that are important when describing certain researched phenomena and are linked to specific research questions (Clarke & Braun, 2013). A model of data analysis, comprising five stages, was adopted for this study. As suggested by Sutton and Austin (2015), the first step of thematic data analysis is transcribing and checking data; the second step is reading between the lines; the third step is coding; the fourth step is theming; and the final step is data synthesis. An honest presentation of findings, based on participants' narratives and experiences, was prepared; a summary of findings is presented; and conclusions are supported by direct quotations from participants.

1.8.7 Trustworthiness

Trustworthiness is the transparency demonstrated by a researcher when analysing data (Silverman, 2009). In qualitative research, validity and reliability are measured in terms of truth and consistency (Anney, 2014). Thus, this study ensured trustworthiness, by maintaining maximum credibility and objectivity, with the use of Lincoln and Guba's (1985) model of establishing trustworthiness in qualitative research. According to Lincoln and Guba (1985), four elements, which comprise trustworthiness, are credibility (truth), dependability (consistency), transferability (applicability) and confirmability (neutrality).

Credibility

Credibility is involved in establishing whether results are believable and correctly interpreted according to participants' original perspectives (Anney, 2014). Activities that increased the probability that credible findings were produced in this study included prolonged and persistent engagement in field research, member checking and triangulation (Creswell, 2012; Anney, 2014; McMillan & Schumacher, 2014; Gunawan, 2015). During data collection, I was immersed in the field to gain an insight of the events as they unfolded in the setting. Participants were allowed to check themes that emerged from data to allow them to decide whether the findings were accurate. I used individual interviews, non-participant observation and document analysis to collect data in this study.

Dependability

Dependability relates to the consistency of findings over a certain period and the possibility of them being repeated under various conditions (Elo, Kaariainen, Kanste, Polkki, Utriainen, & Kyngas, 2014). Dependability of this study was established through a code-recode strategy, peer examination and external audit (Creswell, 2009; Ary, Jacobs, Razavieh, & Sorenson, 2010; Miles & Huberman, 2014). Coding of data was repeated twice and similar codes were established. A discussion of the research

process and findings with fellow doctoral students and peer teachers, who had experience of doing qualitative research, assisted me to be transparent about research findings (Anney, 2014). My supervisor also examined the findings and the interpretations.

Transferability

According to Elo et al. (2014), transferability relies on the reasoning that findings can be generalised or transferred to another setting with different participants. To ensure transferability of findings in this study, I provided thick descriptions and used purposive sampling. All research processes from data collection, context of study up to the final report are clearly explained in this dissertation. An explanation of how participants were purposively selected also facilitated transferability of the inquiry.

Confirmability

Confirmability is a neutral criterion for measuring trustworthiness of qualitative research (Elo et al., 2014). Thus, findings are based on participants' responses and not any potential bias or personal motivations of the researcher (Human, 2010; Anney, 2014). Confirmability of this study was established through an audit trail, reflexive journal and triangulation (Bowen, 2009; Merriam, 2009; Creswell, 2009). I was accountable for all decisions and activities relating to this study, which indicated data collection, recording and analysis. Evidence, including raw data, observation and interview notes, documents and records collected from the field, were crosschecked during the process. Confirmability in this study was also realised through using a reflexive journal. Whilst in the field, all events that took place, including personal reflections in relation to the study, were noted. Triangulation of three instruments, namely, individual interviews, non-participant observation and document analysis used during data collection facilitated confirmability of the study.

1.8.8 Ethical considerations

Qualitative research has more personal involvement (McMillan & Schumacher, 2014). Thus, it was imperative for the researcher to conform to ethical measures throughout the study. Ethics are moral obligations providing certain behavioural assumptions on the conduct between researcher and participants (De Vos, Strydom, Fouche, & Delport, 2008). Ethical measures that were used included informed consent, confidentiality and anonymity, protection from harm and participants' right to withdraw from the study. Permission to conduct research from the rightful authorities was sought and honesty was maintained throughout the study.

Permission

It is crucial for the researcher to get approval from participants, organisations and institutions before undertaking any studies (Denzin, 2010; McMillan & Schumacher, 2014). The researcher secured the ethical clearance from the University of South Africa, the permission of the Gauteng Department of Education (GDE) and the principal and school governing body (SGB) of the participating school before carrying out this study.

Informed consent

Informed consent warrants that all participants are fully aware, knowledgeable and willing to be part of the study (De Vos, Strydom, Fouche, & Delport, 2011). Participants were informed of the rationale and nature of study as well as the usefulness of the findings before data collection commenced and then consented to take part by signing consent forms.

Confidentiality and anonymity

Dawson (2007) advocates for the right to confidentiality and anonymity of participants in any study. Participants were given a letter which guaranteed them confidentiality and anonymity. To ensure this, names of teachers, learners and the setting where study took place were not disclosed. Instead, pseudonyms were used to refer to participants

to protect their identities.

Protection from harm

Participants were not exposed to any form of harm (McMillan & Schumacher, 2014). The safety of all participants was maintained throughout the study by making sure they were not at risk of physical or psychological trauma. They were not questioned on sensitive issues. A debriefing session enabled participants to ask questions and deliberate on their concerns regarding the study (Merriam, 2009).

The right to withdraw from study

Any research that involves human as subjects emphasises their right to withdraw from participating at any time (McConnell, 2010). Participants' right to withdraw protects their independence (Gertz, 2008). Thus, participation in this study was voluntary. Participants who decided not to take part were free to do so at any given time without any obligation to state a reason.

Honesty

Shamoo and Resnik (2015) assert that every researcher must strive for honesty throughout the study concerning methods, procedures, findings and publications. In this study, I did not falsify data or facts obtained during the investigation to meet my personal desired conclusions.

1.9 Significance of the study

The current study is anticipated to benefit various stakeholder individuals, organisations and institutions. It accumulated knowledge and information on environment, process, content and product of teaching learners with ASD that policy makers can use to inform the development and or amendment of policies on the education of these learners in special schools in South Africa and other countries. The study also adds to the limited literature base on teaching strategies for teaching learners with ASD in South Africa and

other countries. Furthermore, the study illuminated challenges and opportunities, including individual and systematic barriers and facilitators in teaching learners with ASD in special schools. This study accumulated strategies that teachers can use to improve the teaching of learners with ASD in special schools. Thus, learners with ASD in special schools can be taught using teaching strategies that address their diverse unique needs. Ultimately, recommendations are noted to support special needs teachers' improved practices in teaching learners with ASD in special schools. This study is a springboard for future research on teaching strategies for learners with ASD in special schools in South Africa and other countries.

1.10 Limitations of the study

Because of time and financial constraints, this study was carried out at one special school for learners with ASD in Johannesburg East District. It was found that some participants withheld information during face-to-face individual interviews because they felt that they were asked about their professional weaknesses in their discharge of services to learners with ASD at the participating special school. As a result, they were not very open in their responses.

1.10.1 Overcoming limitations

Only teachers who met the inclusion criteria took part in this study. Non-participant observation and document analysis were employed in this study to triangulate data and make the findings more convincing.

1.11 Delimitations of the study

This study examined teaching strategies for teaching learners with ASD at a special school in Johannesburg East District in Gauteng Province of South Africa using individual interviews, non-participant observations and document analysis to collect data.

1.12 Definition of terms

Autism Spectrum Disorder

Autism spectrum disorder (ASD) is a neurodevelopmental disorder that affects communication, social interaction, involves displaying stereotypical repetitive movements and interests (American Psychiatric Association, 2013). In this study, ASD is a common neurological disorder characterised by communication deficits, lack of social skills and repetitive behaviours.

Barriers to learning

Barriers to learning are difficulties within the education system, the learning site and the learners that prevent the needs of the learners from being met (DoE, 2005). In this study, the term refers to any obstacle disturbing the ability of learners, including those with ASD, to achieve desired learning goals.

Full-service Schools

These are schools equipped and supported to provide a full range of learning needs to all learners equally, irrespective of their diverse needs (DBE, 2014). In this study, full-service schools are primary schools that meet the needs of all learners regardless of their individual differences.

Inclusive education

UNESCO (2008) defines inclusive education as a process meant to respond to learner diversity by reducing exclusion within and from the education system. In this study, inclusive education refers to the placement of all learners with disabilities, including ASD, in ordinary or special schools and using teaching strategies that meet their individual learning needs.

Learners

According to the National Committee on Education Support Services (NCESS) (DoE, 1997), learners range from early childhood education up to adult education. In this study, learners are all individuals of school-going age who are still attending formal education.

Ordinary schools

These are public schools for all learners that have not been designated as full-service schools for learners with special educational needs (Majoko & Phasha, 2018). In this study, ordinary schools are schools that accommodate all learners regardless of the services they provide.

Special school

This is a school that accommodates learners who require high intensity support and provides a wide range of support services compared to ordinary and full-service schools (DoE, 2008). In this study, a special school is an educational institution that provides services to learners with high support needs, including those with high functioning ASD.

Teaching strategies

Teaching strategies are methods used to assist learners to master intended learning content that include deductive, inductive, direct exploratory and cooperative learning (Swanson, 2012). In this study, the term refers to techniques or practices employed during teaching of learners with ASD to achieve the desired goals in a special school.

1.13 Preliminary outline of chapters

Chapter 1 presents the research problem and its context. Chapter 2 describes the theoretical framework, which underpinned the study. Chapter 3 reviews related international literature on inclusive education and teaching strategies for learners with ASD based on the sub-research questions. A review of related South African literature

on inclusive education and teaching strategies for learners with ASD is presented in Chapter 4. Chapter 5 describes the research methodology and design. Data presentation and analysis are explained in Chapter 6 and Chapter 7 discusses the findings of the study. Chapter 8 presents a summary of the findings, recommendations and conclusion.

1.14 Summary of the chapter

Chapter 1 presented the problem and its context by addressing the introduction, background to the study, statement of the problem, main research question, sub-research questions and research objectives. Rationale for the study, significance of the study, an overview of theoretical framework as well as an overview of research methodology and design were highlighted. Limitations of the study, overcoming limitations and delimitations of the study were discussed. The definitions of key terms were also explained in this chapter. Chapter 2 presents the theoretical framework, the capability approach, which underpinned this study.

CHAPTER 2: THEORETICAL FRAMEWORK

2.1 Introduction

Embedded in the capability approach, the present interpretivist/constructivist qualitative single case study explored the teaching strategies for learners with ASD at a special school in Johannesburg East District in the Gauteng Province of South Africa as the context for proposing strategies to enhance the teaching of these learners. The previous chapter presented the problem and its context. This chapter presents the theoretical framework that underpinned the study. The subsequent section presents the theoretical framework.

2.2 The Capability Approach

The notion of “functionings”, which are the realisation of capabilities into end achievements that an individual chooses to pursue, are correlated with capabilities and therefore, while capabilities represent real opportunities or freedom, functionings refer to achieved beings and doings (Nussbaum, 2011). The provision of various possibilities that meet the unique needs of learners with ASD during teaching necessitates their success in education. The concept of agency depends on the ability to personally choose the functionings that are valuable to individuals and enables them to expand their freedoms and pursue goals, thus making freedoms and agency components that enhance development (Keleher, 2014). The privilege and ability to choose their prospective future goals during teaching facilitates learners with ASD to reach their maximum potential. Individual endowments, such as the quantity and quality of resources available to individuals, are instrumental to creating capabilities, while conversion factors reflect people’s different personal, social and environmental characteristics by affecting, either in a positive or negative sense, their ability to effectively access and convert their endowments and external conditions into effective capabilities (Chiappero-Martinetti & Venkatapuram, 2014). Teaching strategies for learners with ASD should allow them to choose what they desire to learn, depending on the availability of resources, in response to their individual capabilities. An important

aspect of the capability approach is its focus on positive flourishing and opportunities (Norwich, 2014). Thus, learners with ASD can successfully learn in special schools provided appropriate teaching strategies that allow them to choose and achieve what they want, are used in their education.

Originated by Amartya Sen (1985; 1992), the capability approach places human capabilities at the centre in order to ensure justice, equality, quality of life and development (Oosterlaken & Van den Hoven, 2012). The applicability of the capability approach in education, particularly for special education and disability (Reindal, 2015; Terzi, 2008) aims at expanding the capabilities of learners with disabilities in different learning settings, including special schools (Terzi, 2005). This study therefore included learners with ASD at a special school in Johannesburg East in the Gauteng Province of South Africa. Reindal (2009, p. 158) posits that the capability approach is based on “theories of justice that attempt to answer the question of equality”. Similarly, this examination of teaching strategies for teaching learners with ASD at a special school in Johannesburg East District in the Gauteng Province of South Africa was grounded in an accumulation of knowledge and information that can underpin the adoption of strategies to enhance the teaching of these learners and ultimately promote the realisation of human rights and social justice in their education.

The capability approach plays an important role in education (Hoffman, 2006). Several reasons prompted the choice and use of the capability approach as a theoretical lens in this study. The key focus of the capability approach is its emphasis on what learners are successfully able to do and to be (Robeyns, 2014). During teaching and learning, the focus should be on assisting learners to do what they can based on their strengths rather than paying attention to their weaknesses (Nussbaum, 2011). Thus, an adoption of a strength instead of a deficit approach is integral in the successful teaching of learners with ASD in special schools.

The capability approach can be used as an enabling framework to monitor, analyse, and evaluate the quality of education (Robeyns, 2005). This study reveals the quality of

education offered to learners with ASD at a special school in Johannesburg East in the Gauteng Province of South Africa, through examining the teaching strategies used for these learners at this school. To effectively monitor, analyse and evaluate the quality of education according to the capability approach, factors, including personal skills, social norms and logistics, which are fundamental in clarifying circumstances that have an effect on a learners' ability to achieve, must be considered (Robeyns, 2005). This study examined the use of teaching strategies for learners with ASD at a special school in Johannesburg East District in Gauteng Province of South Africa.

Existing beliefs and perceptions around disability and education have changed since the emergence of the capability approach (Norwich, 2014). This study examined the perceptions around disability regarding teaching strategies for learners with ASD at a special school in Johannesburg East in the Gauteng Province of South Africa. Families, children and educators now engage in principled practices, which allow them to acknowledge each other's differences rather than deficits, thus enabling the enhancement of capabilities of learners with disabilities in learning environments (Dalkilic & Vadeboncoeur, 2016). This study explored the principled practices informing teaching strategies for learners with ASD at a special school in Johannesburg East in the Gauteng Province of South Africa in order to enhance the capabilities of these learners. It examined the partnership and teamwork of teachers with other stakeholders inclusive of parents, siblings and teachers teaching learners with ASD at a special school in Johannesburg East in the Gauteng Province of South Africa.

The capability approach provides policy makers with a framework that can assist in evaluation and assessment of individual well-being and to design policies that, in turn, can promote the context of social justice (Sen, 1992). In examining teaching strategies for learners with ASD at a special school in Johannesburg East in the Gauteng Province of South Africa, this study reveals the well-being of these learners and generates knowledge and information that policy makers can use to underpin the formulation and/or amendment of policies on education in South Africa to promote social justice in the education of these learners. The capability approach is a theory rooted within

liberalism, which values the freedom of people (Robeyns, 2005). Vergunst et al. (2014) posit that there is much emphasis on the freedom of choice and the diverse nature of individuals within the capability approach. This study reveals the freedom that the teaching strategies used for learners with ASD at a special school in Johannesburg East in the Gauteng Province of South Africa afford to these learners.

Education has the possibility of expanding individual capabilities (Hoffman, 2006). The capability approach considers the development of education as an enhancement of people's freedom to do and be what they have reason to value (McCowan, 2011, p. 285). This study examined the utility of teaching strategies for learners with ASD at a special school in Johannesburg East in the Gauteng Province of South Africa in affording these learners the freedom to do and be what they have reason to value and to expand their individual capabilities.

Respect for human diversity is a major aspect within the capability framework (Norwich, 2014). Sen (1992) places human diversity and heterogeneity at the centre of the capability approach. According to Terzi (2005), human diversity is based on personal characteristics, external circumstances and the ability to convert resources into valued functionings. To understand these diversities, it is necessary to pay attention to capabilities and functionings and not unmet needs or owned resources (Hinchcliffe & Terzi, 2009; Mitra, 2006). This study reveals the nexus between teaching strategies for learners with ASD at a special school in Johannesburg East in Gauteng Province of South Africa and the respect for the individuality of these learners. According to the capability approach, individual characteristics and external circumstances allow individuals to change available resources into valued functionings (Dalkilic & Vadeboncoeur, 2016). This study explored teaching strategies for the conversion of available resources into valued functionings in teaching learners with ASD at a special school in Johannesburg East in the Gauteng Province of South Africa.

In order to measure the quality of education, Yates (2007) uses personal, social and environmental factors. The capability approach considers these factors to ensure

educational quality. According to the capability approach, well-being, justice and development must be based on individual capabilities (Robeyns, 2005). This study examined whether the teaching strategies for learners with ASD at a special school in Johannesburg East in the Gauteng Province of South Africa addressed the individual capabilities of these learners. Sen (1999) posits that the capability approach views human development as a process of expanding the real freedoms that individuals enjoy. This study examined whether the teaching strategies for learners with ASD at a special school in Johannesburg East in Gauteng Province of South Africa expand the real freedoms that these learners are entitled to enjoy.

Education is listed as a basic capability, which is important for human welfare and development (Sen, 1999). This study explored the embedment of teaching strategies for learners with ASD at a special school in Johannesburg East in the Gauteng Province of South Africa for the human welfare and development of these learners. Sen (1999) posits that utilities and resources in the capability approach are the means to an end for human development. Teaching strategies for learners with ASD at a special school in Johannesburg East in the Gauteng Province of South Africa are dependent on the availability of resources. Furthermore, in order for learners to excel in human development, they need the freedom to realise their individual capabilities according to the capability approach (Sen, 2000). The capability approach advances that institutions and social arrangements are fundamental in enhancing individual freedoms (Kuhumba, 2018). This study explored the role of teaching strategies for learners with ASD at a special school in Johannesburg East in the Gauteng Province of South Africa in promoting the individual freedoms of these learners.

The capability approach focuses on positive flourishing and opportunities (Norwich, 2014). According to Sen (1985, p. 12), “a capability depends on a functioning which is an achievement of a person.” In the same vein, Chiappero-Martinetti and Venkatapuram (2014) note that expansion of real opportunities and freedoms for human beings facilitate their realisation of “beings and doings” which leads to a flourishing life. Thus, valuable functionings relate to individual well-being and, as such, capabilities allow

individuals to choose by giving them opportunities to flourish positively. This study examined whether teaching strategies for learners with ASD at a special school in Johannesburg East in the Gauteng Province of South Africa promote positive flourishing and opportunities for these learners. For learners with ASD in a special school to thrive in education, appropriate teaching strategies, which allow them freedom of choice, must be implemented during teaching and learning.

Mitra (2014) posits that disability has been conceptualised as a deprivation of functionings (achievements) or capabilities (practical opportunities) under the capability approach. Thus, individual impairments or disabilities restrict functionings and capabilities. Since the capability approach places emphasis on diversity, it has responded to some problems that come with the social model (Norwich, 2014). This study examined the role of teaching strategies for learners with ASD at a special school in Johannesburg East in the Gauteng Province of South Africa in affording these learners functionings and capabilities. However, they need to be provided with distinct teaching strategies that cater for all their shortcomings, if they are to realise their functionings and capabilities.

The capability approach addresses disability issues based on personal characteristics like physiological impairment, availability of resources and the sociopolitical, economic and cultural context, which surrounds an individual (Mitra, 2006). Thus, the capability approach can be used to evaluate disability and disabling conditions by examining the necessary biomedical impairment, resources and social context and their limitations to an individual's capabilities (Reindal, 2008). Individuals are considered disabled if they fail to obtain valued modes of existence and if they fail to do valued actions because of their physical condition, lack of resources and the social system barriers that affect the way they live their lives (Reindal, 2009; Mitra, 2006). This study examined whether teaching strategies for learners with ASD at a special school in Johannesburg East in the Gauteng Province of South Africa address their physiological impairment, resource availability, socio-economic and cultural beliefs to afford these learners valued modes of existence.

The use of the capability approach implies that justice is determined based on capabilities or the extent of freedom individuals have to choose functionings, which are valuable to their well-being (Terzi, 2007). Thus, sociopolitical structures need to be analysed based on expansion of individual capabilities for their well-being (Terzi, 2007). This study ascertained whether there is justice among learners with ASD at a special school in Johannesburg East in Gauteng Province of South Africa through examining the affording of the freedom of learners with ASD to choose what they value based on their capabilities. The capability approach creates a framework for discussing issues of equity based on a multidimensional scale, which attempts to answer the question “equality of what?” within an individual’s aspects of life (Terzi, 2005). This study examined how teaching strategies for learners with ASD at a special school in Johannesburg East in the Gauteng Province of South Africa promote equality for these learners. The capability approach attends to capabilities because humans have varied preferences in functionality (Dalkilic & Vadeboncoeur, 2016). This study interrogated whether teaching strategies for learners with ASD at a special school in Johannesburg East in Gauteng Province of South Africa are addressing the individuality and preferences of these learners.

The capability approach is grounded in individuals’ cultural and contextual beliefs (Dalkilic & Vadeboncoeur, 2016). Practices that are necessary to expand on individual capabilities and afford them the ability to choose valued functionings must be considerate of their cultures, families and contexts. This study investigated whether teaching strategies for learners with ASD at a special school in Johannesburg East in Gauteng Province of South Africa are embedded in their cultural and contextual values.

There is no universal way to practice the capability approach. However, some parents believe that the valued functionings for their children must be determined by the parents as they claim to know what is required by the child to improve his or her well-being (Dalkilic & Vadeboncoeur, 2016). In examining teaching strategies for learners with ASD at a special school in Johannesburg East in Gauteng Province of South Africa, this study examined whether these strategies are decided and approved by parents. The

capability approach acknowledges the diversity of human beings and the relationships between their valued functionings and capabilities (Dalkilic & Vadeboncoeur, 2016). Thus, it takes into account that individuals are unique. This study verified whether teaching strategies for learners with ASD at a special school in Johannesburg East district are considerate of the uniqueness of human beings

The capability approach places great value on the relationship between the family, the teacher and the learner as foundational in creating and evaluating practices that allow the learners' capabilities to expand according to their culture and context (Dalkilic & Vadeboncoeur, 2016). This study examined whether existing relationships between teachers, families and learners at a special school for learners with ASD in Johannesburg East in Gauteng Province of South Africa are influential in formulating teaching strategies. The capability approach enables education systems to move away from restrictions rooted in binary thinking and calls for a holistic approach in reviewing and evaluating systems of education that either hinder or enhance a person's ability to achieve their valued functionings in certain conditions (Dalkilic & Vadeboncoeur, 2016). This study examined whether teaching strategies for learners with ASD at a special school in Johannesburg East in Gauteng Province of South Africa follow the holistic approach that allows learners to achieve their valued functionings in particular learning situations.

The capability approach calls for a dynamic assessment of educational practices, given the fact that environment and practices continue to change, for an exploration of new ways to expand individual capabilities (Dalkilic & Vadeboncoeur, 2016). This study assessed the role of teaching strategies for learners with ASD in identifying individuals' skills and the potentials they might have to expand their capabilities in different learning environments at a special school in Johannesburg East District in Gauteng Province of South Africa. The capability approach considers educational practices as a spectrum that is open to change for certain learners' functionings because individuals are diverse and their capabilities can change after a certain period of time (Dalkilic & Vadeboncoeur, 2016). Thus, individuals possess a spectrum of valued functionings,

which need a spectrum of varied resources and practices for the expansion of their capabilities. This study examined whether the teaching strategies for learners with ASD at a special school in Johannesburg East in the Gauteng Province of South Africa give them room to change and expand their capabilities over time. The capability approach offers practices that support agency and diversity by increasing classroom and societal participation for individuals to achieve functionings that they value within their capabilities (Dalkilic & Vadeboncoeur, 2016). This study examined whether teaching strategies for learners with ASD at a special school in Johannesburg East in Gauteng Province of South Africa increase learners' participation in the classroom and society. The capability approach allows for the expansion of individual capabilities and the functionings that they value within an inherent democratic social set up by participating in their classrooms (Taylor, 2013). Thus, individuals have the right to contribute to decisions that involve their well-being and their opinions ought to be included in all systems of society. This study explored the role of teaching strategies for learners with ASD in promoting democratic learning environments that give learners the opportunity to achieve their functionings and capabilities at a special school in Johannesburg East in Gauteng Province of South Africa.

The capability approach enables children, teachers and parents in any social set up to reinforce a system that provides resources for the expansion of everyone's varied capabilities to avoid situations where everyone achieves similar capabilities despite the fact that these capabilities may have value only for some individuals (Taylor, 2013). This study examined whether the system at a special school in Johannesburg East in Gauteng Province of South Africa provided a wide array of resources for individuals with ASD to choose and expand in different capabilities. The capability approach can assist in the assessment of policies and practices since it is regarded as a theory that evaluates equal opportunities (Norwich, 2014; Reindal, 2009; Wasserman, 2006). This study reveals the quality of policies and practices for learners with ASD at a special school in Johannesburg East in Gauteng Province of South Africa through examining teaching strategies used for these learners.

An education system rooted in the capability approach allows children's agency in identifying functionings they value and families to select reasonable functionings for their children. This contributes to educational practices as parents, teachers and learners work together (Dalkilic & Vadeboncoeur, 2016). Thus, teachers can put into practice capability oriented ideas based on the relationships they share with families and children. This study examined whether teaching strategies for learners with ASD at a special school in Johannesburg East District in Gauteng Province of South Africa were influenced by relationships between teachers, families and children.

2.3 Elements of the Capability Approach

As a broad and analytical framework, the capability approach refines human well-being and social development concepts (Sen, 1985; 2009). Individual well-being and quality of life is described in terms of the practicality of the possible opportunities to achieve varying results (Chiappero-Martinetti & Venkatapuram, 2014). Thus, the ultimate goal, according to the capability approach, should be to expand real individual opportunities and freedoms towards a realisation of a better life. The capability approach is characterised by five constitutive elements, namely, capability, functionings, agency, endowments and conversion factors (Chiappero-Martinetti & Roche, 2015). The diagram below illustrates the elements of this approach.

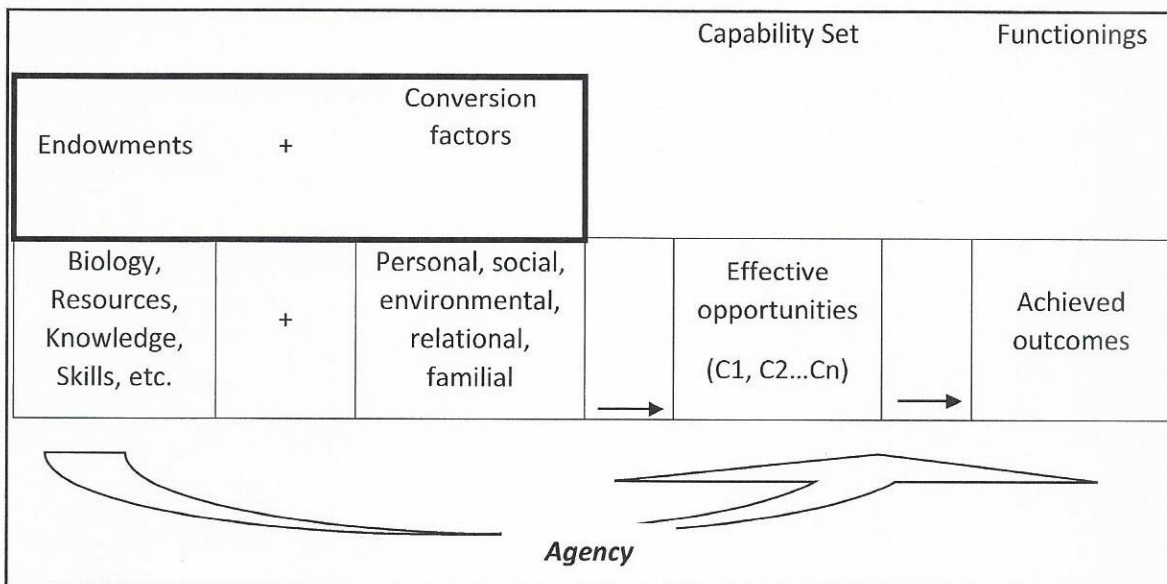


Fig 2.1: Elements of the capability approach

Source: Chiappero-Martinetti and Venkatapuram, 2014.

One distinct feature of the capability approach is its focus on what individuals are ultimately and effectively able to do and to be within their capabilities (Sen, 1993). This includes learners with ASD. Capabilities and functionings are important interrelated aspects of human development within the capability approach (Sen, 1992). The subsequent section describes the five elements of the capability approach.

Capabilities

Terzi (2005, p. 449) defines capabilities as “real opportunities and freedoms people have to achieve valued functionings” or a set of potential functionings that are achievable. Similarly, Chiappero-Martinetti and Venkatapuram (2014) posit that capability represents the practically possible opportunities that the person has to realise valuable doings and beings in their daily lives. Teaching strategies for learners with ASD at a special school in this study were anticipated to promote the achievement of valued functionings of these learners.

In the same vein, Sen (1993, p. 28) posits that a capability is “a person’s ability to do valuable acts and to reach a valuable state of being”. According to Nussbaum (2000), capability entails the choices made by an individual to achieve desired outcomes. Some of these capabilities include being able to become educated, ability to participate in constructive and valuable activities, ability to express own feelings and being able to interact as an equal social member without shame (Nussbaum, 2011). Teaching strategies for learners with ASD at a special school were expected to unlock the individual capabilities of these learners.

For individual capabilities to be achieved and flourish, a combination of internal and external factors must be considered (Chiappero-Martinetti & Venkatapuram, 2014). Such factors include environment, knowledge, skills, social life, materials and biology. This study ascertained the influence of internal and external factors in the teaching strategies for learners with ASD at a special school.

Capabilities create real opportunities and determine a person’s freedom of choice (Sen, 1995). Consequently, in any learning environment, the aim is to provide support to learners so that they can achieve their capabilities (Underwood, Valeo, & Wood, 2012). This study examined the support provided to learners with ASD in teaching them at a special school in South Africa. The diverse uniqueness of learners influences their capabilities and what they value. As such, individual capabilities remain ambiguous until they have been achieved into individual functioning (Sen, 1999). This study examined the responsiveness of teaching strategies for learners with ASD to the individuality of these learners and optimum unfolding of their capabilities based on their choices.

Capabilities can be applied in an education system as a social arrangement to create a setting that provides learners with practices and resources that allow them to achieve functionings of their choice (Dalkilic & Vadeboncoeur, 2016). This study examined whether teaching strategies for learners with ASD at a special school in Johannesburg East in Gauteng Province of South Africa considered social arrangements as a tool in creating settings that facilitate achievement of these learners’ functionings.

Functionings

Functionings represent multiple unique aspects of life valued by different individuals (Akire, 2005) including learners with ASD at a special school. Capability enhances these functionings which are part of a person's being (Sen, 1999). Capabilities and functionings are interrelated aspects of the capability approach (Dalkilic & Vadeboncoeur, 2016). Nevertheless, these two notions are distinct (Kuhumba, 2018). According to Sen, (1987, p. 36), "a functioning is an achievement whereas a capability is the ability to achieve." Functionings differ in complexity from survival-related to wants-related, individually and socially, rooted and concrete (material) to abstract (mental) (Terzi, 2005). Sen (1992) believes that functionings have intrinsic value to a person with agency and a socially legitimised reason to value these functionings. This study examined if learners with ASD at a special school in Johannesburg East in the Gauteng Province of South Africa were afforded teaching strategies that addressed their survival-related to wants-related needs based on their individuality and social aspects in both concrete and abstract forms.

Sen (1992) reveals that functionings are anything individuals choose to do whether or not they are valuable doings and beings. These functionings refer to all possible easy or challenging "doings and beings" (Chiappero-Martinetti & Venkatapuram, 2014). According to Sen (1999, p. 39), "functioning is an achievement of people, that is, what they manage or succeed to be or to do." Thus, functionings are "beings" and "doings" that allow individuals to be actively involved in their societies (Kuhumba, 2018). These functionings may include being literate, being healthy, being well nourished, being clothed and sheltered. This study examined if learners with ASD in a special school were given a wide array of learning possibilities and opportunities including teaching strategies that cater for their diverse needs to achieve their goals.

Agency

Sen (1999) defines agency as the ability to pursue goals that one values and has reason to value. Similarly, Terzi (2007) defines agency as a person's ability to act on

what matters to him or her. This study examined whether teaching strategies for learners with ASD at a special school fosters agency in them. Sen (1999) posits that individuals set agency goals and objectives despite not directly benefitting from them (Sen, 1985). In the same vein, Kuhumba (2018) posits that agency refers to ways in which individuals act and exercise personal choices to achieve certain goals. This study explored whether the teaching strategies for learners with ASD at a special school afforded them the latitude to achieve their individual goals. Agency warrants individuals an opportunity to expand their freedoms (Sen, 1999). Thus, freedoms and agency are mutual aspects of development (Keleher, 2014). However, individuals can exercise their agency in order to achieve valued aims in an equitable society (Terzi, 2014). Thus, this study examined whether learners with ASD at a special school are allowed and provided with the privilege to choose and pursue their individual goals during teaching and learning that motivate them to excel and reach their maximum potential.

Individual endowments

Individual endowments are a key aspect of the capability approach. Chiappero-Martinetti and Venkatapuram (2014) define individual endowments as the quality and amount of resources which are readily available to people. Public goods, services, wealth and income are some individual endowments that are fundamental in creating capabilities. This study will examine the quality and amount of resources that are used in teaching learners with ASD at a special school. Non-tangible resources, including social institutions, cultural practices, traditions, values and norms, are also necessary in the creation of capabilities. This study examined the role of teaching strategies used at a special school in the creation of capabilities of learners with ASD. Provision of tangible and non-tangible goods and services to learners with ASD in a special school facilitates teaching and learning of these learners. Thus, with ample resources, teachers' strategies should give room to these learners to select and make individual choices in accordance with their capabilities.

Conversion factors

The notion of conversion factors is another fundamental element of the capability approach. Conversion factors reflect different personal, social and environmental characteristics of individuals, which might positively or negatively affect their ability to access and convert available endowments (Chiappero-Martinetti & Venkatapuram, 2014). It is necessary to recognise and consider the diverse nature of individuals based on their conversion factors in order to create equal opportunities and taking into consideration individual abilities to achieve beings and doings. This study explored the responsiveness of teaching strategies used at a special school to the individuality of learners with ASD. Several types of conversion factors influence the ability of an individual to achieve “beings and doings”. These include environmental conversion factors, which are influenced by physical or built environment, personal conversion factors, which are mostly internal to an individual, such as reading skills, physical condition or intelligence, and social conversion factors, emanating from the society in which we live, including gender roles, social norms or discriminating practices (Robeyns, 2005). Thus, all these conversion factors determine how a person can be or is free to convert any given resources. This study examined the influence of environmental, personal and social conversion factors on the teaching strategies for learners with ASD at a special school. The resources owned by an individual are not sufficient for them to achieve what they want (Chiappero-Martinetti & Venkatapuram, 2014). This study ascertained the sufficiency of resources for teaching learners with ASD at a special school. Crocker (2008) asserts that it is important to know individuals’ abilities and the personal, social and environmental circumstances in which they live. Teachers’ strategies for teaching learners with ASD in a special school must cater for individual abilities and address personal, social and environmental backgrounds to allow learners to progress within familiar situations.

2.4 Criticism of the Capability Approach

The relevance of the capability approach to the educational fraternity particularly is its

contributions to promote human capability that have undoubtedly been recognised (Hoffman, 2006). Despite the fact that it is in line with the Convention of the Rights of the Child (United Nations, 1989), which declares that the education of the child must be directed to the “development of the child’s personality, talents and mental physical abilities to their fullest potential” (United Nations, 1989), the capability approach has its shortcomings. The aim of education is to support all learners to achieve their capabilities (Reindal, 2010). Every learner has an individual set of capabilities that are influenced by individual differences and what they each value. However, it is challenging to define individual capabilities (Underwood et al., 2012) as they remain a theoretical construct until each one is achieved (Sen, 1999). This means that it is impossible to know the individual capabilities of children in school until they are realised (Underwood et al., 2012). In reality, people should refrain from making assumptions about the capabilities of individual learners but rather ensure that they have the freedom to achieve their capabilities. Saito (2003) and Terzi (2005) posit that, in the early years, most capabilities for children are not yet realised. They further express that children may not yet have enough experience to define what they value and often their parents speak for them.

In the same vein, Underwood, Chan, Koller and Valeo (2015) maintain that learners with disabilities are not equipped to ascertain the needs of their own well-being. It therefore becomes difficult to implement the notion of agency in education especially when dealing with young learners with disabilities (Devecchi, Rose & Shelvin, 2014) including ASD. Children’s agency in choosing valued functionings is overlooked in favour of adult decision-making, as they are perceived to be too young to make decisions (see Terzi, 2007). Nevertheless, age and neurobiological development form the basis of human heterogeneity and, as such, should pave the way for an individual’s exercise of agency (Taylor, 2013). Underwood et al. (2012) note that, for learners with disabilities, the freedom to achieve capabilities is decreased thus affecting the realisation of their capabilities. Nevertheless, if the capability approach is applied, there should be an assumption of difference from the beginning and an analysis of surroundings that may create inequalities among learners.

Robeyns (2005) posits that the capability approach is too individualistic. It regards individuals as the only units of moral concern. Similarly, Gore (1997) agrees that this approach is over individualistic and directly challenges Sen by pointing out the fact that individuals have properties, which belong to society or institutions. According to Gore (1997), the weakness of Sen's version of the capability approach is seen in the way he assesses social justice, inequalities and human well-being, particularly in multicultural societies. The capability approach lacks accountability for social relations and the constraints and opportunities of societal structures and institutions on individuals by recognising the social and environmental factors that influence conversion factors in functionings (Robeyns, 2005).

Sen's capability approach also does not pay sufficient attention to groups (Kuhumba, 2018). Sen (1999; 2002) does not believe that peoples' abilities to resist social and moral pressure arising from the influence of groups are rational (Robeyns, 2007). Sen also insists that an individual's freedom is only important in a community set up with other people (Daka, 2008). Instead of expanding only on individual capabilities (freedoms), we can also expand community freedoms so that both individual and community flourish together (Kuhumba, 2018). Expanding community capabilities where individuals can find meaningful lives is integral for human development.

The capability approach also does not give much attention to social structures (Robeyns, 2005). Social structures and institutions have an important effect on people's capabilities (Stewart, 2013). Thus, it is very important to be aware of the social determinants of relevant capabilities as only those can be changed. Although the capability approach includes these structures in its conceptual framework, there is clear recognition that they are means and not ends of well-being. Sen (2002; 2004) posits that the capability approach can only account for the opportunity aspect of freedom and justice and not for procedural aspects. Aspects of justice and freedom are very crucial however the capability approach is not equipped to account for them. The capability approach does not strictly follow the social or medical models of disability (Dalkilic & Vadeboncoeur, 2016) that have influence in special education. According to Terzi

(2008), the approach rather views disability as emerging “from the interaction of personal and circumstantial factors”. Thus, the perspectives of the capability approach are rooted in justice and equality (Reindal, 2009).

2.5 Conclusion

This chapter presented the theoretical framework, the capability approach, which served as a lens for the current study. The characteristics and core elements of the capability approach, including functionings, capabilities, individual endowments, agents and conversion factors, were discussed and justified in relation to the current study. A critique of the approach was also presented. The following chapter presents a review of related international literature on inclusive education and teaching strategies for learners with ASD.

CHAPTER 3: REVIEW OF RELATED INTERNATIONAL LITERATURE ON INCLUSIVE EDUCATION AND TEACHING STRATEGIES FOR LEARNERS WITH ASD

3.1 Introduction

Embedded in the capability approach, the present interpretivist/constructivist qualitative single case study explored the teaching strategies for learners with ASD at a special school in Johannesburg East District in the Gauteng Province of South Africa as the context for proposing strategies to enhance the teaching of these learners. The previous chapter presented the theoretical framework of the study. This chapter presents the international (both developed and developing countries) perspective on inclusive education and how this perspective relates to teaching strategies for learners with ASD. It also presents a review of related literature on teaching strategies for learners with ASD structured around the sub-headings derived from the sub-research questions of the study. The sub-headings are: teaching strategies for learners with ASD, teachers' experiences in teaching learners with ASD and strategies to enhance the teaching of learners with ASD. The information gleaned from the literature review serves as a springboard for the exploration of teaching strategies for learners with ASD at a special school in Johannesburg in South Africa. The research gaps that this study will fill are highlighted. The following section presents a historical background to the international development of inclusive education and how it relates to teaching strategies for learners with ASD.

3.2 Historical background to the international development of inclusive education

Before the reaffirmation of inclusive education by the Salamanca Statement and Framework for Action on Special Needs Education (UNESCO, 1994) in 1994, learners who experienced barriers to learning in several countries were educated in special schools and special classes in regular schools (Pantic & Florian, 2015). These include Zimbabwe (Chireshe, 2013), Canada (MacKichan & Harkins, 2012), India (Madan & Sharma, 2013), Hungary (Toth, 2014), Zambia (Muwana, 2012) and the United States

of America (Ford, 2013). However, in compliance with several global and African region human rights instruments, inclusive of the Universal Declaration of Human Rights (United Nations, 1948), the African Charter on the Rights and Welfare of the Child (Organisation of African Unity, 1999), the Salamanca Statement and Framework for Action on Special Needs Education (UNESCO, 1994) and the Convention on the Rights of Persons with Disabilities (United Nations, 2006), most countries have pursued inclusive education since 1994 (Olcay-Guy & Vuran, 2015; Pantic & Florian, 2015).

Inclusive education has become one of the main issues in education throughout the world (Singh, 2016). Despite the global pursuit of inclusive education, it remains a complex and controversial concept (Landsberg et al., 2012) because there is no single universally accepted definition because of conceptual difficulties in defining it (Ainscow, 2010; Majoko, 2018). Inclusive education is viewed as a process of addressing and responding to the diversity of needs of all learners through increasing participation in learning, cultures and communities, and reducing exclusion within and from education (UNESCO, 2015). Inclusive education involves modifications in content, approaches, structures and strategies with a common vision that covers all children (Majoko, 2017).

Several global and African region human rights instruments, including conventions, declarations, treaties, charters, statements, guidelines and recommendations, underpin inclusive education (Florian & Black Hawkins, 2011). These include the Universal Declaration of Human Rights (United Nations, 1948) that mandates the right to free and compulsory elementary education for all children including those with ASD. The Convention on the Rights of the Child (United Nations, 1989) promulgates the right of all learners to receive education without discrimination on any grounds, including those with ASD. The World Declaration on Education for All (UNESCO, 1990) sets the goal of Education for All (EFA) inclusive of learners with ASD. The Standard Rules on Equalization of Opportunities for Persons with Disabilities (United Nations, 1993) affirms the equal rights of all children, youth and adults with disabilities to education. It also mandates that education must be provided in an integrated, general school setting. The Salamanca Statement and Framework of Action on Special Needs Education

(UNESCO, 1994) requires schools to accommodate all children regardless of their physical, intellectual, social, emotional, linguistic or other conditions. The World Education Forum Framework for Action (2000) and the Millennium Development Goals (United Nations, 2015) stipulate that all children, inclusive of those with ASD, should have access to and complete free and compulsory primary education by 2015. The Disability Convention (United Nations, 2005), enshrines the rights of persons with disabilities, including ASD, and the mainstreaming of disability in development. The African Charter on the Rights and Welfare of the Child (OAU, 1999) stipulates that the human rights and basic freedoms of every child on the African continent must be protected and promoted. The Incheon Declaration (UNESCO, 2015) enshrines the right to inclusive and equitable quality education and the promotion of lifelong learning opportunities for all, including those with ASD. These international human rights instruments form the basis for the development of inclusive policies and approaches internationally (UNESCO, 2015).

As a human rights agenda the world over (Ben-Parath, 2012), inclusive education entails the education of all children, despite their abilities or disabilities, together with their peers in regular classrooms (Liasidou, 2012). Nevertheless, it should not only be about physical placement of learners with disabilities in such environments but also about accommodating and supporting their diverse needs (Ashby, 2012). Globally, inclusive education appears to have been adopted although its implementation varies in different countries (McMenamin, 2011). According to Majoko (2018), many countries face challenges in implementing inclusive practices. Governments plan policies on inclusive education based on the country's historical background and structures thus creating disparities in implementation (Lebona, 2013). In many countries where inclusive policies exist, their practical implementation in learning environments is minimal (McConkey & Bradley, 2010). To ensure progress in implementing inclusive education policies and reforms, there must be changes in the provision of education for all learners as well as adequate preparation for implementation among all stakeholders (Sharma, Forlin, Deppeler, & Guang-xue, 2013). With several global human rights instruments, including conventions, charters, treaties, statements, declarations and

guidelines and recommendations, informing the worldwide pursuance of the inclusive school movement (UNESCO, 1994), globally, countries have been working towards supporting the education of all learners with and without disabilities including those with ASD (Madan & Sharma, 2013) and respecting their diverse needs and learning prospects (Chhabra, Strivastava, & Strivastava, 2010). Representatives from 92 governments and 25 organisations confirmed the right of all learners with special needs to an education within the general system (UNESCO, 1994). In this study, five countries with representation from Africa, Asia, Europe, Australia and America provided an insight on previous and current practices in their education systems.

3.2.1 Australia

Australia attained political independence from the Great Britain in 1901. Australia constitutes six states emanating from the six British colonies and maintaining principles that co-existed in education (Australian Constitution, 2010). Similar to South Africa and Zimbabwe, education in Australia was characterised by inequalities before the attainment of political independence from Great Britain. Originally, public school systems were non-existent but from 1880, primary and secondary schools were opened and universities were introduced during the 19th century. However, early childhood education and preschools did not progress like other sectors.

As a member of the Organisation for Economic Co-operation and Development (OECD) together with 35 other countries, Australia endeavours to provide equal and quality inclusive practices in education (OECD, 2013). Four sectors constitute the education system in most states in Australia, early childhood education known as preschool, which is followed by primary education, secondary education and tertiary education (Australia, 2015). It is mandatory that learners attend school from five or six until 17 years of age as determined by individual states (Australia Bureau of Statistics, 2008).

However, since 2010, Australia has carried out a gradual process to develop a national curriculum for primary and secondary schools (The Australian Curriculum Assessment and Reporting Authority, 2017). In senior secondary year 11 and 12, schools have

established courses, such as vocational programmes, to cater for the needs and interests of their learners inclusive of those with ASD. Learners with unique educational needs, including ASD, are registered in special facilities or classrooms within ordinary schools (Soto-Chodiman et al., 2012). Learners, inclusive of those with ASD, who successfully finish a 12-year secondary qualification proceed to university while those with minimum passes can undertake apprenticeships and enrol in Vocational Education Training (VET) (Australian Bureau of Statistics, 2010).

Consistent with the rest of the world, Australia adopted inclusive education in 1994 (Soto-Chodiman et al., 2012). Although the paradigm shift was slow in the beginning, a significant change in the practice of inclusive pedagogy has been noted (Forlin, 2006). Similar to South Africa and other western countries, such as the United States of America and United Kingdom, Australia has developed policies and legislation that include the Disability Discrimination Act (DDA) of 1992 (Oakshott, 2013); the Disability Standards for Education (2005); Education for All Handicapped Children Act of 1975; Individuals with Disabilities Education Improvement Act of 2004; Education Act, 1981;1993 and the Special Educational Needs and Disability Act of 2001 to ensure the implementation of inclusive education (Boon et al., 2014). Nevertheless, like many other countries, Australia also serves learners with high support needs, including ASD, in special schools.

In support of the inclusive school movement, in compliance with the international fraternity, programmes such as Building Inclusive Schools (BIS) and Building Inclusive Classrooms (BIC) have commenced in some Australian states to provide support and cater for the diverse needs of all learners with disabilities, including those with ASD (Soto-Chodiman et al., 2012). Although inclusive education has been a fundamental topic for over two decades in Australia, guidelines measuring the success or failure of this practice across all states are yet to be established (Anderson & Boyle, 2015). Nevertheless, as supported by the Disability Discriminating Act (DDA) (1996), the paradigm shift has seen increasing numbers of students with disabilities, including ASD, accommodated in regular classrooms in Australia (Round, Subban, & Sharma, 2015).

Hoskin, Boyle and Anderson (2015) posit that the attitudes of teachers play a significant role in ensuring the success of inclusive education in Australia. However, similar to South Africa, Zimbabwe and other countries, teachers' attitudes in Australia continue to create barriers to the implementation of inclusive education (Sharma, Forlin, & Loreman, 2011) even though it is now a compulsory subject in teacher education programmes (Boyle, Scriven, Durning, & Downes, 2011). According to the Australian Institute for Teaching and School Leadership (AITSL, 2012), teachers receive training, which prepares them professionally to identify and implement techniques that differentiate learning for learners with disabilities, including those with ASD, to support inclusive participation and involvement of learners with disabilities and to understand laws concerning learners with disabilities. However, it is still a work in progress to ensure a national approach to inclusive education, which promotes successful education for children, including those with ASD, in all states in Australia (Anderson & Boyle, 2015). This study examined the resource capacity of South Africa in the teaching of learners with ASD at a special school.

3.2.2 India

A former colony of Great Britain and the second most populous country worldwide, India gained political independence in 1947 (India, 2011; Sharma & Das, 2015). With an estimated 35 million people with disabilities (India, 2003), the Indian government has taken action to ensure the provision of education to children with disabilities. This has not been successful as most children with disabilities, including ASD, are still not in school (Mani, 2001). According to the Department of Education (2004), the state and the central government of India govern the provision of education. In most states across the country, education comprises primary education including six to 11 year olds which is grade one to five, upper primary from 11 to 14 years which is grade six and seven and secondary education for children aged 15 to 18 (Singal, 2006).

In solidarity with the rest of the world, India embraced inclusive education (Ross, 2017). For over four decades since the country gained independence, educational initiatives,

such as the Integrated Education for Disabled Children (IEDC) scheme of 1974 (NCERT, 2011), have been put in place to cater for children with disabilities including ASD (NCERT, 2011). The IEDC's Sixth Five-Year Plan (1980–1985) further declared that children with disabilities, inclusive of ASD, were a prime concern and required increased funding for integrated education (NCERT, 2011).

In the 1990s, policies were developed that aimed at fostering fair and inclusive approaches to education in India (India, 2009). These included the District Primary Education Project (DPEP) in 1994–1995 (NCERT, 2011) and the Persons with Disabilities (PWD) Act of 1996 (Government of India [GOI], 2005). The Sarva Shiksha Abhiyan (SSA) of 2001 policy initiative explicitly stated the right of every child with special needs to education. The Ministry of Human Resource Development introduced a national education action plan for the inclusion of children with disabilities in 2005.

The renaming of IEDC to Inclusive Education of the Disabled at Secondary Stage (IEDSS) in 2009 created opportunities for all children with disabilities at secondary level to study for four years in inclusive surroundings. The Right to Education Act (RTE) mandates free, accessible, appropriate and compulsory education for all children in India (India, 2009). According to Bhan and Rodricks (2012), a significant increase in enrolment in the 11 states of India was noted between 2010 and 2012. Even though the government has developed inclusive policies for learners with disabilities, including ASD, much still needs to be done regarding implementation (Singh, 2016) as India still serves learners with high needs, inclusive of ASD, primarily in special schools.

As a signatory to several global human rights instruments related to inclusive education, including the Convention on the Rights of Persons with Disabilities (United Nations, 2006), the Salamanca Statement and Framework for Action on Special Needs Education (UNESCO, 1994) and the international accord (UNESCO, 2000), India has demonstrated efforts to address issues in education and policy by creating diverse and equal opportunities for children with and without disabilities, including those with ASD (Sharma & Das, 2015). However, there are many obstacles and challenges in the

process of promoting an inclusive education system in India (Sarao, 2016). Similar to South Africa, Zimbabwe and other countries, India has a lack of specially trained teachers, government finances and policies, suitable infrastructure, awareness, positive attitudes and developed frameworks that hinder the progress of inclusive education and development (Pavenkov, Pavenkov, Rubtcova, & Narayanamurthy, 2015). Moreover, large class sizes in most Indian classrooms (Singh, 2016) create a challenge for teachers who already lack skills to implement inclusive education. About 70% of primary and secondary teachers in India lack experience in teaching learners with disabilities, including those with ASD, while 87% lack support services in their classes (Das, Kuyini, & Desai, 2013). Teacher training programmes in the country do not offer topics involving disability (Myreddi & Narayan, 2000). Despite these challenges, Shah, Das, Desai and Tiwari (2014) assert that, in order to provide better education, learners with and without disabilities, including those with ASD, must be educated in an inclusive environment together with their typically developing peers. This study examined the resource capacity of South Africa in the teaching of learners with ASD at a special school.

3.2.3 United Kingdom

When Margaret Thatcher became the first female Conservative Party Prime Minister after the 1979 elections, she introduced the Education Reform Act of 1988, which made significant changes in United Kingdom's (UK) education system (UNESCO, 2014). While the UK is a member of the OECD, together with 35 other countries, education in the UK functions under separate systems and governments (Education and Training Statistics for the United Kingdom, 2013). Nevertheless, in each of those countries, education comprises primary, secondary, further education and higher education.

UK law stipulates that children must enrol in school from five to 16 years of age (Education Act of 1996). Primary education is from five to 11 years with a single teacher in charge of the class throughout the year and teaching all subjects. Children aged 11 to 16 attend secondary education and write a national exam, known as General Certificate of Secondary Education, marking the end of secondary schooling. Primary and

secondary schools follow the same National Curriculum to ensure uniformity. From 16 years of age, children in the UK proceed to further education where they choose qualifications with Advanced Level (A level) being the most common. After completing A level and meeting the required entry points, learners may proceed to universities, colleges or professional schools but this is not compulsory (Refugees into Teaching, 2013; Education and Training Statistics for the United Kingdom, 2013).

In 1993, a mandate on the right of children with special educational needs and disabilities, including those with ASD, paved the way for their placement in regular classrooms. As at January 2013, 1 545 610 children with special educational needs were identified in the UK. However, only 1 448 105 attended ordinary schools (DoE, 2013). With the reaffirmation of inclusive education at the Salamanca World Conference in 1994 (UNESCO, 1994), the UK adopted this philosophy in alignment with the rest of the world (Pantic & Florian, 2015). Several policies and legislations have since been reformed in accord with the inclusive school movement, the latest being the Children and Families Act of 2014 (Education and Training Statistics for the United Kingdom, 2013). The Special Educational Needs and Disability Act of 2001; the Education Act of 1996; the Disability Discrimination Act of 1995; the Equality Act of 2010 (Gibson, 2015) and the Special Needs Code of Practice issued by the Department of Education (Department of Education and Skills, 2001) constitute the legal framework for the education of children with special needs, including those with ASD, in the UK.

Consistent with other countries, including South Africa (Naicker, 2009), Israel (Eldar, Talmor, & Wolf-Zukerman, 2010), Bangladesh (Das & Ochiai, 2012), Ireland (Dimitriadi, 2014) and the USA (Able et al., 2015), laws in the UK forbid discrimination in education and advocate for inclusive education. Thus, a number of international human rights laws, ratified by the UK, including the Convention on the Rights of Persons with Disabilities (United Nations, 2006), makes the government liable for the provision of non-discriminatory education. Presently, children with special educational needs, including those with ASD, who are in possession of the special educational needs statement, have the right to learn in ordinary schools as long as the parents agree and

other children are not interrupted (Education Act of 1996 sec 316 as amended by the Special Educational Needs and Disability Act of 2001). Reasonable adjustments and accessible strategies are in place to accommodate the diverse needs of all children attending school in the UK (Equality Act of 2010). The Children and Families Act of 2014 and the Special Education Needs Code of Practice mandate the provision of an Education Health Care plan (EHC) which is an individualised plan incorporating education, health services and social care provisions for children with special educational needs, including those with ASD.

The UK still strives to eradicate barriers to learning and adapt to inclusive policies, which cater for the diverse needs of all learners, including those with ASD (UNESCO, 2014). DoE (2013) reveals that there is continuous ineffective UK policy development for inclusive practices. Similar to South Africa, although there has been an increase in the number of children learning in inclusive environments in the UK, it remains a challenge to ensure these inclusive settings are appropriate and beneficial to children with disabilities, including ASD, and society at large (Emam & Farrell, 2009). This study examined the resource capacity of South Africa in the teaching of learners with ASD at a special school.

3.2.4 United States of America

Prior to the endorsement of the Education for All Children Act in 1970, the history of education in the United States of America (USA) was mostly characterised by the exclusion of children with disabilities (Dudley-Marling & Burns, 2014). Some states across the USA had specific rules and regulations, which prohibited children with disabilities, including ASD, from attending public schools (Guide to U.S. Department Education Programs, 2007) while a few of the states allowed specific learning programmes for specific groups of disabilities. According to Harrison (1958), an Intelligent Quotient (IQ) of below 50 meant that a child would not get access to education in New York State. Thus, those with severe disabilities were excluded. In the 1970s, one million children with disabilities, including those with ASD, had no access to

education while 3,5 million received inappropriate services (Martin, Martin, & Terman, 1996). Most children with disabilities, including those with ASD, in the USA were regarded as unteachable and unfit to learn in regular classroom environments as they had unique needs, which required maximum attention from their teachers, hence placing other learners at a disadvantage (Dudley-Marling & Burns, 2014). Thus, throughout the 19th and 20th centuries, exclusion of children with disabilities continued in several states in America (Osgood, 2005).

In alignment with several other countries, including Zambia (Serpell & Jere-Folotiya, 2011), China (Kritzer, 2012), Malaysia (Razali, Toran, Kamaralzaman, Salleh, & Yasin, 2013), Canada (Lindsay et al., 2013), New Zealand (Ngara, 2014) and Scotland (Davidson, 2015), the USA is pursuing inclusive education (Olcay-Guy & Vuran, 2015). As at 2012, there were 6 184 975 children with special educational needs learning in ordinary schools (Department for Education and Skills, 2001). Consequently, all learners with disabilities, including ASD, receive free and appropriate education as mandated by the Education for All Handicapped Children Act (Kritzer, 2012). Consistent with several other countries, such as Australia and the UK, the USA passed and enforces policies and legislative frameworks on inclusive and special education. These include Individuals with Disability Education Act (IDEA); No Child Left Behind Act of 2002; Code of Federal Regulations, Title 34-Education (34 CFR) and state laws and regulations on special education. The recently implemented Every Child Succeeds Act (2015) mandates all children with disabilities, including those with ASD, to take assessment tests.

Presently, most children with disabilities in the USA, including those with ASD, learn together with their non-disabled peers (U.S. Department of Education, 2012). All children with disabilities, inclusive of ASD, in the USA are entitled to free education (IDEA, 2014). School districts are obliged to provide beneficial opportunities in the school's district programme to children with disabilities, including ASD, which are equal to those without disabilities (Pilon, 2013). Schools may provide support services, such as behavioural interventions and support, and supplementary aids and services, to

children with disabilities as indicated in their individualised education programmes (IEPs) (No Child Left Behind Act of 2001). According to Public Law (94–142), an individualised education programme (IEP) suitable for the unique needs of every child with a disability is mandatory. Kritzer (2012) posits that IEP renders support to all children with disabilities, including ASD, in the USA and ensures their academic success. IDEA expects the present level of educational performance, measurable annual goals, the progress of the student concerned towards meeting annual goals, special education and related services, participation with non-disabled students and individual appropriate accommodations to be included in the IEP (IDEA, 2014).

Although inclusive education began in the USA in the early 1980s as an initiative for learners with disabilities including ASD, 4 decades later the country still faces new challenges in the midst of the 21st century innovations including advances in technology (Fergusson, 2008). Fergusson (2008) maintains that the USA strives to ensure policies in inclusive education are accessible to “everybody, everywhere, all the time.” The Individuals with Disabilities Education Act (IDEA) of 2004 mandates the provision of appropriate education for children with disabilities, including ASD, in public schools (Kritzer, 2012). Nevertheless, it is still considered an inappropriate practice to educate children with disabilities in inclusive classrooms but efforts to collaborate relations between special and general education continue (Hossain, 2012). According to Dudley-Marling and Burns (2014), this political agenda might continue to face resistance particularly from stakeholders who are benefiting from the current educational structures. Similar to Zimbabwe, there is a need for smaller numbers of learners in the classrooms to enable provision of one-on-one support (Dudley-Marling & Paugh, 2009). This study examined the resource capacity of South Africa in the teaching of learners with ASD at a special school.

3.2.5 Zimbabwe

Prior to the attainment of political independence from Great Britain in 1980, indigenous people of Zimbabwe received education that was intended to make them controllable

and submissive to the British colonial rule (Mlambo, 1998). Similar to South Africa, the provision of education in Zimbabwe before independence was characterised by blatant inequalities that promoted racially discriminatory policies in education (Mupondi & Munyaradzi, 2013). However, with the attainment of political freedom in 1980, amendments in education were established (Masaka, 2016). Zimbabwe's new government embarked on a mission to eradicate imbalances and inequalities in education (Mupondi & Munyaradzi, 2013). Consequently, underlying social policies in Zimbabwe are human rights and social justice principles (Zimbabwe National Statistics Agency, 2013). Education in Zimbabwe is a fundamental right of all children including those with ASD (Mandina, 2012).

According to Education for All (2015), Zimbabwe has a 90% literacy rate that is currently positioned as one of the highest in the world. Two ministries are in charge of the education system in Zimbabwe, specifically, the Ministry of Primary and Secondary Education and the Ministry of Higher and Tertiary Education, Science and Technology Development (Zimbabwe National Statistics Agency, 2013). Infant Education comprising Early Childhood Development A for 3–4 year olds and B for 4–5 year olds falls under the Ministry of Primary and Secondary Education (Mugweni & Dakwa, 2013). Learners from age six to 12 attend Primary School Education from grade one to grade seven. All public primary schools in Zimbabwe serve learners with diverse unique needs (Zimbabwe, 2012). Nevertheless, learners with high support needs, including ASD, are primarily educated in special schools. From 13 to 16 years of age, learners attend secondary education from form one to form four, to attain a General Certificate of Education at the end of four years (Education for All, 2015). Successful learners at 17–18 years of age proceed to Advanced Level, which is form five and six, for a further two years. Upon completing and passing General Certificate of Education and Advanced Level, learners qualify to enrol at university (Majoko, 2016). Learners who are unable to proceed to Advanced Level but have passed Ordinary Level enrol in tertiary institutions and take courses in teaching, nursing, agricultural training and polytechnic education (Zimbabwe National Statistical Agency, 2013).

In alignment with the global world, Zimbabwe adopted inclusive education in 1994 to cater for the diverse needs of learners with disabilities, inclusive of ASD (Chakuchichi, 2013). The country is a signatory to several global human rights instruments on and related to inclusive education, including the Salamanca Statement and Framework for Action on Special Needs Education (UNESCO, 1994) and the Convention on the Rights of Persons with Disabilities (United Nations, 2006; Majoko, 2019).

Consistent with several other countries, including Canada (Lynch & Irvine, 2009), Nigeria (Imam, 2012), Australia (Soto-Chodiman et al., 2012), the USA (Ford, 2013), UK (Humphrey & Symes, 2013) and Scotland (Pantic & Florian, 2015), Zimbabwe passed and enforces several policies and legislations related to inclusive education in accord with civil rights movements as enshrined in several global human rights instruments, including conventions, declarations and treaties (Chireshe, 2013; UNESCO, 1994). These include the Zimbabwe Constitution Amendment Number 20 of 2013 section 75, the Education Act of 1987 (Chakuchichi, 2013), the Disabled Persons Act of Zimbabwe of 1996 (Deluca et al., 2013), the Secretary's Circular number 2 of 2000, the Director's Circular number 7 of 2005 (Musengi & Chireshe, 2012) and the Principal Director's Circular Number 20 Of 2011 (Mugweni & Dakwa, 2013). These mandate the inclusion of children with barriers to learning, including ASD, in mainstream education settings.

In an effort to realise inclusive education, the Department of Teacher Education of the University of Zimbabwe provides strategic support towards the professional preparation and development of teachers (Mushoriwa & Muzembe, 2011). The Department of Schools Psychological Services and Special Needs Education of Zimbabwe offers various programmes that promote equal access to education and quality education for all children, including those with ASD, in practice (Mugweni & Dakwa, 2013). Such programmes include expanding provisions in education through staff development of the personnel of the Department of Schools Psychological Services and Special Needs Education, special needs education teachers in schools, heads of schools and district, provincial and national officers in education. According to Chireshe (2013), the Curriculum Development Unit of Zimbabwe developed a common national curriculum

and syllabus for primary and secondary education. However, in spite of these efforts, a lot is yet to be done to improve the implementation of inclusive education in Zimbabwe (Deluca et al., 2013).

Although there is no clear and specific policy on inclusive education in Zimbabwe (Chireshe 2011), stakeholders remain optimistic towards promoting it (Chikwature, Oyedele, & Ntini, 2016). Comparable to South Africa, the implementation of inclusive education in Zimbabwe remains a challenge (Mafa & Makuba, 2013). According to Chireshe (2013), the lack of resources has been a major hindrance in the implementation of inclusive education. Similar to most schools in South Africa, most schools in Zimbabwe lack valuable resources, which limit their implementation of inclusive education (Tshifura, 2012). Mandina (2012) asserts that Zimbabwe faces challenging budgetary constraints leading to a shortage and a low supply of resources to support inclusive learning environments. This is a major disadvantage for children with disabilities, including those with ASD, in these schools (Majoko, 2018). The teacher/pupil ratio in most Zimbabwean classrooms is exceedingly high. Mafa and Chaminuka (2012) state that a ratio of 1:40 is evident in primary schools. In the midst of large classes and limited resources, it is almost impossible for teachers to cater for the diverse needs of all learners, inclusive of those with ASD, in regular and special schools (Mandina, 2012). This can instil negative attitudes in teachers towards the teaching and learning of children with disabilities, including those with ASD. This study examined the resource capacity of South Africa in the teaching of learners with ASD at a special school.

3.3 Teaching strategies for learners with ASD

Unlike in the developed world, there are limited studies on teaching strategies for learners with ASD in developing countries. Embedded in the capability approach, the literature review primarily utilises studies that show research gaps from developed countries and some studies from Africa and other developing countries. Although international research reveals several teaching strategies for learners with ASD, the

findings on the utility of these strategies are inconsistent which warrants further research hence the focus of this study. Teaching strategies for learners with ASD can be grouped into behavioural teaching strategies, organisational strategies and naturalistic strategies.

3.3.1 Behavioural teaching strategies

Behavioural teaching strategies are based on applied behaviour analysis principles (Wong et al., 2015). These strategies comprise parts of other focused interventions such as reinforcement and prompting. Below is a review of literature of some behavioural teaching strategies for learners with ASD.

Prompting is an antecedent strategy of teaching which is behaviourally based (Odom, Collet-Klingenberg, Rogers, & Hatton, 2010). Previous studies reveal inconsistent findings on the use of prompting as a teaching strategy for learners with ASD. In the USA, teachers use prompts when reinforcing instructional routines necessary to evoke responses to academic or behavioural activities for these learners (Crosland & Dunlap, 2012). Ncube's (2014) qualitative study on four primary school teachers in Zimbabwe established that an increase in prompts during teaching provided support for learners with ASD. Nevertheless, while teaching socialisation between learners with ASD and their peers, a study by Sivaraman and Fahmie (2018) found that learners did not always need to be prompted. However, Crosland and Dunlap (2012) found that prompting learners with ASD by both teacher and peers increased desirable behaviour. These studies were done with learners with ASD and their typically developing peers. The current study only focused on learners with ASD.

Reinforcement entails strengthening a desirable behaviour either positively by rewarding or negatively by punishing (Woolfolk, 2014). Majoko's (2017) qualitative study on 18 mainstream early childhood teachers in Zimbabwe revealed that the use of reinforcement when teaching learners with ASD developed and promoted desired behaviours and motivation in these learners in their classrooms. In Canada, Lindsay et al.'s (2014) qualitative study with 13 elementary teachers found that teachers rewarded

learners with ASD for good behaviour which encouraged them to remain focused on teaching and learning activities and avoided unexpected tantrums. Crosland and Dunlap (2012) established that teachers in the USA used positive reinforcement for learners with ASD to prevent the manifestation of challenging and inappropriate behaviour among these learners in the classrooms. Most of the above cited studies used multiple case study research designs. The current study used a single case study research design as it was carried out at one special school in Johannesburg South District.

Originally introduced by Gray (2000), social stories entail teaching learners with ASD acceptable behaviour through addressing difficult moments and deterring repetitive actions by reading the story to the learners prior to the expected event to prepare the learners (Leaf, Oppenheim-Leaf, Leaf, Taubman, McEachin, Parker, & Montjoy, 2015). Schneider and Goldstein's (2010) qualitative study on children aged 5–14 years in an educational setting, using an individualised illustrated story in book format to teach task behaviour, revealed mild improvements in target behaviour of these children although there was inconsistency in the amount of improvement among them. In a 2006 qualitative study on three children in a home and school setting, using individualised illustrated social story in book format to teach social skills, Sansoti and Powell-Smith (2006) found that, after reading at home twice a day, two children exhibited immediate improvement in targeted behaviour, which was similar to their typically developing peers. However, the third child displayed inconsistent improvement and there was no evidence to show whether the story was read at home. A qualitative study by Quirnbach, Lincoln, Feinberg-Gizzo, Ingersoll and Andrews (2008) on three children in a clinical setting revealed that social stories proved to be effective in teaching targeted behaviours. Nevertheless, one of the three children did not show any improvement. Leaf, Oppenheim-Leaf, Call, Sheldon and Sherman's (2012) study with children in university and at home found that, out of the 18 social skills intended to be taught using social stories, only four were mastered. Children also showed variable behaviours. In all four studies, an observation schedule was used. The current study utilised individual interviews, document analysis and non-participant observations to triangulate the findings.

A 2004 case study by Adams, Gouvousis, VanLue and Waldron on a seven-year-old boy to prove the effectiveness of social stories in decreasing undesirable behaviour during a series of 12 homework sessions established that, after using social stories, a positive difference in the behaviour of the child was noted after five sessions as indicated by a reduction in episodes of crying, screaming, falling and hitting. According to Davidson (2015), the use of social stories is a practical and interactive means of developing social skills in learners with ASD. This is in alignment with the capability approach, which is founded on the promotion of the social development of learners (Sen, 2009). These studies were carried out at homes, schools, clinics and universities using large random samples in some cases. The current study obtained data from 12 participants selected by means of critical case sampling at a special school for learners with ASD.

Obsessive-compulsive behaviour management entails preparing learners with ASD for any changes of routine to prevent any feelings of uncertainty and fear of the unknown, which might lead to outbursts (Kose, Fox, & Storch, 2018). Majoko's (2017) qualitative study on 18 Zimbabwean mainstream early childhood teachers established that these teachers strategically manage obsessive-compulsive behaviours by explaining changes in routine to learners with and without ASD. A qualitative study by Lindsay et al. (2014) on 13 elementary teachers established that, in Canada, mainstream teachers provided these learners with manipulative toys that retained their focus, minimised stress and prevented behaviour outbursts. However, in these studies cited above, teachers managed the inclusive teaching and learning of both learners with and without ASD in the same regular classrooms. Thus, in the current study, teachers only managed learners with ASD in their classrooms since it was a special school for learners with ASD only.

Peer mediation is a communication process whereby individuals having problems with each other are helped by a third neutral person to work on their issues (Schrumpf, Crawford, & Bodine, 1997). Past studies have established the effectiveness of peer mediation strategies in teaching learners with ASD. Crosland and Dunlap (2012) in the

USA found that peer interventions encourage the typically developing learners to promote appropriate communication and social behaviours in learners with ASD through interaction, modelling and reinforcement. In the same vein, a study by Chan, Lang, Rispoli, O'Reilly, Sigafoos and Cole (2009) found that typically developing learners modelled positive behaviour and social norms to learners with ASD. Mason, Kamps, Turcotte, Cox, Feldmiller and Miller's (2014) study found that, through peer interaction, learners with ASD learn important skills, such as dialogue, teamwork, problem solving and sharing, from their peers without the condition. Thus, teachers use peer-mediated interventions to foster social skills, communication and increase interaction between learners with ASD and their peers during teaching and learning. However, a qualitative study by Lindsay et al. (2013) on 13 elementary teachers in Canada, who had experience in teaching learners with ASD, established that most of the teachers were unable to foster social interaction skills in these learners because their typically developing peers seemed not to understand them. The findings cited above indicate that typically developing learners modelled positive behaviour to learners with ASD in regular school classrooms. This study was carried out in a special school for learners with ASD and explored the use of peer-mediated strategies in teaching these learners.

3.3.2 Organisational teaching strategies

Organisational teaching strategies capitalise on the strengths of learners with ASD by providing predictable and meaningful routines using structure, visual supports, organising classroom spaces and learning material to reduce anxiety and inappropriate behaviour (Landsberg et al., 2012). Below is a review of international literature on organisational teaching strategies for learners with ASD.

Visual schedules are visual displays that assist learners with ASD to engage in acceptable behaviour without prompting and make them aware of upcoming events using pictures, symbols and words (Sterling-Turner & Jordan, 2007). The National Autism Centre (2015) reveals that visual schedules are useful in promoting independence and assisting learners with ASD to plan. Different studies established

that the use of visual schedules facilitates teaching and learning of learners with ASD. Macdonald, Trembath, Ashburner, Costley and Keen's (2018) multiple-baseline single case quantitative study in the USA on four learners with ASD in a mainstream primary school revealed that the use of visual schedules had a positive effect on on-task behaviour of these learners. These researchers also established that the introduction of visual schedules increased the amount of written work that learners with ASD completed. A study by Knight, Sartini and Spriggs (2014) found that visual schedules effectively promoted on-task behaviour and independence regarding transitions and changes for children with ASD. Thus, this study examined the utility of visual schedules at a special school as the foregoing studies were executed in foreign countries hence may have limited transferability to South Africa.

Mesibov, Howley and Naftel (2016) assert that work systems assist in task structuring by making learners with ASD aware of their expectations when doing a task, checking their progress, knowing the next procedures and ensuring that they finish the task. Work systems and visual schedules use similar elements in terms of practice including sequencing activities and producing the same results as regards the behaviour and anxiety of learners with ASD (Knight et al., 2014). However, not many studies focusing on the practice of work systems have been carried out (Wong et al., 2015; National Autism Centre, 2015). Nevertheless, a few studies focusing on the use of work systems with learners with ASD reveal inconsistent findings. Hume and Odom's (2007) qualitative study on three learners established an increase in on-task behaviour and a decrease in the use of prompts after work systems were introduced. A qualitative study by Mavropoulou, Papadopoulou and Kakana (2011) in Greece found that the on-task behaviour for one of the two participants who had ASD improved while the other participant showed questionable results. In the USA, Hume, Plavnick and Odom's (2012) multiple-probe-across-participants design study established noted improvements in accuracy of tasks and a decrease in prompting and support by the teacher with the introduction of individual work systems to learners with ASD. O'Hara and Hall's (2014) qualitative multiple baseline design on three elementary learners between five and six years old attending a public school found a significant increase in the engagement of

learners with ASD during play and rest using work systems. Although work systems have been proven beneficial to learners with ASD, there is limited evidence of data collected in classroom settings and its applicability in different contexts (Hume, 2015). Thus, this study explored the utility of work systems in teaching of learners with ASD at a special school in Johannesburg in South Africa.

A structured routine creates an ASD friendly environment aimed at reducing anxiety using either visual or physical structures (Macdonald et al., 2018). Lindsay et al.'s (2014) qualitative study in Canada on 13 elementary teachers found that using consistent structured routines and notifying learners about any changes in advance facilitated the teaching and learning of learners with ASD. Consistent evidence in the USA reveals that teachers' strategic use of structured routines in the form of visual schedules increased the independence of learners with ASD and informed them of transitions between activities (Crosland & Dunlap, 2012). In a qualitative study in Zimbabwe on 21 regular primary school teachers, Majoko (2016) found that the adjustment and adaptation of classroom structure and routine in response to the order expected by learners with ASD supported their teaching and learning. Furthermore, Majoko's 2017 qualitative study on 18 Zimbabwean mainstream early childhood teachers also found that learners with ASD clearly understood their daily expectations and routines. However, these studies were done in mainstream schools hence the transferability of their findings to a special school may be limited. This study was conducted at a special school for learners with ASD.

Teaching learners with ASD requires teachers to modify the learning environment. According to Florian, Black Hawkins and Rouse (2009), environmental modification entails adopting radical approaches that promote teaching and learning. Ngara's (2014) mixed approach study in New Zealand mainstream secondary schools found that teachers maintained classroom environments without any distracting stimuli to promote the teaching and learning of learners with ASD. A qualitative study by Majoko (2017) on 18 mainstream early childhood teachers in Zimbabwe found that teachers created designated quiet and relaxing areas for learners with ASD to calm down. In the same

vein, Smith (2012) established that eliminating irrelevant environmental stimuli allows learners with ASD to focus their attention on their teaching and learning. However, the above cited studies were carried out in primary and secondary schools. This study was carried out at a special school whose circumstances are different from those of primary and secondary schools

Picture exchange communication system (PECS) is a picture based visual system, which facilitates communication for learners with ASD (Lancioni, O'Reilly, Cuvo, Singh, Sigafoos, & Didden, 2007). Communication is a major common deficit among learners with ASD (Humphrey & Symes, 2013) thus PECS has proven its effectiveness to these learners who require consistent and concrete objects and stimulation (Oren, Fisher, & Ogletree, 2007). PECS enables learners with ASD to recognise meaning through visuals rather than recall (Heflin & Alaimo, 2007). Yoder and Stone's (2006) quantitative study on 36 pre-schoolers with ASD in the USA found that PECS assisted these pre-schoolers to indicate their needs with little initiation of joint attention prior to treatment. When used during post-treatment, PECS was more successful in increasing the number of non-imitative spoken communication acts and non-imitative words among learners with ASD. A quantitative study by Howlin, Gordon, Pasco, Wade and Charman (2007) in the UK on 84 elementary school children found an increase in these children's initiations and use of symbols in the classroom environment proving moderate effectiveness of PECS when used by trained teachers or consultancies. Tincani, Crozier and Alazetta's (2006) qualitative study on two boys aged 10 and 11 learning in a self-contained public school classroom in the USA found that both boys showed increased levels of independence and ability to request after PECS was implemented. However, only one of the participants indicated improved speech. Similarly, teachers in Zimbabwe teach communication through language use in social relations among learners in regular classes, pairing words with actions and sign language (Majoko, 2017). Scottish teachers use the LEGO[®] game to teach social communication in mainstream classrooms (Davidson, 2015). Teaching communication in various ways indicates that teachers acknowledge learners' abilities and differences in learning environments as supported by the capability approach (Dalkilic & Vadeboncoeur, 2016). However, random

participants with varying academic qualifications provided information for these studies. Participants who informed this study were trained to teach learners with special needs, specifically ASD, and had at least three years' experience.

The treatment and education of children with ASD and related communication-handicapped children (TEACCH) approach entails organising the learning environment to accommodate their individual abilities, interests, strengths and weaknesses by providing instructions that are visually clear (Landsberg et al., 2012). The TEACCH approach allows every child to learn independently at a workstation provided with various timed activities (Panerai, Zingale, Trubia, Finocchiaro, Zuccarello, Ferri, & Ellia, 2009). Role-play, social stories and cue cards are some of the strategies utilised in the TEACCH program (D'Elia, Valeri, Sonnino, Fontana, Mammone, & Vicari, 2014). The posting of rules in the classroom is an integral part of this programme and these rules must be clearly stated to afford learners with ASD the opportunity to connect socially (Ciurlik, Tennenbaum, & Duer, 2015). Panerai et al.'s (2009) quantitative study on 34 Italian male children who were attending primary school with ASD stationed at Oasi Maria SS, Scientific Institute for Mental Retardation and Brain Aging revealed that the TEACCH programme was more effective for these children compared to non-specified inclusive programmes. Nevertheless, since the study was conducted in a single specific setting, results may be biased and, as such, there was a need to do the study in various settings in spite of the promising findings (Al-Qabandi, Gorter, & Rosenbaum, 2009). In Ireland, Braiden, McDaniel, McCrudden, Janes and Crozier's (2012) quantitative study on 18 preschool children diagnosed with ASD established that these children's expressive and receptive skills in language increased after a pre- and post-experimental design evaluated the impact of TEACCH if administered during early intervention. This study examined the utility of TEACCH in teaching learners with ASD at a special school in South Africa.

3.3.3 Naturalistic teaching strategies

Based on Applied Behavior Analysis (ABA) principles, naturalistic teaching strategies

involve a collection of practices, such as environmental arrangement and interaction techniques, that are more oriented towards following learners' needs and interests (Franzone, 2009). Such practices have been found to enhance generalisation of language, social and play skills in natural everyday settings, increasing the willingness of children with ASD to participate in activities and make learning more fun (Allen & Cowen, 2008). Below is a review of international literature on naturalistic teaching strategies for learners with ASD.

Capability refers to what an individual is able to do (Nussbaum, 2011). Majoko's (2017) qualitative study on 18 Zimbabwean mainstream early childhood development teachers revealed that they based learning on the strengths rather than the weaknesses of learners with ASD for successful teaching and learning of these learners. In the same vein, a qualitative study by Lindsay et al. (2014) on 13 Canadian elementary teachers, who had experience in teaching learners with ASD, established that these teachers capitalised on the capabilities of these learners as a basis for lesson presentation and successful pedagogy. Teachers' focusing on the strengths of learners is in alignment with the capability approach, which emphasises the need to focus on what individuals can do rather than what they cannot do (Nussbaum, 2011). Nevertheless, these studies were executed in different countries with different contexts from South Africa hence the transferability of their findings is unknown.

Academic modification entails changing learning activities to meet learners' individual unique needs (Lynch & Irvine, 2009). In a qualitative study on 18 Zimbabwean mainstream early childhood teachers, Majoko (2017) found that these teachers modified learning activities when teaching learners with ASD in their classrooms. Participants reported that they reduced the number of learning tasks that they assigned to learners with ASD to maintain the attention of those with challenges in fine motor skills. In the same vein, a qualitative study by Lindsay et al. (2014) on 13 elementary Canadian teachers established that teachers maintained flexibility and creativity when planning individual tasks for learners with ASD. Similarly, the capability approach posits that it is entirely up to the learner to do the task or not (Sen, 1993). Nevertheless, in these

studies, instruments used in data collection provided an enlightenment of mainstream settings. Instruments used in the current study provided an insight of a special school setting.

Social skills training (SST) entails teaching learners with ASD ways to socially interact positively with their typically developing peers and society at large (Wong et al., 2015). Past studies indicate that learners with ASD face challenges in developing friendships or any other interactive relations (Maich & Belcher, 2012; Davidson, 2015). In Zimbabwe, Majoko's (2017) qualitative study on 18 mainstream early childhood teachers found that teachers provided opportunities for learners with ASD to socially interact with others through participation in learning activities that fostered social skills in them. These 18 teachers expressed that they afforded learners with ASD access to peer models and social opportunities in different settings around the school through sport, recreation and classroom activities with suitable stimulation and reinforcement. Previous studies also reveal that learners with and without ASD socially interact (Kasari, Locke, Gulsrud, & Rotheram-Fuller, 2011; Locke, Ishijima, & Kasari, 2010). Thus, teachers can use this for social development through various activities. However, these studies were executed in mainstream settings, while the current study took place in a special school.

Collaboration entails working as a team to achieve desired results. An instrumental case study by Ngara (2014) involving teachers, principals, parents, ASD learners and a psychologist in New Zealand in regular secondary schools established that collaboration and teamwork were fundamental for teaching learners with ASD. Thus, teachers consult and collaborate with parents, nurses, therapists, classroom assistants and psychologists when planning learning programmes for learners with ASD according to the unique needs of these learners (Kaweski, 2011). Consequently, parental involvement assists in conveying situations at home to school and in community (Patterson, Smith, & Mirenda, 2012). This then informs the teachers about the present and prospective needs of learners with ASD. In the same vein, Majoko's (2016) qualitative study on 21 regular primary school teachers in Zimbabwe found that these

teachers gained knowledge through constant consultation with expert stakeholders. Lindsay et al.'s (2014) qualitative study on 13 elementary teachers in Canada found that teachers established rapport with parents and learners to create open communication and good relations. Lynch and Irvine (2009) established that cooperation between all stakeholders is particularly necessary during transition stages when everyone shares information about the learner. The range of teaching experience of participants involved in the above studies varied while participants who informed the current study had at least three years of experience of teaching learners with ASD in a special school.

LEGO® Play is a play based comprehensive and highly structured intervention rooted around the LEGO® construction system (Davidson, 2015). LEGO® was developed by an American psychologist, LeGoff, after observing two children with ASD playing spontaneously with LEGO® sets. The game capitalises on the natural interests of the children while moulding their behaviour and promoting learning (LeGoff & Sherman, 2006). In a qualitative study, using observation schedules in a preschool setting involving a single child and preschool staff, Pang (2010) used simple LEGO® play sessions with typically developing peers to reduce behaviour problems and increase social interaction. Findings of this study indicated noticeable improvements in all targeted behaviours. However, there was no data to support these results. LeGoff and Sherman's (2006) quantitative study on 60 children between four and 11 years in a clinical setting who received weekly therapy and group sessions for three years, with the aim of increasing their social abilities and reducing bad behaviours, established a significant improvement in target behaviours. The diagnoses of ASD among children were not influential although those with relatively intact language showed immaculate improvement. A study by Andras (2012) in a school setting involving school staff that took place in 10 week LEGO® play sessions with no individual therapy using observation schedules, targeting an increase in social interaction in the playground, proved effective as there were significant gains in the targeted behaviour of children with ASD. The study also found that children with ASD maintained their behaviour after the intervention even beyond the playground. The present study sought to examine if learners improved their behaviour when presented with games in a classroom setting at

the selected special school.

Ramdoss et al. (2011) assert that learners with ASD indicate interest and efficiency in technology. As one of the evidence-based practices for learners with ASD (Wong et al., 2015), technology-aided instruction and intervention (TAII) includes using speech generating devices, software programmes or computers. Pennington and Delano (2012) reveal that the use of TAII improves the handwriting of learners with ASD. In the USA, Asaro-Sadler, Muir-Knox, Meredith and Akhmedjanova's (2015) quantitative study on 10 secondary learners with ASD using First Author software found that the use of this technology supported the development of writing skills as these learners showed significant improvement in the quality and quantity of their work. A single case study by Hart and Whalon (2012) on one child using video modelling on an iPad to teach an academic science activity established that there was an increase in correct unprompted responses during instruction at school. Kagohara, Van der Meer, Achmadi, Green, O'Reilly, Mulloy and Sigafoos's (2010) qualitative study on one child using an iPad as a speech-generating device found that there was increased communication with the child at school. A quantitative study by Hopkins, Gower, Perez, Smith, Amthor and Wimsalt (2011) on 49 children with ASD using computer based interactive software, found that there were improvements in facial and emotional recognition as well as social interaction among these children. Shane and Albert (2008) postulate that young children with ASD tend to be highly attentive to visual content that is presented electronically. The current study sought to find if technology improved teaching and learning of children with ASD at the selected special school in view of its use internationally.

The circle of friends is an approach used in teaching learners with ASD by giving them an opportunity to form appropriate relationships with their peers (Schlieder, Maldonado, & Baltes, 2014). The teacher meets with learners with ASD who are the focus together with a small peer group from the mainstream. All learners benefit, particularly the typically developing peers, as they learn how to understand and assist these learners. This strategy gives emotional and practical support to learners with ASD, which helps in reducing problematic behaviours (Whitaker, Barratt, Joy, Potter, & Thomas, 1998).

Kalyva and Avramadis's (2005) qualitative study on five children with ASD between three and four years, 25 typical children and five teachers at a preschool who all took part in 12 weekly circle of friends sessions involving games and singing found that there was an increase and improvement in social interactions between learners with ASD and their typically developing peers. In the UK, James' (2011) single case experimental study on five focus children with ASD, 127 focus peers, five focus teachers and five circle facilitators, who participated in eight circles of friends meetings, established that there was a significant improvement in social inclusion with the majority of the focus children expressing their happiness at school. As indicated in the above cited studies, several teaching strategies can be used for learners with ASD. Thus, supportive teaching strategies are foundational in the holistic development of these learners (Allday et al., 2013). However, teaching strategies for learners with ASD remains an international challenge (Lindsay et al., 2014), hence this study sought to examine if a circle of friends improved social relations among learners at the selected special school.

3.4 Teachers' experiences in teaching learners with ASD

Literature reveals varied experiences of teachers in teaching learners with ASD in both developed and developing countries. These experiences stem from individual and systematic factors. Several studies found that teachers do not know how to manage the behaviour of learners with ASD in teaching and learning (Mwendo, 2011; Symes & Humphrey, 2012; Lindsay et al., 2013; Majoko, 2016; Goodrow, 2016). A qualitative study by Lindsay et al. (2013) in Canada on 13 teachers established that these teachers were helpless in the face of outbursts of learners with ASD in their classrooms because of their inadequate training. Similarly, Mwendo's (2011) quantitative study in Kenya on 53 teachers found that these teachers had difficulties teaching learners with ASD in regular classrooms due to their lack of professional knowledge and skills. In the same vein, a qualitative study by Goodrow (2016) on four general education teachers from middle and high school levels, in a small rural district in the USA, established that teaching learners with ASD in regular classes was a challenge because these teachers lacked the professional development. Thus, learners with ASD in regular and special

schools pose a challenge to teachers who are obliged to teach them with very little or no training (Ross-Hill, 2009; Finke, McNaughton, & Drager, 2009; Lindsay et al., 2013). A qualitative study on 12 Australian mainstream primary teachers found that they managed to overcome their individual feelings of discontent and annoyance towards learners with ASD based on experience without prior training (Soto-Chodiman et al., 2012). Thus, the present study examined how professional training and development empowered teachers in teaching learners with ASD at a special school in South Africa. Many teachers experience tension in the management of the social and emotional being of learners with ASD (Barnes, 2009). A qualitative study by Lindsay et al. (2013) on 13 Canadian mainstream teachers found that many teachers had difficulty managing the “meltdowns” of learners with ASD because they lacked an understanding of the management of these learners in teaching and learning. Similarly, Goodrow’s (2106) qualitative study on four general education teachers from middle and high schools in the USA found that it was difficult for these teachers to manage the distinct social and emotional behavioural manifestations of learners with ASD in regular classrooms because they lacked the professional preparation for these learners. A qualitative study by Soto-Chodiman et al. (2012) on 12 Western Australian mainstream primary school teachers found that these teachers had complications in the management of the interactional behavioural problems of learners with ASD in their classrooms due to communication barriers. However, in the UK, a quantitative study by Humphrey and Symes (2013) on 53 teachers from 11 secondary schools found that they had the professional competence to manage certain behaviours related to ASD. The present study sought to explore how teachers manage emotional and social behaviour of learners with ASD in a special school setting as the above studies reveal that it is an international challenge to teachers.

A quantitative study by Humphrey and Symes (2013) on 53 teachers established that these teachers were concerned about their ability to fulfil the diverse needs of all learners, including those with ASD. Emam and Farrell’s (2009) multiple case study found that teachers in UK primary and secondary mainstream schools were anxious and frustrated due to their inability to meet the needs of learners with ASD, which

created tension between them and these learners. In the same vein, focus group interviews conducted with special and general educators at elementary, middle and high school levels in the USA by Able et al. (2015) found that these teachers lacked the strategies to address the individual and unique needs of learners with ASD. Vergunst et al. (2014) posit that the capability approach emphasises the need to meet the diverse and multifaceted needs of learners' well-being, thus posing a problem if these needs are not met. Even after receiving training, Zimbabwean teachers still expressed concern over their inability to understand learners' different disabilities, including ASD, and required support in teaching techniques (Chireshe, 2013).

When teaching learners with ASD, specific strategies and practices need to be employed as explained in section 3.2. However, most teachers are not trained to use these approaches (Leach & Duffy, 2009). Hendricks' (2011) quantitative survey on 498 special education teachers in the USA, with various qualifications and experience of teaching learners with ASD, established that they possessed little knowledge on how to implement effective teaching and instructional practices for these learners. Consequently, strategies to be implemented may be different due to the uniqueness of the learners in the classroom (Hess, Morrier, Helfin, & Ivey, 2008). This creates a challenging scenario for teachers who have to fulfil the desired needs of all learners. Thus, it is therefore essential to provide and empower teachers with a wide array of teaching strategies to assist them in teaching and learning of learners with ASD and meet their diverse needs (Lindsay et al., 2013).

Although teachers are presented with many strategies and approaches to teach learners with ASD, it remains a challenge, as most teachers are not trained to sustain them (Emam & Farrell, 2009). Consistent evidence reveals that teachers are not professionally prepared to teach learners with ASD (Symes & Humphrey, 2010). Thus, this generates stress and anxiety (McGillicuddy & O'Donnell, 2014). In Tanzania, Edward's (2015) qualitative study on 16 teachers from three regular primary schools found that these teachers had very little knowledge about learners with ASD and had difficulties teaching them. A survey of 13 primary school teachers from Benin City in

Nigeria by Audu and Egbochuko (2011) established that teachers lacked knowledge on ASD. Hendricks' (2011) quantitative survey on 498 special teachers in the USA found that they had limited knowledge about ASD. Similarly, a qualitative study in Ethiopia by Tekola, Baheretibeb, Roth, Tilahun, Fekadu, Hanlon and Hoekstra (2016) on 10 participants from existing education and healthcare service providers for ASD found that these participants lacked knowledge and understanding about ASD and were unsure of how to manage the teaching and learning of these learners. A study by Syriopoulou-Deli et al. (2012) found that Greek teachers lacked knowledge on the characteristics and management of learners with ASD during teaching and learning of these learners. The current study examined the knowledge of the teachers on the management of learners with ASD during teaching and learning as this appears to be a global challenge as revealed in the above-cited studies.

In Australia, Soto-Chodiman et al.'s (2012) qualitative study on 12 mainstream primary teachers found these teachers were frustrated over the additional workload that was associated with modifying the curriculum to accommodate learners with ASD in mainstream classes. Thus, these teachers lacked the self-confidence to take charge of classes that were inclusive of learners with ASD (McCray & McHatton, 2013). However, a qualitative study by Lindsay et al. (2014) in Canada, on 13 elementary school teachers, found that having a learner with ASD in their classrooms increased these teachers' awareness of diversity and tolerance. The current study examined teachers' knowledge of diversity of learners with ASD at a special school in view of the inconsistent findings in the above-cited studies.

Besides their lack of professional preparation, teachers have raised concerns over inadequate resource provision and general support in their schools (Mandell, Stahmer, Shin, Xie, Reisinger, & Marcus, 2013). In Canada, Lindsay et al.'s (2013) qualitative study on 13 mainstream teachers found the lack of suitable resources, such as fidget toys, assistive technological devices and computer software, as barriers to the teaching of learners with ASD in mainstream classrooms (Lindsay et al., 2013). Similarly, a study by Able et al. (2015) conducted through focus groups with special and general

educators at elementary, middle and high school levels in the USA established that teachers were concerned about the lack of resources and skills to meet the diverse needs of learners with and without ASD in regular classrooms. In Zimbabwe, Majoko's (2017) qualitative study on 18 early childhood development teachers found that these teachers experienced a shortage of teaching and learning material to support learners with ASD in mainstream classes. However, according to the capability approach, in order for individuals to realise their potential, outside factors, such as materials, must be available for optimum unfolding of these potentialities (Chiappero-Martinetti & Venkatapuram, 2014). Evidently, a number of schools have failed to provide the needs of learners with ASD (Lindsay et al., 2014) thus the absence of teaching and learning resources for learners with ASD creates challenges for teachers and hinders progress of learners.

A study by Litton, Rotatori, Coombs-Richardson and Martinez (2017) established that, while resources, such as assistive technology, might be available in some schools in the USA, teachers of learners with ASD lacked knowledge on the use of these devices. Nevertheless, the use of such technology is beneficial to learners with ASD as it assists them with communication and effective operation (Boser, Goodwin, & Wayland, 2014). In support of this, previous studies also demonstrate that learners with ASD appreciate and accept the use of modern technology during teaching and learning (Brasher, 2014; Picard, 2009). Thus, assistive technology provides possibilities for learning to learners with ASD (Green, 2014). This study will ascertain the utility of technology in teaching learners with ASD at a special school.

Although teachers are enthusiastic to work in collaboration with all stakeholders in mainstream and special education, they complain about insufficient preparation time, conflicting ideas and an absence of administrative support (Scruggs, Mastropieri, & McDuffie, 2007). Lindsay et al.'s (2013) qualitative study on 13 mainstream teachers in Canada established an absence of good rapport between teachers and parents of learners with ASD as well as difficulties with communicating openly. In the same vein, a qualitative study by Goodrow (2016) on four general education teachers in Virginia,

USA found that teachers were concerned about the lack of collaboration between general and special education teachers in the teaching of learners with ASD. Another study in Alabama, USA by Busby, Ingram, Bowron, Oliver and Lyons (2012) on 31 graduate students found that they complained that collaboration with parents and other professionals was time consuming and difficult.

A qualitative study by Soto-Chodiman et al. (2012) on 12 mainstream teachers in Australia found that having learners with ASD in mainstream classes proved to be time consuming, as these learners needed most of their attention, which made the teaching process exhaustive and strenuous. Similarly, in Canada, a qualitative study by Lindsay et al. (2013) on 13 mainstream teachers established that they had a shortage of time to provide additional support to learners with ASD due to large class sizes and increased workloads. The present study examined time related issues in teaching learners with ASD in a special school. Evidently, there is a knowledge gap regarding teaching of learners with ASD (Humphrey & Parkinson, 2006). Thus, the current study sought to examine the teaching strategies that teachers at a special school in Johannesburg East district utilised to teach learners with ASD.

3.5 Strategies to enhance the teaching of learners with ASD

A change in the perspective and approach regarding the teaching of learners with ASD is imperative if they are to progress effectively (McGillicuddy & O'Donnell, 2014). Thus, there are several strategies to enhance the teaching of learners with ASD including increasing teachers' professional preparation to teach these learners in mainstream and special schools (Kurth & Mastergeorge, 2010).

Disability awareness programmes improve the attitudes of teachers towards learners with ASD and ultimately enhance their teaching of these learners (Lindsay & Edwards, 2013). In Zimbabwe, Majoko's (2017) qualitative study on 21 early childhood educators found that teaching these teachers on ASD encourages the development of positive attitudes towards learners with this condition thereby enhancing their teaching. Able et al.'s (2015) study conducted through focus group interviews with special and general

educators from elementary, middle and high school levels in the USA found that advocacy and support for learners with ASD improved the awareness of these learners among teachers, learners and parents, thus enhancing their teaching. In the UK, typically developing learners go through awareness programmes to enlighten and educate them about ASD (Morewood, Humphrey, & Symes, 2011). However, teachers in England are unaware of ASD and the particular needs of these learners, thus creating a challenge for assistant teachers who solely rely on these teachers' advice and guidance on how to work with such children (Symes & Humphrey, 2011). A qualitative study by Edwards (2015) in Tanzania on 16 teachers from three regular primary schools found that teachers continue to have negative attitudes towards learners with ASD and struggle to accept them. This study explored strategies to foster positive attitudes in teachers towards learners with ASD at a special school, as it is a global challenge as revealed in the above-cited studies.

Learners with ASD present complicated social, communication and behavioural attributes which require specific learning assistance (Shyman, 2012). In Scotland, the provision of comprehensive training to pre-service teachers equips them with positive attitudes, knowledge and skills to teach learners with ASD (Forlin & Chambers, 2011). Similarly, Majoko's (2017) qualitative study on 21 early childhood educators revealed that teachers, who are professionally prepared to teach learners with ASD in Zimbabwe, have positive attitudes and skills to teach these learners. In the same vein, in the USA, Able et al.'s (2015) study conducted through focus group interviews with special and general educators at elementary, middle, and high school levels found that supervised practical experiences involving learners with ASD during professional training prepared teachers to teach these learners. An analysis of teacher training programmes for ASD indicates a marginal improvement in awareness and a reduction in teacher stress levels (Probst & Leppert, 2008; Leblanc, Richardson, & Burns, 2009). However, studies reveal that, in several countries, teacher education institutions struggle to design and implement comprehensive teacher professional preparation for learners with ASD (Litton et al., 2017). Thus, this study explored the utility of the professional training of teachers on enhancing the teaching of learners with ASD.

In the USA, teachers are equipped to teach learners with ASD as special education is a compulsory course in their training. Hendricks' (2011) quantitative study in the USA on 498 special education teachers found that teachers needed a broader understanding of ASD in order to manage these learners according to their needs. In Scotland, teachers are equipped with knowledge and special skills to accommodate the diverse needs of learners with ASD, which enhances the teaching of these learners (Davidson, 2015). The provision of systematic individual plans for learners with ASD assists teachers in USA to manage these learners thereby enhancing their teaching (Crosland & Dunlap, 2012). Similarly, training teachers on how to plan suitable learning tasks for the diverse needs of learners with ASD enhances their teaching in the USA (Able et al., 2015). This is in alignment with the capability approach which supports the provision of practical achievable possibilities that are beneficial to the learners' realisation of their potentials (Chiappero-Martinetti & Venkatapuram, 2014). This study examined the perceptions of teachers at a special school on strategies that can enhance the teaching of learners with ASD in view of the diversity of strategies embodied in the foregoing studies.

Teaching learners with ASD is progressing towards advanced technological ways which many teachers are unaware of (Leach & Duffy, 2009). The use of assistive technology has become prominent in enhancing the teaching of learners with ASD in the USA (Boser et al., 2014; Savier, 2014). Thus, assistive devices lessen the burden that teachers of learners with ASD confront in teaching them. This is in alignment with the capability approach, which advocates for the need for individuals to have quality resources available to them in order to realise what they are able to do (Chiappero-Martinetti & Venkatapuram, 2014). However, many special education teachers in the USA are not familiar with the use of modern technology related to learners with ASD (Litton et al., 2017). This study explored the utility of technology in enhancing the teaching of learners with ASD in view of the inconsistency of the findings of the previous studies on the subject.

A qualitative study by Edwards (2015) on 16 Tanzanian teachers from three primary schools found that regular in-service training through seminars and workshops assisted

them to gain appropriate knowledge and skills regarding the teaching strategies for learners with ASD. In the same vein, Goodrow's (2016) qualitative study on four general education teachers found that, in the USA, training teachers on specific interventions and strategies used to teach social skills to learners with ASD enhances the teaching of these learners. Similarly, Majoko's (2017) qualitative study in Zimbabwe on 21 early childhood educators established that professional in-service training of teachers is vital for early childhood mainstream teachers. Soto-Chodiman et al.'s (2012) qualitative study on 12 Western Australian primary school teachers established that an improvement in school based support and professional training of regular teachers of learners with ASD and their assistants enhanced the teaching of these learners. A quantitative study by Humphrey and Symes (2013) on 53 teachers from 11 secondary schools in the UK found that in-service training of teachers for learners with ASD encouraged positive relations among older and junior teachers thus ensuring the transferability of knowledge, which enhanced the teaching of these learners. Lindsay et al.'s (2014) descriptive qualitative study on 13 elementary school teachers in Canada established that continuous professional training of teachers through workshops to acquire more knowledge about ASD enhanced the teaching of these learners. This study explored the usefulness of continuous professional training of teachers as a strategy to enhance the teaching of learners with ASD.

Although teacher training is of paramount importance to the teaching of learners with ASD, the involvement of all stakeholders is necessary, as teachers cannot yield positive results alone (Humphrey & Symes, 2013). A qualitative study by Eldar et al. (2010) in Israel established that the whole school approach, which calls for the entire school community to work collaboratively in sharing ideas, promotes the teaching of learners with ASD. Similarly, in the USA, Able et al.'s (2015) study conducted through focus groups with special and general educators in elementary, middle and high school levels found that collaboration and support during professional training among individuals offering various skills related to ASD, enhances the teaching of these learners. However, in a quantitative study on 53 participants from 11 secondary schools in Northwest England, Humphrey and Symes (2013) found that inclusive training for the

entire staff on collaboration is unnecessary but useful specifically to those dealing with learners with ASD. The current study examined the need for collaboration to enhance the teaching of learners with ASD.

A qualitative study by Lindsay et al. (2014) in Canada of 13 elementary school teachers established that the provision of assistance to teachers from different professional fields, such as therapists and teaching assistants, improves the teaching of learners with ASD. In the UK, Emam and Farrell's (2009) multiple case study on 17 learners found that interrelations between teacher assistants, teachers and learners with ASD in the classrooms strengthens the performance of these learners but, in the USA, the mere presence of assistant teachers in classrooms restricts the much-needed interaction between teachers and learners with ASD (Adamowycz, 2008). On the contrary, the provision of qualified personnel in the classroom enables proper functionality and cooperation between the teacher and learners with ASD in Israel (Eldar et al., 2010). This study examined the role of assistant teachers in enhancing the teaching of learners with ASD in view of the foregoing inconsistent findings on the subject.

Encouragement and support from leaders in schools is vital in enhancing the teaching of learners with ASD in American public schools (Horrocks, White, & Roberts, 2008). In Israel, a qualitative study by Eldar et al. (2010) found that Israeli principals modified the school environment as a way of supporting teachers and enhancing the teaching of learners with ASD. Soto-Chodiman et al.'s (2012) study on 12 primary school teachers in Australia established that increasing the level of school based support to regular teachers and teaching assistants enhances the teaching and learning of learners with ASD. This study explored the role of school leadership in enhancing the teaching of learners with ASD considering its role in the international fraternity as revealed in the above-cited studies.

Edwards' (2015) qualitative study on 16 teachers from three regular primary schools in Tanzania established that the availability of relevant and adequate teaching and

learning material was imperative for teachers in Tanzania to effectively teach learners with ASD. Similarly, in a qualitative study on 18 regular early childhood teachers in Zimbabwe, Majoko (2017) found that the provision of sufficient financial, material, technological, human and time resources enhanced the teaching of learners with ASD. In the same vein, a qualitative study by Lindsay et al. (2014) on 13 elementary teachers in Canada found that the availability of resources enabled teachers to function more effectively in teaching learners with ASD in mainstream schools. However, many schools fail to provide for the diverse needs of learners with ASD (Symes & Humphrey, 2010). Thus, this study sought to establish the availability of resources to enhance the teaching of learners with ASD in view of their importance in the above-cited countries.

In Canada, Lindsay et al.'s (2014) qualitative study on 13 elementary teachers found that innovative and adaptable teaching styles enhanced the teaching of learners with ASD in mainstream classrooms. In their study conducted on special and general educators using focus group interviews at elementary, middle and high school levels in USA, Able et al. (2015) established that the use of various teaching techniques, which accommodate diverse needs of learners with ASD, are vital in teaching these learners. According to the capability approach, learners excel in learning when provided with different opportunities (Norwich, 2014). Thus, teachers have to pay attention only to the strengths of the learners and not their weaknesses (Florian & Black-Hawkins, 2011). Teaching in alignment with the likes of learners is consistent with the capability approach, which allows individuals to choose what they value in their lives (Chiappero-Martinetti & Venkatapuram, 2014). This study explored the teaching strategies that can be used to enhance the teaching of learners with ASD.

In order to promote independence in the classroom, teachers in the USA allowed learners with ASD to manage their behaviour and reinforce themselves thus enhancing their teaching (Crosland & Dunlap, 2012). This reduced dependency and improved independent working skills of these learners. Similarly, Litton et al. (2017) posit that the use of self-management strategies reduces behaviours that are not appropriate thereby creating a positive learning environment. This is in line with the capability approach,

which posits that the development and social progress of individuals can be achieved if they are granted their freedom to realise the good and bad of life (Chiappero-Martinetti & Venkatapuram, 2014). This study examined the role of the classroom environment in enhancing the teaching of learners with ASD.

3.6 Conclusion

The current chapter presented a review of related international literature on inclusive education and teaching strategies for learners with ASD. International perspectives on inclusive education were highlighted. An overview of international perspectives particularly on current practices, challenges and opportunities in countries, including Australia, India, United Kingdom, United States of America and Zimbabwe, were discussed. An international literature review structured around sub-research questions indicated in section 1.5.2, which guided the present research, was done. Gaps to be filled by the current study were also highlighted. The following chapter will present a review of related South African literature on inclusive education and teaching strategies for learners with ASD.

CHAPTER 4: A REVIEW OF RELATED SOUTH AFRICAN LITERATURE ON INCLUSIVE EDUCATION AND TEACHING STRATEGIES FOR LEARNERS WITH ASD

4.1 Introduction

Embedded in the capability approach, the present interpretivist/constructivist qualitative single case study explored the teaching strategies for learners with ASD at a special school in Johannesburg East District in the Gauteng Province of South Africa as the context for proposing strategies to enhance the teaching of these learners. The previous chapter presented the international (both developed and developing countries) perspective on inclusive education and how this perspective relates to teaching strategies for learners with ASD. This chapter presents a review of related South African literature on teaching strategies for learners with ASD structured around sub-headings derived from the sub-research questions of the study. The sub-headings are: teaching strategies for learners with ASD, teachers' experiences in teaching learners with ASD and strategies to enhance the teaching of learners with ASD. The information gleaned from the literature review serves as a springboard for the exploration of teaching strategies for learners with ASD at a special school in Johannesburg in South Africa. The research gaps that this study fills are highlighted. The following section presents a historical background to the development of inclusive education in South Africa and how it relates to teaching strategies for learners with ASD.

4.2 Historical background to inclusive education in South Africa

Until the attainment of democracy in 1994, the education system in South Africa during the apartheid era was characterised by the abuse of human rights of many citizens (Mzizi, 2014). There were racial inequities and inequalities in access to social services, including education. The majority of black, coloured and Indian South Africans received Bantu education and only learnt basic concepts in mathematics and science (Donohue & Bornman, 2014). Divisions existed in the way education was provided thus also creating inequalities in service delivery (Majoko & Phasha, 2018). There were education

divisions for blacks, whites, coloureds and Indians. Education in South Africa did not only separate individuals because of race but also on the basis of disability (DoE, 2001). Learners with disabilities, including those with ASD, who attended black schools, did not receive much needed support services (Kimani & Borat, 2014). There was discrimination in the provision of learning resources and other educational needs as the apartheid regime gave preference to white schools over black schools (Bhorat & Oosthuizen, 2008). Schools for Indian and coloured learners with and without disabilities did not receive sufficient resources comparable to schools for white learners with and without disabilities (Kimani & Borat, 2014). However, following the demise of apartheid in 1994, South Africa adopted inclusive education (Makoelle, 2014) that was in compliance with several global and African region human rights instruments including the Salamanca Statement and Framework for Action on Special Needs Education (UNESCO, 1994) mentioned in section 1.2 of the previous chapter, among others. The statement reaffirmed the right of all children to be accommodated in schools regardless of physical, intellectual, social, emotional, linguistic or any other conditions. Consistent with the international world, South Africa institutionalised several measures in support of inclusive education. The following section presents current provisions in inclusive education in South Africa.

4.3 Current provisions

The South African government laid out a 20-year plan in 2001 to realise inclusive education throughout the country (Du Plessis, 2013). The worldwide solidarity on inclusive education made South Africa commit to this ideology by passing and enforcing relevant policies and legislation on this movement (Landsberg et al., 2012). In alignment with several other countries, including Australia (Soto-Chodiman et al., 2012), Zimbabwe (Chakuchichi, 2013), the UK (Pantic & Florian, 2015), the USA (Olcay-Guy & Vuran, 2015) and India (Ross, 2017), South Africa has passed and enforces several policies and legislations on inclusive education (Murungi, 2015). These include the Education White Paper 6: Special Needs Education: Building an Inclusive Education and Training (DoE, 2001) that ensures that all learners with or without disabilities,

including those with ASD, access full education and achieve their goals. The Education WP 6 of 2001 serves as the backbone on which South Africa envisions inclusive education (Murungi, 2015). It spells out the process, content, environment and product of the provision of inclusive education in South Africa.

The Constitution of South Africa (Act 108 of 1996) embodies the Bill of Rights, which states the rights of every South African citizen. Section 28 enshrines the rights of all children. Its section 29(1) (a) guarantees basic education rights for everyone. Section 9(2) further promulgates the equality of achievement of all in education regardless of individual differences. Section 9(3), (4) and (5) mandate the state to ensure non-discrimination. Section 32(a) states that no one should be excluded from pursuing their educational goals in basic education (Du Plessis, 2013). Thus, the constitution reaffirms the government's policies for equal educational opportunities for all learners with disabilities, including those with ASD (DoE, 2001). The transition to a constitutional democracy aims to address barriers to education, legacies of inequity and discrimination in South African education system and the diversity of learners (Dalton, McKenzie, & Kahonde, 2014). Thus, consistent with the global and African region human rights instruments, the Constitution of the Republic of South Africa mandates that rights of all children, including those with ASD, must be recognised and honoured (Murungi, 2015).

The South African Schools Act (SASA) (Act 84 of 1996) mandates that all public schools enrol learners without discriminating them on any basis including individual and systemic variables influencing human diversity, such as gender and socio-economic status, and providing the necessary support to meet their diverse educational needs. The SASA states the need to provide education to learners with special needs, including those with ASD, in ordinary and special public schools (SASA Act 84 of 1996). In the same vein, the WP 6 emphasises the provision of equal and fair opportunities beneficial to all learners with and without disabilities through educating them in ordinary or special schools based on the level of their support needs. Learners with high support needs, including ASD, can be educated in special schools while those with medium to

low-level support needs can be educated in ordinary schools. Thus, in South Africa and comparable to the international arena, as proclaimed by the Universal Declaration of Human Rights (United Nations, 1948) and reaffirmed by Education for All (UNESCO, 1990), all children, including those with ASD, have equal rights to education which meets their diverse needs (SASA Act 84 of 1996) through the provision of a continuum of services, including special schools, hospital schools and ordinary schools (Majoko & Pasha, 2018). The National Education Policy (Act 27 of 1996) Section 4 of South Africa enshrines the key principles to freedom, rights, democracy and peace. The policy further prohibits unfair discrimination. The National Curriculum and Assessment Policy Statement, Gr R–12 (2011) mandates that all learners, with or without disabilities, including ASD, should be provided with skills, knowledge and values regardless of their race, gender, socio-economic status, physical or intellectual abilities. Thus, these policies comply with the Convention on the Rights of Persons with Disabilities (United Nations, 2006) specifically Article 24 that promulgates the right of individuals with disabilities, inclusive of ASD, to education. The convention also mandates all governments to ensure that those with disabilities, including ASD, are included in the general education system. The Convention on the Rights of the Child (United Nations, 1989), specifically Article 23, promulgates the right of every child to receive education without discrimination on any basis.

4.3.1 Definition of inclusive education and its provision in South African context

The Salamanca Statement and Framework on Special Needs Education (UNESCO, 1994) informed the definition of inclusive education in South African context. As indicated in the White Paper 6 (DoE, 2001, p. 16), inclusive education in South Africa is based on the premise that all children and youth must learn with the provision of the needed support; it respects and agrees that all learners are different and, as such, have different learning needs; makes sure that the educational structures, methods of learning and systems meet the diverse needs of all learners; acknowledges and honours the differences between learners; admits that learning occurs within formal school and extends to home and society at large; encourages behaviour, attitudes,

methods of teaching, curricula and learning environments that accommodate the diverse needs of all learners; increases the participation of learners in various cultures in education and curricula and develops individual potentiality which enables them to participate fully during learning. Thus, consistent with international fraternity, inclusive education in South Africa is founded on the realisation of human rights and social justice for all learners, inclusive of those with ASD, in education regardless of their individual differences that manifest from individual and or systemic factors.

The primary South African policy document on inclusive education, the WP 6 (DoE, 2001) calls for several actions and strategies for addressing and removing barriers to learning. They include the orientation of staff, management and governing bodies to the inclusion model and the recognition of educators, including those of learners with ASD, as the primary source for inclusive education and identification of learners experiencing barriers to learning, including ASD, as early as possible (DoE, 2001). In inclusive education, teachers are fundamental in effective service delivery due to their early identification of barriers to learning, early intervention and ultimate mitigation (Majoko, 2017). Mobilising and motivating youth out of school to return to school and the conversion of 500 primary schools to full service schools by 2021 are also actions and strategies for addressing barriers to learning as stipulated in the White Paper 6 (DoE, 2001). The establishment of District Based Support Teams and converting special schools, including those for learners with ASD, to resource centres in inclusive education are strategies that can eliminate barriers to learning (DoE, 2001; Walton, Nel, Huggo, & Muller, 2009). District Based Support Teams are responsible for coordinating and promoting inclusive education through training, developing infrastructure, distributing resources, delivering curricula, addressing learning barriers, identifying and assessing learners and, most importantly, ensuring that schools within their districts promote inclusivity (DBE, 2014).

In South Africa, inclusive education promotes full access, participation, acceptance and success of learners with learning barriers, including ASD, by maximising their personal development while learning in mainstream classrooms (Donohue & Bornman, 2014)

and special schools. However, according to the WP 6, learners with severe and profound barriers to learning, including those with low functioning ASD, are placed in special schools (Naicker, 2009). Consistent with several other countries, including the UK (Emam & Farrell, 2009), Zimbabwe (Musengi & Chireshe, 2012), Canada (MacKichan & Harkins, 2012), India (Madan & Sharma, 2013), the USA (Ford, 2013) and Hungary (Toth, 2014), the education of learners with barriers to learning, including ASD, in ordinary or special schools depends on their level of support needs. The shift in paradigm from apartheid education to inclusive education in South Africa is grounded in the realisation of equity in sharing of resources in education, empowerment and respect for the integrity and dignity of all learners, including those with ASD, irrespective of their individual differences (DoE, 2001). Consistent with civil rights movements, as expressed in several global human rights instruments (see section 3.2 of Chapter 3) among others, the WP 6 of South Africa (DoE, 2001) stipulates that the education systems and structures, and learning methodologies must meet the individual needs of all learners, including those with disabilities, to allow the full realisation of their potentialities.

In 2014, South Africa passed and enforces the National Strategy on Screening, Identification, Assessment and Support (SIAS), which serves as a framework for identifying and providing programmes and additional support for learners to improve their participation in schools. SIAS policy aims to provide better access to quality education for learners who are vulnerable and those experiencing barriers to learning (DoE, 2008). SIAS policy focuses on the management and support of teaching and learning processes for learners who experience barriers to learning in the South African National Curriculum Statement from Grades R to 12. It is responsible for directing the budget and programmes at all levels. SIAS promotes a shift towards inclusive education practices in alignment with the Education White Paper 6 on Special Needs Education: Building an Inclusive Education System and Training (DoE, 2001).

The policy mandates that School Based Support Teams (SBST) and District-Based Support Teams (DBST) work towards the provision of support in schools and districts by following the SIAS guidelines (DBE, 2014) on learner enrolment in special schools and

acknowledges teacher and parental roles (DoE, 2001; Dalton et al., 2014). SIAS policy is in alignment with several strategies within the Department of Basic Education (DBE) aimed at supporting educators, districts, parents and managers. The SIAS policy mandates that learners with disabilities in schools are not rejected because of their disabilities, which is consistent with the Convention on the Rights of Persons with Disabilities (United Nations, 2006) among other global human rights instruments. It prescribes ways of enabling a fully inclusive education system suitable for all learners from primary to secondary school level. Through this policy, all learning environments must provide individual support for the diverse learners so that they progress to their full potential (DBE, 2014).

In South Africa, there are also several key documents and guidelines on inclusive education including the Guidelines for full service/inclusive schools (DBE, 2010). This guideline aims to shift the mind-set of school systems in respect of special needs and disabilities, including ASD, by providing model practices to schools so that they become inclusive (DBE, 2010). Guidelines for Inclusive Teaching and Learning (DBE, 2010) focus on supporting how the National Curriculum Statement (NCS) is implemented with certain information on learning barriers. It further explains curriculum adaptation, curriculum differentiation, profiles of learners, lesson plans and schedules, and suggests ways to support learners with special needs, including those with ASD, which are supportive of teachers working in full-service schools (DBE, 2010).

The Guidelines to Ensure Quality Education and Support in Special Schools and Special School Resource Centres (DoE, 2007) stipulate district-based support teams' responsibilities and provide criteria to be followed in special schools regarding learner admission, curriculum and assessment, teaching and learning resources, including assistive technological devices, qualifications of professional and non-professional staff, transport, infrastructure, family and society (Majoko & Phasha, 2018). Guidelines for responding to learner diversity in the classroom through curriculum assessment policy statements (DBE, 2011) afford teachers and all stakeholders working in schools strategies required to respond to diverse learners' needs in class through the

curriculum. This guideline assists and supports curriculum differentiation, differentiating of content, methods of teaching and learning environment.

The South African education system falls under two national departments. The Department of Basic Education (DBE) is responsible for primary and secondary schools encompassing four phases, including Foundation phase grades R–3, Intermediate Phase grades 4–6, Senior Phase grades 7–9 and Further Education and Training Phase (FET) grades 10–12 (DBE, 2012). The DBE is responsible for the management and administration of public and private schools, generally known as ordinary schools, early childhood centres (ECD) and special schools. The Department of Higher Education and Training (DHET) of South Africa is responsible for tertiary and vocational training which includes Further Education and Training (FET) colleges, Adult Basic Education and Training (ABET) centres and Higher Education (HE) institutions (DoE, 2015). Learners who complete and pass grade 12 proceed to colleges and universities. The table below illustrates the structure of the South African basic education system.

Table 4.1: South African basic education system

Phase	Level
Foundation phase	Grades R–3
Intermediate phase	Grades 4–6
Senior phase	Grades 7–9
Further education and training (FET) phase	Grades 10–12

Source: SA, 2012

To ensure maximum participation of all learners, inclusive of those with ASD, in the education system, the government introduced three types of public schools in South Africa (DBE, 2005). These include ordinary schools, which accommodate learners with

low levels of support, including those with high functioning ASD (DBE, 2005). About 76 993 learners with disabilities, inclusive of those with ASD, were registered in ordinary schools across South Africa by 2013 (DBE, 2015b). Full-service schools that provide moderate support and specialised services to learners with disabilities with high support needs, including those with ASD, within ordinary settings were also established. One full-service school in every district receives support and knowledge from special schools. About 24 724 learners with special needs were enrolled in 793 schools selected as full service schools by 2014 (DBE, 2015b).

Special schools, which serve learners with high, intense and profound support needs, including those with ASD, were also put in place (DBE, 2014). Thus, the new policy mandates special schools to function as resource centres and support full-service schools (DBE, 2015b). Two hundred and ninety-five special schools were boosted in 2012, 98 special schools, including those for learners with ASD, were converted to resource centres while 25 new special schools were constructed. From 231 521 learners who were learning in public schools, 117 477, including those with ASD, were placed in 453 special schools (DBE, 2015b). The provision of different types of schools in South Africa is consistent with several other countries, including India (Byrd, 2010), the USA (Kritzer, 2012), China (Kritzer, 2012), Nigeria (Eskay, Eskay, & Emea, 2012) and New Zealand (Hornby, 2014).

In order to respond to the diverse needs of learners with disabilities in special schools, a stipulated teacher-learner ratio is in place depending on the type of disability, including ASD. According to the weighting system, children with ASD have the highest weight with a 1:6 teacher-learner ratio because of their high support needs. Currently, there seem to be no stipulated weighting for ordinary schools in South Africa (Campaign to Promote the Right of Education of Children with Disabilities, 2011). Consequently, a large class size is a common phenomenon in South Africa (Kimani & Borhat, 2014), a scenario experienced in other countries including the USA (Dudley-Marling & Paugh, 2009), Zimbabwe (Mafa & Chaminuka, 2012) and India (Singh, 2016).

As indicated above, the inclusive education system in South Africa is based on several principles and persuasive policy frameworks (Mzizi, 2014; Mutanga, 2017). However, despite the supportive policy and legislative framework and structures, there are challenges and opportunities in the provision of inclusive education in South Africa (DoE, 2015). The subsequent section presents the challenges and opportunities.

4.3.2 Challenges and opportunities in inclusive education

Although the South African education policies and legislation mandates inclusive education, the provision of equal opportunities for learners with diverse needs, including those with ASD, remains a national challenge (Donohue & Bornman, 2014). The DoE has not managed to ensure the successful implementation of inclusive education despite its efforts to ensure that all learners are in schools (Ngwena, 2013). Donohue and Bornman (2014) assert that this is attributed to an unclear policy, economic and political constraints within the country.

It was originally planned in WP 6 to convert 500 primary schools to full-service schools but only 108 were converted by 2011 (DoE, 2001). Although full-service schools are important in the inclusive school movement in the country, the DoE has acknowledged its failure to meet the expected target by 2021 (Nkosi, 2011). According to the Progress Report on Inclusive Education and Special Schools (DBE, 2015a), out of the 791 schools scheduled for conversion to full-service schools, only 137 had been fully converted by 2015. In Limpopo and Northern Cape Provinces, there has been limited and slow progress in converting ordinary schools to full service schools, resulting in many learners with disabilities, including ASD, attending special schools in distant locations while some are in schools that do not provide for their unique needs (Nkosi, 2011). This is attributed to insufficient funding and resources (Tshifura, 2012). A lack of financial resources is common in the international world, particularly in developing countries, including Kenya (Mwendo, 2011) and Zimbabwe (Chireshe, 2013).

Special schools, including those for learners with ASD, have been converted into resource centres and provide support to their neighbouring schools (DoE, 2001).

However, the DoE had made little progress in transforming special schools to resource centres (South African Alternate Coalition Report, 2015). Eighty out of 285 special schools in South Africa are operating as resource centres (DBE, 2015a). In many of these special schools, there are very few learning activities with very low standards expected (Western Cape Forum for Intellectual Disability, 2011). This is because many of the teachers lack the necessary professional knowledge and skills to address the learning needs of learners with disabilities, including those with ASD. The DoE, however, supervises teaching and learning in special schools.

Many learners with disabilities in South Africa are still out of school (DoE, 2001). Approximately 597 953 learners with disabilities, inclusive of ASD, were not in school by 2015 (DBE, 2015a). The majority of those attending school were served in special schools and not in mainstream schools (Donohue & Bornman, 2015). This situation is attributed to the substandard and poor screening along with controversial referrals of learners with disabilities, including those with ASD (Human Rights Watch, 2015). Thus, the DoE has failed to include learners with and without disabilities in ordinary schools. According to Human Rights Watch (2015), insufficient screening and assessments of learners are attributed to the practice of placing learners in schools based on their disabilities and not their learning needs and the possibility of the schools to meet those needs. Many learners, including those with ASD, in mainstream or full-service schools wait to be referred to special schools, as they cannot be accommodated in their present schools (Western Cape Forum for Intellectual Disability, 2011). Thus, this contradicts the SIAS policy, which is against the unnecessary movement of learners to special schools (Dalton et al., 2014).

The system of constantly recommending learners for referral to special schools has created a very long waiting list (DBE, 2015b). An estimated 5 552 learners with barriers to learning, including those with ASD, await admission that can take years (Human Rights Watch, 2015). This contradicts section 3(6) of SASA Act 84 of 1996. There are inadequate special schools in provinces across South Africa, particularly for learners with ASD (DBE, 2015b). Learners who do not access education in ordinary schools

travel long distances to schools that accommodate their unique learning needs (Human Rights Watch, 2015). Thus, many learners with disabilities, including those with ASD, drop out of school as they are unable to afford the travelling expenses (Human Rights Watch, 2015). This is inconsistent with the Universal Declaration of Human Rights (United Nations, 1948) which mandates the right of every child to receive education.

According to the South African Alternate Report Coalition (2015), there is no accommodation of diverse needs and support of learners with learning barriers, including those with ASD, in mainstream schools. For instance, learners with high functioning ASD lack enough support in ordinary schools (Human Rights Watch, 2015). In the same vein, Mashiya (2014) asserts that many schools across South Africa do not have adequate learning materials to meet the unique needs of learners, inclusive of those with ASD.

Although SBSTs and DBSTs are in place to identify learners with barriers to learning, including ASD, and provide support, these teams are not effective (Lebona, 2013). In Lejweleputswa district, for example, the SBST is not aware of inclusive education policies and the educators are not willing to work cooperatively with the teams in assessing and screening learners experiencing diverse barriers to learning, inclusive of ASD, within their classrooms so that they receive support (Mzizi, 2014). Such internal conflicts slow the development and implementation of recommended policies on inclusive education.

In spite of the educators' significant role in an inclusive education system, many teachers in South Africa lack specialised knowledge and understanding on how disability, including ASD, influences the learning of the child (Walton, 2011). Thus, most teachers are incompetent and inadequately trained to teach learners with diverse abilities, including ASD, in special, ordinary and full-service schools in South Africa (Donohue & Bornman, 2014; Human Rights Watch, 2015). The government is training teachers so that they can acquire the hands-on experience of teaching learners with diverse and unique needs in regular classrooms, including those with ASD (DBE,

2015b). The National Education Collaboration Trust “Priorities for Inclusive Education” (2013) advocates for the training of all teachers who teach learners with visual impairment on braille, curriculum adaptation and use of assistive knowledge; training teachers who teach learners who are deaf in South African Sign Language; and training teachers in Augmentative and Alternative Communication (AAC) and ASD. This can result in the realisation of equity and equality in access to education of all learners, including those with ASD, in South Africa.

The process of curriculum modification has caused delays in the supply of certain learning materials, particularly provision of braille and large print textbooks, in special and ordinary schools (Department of Women, Children and people with Disabilities, 2013). However, the government reported that the provision of braille textbooks and sign language in schools had slightly increased since 2015 (DBE, 2015b). While it is a constitutional right for every child to be protected from any form of harm (Constitution of the Republic of South Africa, sec 28(1)), violence, abuse and neglect pose major challenges for many learners with disabilities, inclusive of those with ASD, in mainstream, full-service and special schools (Veriava, 2014). Although inclusive education is mandated as the correct approach to the learning of children with and without disabilities, including those with ASD, in South Africa (Murungi, 2015), the process of implementing the practice is progressing very slowly (Dalton et al., 2014).

4.4 Teaching strategies for learners with ASD

This section reviews literature on teaching strategies for learners with ASD in South Africa. With the capability approach serving as a lens for this study, literature from South African studies is reviewed focusing on research gaps and guided by sub-research questions as indicated in section 1.2. Unlike the international fraternity, there is a dearth of studies on teaching strategies for learners with ASD in South Africa, according to the best knowledge of the researcher based on a literature search.

Woolfolk (2014) posits that positive or negative reinforcement strengthens and motivates good behaviour. Enock’s (2011) qualitative study on preschool teachers in

South Africa established that these teachers provided verbal praises to learners with ASD for giving correct answers during teaching and learning. However, this study focused on preschool learners in an early childhood development class. The current study focused on learners from early childhood development up to vocational education and training class. Behaviour management entails putting measures, systems and strategies in place to prevent the onset of undesirable behaviour (Bissonnette, Gauthier, & Castonguay, 2016). In South Africa, a qualitative study on preschool teachers by Enock (2011) found that putting pictures on a class timetable reduced anxiety, outbursts and panic modes of learners with ASD in early childhood centres. This study was done in a preschool within a regular setting. The current study was carried out in a special school setting. Learners with ASD depend on visual displays in the form of pictures, symbols and words to be aware of upcoming events without prompting (Sterling-Turner & Jordan, 2007). A qualitative study by Enock (2011) in South Africa on preschool teachers revealed that the use of visual schedules in ECD classes facilitated learners' awareness of upcoming events and changes that occur in activities. However, in this study, only four teachers participated unlike the present study where 12 teachers participated. Wong et al. (2015) posit that learners with ASD need to be taught ways to relate socially with their peers appropriately. Enock's (2011) qualitative study on preschool teachers in South Africa notes that teachers engaged learners with ASD in small groups, teamwork or pair work to teach social skills. Participant observation and supporting interviews were used as data collection methods. In the current study, non-participant observation, individual interviews and document analysis were utilised to collect data.

Picture exchange communication system (PECS) is a visual communication system, which assists learners with ASD to recognise meaning through pictures (Heflin & Alaimo, 2007; Lancioni et al., 2007). A qualitative-quantitative study by Travis and Geiger (2010) on two male participants with ASD in a special school in South Africa found that both participants improved their verbal utterances, communicative intent and requests after they were introduced to PECS. However, this study used a mixed research design while the current study used qualitative research design.

4.5 Teachers' experiences in teaching learners with ASD

According to the best knowledge of the researcher, based on literature search, there seems to be a lack of literature on teachers' experiences in teaching learners with ASD in South Africa compared to developed countries. Barnes (2009) posits that teachers experience emotional stress in the management of behaviours portrayed by learners with ASD. A qualitative study by Waber (2013) on five participants in independent mainstream schools in greater EThekweni area, South Africa, revealed that participants experienced challenges in the handling behaviours of learners with ASD. Participants also experienced feelings of despair and hopelessness during teaching and learning. They experienced poor results, as these learners did not perform well academically. However, this study was carried out with five participants from various independent mainstream schools. The present study was a single case study at one selected special school with 12 participants in the same setting.

4.6 Strategies to enhance the teaching of learners with ASD

Although there are several studies of strategies to improve the teaching of learners with ASD in international literature, this is not the case with South Africa. Based on a literature search, a few related studies were found. In order to improve teaching and learning of learners with ASD, there is a need to create awareness programmes. A quantitative study by Erasmus, Kitzinger and Van der Linde (2019) on two principals in public schools, two principals in private schools and 150 caregivers of learners attending the participating schools revealed that it is imperative to raise awareness of ASD among parents and communities. However, in this study, this finding was obtained based on principals and caregivers' perspectives. In the present study, all the data and information were obtained from teachers teaching learners with ASD at a special school. A qualitative study by Roberts (2007) on mainstream and special teachers in South Africa found that reduced class sizes could enhance the teaching of learners with ASD in mainstream schools. Nevertheless, this study was carried out in a mainstream school setting. The current study took place in a special school setting. To improve the

teaching of learners with ASD, there is need to provide classroom assistance as teachers alone cannot achieve good results. Roberts' (2007) qualitative study on mainstream and specialised teachers noted that the provision of paraprofessionals in mainstream classes enhanced the teaching and learning of learners with ASD in South Africa. However, this current study sought to find out if this was the case in a special school for learners with ASD.

4.7 Conclusion

The current chapter presented a review of related South African literature on inclusive education and teaching strategies for learners with ASD. A historical background to inclusive education in South Africa was explained. The current provisions, challenges and opportunities in the South African context were discussed. A literature review on teaching strategies for learners with ASD in South Africa, teachers' experiences in South Africa and strategies to enhance teaching in South Africa was also conducted. Gaps to be filled by the current study were highlighted. The following chapter presents the research methodology and design of the study.

CHAPTER 5: RESEARCH METHODOLOGY AND DESIGN

5.1 Introduction

Embedded in the capability approach, the present interpretivist/constructivist qualitative single case study explored the teaching strategies for learners with ASD at a special school in Johannesburg East District in the Gauteng Province of South Africa as the context for proposing strategies to enhance the teaching of these learners. The previous chapter reviewed related South African literature on inclusive education and teaching strategies for learners with ASD. This chapter presents the research methodology and design of the study. Aspects covered include the research paradigm, research approach and the research design. Issues of trustworthiness and ethical considerations are also presented. The subsequent sub-section presents the research paradigm.

5.2 Research paradigm

This study was embedded within the constructivist/interpretivist research paradigm. A research paradigm is a philosophical framework encompassing theories and laws, which guide how research is done and how knowledge is interpreted (Dziuban, Picciano, Graham, & Moskal, 2018). Similarly, Creswell (2013) refers to a research paradigm as a “worldview” used by researchers to create knowledge and Neuman (2011) defines a research paradigm as a basic set of beliefs that guide action. Thus, researchers follow specific rules, criteria and standards, which are known as research paradigms, which create an understanding of the social world (Ben-David, 2011) when carrying out an investigation. This allows researchers to be open minded in the way they contemplate their studies. Furthermore, the constructivist research paradigm is concerned with detailed explanations and narrative descriptions of individual experiences (Lincoln et al., 2011). One of the underlying principles of constructivism is that the researcher attempts to understand a phenomenon in its natural setting (McMillan & Schumacher, 2014). I used non-participant observation to glean teaching strategies for learners with ASD in their daily set-up without interfering with their normal routine or manipulating any variable. The ontological assumption of the constructivist

research paradigm entails the presence of many realities reflecting numerous experiences that people construct socially (Fisher, 2010; Mertens, 2015). Thus, within this research paradigm there is no objectivity but rather subjectivity (Lincoln & Guba, 2001) which is why participants' views on teaching strategies for learners with ASD were different.

The constructivist research paradigm's ontological assumption is that meaning is constructed and not discovered (Merriam, 2009). Through the analysis of data obtained from individual interviews, non-participant observation, document analysis and field notes, the researcher derived themes that constituted the content of theory. Mertens (2015) states that knowledge is socially constructed by people, hence researchers should attempt to understand the experiences from the participants' points of view. During the engagement with participants in individual interviews and in informal follow-up discussions, the researcher accumulated strategies for teaching learners with ASD at a special school.

From an epistemological point of view, constructivists are concerned with the way in which knowledge is best acquired (Hays & Singh, 2012). They are of the view that the researcher and participants should be interlocked in an interactive process (Ritchie et al., 2013). Epistemologically, constructivists believe that, although the researcher is a unique individual with personal views, he or she should not be independent from the core focus of research as the knower and the unknown are co-created during inquiry (Fisher, 2010). When I interacted with the participants during informal conversations and individual interviews, I co-created reality as revealed by the findings obtained from their lived experiences (Andrade, 2009). In the same vein, Mertens (2015) posits that constructivists try to understand the meaning of phenomena from the views of people who have experience in particular field by forming relations with participants and engaging in meaningful conversations with them. Concerning the current study, I was engaged on a more personal note with participants, mainly teachers, during individual interviews to uncover unique experiences in relation to the teaching of learners with ASD.

According to constructivists, methodology is inductive, emergent and is shaped by the experiences of the researcher during data collection and analysis (Fisher, 2010). It was therefore the researchers' intention to interpret meaning that other individuals have about the world. I used qualitative methods including individual interviews, non-participant observation and document analysis (Mertens, 2015). I personally collected data using semi-structured interviews while following an interview guide to explore practices and experiences on teaching learners with ASD. This facilitated the findings of this study which were based on unique individual and shared experiences of participants' lives (Creswell, 2014). As I interacted with participants during data collection, they shared their social world and views that created data for this research (Chilisa & Kawulich, 2012). A diversification of views meant that I had to interpret data according to the participants' perceptions of the world, which is in line with the hermeneutic approach (Bryman, 2012). Since reality is co-created within constructivism, the researcher's value and influence must be considered (Creswell & Clarke, 2011). During the interviews and observations, there was constant interaction between participants and the researcher to acknowledge each other's values and influence on the study (Chilisa & Kawulich, 2012). I followed all ethical considerations by discussing issues of trustworthiness with the participants.

5.3 Research approach

In this study, the researcher used the qualitative research approach. Qualitative research entails approaching a setting with an open mind with the aim of understanding and giving a descriptive analysis and explanation of events within that setting (Flick, 2018). Through non-participant observation, I got a clear picture of how teachers teach learners with ASD in a special school. I was able to summarise findings from data obtained from the selected participants at the special school. Harrison, Birks, Franklin and Mills (2017) assert that a qualitative approach is comprehensive and includes exploratory, explanatory, interpretive and descriptive aims. Similarly, Morgan (2014) describes qualitative research as subjective, inductive and contextual and encompassing the constructivist view that truth is co-created by the participants and the

researcher. The aim of this study was to explore teaching strategies for learners with ASD at a special school. As such, the choice of this particular approach was determined by the nature of the current study because it allowed me to give rich descriptions of the setting within which teachers teach learners with ASD at one selected special school in Johannesburg East District in Gauteng Province in South Africa.

Creswell (2012) asserts that, in qualitative research, literature might not provide much information about the topic under study hence more information can be obtained from the participants. Thus, the qualitative research approach enabled me to constantly interact with the participants' social world through informal conversations and individual interviews to glean as much information from their perspectives (Bryman, 2012). As such, I probed and interrogated teachers concerning teaching strategies for learners with ASD at the selected special school in order to understand and explain their social world.

Qualitative research enables the researcher to conduct in-depth studies, which provide detailed narratives (Yin, 2016). A single case study research design facilitated thorough investigations on teaching strategies for learners with ASD at a special school. The qualitative research approach led to an understanding of a social situation from the participants' perspectives and allowed the researcher to learn from participants through exploring and developing a detailed understanding of a central phenomenon as it occurs in its natural setting (Creswell, 2012; Hancock & Algozzine, 2017). I therefore engaged with participants during their day-to-day teaching and learning activities.

The purpose of qualitative research is to collect open-ended data directly from a small number of participants based on their views to get their perspectives (Creswell, 2014). I asked semi-structured questions to 12 participants during individual interviews. I was flexible when responding to them during individual interview sessions to put them at ease (Demetrius & McClain, 2012). During the individual face-to-face interviews, participants were interrogated on their practices and experiences when teaching learners with ASD at the selected special school. According to Hays and Singh (2012),

the qualitative research approach is a recursive process, which entails going back repeatedly with data verification, re-examination and studying. After data transcription, I took the transcriptions back to the participants who again discussed and shared more information with me and further allowed me to use it as their lived experiences. I was able to understand the experiences of the participants in their natural environment as well as their understanding of each other in their own setting. In spite of these advantages, the qualitative research approach has its own shortcomings, which affect the outcome of the research. It was time consuming and expensive to gather large amounts of data typical of qualitative research studies therefore the current study only had 12 participants.

5.4 Research design

McMillan and Schumacher (2014) assert that a research design describes the procedures to carry out the research including when, from whom and the necessary conditions upon which data can be collected. Thus, the researcher needs to be aware of research proceedings and suitable methods to use for a particular study. In this study, the researcher adopted a single case study research design that is an in-depth understanding and description of an issue within its surroundings (Merriam, 2009). Similarly, Berg and Lune (2012) posit that a single case study research design warrants a choice of what needs to be investigated. One special school in Johannesburg East district was selected to explore teaching strategies for learners with ASD. Often described as a qualitative enquiry (Denzin & Lincoln, 2011), the single case study research design is in alignment with the constructivist research paradigm that acknowledges that many realities and meanings exist in a researched phenomenon (Lincoln et al., 2011; Yin, 2014). A single case study research design relies on many sources of data collection, which make the research more informative and detailed (Yin, 2014). Multiple methods of data collection are useful for triangulation of data (Merriam, 2009; Yin, 2009). According to Creswell (2013), a single case study research design explores immediate real-life situations over time through detailed in-depth data collection involving multiple sources of evidence of the participants' views. Similarly,

through a single case study research design, the real life settings can be understood (Simons, 2009; Flyvbjerg, 2011; Stewart, 2014). In this study, I used individual interviews, non-participant observation and document analysis as sources of data collection to understand the teaching strategies for learners with ASD at a special school. Thus, the use of different sources of data provided the opportunity for an in-depth exploration of the matter across various lenses (Baxter & Jack, 2008).

Gustafsson (2017) postulates that a single case study research design with interactions between the researcher and participants increases the researchers' chances to explore and understand a setting. According to Harrison et al. (2017), interactions between the researcher and the participants indicate that the researcher is immersed within the field. I spent much time at the selected school and interacted with the participants while exploring and understanding events as they took place in their natural setting during teaching. As Vanderstoep and Johnson (2009) explain, a single case study research design is done on site. Thus, I conducted the research at the selected special school in person. A selected special school (case) informed this investigation because it allowed me to capture the everyday experiences of teachers and learners in a special school setting for learners with ASD (Bryman, 2012). Furthermore, carrying out research at one special school with only 12 participants provided me with the time and opportunity to mingle with them through informal discussions. Findings from this investigation formed part of the data presentation and analysis procedure. Due to the nature of the research questions formulated for the purposes of this study, which intended to answer the "how" part (section 1.4), the researcher was justified in her choice of research design. According to Yin (2009), "how" questions are better answered in a case study research thus participants in this study were flexible and willing to respond to these types of questions during individual interviews.

5.4.1 Population and sampling

5.4.1.1 Target population

Participants are selected from a larger population (Vanderstoep & Johnson, 2009). A population is a group of study objects from which the researcher desires to collect the data (McMillan & Schumacher, 2014). The population of the current study constituted 48 teachers, seven males and 41 females and 326 learners of which 299 were boys and 27 girls at the participating special school in Johannesburg East district.

5.4.1.2 Sampling

Since this study was qualitative in nature, non-probability sampling was deemed appropriate for selecting participants who would provide suitable data for this inquiry (Guest, Namey, & Mitchell, 2013). Thus, purposive sampling was used in this study. Participants were purposively selected using critical case sampling. Etikan et al. (2016) assert that critical case sampling is a method where a few important cases are chosen and analysed. Participants were selected based on the purpose of the study with the expectation that each participant would provide unique and rich information on teaching strategies for learners with ASD at a special school (Creswell & Clark, 2011). Only the specific selected number of teachers, particularly those teaching learners with ASD, formed part of this population and participated in the study. Thus, the inclusion criteria for participation of teachers in this study included: at least three years' experience of teaching learners with ASD at a special school and an undergraduate teaching qualification. After explaining the research profile and the inclusion criteria in a meeting with all the teachers at the participating special school, 12 of them, three males and nine females volunteered to participate in this study. Throughout the study, participants were free to withdraw if they felt they needed to and no explanation was required to justify their actions in line with the ethical principle of voluntary participation. None of the participants withdrew from the study.

5.4.2 Instrumentation and data collection techniques

In case studies, findings are likely to be more convincing and accurate if they are based on several different sources of data (Yin, 2009). I collected data using individual interviews, non-participant observation and document analysis. I collected data in July, August and September of 2018. In line with the constructivist perspective of subjectivity to reality, data were gathered from participants' perspectives and understanding of teaching strategies for learners with ASD at a special school.

5.4.2.1 Face-to-face semi-structured individual interviews

Face-to-face semi-structured individual interviews were used to collect data in this study. Individual interviews are guided conversations that are usually one of the most important sources of case study evidence (Yin, 2009). Semi-structured interviews involve direct interaction and reciprocity between the participant and the interviewer (Galletta, 2013). Fraenkel et al. (2012) describes this technique as the principal strategy in qualitative data collection. The interview guides were developed based on interview schedules of previous studies, including Majoko (2018) and Lindsay et al. (2014). A criterion jury opinion was used in the development of schedules as the supervisor reviewed them and agreed that they addressed the focus of the study. Thereafter, the individual interviews were pilot tested with three participants who met the inclusion criteria to participate in this study and adjusted accordingly before their final administration to the main sample of the study. According to Jamshed (2014), during this type of interview, participants respond to open-ended predetermined questions but there is always room for unexpected issues to emanate during the discussion (Hugh-Jones, 2010).

Semi-structured interviews are flexible and adaptable (Kallio et al., 2016). Consequently, the researcher can probe, give follow up questions or even elaborate the questions (Polit & Beck, 2010; McMillan & Schumacher, 2014). During the interviews, I explained certain questions so that the participants would respond accordingly. Similarly, Van Teijlingen (2014) asserts that question wording can be modified,

explained or omitted based upon the interviewers' perception of what seems most appropriate. I simplified some of the questions as the interview progressed to enhance the participant's understanding.

When using semi-structured interviews to collect data, the researcher needs a sound knowledge of related literature on the topic under study (Kelly, 2010) as the interview questions are linked to past knowledge (Holloway & Wheeler, 2010). I asked follow up questions to allow participants to elaborate on issues raised earlier. In this study, I first familiarised with participants during their free time at an agreed convenient place. I met most of the participants after work and had informal conversations with them. Upon getting permission from the principal and consent from individual participants, I went to the school to conduct individual face-to-face interviews with the 12 teachers in their classrooms after working hours. Individual interviews were preferred in this study to encourage creativity and individuality among participants (Baskarada, 2014).

Semi-structured interviews of 45 to 60 minutes were audio taped to facilitate accurate data collection. All the 12 participants expressed themselves in English. Jamshed (2014) posits that, in order to capture data more accurately, recording is the recommended option. I was able to focus on the contents of the interview and verbal prompts while the conversation was being recorded. Although handwritten notes were also taken during the interview, important factors could have been easily missed, as it was difficult to take note of everything said while facilitating the interview. In order to stay focused, questions were open-ended and I maintained a two-way conversation at all times by giving the participants opportunities to express themselves verbally (Robert Wood Johnson Foundation, 2008). According to Bryman (2012), an interview guide in the form of questions or specific topics must be used in semi-structured interviews. Thus, an interview guide with a list of questions was used in this study (see Appendix H). The interview guide enabled me to manage and use time effectively and to maintain a systematic interview session. However, face-to-face interviews require a lot of time and, because of this shortcoming, only 12 critically sampled participants took part in this study (Bryman, 2012; Adams, 2015). When conducting interviews, the size and

geographical coverage can be limited because of expenses that come with carrying out interviews. I conducted a single case study at one purposefully selected special school in Johannesburg East district. During face-to-face interviews, participants can be biased in their responses as they tend to give information they think is desirable which affects the reliability of the instrument (Phellas, Bloch, & Seale, 2011). In this study, I used document analysis and non-participant observation to substantiate data collected during the face-to-face semi-structured individual interviews.

5.4.2.2 Non-participant observation

Non-participant observation entails hearing and seeing events unfolding in the context of the research phenomenon of interest passively from a distance (Merriam & Tisdell, 2016). Fraenkel et al. (2012) state that, in non-participant observation, there is no direct involvement between the researcher and the situation being observed. Non-participant observation facilitates a deeper understanding of the context and participant behaviour especially in situations where participants are not willing to discuss the issues under study (McMillan & Schumacher, 2014). In this study, non-participant observation was used to discern teachers' practices and experiences in teaching learners with ASD. Each participant was observed teaching one lesson after the interviews were finished. Non-participant observation is used to triangulate emerging findings (Merriam & Tisdell, 2016). Thus, in this research it was used in conjunction with individual interviews and document analysis to triangulate the findings. Non-participant observers are physically present in a setting but do not interact directly with participants (Flick, 2009). I observed quietly and did not interfere with the daily classroom teaching and learning routine, thus maintaining objectivity and neutrality. During non-participant observation, I wrote descriptive field notes describing the events that unfolded in the classroom as I observed passively (Merriam & Tisdell, 2016). Since I was focused on the phenomenon under study, I captured every detail while ensuring careful analysis of the events as they unfolded.

In this study, 12 participants were observed individually in their respective classes as

they engaged with their learners during teaching. An observation checklist served as a guideline (see Appendix I). This was developed based on observation guides of previous studies and criterion jury opinion which entailed the review of the supervisor that was used to guarantee that the guide addressed the focus of the study. Aspects that were observed included the teaching process, content, environment and product/assessment of learners with ASD at the participating special school. These included the physical environment, classroom management and organisation, teaching and learning activities, assessments, use of structured routines, reinforcement, academic modifications, environmental modifications, socialisation and communication in special school classrooms. According to Fraenkel et al. (2012), certain questions are answered by observing actions and situations. Thus, the use of non-participant observation during this study generated thorough descriptions and accelerated direct experiences, which resulted in honest reporting (Bryman, 2012). However, during non-participant observation, it is not possible to capture every event and the moment it occurs (Liu & Moitilis, 2010). I spend 89 days observing different circumstances in different selected classes at the selected school. It was challenging to observe and remember everything by watching from a distance thus I wrote field notes throughout the observations in different classes (Williams, 2008). Because of the presence of the researcher, participants may change their behaviour when they are being watched thereby giving unnatural information (Liu & Moitilis, 2010). I used interviews and document analysis to triangulate data that I obtained during non-participant observations.

5.4.2.3 Document analysis

According to Hays and Singh (2012), written evidence is a useful secondary source that is used in triangulation with other research instruments, particularly in research areas where participants are not forthcoming. All written material, whether published or unpublished, is valued as long as it provides useful information relating to the topic under study (Nieuwenhuis, 2007). In this study, document analysis was triangulated with individual interviews and non-participant observation. Document analysis is a type

of qualitative research whereby documents are assessed by the researcher to give information about a research topic (Bowen, 2009). Very limited or no interaction between the participant and the researcher must be maintained throughout the process of document analysis (McMillan & Schumacher, 2014). O'Leary's (2014) eight steps of document analysis were used as a guideline in this study. These steps involved gathering relevant texts, organising and managing schemes, making copies of originals, assessing authenticity of documents, exploring document bias, exploring background information, asking questions about who, when and why the document was produced and exploring its content. Owen (2014) asserts that, through document analysis, facts are gathered by focusing on issues that a study addresses, thus ensuring a critical comprehensive research.

It may be challenging to get access to certain documents that might be useful for the research (O'Leary, 2014). A letter was written to the principal and participants seeking permission to access and analyse relevant documents since these were official documents and records of the school (O'Leary, 2014). Such documents included teachers' lesson plans, learners' homework books, learners' activity sheets, learners' workbooks, individualised educational plans (IEPs), visual schedules, timetables, charts, teachers' record books, duty rosters, communication books and reward charts. These documents provided additional information some of which had not been mentioned during individual interviews. However, documents alone are not enough to provide the necessary answers and information required for the research (Bowen, 2009). I also employed face-to-face semi-structured individual interviews and non-participant observation in selected classes to triangulate data obtained from document analysis.

5.4.3 Data analysis

The current study employed a thematic data analysis approach. Thematic analysis is one of the common forms of analysis in qualitative research, which emphasises pinpointing, examining and recording patterns or themes within data (Guest, 2012).

Similarly, Guest, MacQueen and Namey (2012) and Clarke and Braun (2013) assert that thematic data analysis is an inductive technique of identifying themes from text data, which can provide detailed and credible data. Themes are patterns across data sets that are important to the description of a phenomenon and are associated with a specific research question (Braun & Clarke, 2006). For the purposes of this study, a model of five stages of data analysis, as suggested by Sutton and Austin (2015), was used. The first step of data analysis was transcribing and checking the data (Sutton & Austin, 2015). After all individual interviews had been conducted and audio taped, they were transcribed by a professional transcriber to guarantee accurate capturing of the expressions of the participants. This process entailed changing the audio recordings to text regardless of how understandable the transcripts were to the researcher. The lines of the text were numbered. At the end of the transcription process by the professional transcriber, the researcher read the transcripts while listening to the audio tape. During this process, spelling and any other mistakes were corrected. Notations indicating laughter, pauses or sounds of discomfort as well as any punctuation marks, such as commas and full stops, were inserted. The transcription was entirely anonymous to avoid any link between participants and what they said during the interviews. According to Sutton and Austin (2015), the second step in qualitative data analysis is reading between the lines. During this phase, a feel of the participants' perspectives and experiences of the phenomenon of teaching strategies for learners with ASD at a special school started to emerge. Reading one participant's narrative informed the researcher what to expect in the next narrative. During this stage, what the participants said, as well as what they did not say, was considered by paying attention to actions they showed during the interviews.

The third step of data analysis in qualitative research is coding (Sutton & Austin, 2015). During this process of coding, similarities and differences in topics and issues, as revealed by the participants' narratives, were interpreted. The process was done by hand by putting phrases in the margin of a hard copy and naming parts of the text. Through coding, an understanding of the focus of the study, according to individual participants' views, was established. To ensure credibility of the coding process, a peer

PhD candidate with expertise in qualitative data analysis did a second coding on the same transcripts. Differences were reconciled between the peer student and the researcher.

Theming is the fourth step in qualitative data analysis (Sutton & Austin, 2015). In this stage, codes from the different transcripts were compiled and put together. This facilitated the presentation of meaningful findings of the research. The process also made it easier to cite quotations from the actual interview transcripts to indicate the source of interpretations that were being presented. The themes served as headings for different parts of the presentation.

The final step was data synthesis (Sutton & Austin, 2015). During data synthesis, an honest presentation of findings, based on the participants' experiences, was done. Findings were summarised and presented meaningfully in a manner that was respectful towards the participants. In the final writing of the research report, all conclusions were supported by direct quotations from the participants to show that themes being discussed emerged from individual interviews with the participants.

5.5 Trustworthiness

Trustworthiness is the framework for evaluating qualitative research. In qualitative research, validity and reliability are measured in terms of truth and consistency (Human, 2010). Thus, this can be ensured by maintaining maximum credibility and being objective. For the purposes of this study, Lincoln and Guba's (1985) model of establishing trustworthiness in qualitative research was used. According to Lincoln and Guba (1985, p. 112) four elements that comprise the trustworthiness framework are credibility (truth), dependability (consistency), transferability (applicability) and confirmability (neutrality).

5.5.1 Credibility

The confidence placed in the truthfulness of findings in qualitative research is credibility

(Macnee & McCabe, 2008). Credibility is involved in establishing if results are believable and correctly interpreted, according to the original participants' perspectives (Anney, 2014). Activities increasing the probability that credible findings were established in this study included prolonged and persistent engagement in the field, member checking and triangulation (Creswell, 2012; Anney, 2014, McMillan & Schumacher, 2014; Gunawan, 2015). During data collection, the researcher was immersed in the field until data saturation was reached. This enabled the researcher to gain an insight of events that took place in the setting, thus reducing any form of bias arising because of her presence in the field (Onwuegbuzie & Leech, 2007). Spending more time in the field, while learning and understanding the phenomenon of interest, created a form of trust between the participants and the researcher (Yin, 2011). Member checking was also applied to ensure credibility of the findings of this study. According to Creswell (2009), member checking entails taking the final report and interpretations back to the participants for approval and possibly alternative explanations. After collecting and transcribing data, I took it back to the participants. The participants checked the themes that emerged from the data. This was done to allow them to decide whether the findings were accurate by establishing coherence and checking any inconsistencies (Anney, 2014; Creswell, 2014). At the end of this process, there was a discussion of the finalised themes, interpretations and conclusions drawn by the researcher. Triangulating three different sources of data collection instruments aided in ensuring credibility of the findings of this study (Merriam, 2009). Thus, in this study, individual face-to-face semi-structured individual interviews, non-participant observations and document analysis were used to collect data. The data collected through these various means were used to merge different themes.

5.5.2 Dependability

Dependability relates to the consistency of findings over certain period and the possibility of them being repeated under various conditions (Elo et al., 2014). Similarly, Cohen, Manion and Morrison (2011) assert that dependability involves researchers' evaluation, interpretation and recommendations of the findings and ensuring they are

supported by data obtained from the participants. Dependability of this study was established through a code-recode strategy, peer examination and external audit (Creswell, 2009; Ary et al., 2010; Miles & Huberman, 2014). The code-recode strategy implies that the researcher codes the exact same data for the second time with a gap of about 14 days in between to check for variance or similarity (Chilisa & Preece, 2005). Coding of data was repeated twice and similar codes were obtained. Thus, because the coding results were the same, the dependability of this study was established (Anney, 2014). By repeating the process, the researcher gained a deeper understanding of data patterns, which improved the way participants' presentations were narrated.

I used peer examination to enhance the credibility of the findings. During peer examination, I discussed research process and findings with a fellow PhD candidate who had experience of doing qualitative research (Anney, 2014). Peer examination assisted me to be honest about research findings. The peer provided constructive analysis and criticism and was able to identify categories that were not covered by the researcher. To ensure that the same research process generates the same essential and consistent findings, an external audit was done (Mamabolo, 2009; Meriam, 2009; Miles & Huberman, 2014). The researcher sought the assistance of two PhD candidates with research experience to re-analyse the data and serve as external auditors. The supervisor also examined the presentation and analysis of the findings of this study and recommendations to verify if they were substantiated by data. The results of the analysis were similar, thus the dependability of the inquiry was achieved (Ary et al., 2010)

5.5.3 Transferability

According to Elo et al. (2014), transferability relies on the reasoning that findings can be generalised or transferred to another setting with different participants. Human (2010) states that it is a challenge to transfer qualitative findings to other contexts because of its focus on certain phenomena. Nevertheless, there is a possibility that some findings can be applied in similar situations. To ensure transferability of findings in this study, the

researcher provided thick descriptions and did purposive sampling. The researcher facilitated transferability through the provision of a dense description of data about the participants, the research context and setting to enable the potential user to assess and evaluate the applicability of data to another context (Mamabolo, 2009; Anney, 2014). A thick description meant clearly explaining all research processes from data collection, context of the study, up to the final report. Thick descriptions enable other researchers to replicate the study with similar conditions in other settings (Anney, 2014). An explanation of how participants were purposively selected also facilitated the transferability of the inquiry. Purposive sampling is a technique mainly used in naturalistic inquiry studies, which entails selecting individuals, groups, or places that are able to provide key information about the phenomenon of interest (Creswell, 2011). Purposive sampling allows decisions to be made regarding participant selection (Ary et al., 2010) and provides in-depth findings compared to other methods of probability sampling (Cohen et al., 2011).

5.5.4 Confirmability

Confirmability is a neutral criterion for measuring trustworthiness of qualitative research (Elo et al., 2014). Thus, findings are based on participants' responses and not any potential bias or personal motivations of the researcher (Human, 2010; Anney, 2014). A detailed description allows the reader to determine the extent to which data can be confirmed and accepted. Confirmability of this study was established through an audit trail, reflexive journal and triangulation (Bowen, 2009; Merriam, 2009; Creswell, 2009). An audit trail provides transparent evidence from the beginning to the end of research to validate data through an examination of the inquiry process (Bowen, 2009). An audit trail allows the observer to trace the course of the research systematically via decisions made and procedures followed (Merriam, 2009). The researcher was accountable for all the decisions and activities relating to the current study, which included data collection, recording and analysis. Thus, the researcher did not simply find what was intended to be found but went through an in-depth series of activities. Evidence, including raw data, observation and interview notes, documents and records collected from the field were

crosschecked during the process. Confirmability of this study was also attained by using a reflexive journal that is a type of diary where a researcher makes regular entries during the research process (Ortlipp, 2008). Whilst in the field, all events that took place, including personal reflections in relation to the study, were noted. Reflexivity thus meant assessing the background, perceptions and interests of the researcher at every step during the process of research (Anney, 2014).

5.6 Ethical considerations

Qualitative research has a personal involvement (McMillan & Schumacher, 2014). Thus, the researcher had to conform to ethical measures while executing the current study. As De Vos et al. (2008) explain, ethics are moral obligations providing certain behavioural assumptions on conduct between the researcher and the participants. Thus, according to Flick (2009), certain principles must be considered when undertaking an honest research. Ethically sound measures that were continuously followed in this study included informed consent, confidentiality and anonymity, protection from harm as well as participants' right to withdraw from the study (McMillan & Schumacher, 2014). Permission to conduct research from the rightful and concerned authorities was sought and honesty was maintained throughout the study.

5.6.1 Permission

It is crucial for the researcher to get approval of participants before undertaking any studies (McMillan & Schumacher, 2014). Initially, the researcher was granted ethical clearance from the University of South Africa to undertake this study. Consequently, research approval from Gauteng Department of Education (GDE) was also accorded. A clearance certificate from Unisa Research Ethics Committee (see Appendix A) and an approval letter from Gauteng Department of Education were issued (see Appendix B). The principal and school governing body (SGB) of the selected school were approached for permission and consent of their staff and learners partaking in the study (see Appendix D). It was also necessary to seek permission to gain access to the research site. This is congruent with Creswell's (2012) notion that researchers must respect

research sites. Lastly, the participants were issued with consent forms, which they signed willingly before investigations commenced.

5.6.2 Informed consent

According to De Vos et al. (2011), informed consent warrants that all participants are fully aware, knowledgeable and willing to cooperate in the study. Similarly, King, Thomeck, Voreis and Scott (2010) posit that all researchers are obligated to provide adequate information to participants regarding the study. Hays and Singh (2012) also assert that issues of voluntary participation must be explicit and clearly explained. Thus, every detail relating to the study must be open and adequately provided to the participants. To ensure this, the participants were fully informed of the rationale and nature of the entire study as well as the usefulness of the findings before data collection commenced (see Appendix E). I clearly explained every detail relating to the study for the understanding of the participants and provided them with a written document that they could read individually. Since individual interviews were used in this study as a research instrument, informed consent from the principal was obtained first (see Appendix C). All selected participants acknowledged their willingness to be part of the study as evidenced by them signing consent forms (see Appendix F). Because they understood what was expected of them, they participated freely and openly throughout the study. Participants were also aware that the study was for a Master's degree and, as such, their contributions and experiences would be shared in a dissertation, research report and published in journals.

5.6.3 Confidentiality and anonymity

Hays and Singh (2012) explain that confidentiality is closely related to informed consent as participants openly share their knowledge and views without fear of harm. In this regard, Dawson (2007) advocates for the right to confidentiality and anonymity of participants in any study. Participants' privacy must be respected by not disclosing facts that could directly link them to the study. Confidentiality means that participants have to remain anonymous (McMillan & Schumacher, 2014). Thus, in the current study,

participants were given a letter which guaranteed them confidentiality and anonymity. To ensure that, individual names of teachers and learners, as well as the setting where the study took place, were not divulged. Instead, pseudonyms were used to refer to participants. This ensured that their identities would not be disclosed in the dissertation or any publication. Whatever the participants said remained private and confidential and was not revealed to anyone else. There was no link to anyone who participated in the study. According to Hays and Singh (2012), there is a difference between confidentiality and anonymity. Participant anonymity would make it difficult for any researcher to link participants with any form of data. As such, I employed the principle of confidentiality by using codes such as P1 for Participant 1 instead of their real names to protect the participants' identities in order to associate data with a specific participant. Data collected through individual interviews, non-participant observation and document analysis for the purposes of this study have been explicitly used for the agreed purposes.

5.6.4 Protection from harm

King et al. (2013) assert that harm results when participants are exposed to situations and environments that can cause distress, physical strain or embarrassment. Being overzealous and ambitious regarding the usefulness of the study followed by pompous language and behaviour can offend participants and should be avoided by all researchers (Walliman, 2011). As such, participants should not be exposed to any form of harm (McMillan & Schumacher, 2014). In the current study, the safety of all participants was maintained throughout the study. All 12 selected participants were not at risk of any physical or psychological trauma. Participants were not forced to respond to issues they felt were sensitive. By maintaining confidentiality and anonymity, I also evaded causing psychological distress to the participants while maintaining the validity of the findings. A debriefing session enabled the participants to ask questions and deliberate on their concerns regarding the study (Merriam, 2009). The rights and welfare of all participants were protected during the study (Creswell, 2012).

5.6.5 The right to withdraw from study

Any research that involves humans as subjects calls for their right to withdraw from participating at any given time (McConnell, 2010). Schaefer and Wertheimer (2010) maintain that this right protects participants from any form of discrepancy and unpredictability, and strengthens trust in the study. Gertz (2008) posits that participants' right to withdraw protects their independence. In most cases, this right, together with consent forms, make a statement to this effect and ethically protect participants (Melham, Moraia, Mitchel, Morrison, Teare, & Kaye, 2014). If participants choose to withdraw, some degree of voluntary participation is noted, as was the case with the current study. It was clearly stated in consent forms that participants who decided not to take part at any time during the course of the study were free to do so at any given time without any obligation to state a reason.

5.6.6 Honesty

Shamoo and Resnik (2015) assert that every researcher must strive for honesty throughout the study concerning methods, procedures, findings and publication. Thus, presentation of truthful and sincere findings without any misrepresentation or bias is of paramount importance in qualitative research (Creswell, 2012). Similarly, De Vos et al. (2011) assert that participants should never encounter any form of deceit. In the present study, the researcher did not falsify data or facts obtained during the investigation to meet desired conclusions. All previous studies used were referenced.

5.7 Conclusion

This chapter presented the research methodology and design of the current study. It addressed the research paradigm, in this case, the interpretivist/constructivist paradigm. The qualitative research approach and the research design were explained in this chapter. A single case study informed this study to enable in-depth descriptions of participants' views on teaching strategies for learners with ASD. Population and sampling strategy were also explained. Instruments used to collect data in this study

were individual interviews, non-participant observation and document analysis. A description of these instruments, as well as an explanation of how they were used in the study, was indicated. A comprehensive discussion on data analysis was done. Issues of trustworthiness, measures to ensure trustworthiness and ethical issues considered in this study were also discussed. The following chapter is the data presentation and analysis of findings.

CHAPTER 6: PRESENTATION AND ANALYSIS OF FINDINGS

6.1 Introduction

Embedded in the capability approach, the present interpretivist/constructivist qualitative single case study explored the teaching strategies for learners with ASD at a special school in Johannesburg East District in the Gauteng Province of South Africa as the context for proposing strategies to enhance the teaching of these learners. The previous chapter presented the research methodology and design of the study. The current chapter presents and analyses data that were generated from face-to-face semi-structured individual interviews with participants, non-participant observations and document analysis on the subject of the study. Findings are presented and analysed thematically based on the three sub-headings, namely, teachers' strategies for teaching with ASD, teachers' experiences in teaching learners with ASD and strategies to enhance the teaching of learners with ASD which were derived from the sub-research questions of the study. A presentation of the study settings reveals its context, which facilitates transferability of findings (Silverman, 2009).

6.2 School context

School A is a multi-cultural school located in Johannesburg East District in Gauteng Province of South Africa. The school was established in 1998 and it operates in an old five storey building. The school operates on four floors for learning, office work and other activities that involve the institution. The ECD phase and the foundation phase of the school operate on the first floor. The middle phase of the institution occupies the third and fourth floors. The senior phase and the VET phase of the school are located on the ground floor. There are private companies and organisations that operate within the same building. School A has a population of 48 teachers, seven males and 41 females. Overall, female teachers outnumber male teachers nationally. Because of gendering, teaching may be considered more as a profession for females. The employers, including education authorities, also recruit female teachers more than male teachers in special schools, as they are considered more caring when teaching learners

with ASD (Majoko, 2017). School A has a population of 326 learners, 299 boys and 27 girls. The higher prevalence of ASD among boys than girls contributes to the higher proportion of boys than girls at the institution. Although School A is multicultural and multilingual, the majority of the learners are blacks from poor socio-economic backgrounds. Learners diagnosed with ASD are enrolled at this school as no other school can enrol them in Johannesburg East District because the teaching and learning of learners with ASD require intensive material, financial, technological and time resources as well as specialised human resources due to their behavioural manifestations. The biographical information of the participants of the current study is presented in the subsequent section.

6.3 Biographical information

Table 6.1 below presents the biographical information of the participants of the present study.

Table 6.1 Profiles of participants

Pseudonyms of participants	Gender (M/F)	Age range (years)	Professional qualifications	Teaching experience (years)	Phase taught	Number of learners in class	Boys	Girls	Age range of learners (years)	Level of support needs of learners
1	F	50–60	B Ed General Degree (Primary school level)	15	Foundation Phase	7	7	0	7–9	Low
2	F	40–50	B Ed General Degree (Primary school level)	18	Foundation Phase	6	6	0	7–9	High
3	F	30–40	B Ed Honours Degree (Primary school level)	10	Senior Phase	6	6	0	13–16	Low
4	M	40–50	Diploma in Education (Primary school level)	20	Senior Phase	6	4	2	12–15	Low
5	M	40–50	B Ed Honours	18	Senior	7	6	1	13–15	Medium

			Degree (Primary school level)		Phase					
6	F	40–50	B Ed General Degree (Primary school level)	4	ECD Phase	8	8	0	5–8	Medium
7	F	40–50	B Ed General Degree (Primary school level)	19	Middle Phase	8	8	0	10–12	Low
8	F	50–60	Diploma in Education (Primary school level)	21	Middle Phase	7	7	0	11–12	Low
9	F	40–50	Diploma in Education (Primary school level)	4	VET Phase	8	8	0	18–21	Low
10	M	40–50	B Ed Honours Degree (Primary school level) Master's in Education	18	VET Phase	8	8	0	15–18	Low

11	F	50–60	B Ed General Degree (Primary school level)	12	ECD Phase	8	8	0	6–8	Medium
12	F	40–50	B Ed Honours Degree (Primary school level)	26	ECD Phase	8	7	1	5–6	High

Table 6.1 above shows that 12 participants took part in the study. Of these participants, 75% were females and 25% were males. Consistent with the capability approach, which requires principled practices that recognise differences rather than deficits and enhance the capabilities of learners with disabilities, females have more caring support skills in comparison to males because of their motherhood role, and are comfortable working with children with special needs, specifically those with ASD. Consequently, they outnumber males in School A. Table 6.1 also shows that 67% of the participants were between the ages of 40 and 50 while 25% were between 50 and 60 years. Only 8% of the participants were below 40 years of age. Many young graduate teachers may not be keen to work with learners with ASD because teaching strategies for learners with ASD are an international challenge for teachers. Young graduate teachers may also lack the knowledge and confidence required to teach learners with ASD in special schools including School A. Table 6.1 further reveals that 90% of the participants had teaching degrees whereas 10% had teaching diplomas. South African teacher training education institutions only train teachers at degree levels. Teachers with diplomas were from foreign countries and some from South Africa who trained in the past when there were still teacher training colleges in the country and had not upgraded their education since then. With the exception of one, all participants with diplomas had over 20 years' teaching experience. This may be because they did not obtain higher qualifications yet remained in the teaching profession.

Table 6.1 shows that 25% of the participants had 1 to 10 years' teaching experience while 58% had 11 to 20 years' experience in teaching. Only 17% of the participants had over 20 years' teaching experience. This may be because most mature and seasoned teachers prefer to work in special schools whereas less experienced teachers are hesitant to work with learners in special schools, especially those with ASD, because of the challenging behavioural manifestation of the condition in these children. This is in alignment with literature, which points out the lack of confidence and knowledge of some novice teachers prevents them from working with learners with ASD (Majoko & Phasha, 2018). The above table also indicates that 42% of the participants teach

learners with low support needs while 58% of them teach learners with medium to high support needs. This may be attributed to the fact that the participating school is a special school reserved primarily for learners with ASD with high support needs. Table 6.1 also shows that 25% of the participants each had six learners in their classrooms whereas another 25% of the participants each had seven learners in their classrooms. Fifty percent of the participants each had eight learners in their classrooms. This is alignment with national and international best practice on low learner-teacher ratio in special schools that is grounded in enabling teachers to meet the diverse individual needs of learners with exceptionalities including ASD. In all the classes at School A, boys outnumbered girls. Research reveals that ASD affects boys more than it affects girls. Only four girls were present in all classes that were part of this study.

The table above reveals that 25% of the participants taught learners in ECD phase with learners between five and eight years while 17% taught learners in the Foundation phase, aged seven to nine years. Seventeen percent of the participants taught learners between 10 and 12 years of age in the Middle phase whereas 25% taught learners in the Senior phase, aged 12 to 16 years. Seventeen percent of the participants in the VET (Vocational Education and Training) phase taught learners between 15 and 21 years. The ages of the learners resonate with their levels of study as spelt out in DBE of South Africa policy. In the following section, the findings of the current study on teaching strategies for learners with ASD at a special school are thematically presented and analysed.

6.4 Themes and sub-themes

Table 6.2 Themes and sub-themes

Theme	Sub themes
Teachers' strategies for teaching learners with ASD	<ul style="list-style-type: none"> • Routine pre-learning activities • Classroom-based morning assembly • Life-based teaching • Fixed and surprise visual schedules • Physical activities-based behaviour management • Curriculum adaptation • Active learning • Makaton and speech • Class assistant support • Therapists support • Concrete and picture media-based teaching • Play • Social stories • Structured classroom environment • TEACCH tasks
Teachers' experiences in teaching learners with ASD	<ul style="list-style-type: none"> • Cluelessness • Harm • Bunking • Resources and families • Negligence • Non-cooperation • Behaviour • Verbalisation • Self-independence • Reading and writing

	<ul style="list-style-type: none"> • Publicity
Strategies to enhance teaching of learners with ASD	<ul style="list-style-type: none"> • Training • Resources • Parents • Awareness • Support • Knowing individual learners • Life skills • Technology • Reinforcement

6.5 Findings

6.5.1 Theme: Teaching strategies

All participants (100%) demonstrated that they utilised various teaching strategies to teach learners with ASD at a special school. These included natural practices (Makaton and speech, play, praxis, curriculum adaptation and active learning), behavioural practices (therapist support, social stories, class assistant support and behaviour management) and organisational practices (TEACCH, visual schedules, structured classroom environment, concrete and picture media, pre-learning activities and morning assembly). The teaching strategies were used either for individual or for groups of learners with ASD in response to their diverse unique needs. The following section presents the teaching strategies as sub-themes.

Sub theme 1: Routine pre-learning activities

All participants (100%) revealed that they rigidly adhered to routine daily classroom timetabled pre-learning activities and provided materials and resources in teaching learners with ASD. This included routinely welcoming these learners as they entered the

classrooms, providing them with breakfast and sending or accompanying them to the bathrooms depending on their individual toileting needs before starting the lessons of every school day. Adherence to routine pre-learning activities made learners with ASD ready to learn and prevented the disruption of lessons. For instance,

“When they come in, I greet them and see to it that they have everything with them. They take blocks and sit on the carpet while waiting for breakfast” (Participant 11).

“At 7.55, after breakfast, they go to the bathroom. I accompany them then come back for morning ring from 8:00 to 8:30” (Participant 2).

“I take them to the toilet to make sure that they use the toilet properly before morning ring starts at 8’oclock. They do not disturb learning after that” (Participant 12).

Most participants (67%) were observed accompanying learners with ASD to the bathrooms. This was because these learners had high support needs hence needed assistance in toileting. Some participants (33%) were seen letting learners with ASD visit bathrooms independently. Such learners were observed visiting the bathrooms on their own because they had low support needs hence could help themselves in the bathrooms without the support of the participants. After visiting the bathrooms independently or in the company of teachers, learners with ASD were observed sitting at the morning assembly points in their respective classrooms known as “morning ring area” chatting verbally and using Makaton signing waiting for teachers to come to attend to them. The visiting of bathrooms by learners with ASD, independently or in the company of the participants, depending of the level of support needs of these learners, before the onset of the teaching was a component of every school day at the study site. It was on the timetable and on visual schedules of all the classrooms of the participants, recorded in their daily lesson plans and was allocated 15 minutes on every school day. The visiting of bathrooms of learners with ASD, independently or in the company of the participants, was observed throughout the 89 days of non-participant observation at the study site.

Sub theme 2: Classroom-based morning assembly

All participants (100%) reported that they gathered learners with ASD every morning of each school day at the same time in their respective classrooms for morning ring/assembly. In their classrooms, these participants taught these learners different activities based on different daily themes which focused on daily living issues and activities. These included transport, weather, days of the week, human feelings and expressions, such as happiness, sadness, illness, tiredness and greetings, using rhymes, singing, matching and other activities. This teaching was to facilitate independent living of learners with ASD. It was perceived that teaching learners with ASD in the early morning enabled them to cope with the content as they were “still fresh” from home. For example,

“We do this morning ring because kids will be still fresh. They can listen and concentrate on what we will be doing with them. So, in the morning ring session, we teach everything using themes like transport” (Participant 1).

“Morning ring is where teaching takes place. It is better to get them in the morning while they are still fresh and still concentrating. Their concentration span is not that long. So, when we do the morning ring, that’s when everything happens” (Participant 7).

“In the morning ring time, we do rhymes and we incorporate singing. It is always related to the theme of the term. We do days of the week, dates, anger, happiness, greeting and counting for their independent living. We also do months of the year, weather and seasons using matching activities” (Participant 6).

All participants (100%) were observed teaching activities related to the themes for the term. For instance, in one particular class, learners were taught the colours of the robot in relation to the transport theme. Learners were observed matching red pictures representing a red robot with any red object they picked from the box. This activity was also done with the green and orange colours to ensure the acquaintance of learners with ASD with all the colours of the robot and their meanings. The morning ring was allocated 30 minutes every school day on the timetable of the special school and the

class timetables of all the participants. Lesson plans of all the participants constituted the morning ring as the first teaching activity of every school day with the accompanying themes.

Sub theme 3: Life-based teaching

Most participants (58%) indicated that they grounded the teaching of various subjects to learners with ASD in their respective classrooms in the daily living of these learners. These subjects included language literacy, maths literacy, computers, physical education, life skills and art and craft. The entrenchment of teaching in the daily lives of learners with ASD was perceived to foster in these learners independent daily functioning as shown by the following quotes:

“We do different activities in different subjects such as English or mathematics depending on the day. We go for computers for them to acquire skills. We also do newspaper craft, art, and physical education. We teach them life skills” (Participant 5).

“We have got maths literacy and language literacy. For language literacy, we have our own Makaton books. They read and sign, practise basic language structures and functional activities like shopping, using cash” (Participant 4).

“Currently we apply functional counting because we don’t want them to rote count. We want them to be able to identify two spoons and three cups. We want them to be able to apply counting functionally” (Participant 6).

“When we go for computers, they don’t just go there for fun; they have maths literacy and have English reading activities” (Participant 7).

Several participants (67%) were observed teaching subjects according to the timetable. For instance, in one classroom, while teaching the concept of money and marrying it with daily life of learners with ASD, the teacher instructed these learners to select one item that they wanted to buy from the school tuck shop on a visual chart. Learners with ASD were seen choosing different items based on the amount of money they had and

calculating the change that they would get after buying. The teacher and the learners later went to the tuck shop and each learner had to politely ask for what they wanted to buy, for example, “*Good morning, may I have a packet of chips for R10.*” In other classrooms, learners were observed doing counting activities using concrete objects, for example, the teachers instructed learners to look for two spoons, three cups and one plate while others did matching activities of different modes of transport – a picture of a car and car object, a picture of a bus and a bus object and others were taught personal hygiene, mainly brushing teeth using actual toothbrushes and toothpaste and flossing in life skills. Daily timetables, which constituted the learning areas, namely, language literacy, maths literacy, computers, art and craft, life skills and art and physical education were observed in the classrooms of all the participants. Lesson plans of all participants showed that they planned teaching these subjects and activities and evaluated the lessons. Learners’ workbooks had written activities in maths literacy, language literacy and life skills.

Sub theme 4: Fixed and surprise visual schedules

All participants (100%) expressed that they used fixed and surprise individual and group schedules that were attractive throughout school days to teach learners with ASD, depending on their needs. The use of attractive fixed schedules was felt to captivate and keep learners with ASD aware of activities of every school day and calm and settle them because of the clarity of expectations. It was perceived that preparation of learners with ASD for any changes within their usual schedule prevented outbursts.

“We use a lot of attractive group than individual schedule for learners with high support needs because they cannot manage. The schedule is very important. They know what they are supposed to do now and what’s coming next” (Participant 12).

“The schedule is an everyday thing. They must know that this is morning ring time, we are going to the toilet, and it’s eating time based on the schedules. They cry if activities change without telling them in advance. They want to do the same activities” (Participant 8).

“Pupils need to understand what will come after any activity. So we set our schedules” (Participant 4).

All participants (100%) had visible attractive fixed individual and group schedules pasted on the walls of their classrooms. Learners were observed checking the schedules every now and then. Some learners with ASD were seen assisting and explaining upcoming learning activities on the schedule to their peers with the condition. Participants (67%) adhered to the schedule; for instance, on a particular day in one class, learners with ASD were seen packing away food preparation items after a baking lesson and getting ready to go for physical education at the gym in accordance with the daily schedule. Participants (33%) teaching learners with ASD with high support needs struggled to adhere to the visual schedules due to behavioural manifestations of the condition including crying, inattention and self-messing of these learners. These participants either rushed through or skipped some activities to catch up with the schedule. Learners’ books had written activities that tallied with what was on the visual schedule. For instance, the food preparation lesson, a list of ingredients and utensils with their pictures was part of the written activities for the learners before they carried out appropriate practical activities.

Although all the participants used fixed group schedules, some of them (25%) reported that, if they had unexpected events, they informed their learners with ASD and explained the changes in the usual schedule. Some participants even had standby schedules for such circumstances. For instance,

“If it happens that somewhere during the day we are going to have visitors or we are going to go somewhere, we use SURPRISE schedules. We put them on top of their fixed schedule so that they know something is going to change. When they ask, we explain. They don’t like change because they can start crying and kicking. But if we prepare them on time, everything will be fine” (Participant 7).

In some classes, learners with ASD were observed asking participants (25%) why some schedule activities were changed. Some learners with ASD were observed to understand the changes but needed reassurance from the participants that they would

do the activity at a later stage if they had time. However, some learners with ASD did not understand why certain activities were changed and had an outburst. For instance, one learner got upset after being told they were not going for computers because the computer system was down and started hitting the walls with his fists. In another class, a learner with ASD, who was upset, turned the cupboard upside down, because he did not believe newspaper sticks for art and craft were finished and he therefore could not do the activity that he was supposed to do according to the fixed visual classroom schedule. All lesson plans of the participants (100%) constituted teaching activities, which were the same as those displayed on the attractive fixed visual schedules and timetables of their classrooms.

Sub theme 5: Physical activities-based behaviour management

Participants (75%) revealed that they implemented various individualised behaviour management strategies inclusive of the use of heavy jackets, water bottles, quiet and calm rooms, music and physical activities to teach learners with ASD. Physical activities were believed to expend the energy of learners with ASD and ultimately eliminated tension, meltdowns and tantrums among those learners who manifested diverse behaviour including head butting, temper tantrums, biting themselves, inattention and crying. Thus, physical activities were perceived to ease tension and calm down learners with ASD, which facilitated their teaching.

*“We have a heavy jacket. We put a child in a heavy jacket to calm his behaviour”
(Participant 1).*

“We walk up and down the stairs to calm him down because he is not comfortable sitting on the table. We also fill up a two litre bottle with water and then take their school bags. They carry and walk around. When they come back to class they will sit and concentrate” (Participant 2).

“I have a learner who had a problem when we couldn’t go for computers because there was no power. He was having meltdowns including banging doors and almost broke the window. I took him to the calm room” (Participant 3).

“My learners definitely love music and rhymes, particularly those that entail repeating the same thing. These calm them down” (Participant 8).

Learners with ASD in participants' classes (77%) were observed carrying their school bags with as many as four to five two litre bottles of water going up and down the stairs of the five storey building. Throughout the 89 days of observation, some of the learners from the participants' classes were seen carrying heavy jackets almost on a daily basis and they looked tired and weary from these walks around the building. Lesson plans did not reveal management of meltdowns nevertheless, it was noted down in the reflective journal that most of the behaviour management strategies were spontaneous. In observed classes (45%), there were always meltdowns of learners with ASD. Resultantly, participants failed to adhere to subjects on the class timetables and fixed schedules. Lesson plans revealed that participants (45%) were behind in their planned lessons. An evaluation of lesson plans revealed that this was because of the disturbance of the behaviour of learners with ASD, which manifested from the condition. Participants ended up skipping some of the lessons and proceeding to the next as revealed in their lesson plan evaluations.

Sub-theme 6: Curriculum adaptation

Participants (67%) reiterated that they adapted the CAPS and SANASE curriculum to teach learners with ASD, as they perceived that most of the concepts in these documents were too abstract for these learners. Adaptation of the curriculum was felt to expose learners with ASD to different teaching activities that met their level of support needs. This was seen to facilitate understanding and attempts by the learners with ASD to do the different teaching activities. For example,

“We have to make teaching activities fit with our learners. We create our own programme from the complex SANASE document that we use as the curriculum” (Participant 3).

“I plan for them and adapt my teaching methods and the CAPS content to meets the needs of the different learners” (Participant 10).

“When we teach transport, we give them newspapers and magazines. Others can trace, others can take the words of a truck or car, others can cut out the car, others can colour, others can find a small car or train, others can look for the truck in the picture and match it the with the name” (Participant 1).

All participants (100%) were observed assigning different teaching activities to learners with ASD in their respective classrooms according to their capabilities. For instance, learners with low functioning ASD engaged in colouring, matching and sorting activities, while those with high functioning ASD engaged in sequencing, identifying, reading and writing activities. Written exercises showed that learners with ASD performed well in all the activities assigned to them. The content in CAPS and SANASE documents constituted abstract concepts. This included multiplication of three digit numbers, computation of fractions, for example, $\frac{3}{4}$ of 100 and construction of sentences with verb, noun and adjective, for example, “The tall boy was wearing a green shirt.” The workbooks of learners with ASD in most observed classrooms (67%) indicated that the work was adapted and individualised to suit their capabilities. For instance, in one participant’s class, there was indication that, on the transport theme on a single day, some learners cut and pasted pictures of transport, some learners matched different modes of transport while others named the transport. In another class, some learners added single digits using the abacus, some used counters and others added with pictures. However, in some of the classes (33%), learners’ workbooks showed that they all did the same activity. For instance, a written activity on prepositions in language workbooks was the same for all learners, a storybook used for reading was the same for all the learners and a maths activity on money and change was also the same.

Sub-theme 7: Active learning

Most participants (92%) reported that they used child-centred pedagogy to teach learners with ASD. These included role-play, drama, prompting, repetition and imitation. Child-centred pedagogy was perceived to draw the attention of learners with ASD during teaching:

“I use role-play or drama. For example, now we are from McDonalds. We had done the role play in class first. So, when we went, they already knew what was going to happen. They easily implemented when we were in the shop” (Participant 10).

“My kids need more attention. They are hands on. Most of the things I prompt them. I even take their hands to direct them on what they should do” (Participant 2).

“Sometimes you have to repeat one thing over and over again and model for them to imitate. Some kids need me to work hand-over-hand and repetition for them to understand” (Participant 5).

In most participating classes (56%), learners with ASD were observed taking part in role play and drama activities. For instance, in one class, learners with ASD were observed role playing on going shopping. They were seen assuming various roles, namely, till operator, customer, shop assistant, and shop security officer. Learners were also observed imitating sounds and movements of different modes of transport during class activities. In another class, learners with ASD imitated the train sound “chu chu”. Several participants (83%) were seen demonstrating while teaching learners with ASD. For instance, cutting circles to make model wheels of a bus using a pair of scissors, continuously repeating the colours of the robot, “red, yellow and green”, using different pictures, objects and symbols representing the colours, prompting, for example, to spread butter on a piece of bread during a baking lesson and offering hand-over-hand assistance during tracing, colouring and shaping of letters and numbers. Learners’ workbooks constituted written assignments that included tracing, colouring and number and letter shaping activities.

Sub-theme 8: Makaton and speech

All participants (100%) reported that they utilised Makaton and speech to teach learners with ASD which is universal at the participating institution. Makaton and speech were seen to foster communication between learners with ASD who were verbal and non-verbal, and verbalisation in learners with ASD who were non-verbal.

“We teach them using Makaton and speech. This enables them to talk” (Participant

10).

“We use Makaton signing, gestures and body language to make them understand what we will be teaching or telling them” (Participant 11).

“Even though my kids are verbal, I use Makaton so that they will be able to communicate with the non-verbal” (Participant 7).

Participants (75%) were observed teaching learners with ASD using Makaton and speech throughout the lessons. During classroom based pre-learning activities, which included greetings, weather, feelings and days of the week, reciprocal communication between participants and their learners, using Makaton and speech, was observed in most of the classes. Learners with ASD were also seen communicating using Makaton and speech with their peers in and outside their classrooms. Participants (75%) had a chart with Makaton signs pasted on the walls of their classrooms. Storybooks with Makaton signs were seen in the classrooms of all the participants.

Although all participants (100%) articulated that they used Makaton in teaching learners with ASD, 25% of them were concerned about its use because not all learners with ASD understood Makaton and some words did not have Makaton signs.

“With Makaton signing, some learners have difficulties in understanding the signs. Makaton doesn’t always work well. You will be signing on your own and the child is just looking at you or doing something else totally different from what you will be signing” (Participant 10).

“Although we use Makaton with all of the learners, it’s not every word that has a sign” (Participant 9).

Across the participating classrooms, some of the learners with ASD had difficulties understanding the Makaton signs and responding accordingly. They stared at their teachers after being given instructions and often did the opposite of what was expected of them. For instance, in one class, a learner was instructed to “*go and sit down, wait for others to finish then we can eat*”. The learner went straight to collect his lunch bag and

started eating. In another class, a verbal praise with Makaton was misunderstood by the learner. The teacher said, “*Let’s clap for her*” and the learner started covering her face because she thought she was going to be clapped in the face. In Individual Education Plans designed and implemented by all the participants, Makaton was written as a teaching strategy for the facilitation of communication in all learning activities for learners with ASD.

Sub-theme 9: Class assistant support

Participants (100%) revealed that they used class assistants every school day to teach learners with ASD, to assist the participants in managing the behaviour of learners with ASD and to take charge of these learners in their absence. It was felt that teachers could not manage the teaching of learners with ASD without assistant teachers because of their characteristic behavioural manifestations.

“I have an assistant that helps me. Working with learners with ASD is not easy. I rely on her because she is aware of how I teach these learners. Even when I am not there, the kids are well taken care of” (Participant 7).

“Fortunately, in my class I have an assistant teacher. When I am teaching, the assistant teachers acts and stops misbehaving child” (Participant 5).

“The assistant manages the classrooms. They have been around for a very long time. They are very good with these children. They are able to contain them” (Participant 9).

“I have an assistant teacher. When she is absent, I can’t cope. I ask for help from the other classes” (Teacher 8).

One class assistant was observed in each of the participants’ classes throughout the study period. Class assistants were seen actively involved during all in-class and out-of-class teaching activities. Class assistants supported participants by accompanying learners with ASD to the toilet, feeding learners, taking learners to the playground, writing activities, which involved hand-over-hand assistance, accompanying learners to

the nurse for their daily medication and monitoring the learners in the absence of the teacher. Class assistants (57%) were also seen preparing teaching media for the next day after learners with ASD had gone home. In lesson plans and other record books of all the participants, the specific roles and responsibilities of class assistants were not spelt out.

Participants (43%) had reservations about working with teacher assistants in teaching learners with ASD. Participants felt that some teacher assistants lacked professionalism in serving learners with ASD and had conflicts of interest with them regarding classroom activities. This was perceived to interfere with the effective provision of services to learners with ASD in the classrooms. For example,

“Working with adults in one class at times is a problem. The teacher assistant sometimes wants to do different activities from mine. Normally, the assistant wants to be like the teacher. This angers me and there will be conflict. When this happens, the children are the ones who suffer” (Participant 10).

“We need a certain level of assistants. Teaching is a profession. You can’t just employ every Jack and Jill. Class assistants need training on how to handle themselves and what to say as some of them discuss vulgar things that happened over the weekend” (Participant 4).

In some classes (23%), it was observed that class assistants were reluctant to carry out tasks with learners. They were always reminded to help specific learners while the teacher was busy with other learners. Some were seen chatting and laughing out loud in corridors when they were supposed to be in their respective classrooms. Teachers’ lesson plans of all participants did not specify or indicate what class assistants were supposed to do and when during teaching and learning of learners with ASD.

Sub theme 10: Therapists’ support

Participants (58%) expressed that therapists supported the teaching of learners with ASD. Therapists were reported to provide physical and speech therapy to learners with

ASD which improved the functioning of these learners in these domains as well as the behavioural domain. It was also felt that the speech therapist supported participants with teaching strategies. For example,

“Some of my learners walk on their toes and are not comfortable with putting on shoes. So, they are supported by the occupational therapist. The speech therapist also come in class and helps us with visuals and social stories” (Participant 11).

“Getting the occupational therapist also helps with behavioural problems” (Participant 3).

“Learners do gross motor which is a physical exercise. Crawling, catching, whatever they do, that with the therapist” (Participant 1).

During the whole duration of non-participant observation in the study, no therapist appeared in any of the participant classes to offer their assistance and work with the learners, as revealed in the individual interviews. Therapists were though, at the time, seen in their offices at the school. In all documents that were analysed, there was no specification as to when the therapists were supposed to be in the classes or what activities they would do with the learners in class.

Sub-theme 11: Concrete and picture media-based teaching

Participants (92%) reported that they used concrete and picture educational media to teach learners with ASD. This was believed to facilitate teaching of these learners because they primarily relied on visual perception to understand taught concepts and skills and some of them could not read. For example,

“We use a lot of visuals than verbal because they say show but don’t tell me. So, even when I say the physical structure of the classroom, they must know this is the play area, this is eating area, this is relaxing area. I make sure that my classroom has visible demarcations so that they know” (Participant 12).

“We have different pictures of objects. When a child wants bread, he shows me a picture with bread. I give him a piece of bread or whatever the child wants based on

the pictures and objects” (Participant 10).

“We use pictures on our schedules because our learners cannot read but they can relate to pictures. I put little pictures so that they can see it's time for brushing and then snack” (Participant 9).

“We use real objects mostly when teaching food preparation to show them real apples, real sugar. In the dining room during lunch time, they use fork and knife. Of course, when we can't have big objects, that's when we use pictures or photos” (Participant 5).

Participants (92%) were observed teaching learners with ASD using real objects and pictures. These included sticks as counters, car, bus, airplane and train toys, actual toothpaste and brushes, and forks, knives and spoons to set the table. Picture representation was observed in all the reading material and resources of learners with ASD. For example, for the sentence, “The boy comes to school by bus”, there was a picture of boy, a school and a bus. Learners were also seen matching pictures with objects as part of their learning activities. For instance, a picture of a train and a toy train, a picture of an apple and an object representing an apple. Many items in most classrooms were also labelled with colourful visual symbols and learners were observed carrying out daily school activities independently following those symbols. All lesson plans of participants (100%) stated when pictures and objects were to be used during the teaching of learners with ASD. In learners' workbooks, most of their activities included pictorial symbols such as picture sequencing, addition activities with picture representation, matching picture to picture activities and cutting pictures, pasting on shadow pictures and tracing pictures.

Sub-theme 12: Play

Participants (83%) reported that they used play to teach learners with ASD. This included games, puzzles, soccer and boxing. The use of play in teaching learners with ASD was seen to develop social interaction competence in them. For instance,

“Our kids learn best through play. We use the toys that you are seeing in this

classroom to teach them various concepts” (Participant 3).

“We go outside to play. Play to them is difficult. I monitor them and also put everything in place. I tell them what to do until eventually they are able to play with each other” (Participant 11).

“They also play group games like zingo. They also do boxing. This helps them to interact with each other in a different environment” (Participant 12).

Learners with ASD were observed engaging in activities, such as puzzles and games, in the classrooms and playing football during outdoor play in the grounds. Class timetables in participant classes (100%) constituted 45 minutes of playground time every school day. Participants (58%) combined the theme activities with play in their lesson planning. For instance, a bingo game with colourful pictures of different types of transport whereby learners had to look at the picture and identify an object matching to the picture.

Sub theme 13: Social stories

Participants (75%) revealed that they used social stories to teach learners with ASD. Social stories were believed to support learners with ASD to cope with new events, their expectations and changes occurring in their school lives and prepared them in advance. It was also felt that social stories inculcated in learners with ASD social awareness for the navigation of their daily lives.

“I communicate to them the reason why we are no longer going to do a planned activity such as shopping in a form of a story. I will explain to them we will do instead” (Participant 3).

“We may have a social story to say Angeline must not touch there. It shows the hands with a cross on the picture. Angeline can only touch herself here in the toilet when the door is closed and she is alone” (Participant 4).

“In preparing the learners to change classes in the following year, we give them photographs of teachers. They then go to the respective teachers maybe just for 30

minutes during the morning ring. This helps them get used to their teachers in the following year” (Participant 7).

In some of the participant classes (42%), social stories on behaviour expectations, especially the one on touching private parts, were observed on the walls of the classrooms. Throughout the 89 days of observation, several incidents occurred and the use of social stories was evident in most classes. For instance, when the trip to the Gautrain was cancelled, a social story was created, when a shopping trip to Killarney mall was postponed, when keys to the computer room were lost and computer lessons had to be cancelled, when baking ingredients were delivered late and food preparation lesson could not be executed, participants informed and explained to their learners with ASD about all these changes. It was noted in the reflexive journal that some social stories were not planned as most of the incidents happened spontaneously. However, most participants (58%) always had Velcro pictures on a big chart that had all the core events that happen at school and they used these pictures to quickly create social stories in case of these emergencies.

Sub-theme 14: Structured classroom environment

All participants (100%) expressed that they nurtured and sustained structured classroom environments to afford learners with ASD time and space to focus on their individual activities.

“We have workstations for them to work individually. For example, there is this child, he likes plaiting; we do paper craft, so he is good with plaiting. So, he works and finishes all the other tasks so that he can go to the workstation. He works there without any distraction until he is done” (Participant 4).

“They go to individual workstations in the class because we are promoting individualisation. We don’t supervise them at the workstation. They do their own work, but they can ask for help if they are stuck. I have HELP sign if a child doesn’t understand anything, they must put up the sign. We go and assist but, most of the time, we try to let them work on their own” (Participant 7).

“We also have workstations. If a learner is able to do an activity on their own, that’s where they sit. We are able to work with the ones that are left in the group”
(Participant 3).

Upon completion of assigned tasks in specific lessons, learners were observed going to the individual workstations to execute other activities. These included reading words, weaving cardboard, knitting, plaiting newspapers, completing wooden puzzles, addition and/or subtraction using the abacus, buttoning and zipping. Participants (42%) were seen supporting some of their learners carry out their tasks at their workstations. Some of the activities were also presented and written in learners’ workbooks. For instance, in one particular class, a learner was observed reading prepositions with picture representation (on, in, under, over) on flash cards and then completed a worksheet with short phrases which had picture representation as a guideline (in the cup, on the table, under the chair, over the fence) while at his workstation.

Sub-theme 15: TEACCH tasks

All participants (100%) revealed that they used TEACCH tasks to teach learners with ASD. TEACCH tasks afforded learners with ASD teaching that addressed their individual needs. Participants believed that TEACCH tasks were structured and involved the use of several visuals, which promoted the teaching of learners with ASD. For instance,

“TEACCH is about the structure. It is about knowing what to teach to the learner, what you are going to give to the learner and when to give to the learner. For example, I can rote count rhymes one, two, once. I can rhyme caught a fish alive, but the learner may listen, but he can’t communicate. I use visuals to teach him the number. I put numbers one to 10 in sequential form so that he knows this one follows that one and then I let him match one with one, two with two, three with three. This is a TEACCH task before you even go to the number concept of one biscuit and put number one”
(Participant 11).

“With TEACCH tasks, we assign them tasks that involve things that they like so that

they can be interested in doing that activity and according to their level” (Participant 7).

“TEACCH tasks are specific for different learners at different levels of cognitive functioning. A learner who is at concrete level will use concrete objects, a learner at picture level will have tasks that have pictures, and learners who can read will have tasks in text” (Participant 10).

A labelled TEACCH tasks cupboard was observed in each one of the participants' classrooms. Inside the cupboard, there were boxes with different tasks including sorting, sequencing, matching, posting, threading, and lacing. Activities were arranged in order from simple to complex. In some classrooms (42%), learners were observed carrying out TEACCH tasks including picking and pasting different types of transport in a box that matched the colour of the toy, arranging shapes in order from smallest to biggest, sorting different sized cars according to colour and sequencing pictures that tell stories about going on a journey. Learners were observed carrying out these activities individually although some got support from the teachers and the classroom assistants. In other classrooms (68%), learners had individual TEACCH task boxes with their name and picture, which had different activities that met their unique needs. Learners' IEP indicated the same activities with the TEACCH tasks. Class timetables of all participants revealed that TEACCH tasks were scheduled for 30 minutes every day.

6.5.2 Theme: Teaching experiences

All participants (100%) revealed that they had both positive and negative experiences in teaching learners with ASD in their classes and at the school. These stemmed from individual, family, learners and the level of functioning of ASD. Negative experiences reported by participants (75%) included management of learners with ASD, lack of knowledge, family problems and lack of cooperation from home. Participants (25%) expressed that they also had positive experiences in teaching learners with ASD. These included verbalisation, self-independence, reading and writing as well as confidence and leadership roles of learners with ASD.

Sub-theme 1: Cluelessness

Participants (70%) revealed that they did not know anything about ASD when they started working with learners with ASD. They reported feelings of guilt and self-blame. This was because they perceived that they failed to deliver what was expected of them as teachers for learners with ASD.

“Initially, I did not know anything about ASD. I felt like the government was paying me for nothing because I didn’t do what I was expected to do as a teacher”
(Participant 1).

“When I first started here, I was blank. I didn’t know how to work with learners with ASD. I did not know how an ASD classroom looks like” **(Participant 3).**

“Arrgh, it’s difficult, sometimes you feel like this is not for me to teach these kids, I am from a normal school. It was difficult for me to teach these kids. Not knowing is a problem. I was frustrated when I started here” **(Participant 8).**

Participants (58%) were observed using visuals continuously in their teaching but not Makaton signing. Learners were observed just gazing at them, not responding and seemingly lost, as they exhibited a lack of understanding of what was taught. Participants were observed trying different teaching strategies because they appeared unsure of the best teaching strategies. For instance, while teaching the life skill of self-feeding, one participant started by giving the learner with ASD a fork but the learner was unable to feed himself. The participant then gave the learner a tablespoon and it also did not work. Finally, the participant gave the learner a teaspoon. With the support of the participant, the learner fed himself although with difficulty. It was noted in the reflexive journal that participants (68%) were not confident teaching learners with ASD. Participants taught learners with ASD using teaching strategies used in regular classrooms including rote learning, group work, recitation, class discussion and class participation.

Sub-theme 2: Bunking and harm

All participants (100%) revealed that children with ASD presented behavioural challenges in their classes and at school. Learners with ASD were reported to sneak away, escape, run around the special school or go into the central business district of Johannesburg. They also harmed each other during in-class and out-of-class activities. This caused havoc and chaos as every stakeholder of the institution looked for these “missing” learners who, in most cases, were nonverbal hence could not inform the public in the business district that they were lost. Thus, the management of the behaviour of learners with ASD in this respect was believed to be a difficult task.

“Some physically abuse their peers when they are at the playground. Some come back crying and wounded. Even in class, we do not leave them alone because anything can happen” (Participant 5).

“We have learners that run away. It is difficult situation because they are non-verbal. All they do is repeating what that person is saying and we find them in town. We divide ourselves, either a teacher or an assistant in each class we all go out and try to find that kid” (Participant 7).

“They escape at the beginning of the year because some of them change classes. It is when the rate of running away is very high because it could be that the teacher is new, the class is new and they are actually saying ‘I don’t like the class or teacher’” (Participant 4).

Learners with ASD in participants’ classrooms (67%) frequently ran away and were found loitering outside the premises of the participating special school during school hours although there were security guards at the entrance of the institution. It was observed that the school had security gates on the first floor where ECD and foundation phase operated, on the third and fourth floors where the middle phase operated and on the ground floor where the senior and VET phase operated. These were erected to stop learners with ASD from leaving the school premises. Security guards, who were seen at the entrance, were not the employees of the school but for the entire building hence, they did not attend to learners with ASD. Incident record books of the participants

(100%) which constituted date, time, name of learner, incident and action taken, showed that one learner with ASD escaped from the classroom per week, on average.

Sub-theme 3: Family negligence and resources

Participants (58%) revealed that families of learners with ASD presented challenges to them in their teaching of these learners. It was reported that most parents were in denial that their children had ASD, neglected them, had negative attitudes towards them and were divorced. These resulted in a lack of school resources and materials, ill health, emotional upset, food deprivation and tiredness of learners with ASD. This demanded more support from the participants.

“Within the family, there are some challenges because of the disability of the child. Some mothers accept the disability but the fathers can be in denial. Sometimes I stay with the children while the parents are sorting out some issues” (Participant 11).

“Parents deny ASD. At the end of the day, [they] get divorced because one will say your mother bewitched me” (Participant 1).

“Once a sick child is brought to school, am I really not going to focus on the seven other children? My focus is going to be on this child’s health for the day” (Participant 6).

“Some parents just come with the child messed up like that from the car. When you try to talk to them, they just leave the child with you” (Participant 9).

In classrooms of the participants (42%), some learners with ASD were observed putting on dirty uniforms while others were observed appearing hungry, tired, unhappy or uninterested in carrying out any learning activities that participants assigned to them. Some participants (33%) were observed having meetings with parents on the education of their children with ASD. Some participants tried to reach out to the parents of learners with ASD through writing letters in the communication books of learners inviting them to discuss the education of these learners. Nevertheless, the participants did not get

responses from the parents in the communication books of the learners with ASD.

Sub-theme 4: Non-cooperation

Most participants (92%) reported that they did not work well with parents and did not receive the much-needed support in teaching learners with ASD. It was felt that parents were not assisting learners with homework or practising skills taught, did not attend school functions and meetings on drawing up of IEPs for learners with ASD and some parents were just difficult to work with. This was seen to interfere with the progress of learners with ASD as these learners lacked the needed support. For instance,

“Some parents don’t want to cooperate when it comes to homework. We give learners homework to do but parents do not assist them. We so have this TEACCH task for buttoning. We expect them to do it at home but they don’t” (Participant 12).

“Some parents don’t even come for IEP. We give them the dates but they don’t come. They also don’t come for school functions and they don’t even read the communication book” (Participant 4).

“We teach children to brush teeth here at school. We tell the parents and expect them to do the same but they don’t do it. When it’s school holidays or weekend, they go home. We will start afresh when they come back because they do not practise what we teach them at home” (Participant 6).

Learners with ASD in classrooms of participants (33%), whose parents were involved in their education, were observed to be motivated to learn, came to school presentable and appeared healthy and well taken care of. Concerns of the participants (67%) in communication books of learners were not usually attended to by the parents of learners with ASD. These included several requests and reminders to assist their children with ASD with homework. Homework books of learners with ASD (58%) had incomplete work and there were no signatures of parents on such work. IEPs used in the classrooms of the participants (50%) lacked parental goals since the parents had not attended meetings when they were designed.

Sub-theme 5: Behaviour

All participants (100%) expressed that, in teaching learners with ASD, these learners presented behavioural challenges for them, which manifested from the condition. This was reported to include sensory in/sensitiveness, fine motor skills' challenges and antisocial behaviour. These behavioural manifestations of learners with ASD were seen to impede the realisation of desired learning outcomes for these learners, for example,

"We have one learner. He took a kettle of boiling water. He poured the boiling water himself on the leg and he never felt anything. Others bite themselves, head butt themselves against anything and they do not feel any pain. It is difficult to attain educational goals set for them" (Participant 5).

"I have a learner that does not wear woollen material. That's where I picked up the sensory and texture issues" (Participant 6).

"I have one who has behavioural issues. He cannot follow the routine. He wants to do what he wants at his own time. He doesn't want to sit and learn or join morning ring" (Participant 12).

"Fine motor skills, like holding a scissors, is very difficult for them. Sometimes you get frustrated, then you stop the activity and continue the following day" (Participant 8).

Learners with ASD in classrooms of the participants (50%) were observed biting themselves and head butting on the tables. Other learners with ASD were observed standing in isolation in corners of the classrooms. Some learners with ASD were observed refusing to carry out written tasks that participants assigned to them that involved handling messy substances, such as shaving cream, chocolate, jelly and hand sanitiser. In classrooms of the participants (42%), learners with ASD were observed failing to use crayons in colouring because of poor manual dexterity. Lesson plans of participants (83%) indicated that they planned different teaching activities to meet the diverse individual needs of learners with ASD. Participants planned independent or hand-over-hand pedagogical activities and avoided dry or wet substances, soft or rough

surfaces and soft or loud music activities in response to the individual needs of learners with ASD.

Sub-theme 6: Verbalisation

Participants (50%) revealed that they witnessed the verbal development of learners with ASD who were non-verbal when they enrolled in their classrooms that included the imitation of words, expressing of own names and fluent verbal communication. It was perceived that the teaching of learners with ASD who were non-verbal fostered their verbal development. For instance,

“I had a learner who did not speak at first but now he can say his name. He can imitate words” (Participant 8).

“The other one came to my classroom without talking from ECD last year but now everybody is like, ‘what’s happening this one is talking?’” (Participant 1).

“I have got learners who were not even saying a word when they joined my class. But, when I taught them, there was a point when I felt like I wanted to stop them. This is because they sounded like a radio because they just went on and on talking” (Participant 6).

In classrooms of participants (58%), learners with ASD were observed verbally communicating with each other and verbally responding to the instructions of the participants. Some learners in classrooms of the participants were heard singing church songs and saying prayers out loudly. Some learners with ASD in the classrooms of the participants (42%) attempted verbal communication as much as possible although they could not express long sentences. For instance, some learners with ASD were observed and heard saying out phrases like “*me go toilet*”, “*me want bread*” or “*teacher go out*”. Participants (75%) had charts with core words and sight words (e.g., I, to, want, can, you, like, stop, good, in, that, go, with, more, help, need, do, the, put, am, it, on, my, this, see, come) pasted on the walls of their classrooms. The words on these charts had accompanying visual symbols to ensure clarity of their meanings for learners with

ASD. Records of participants (50%) in particular progress record books showed that learners with ASD were improving in language development with the progression of the school terms. Written exercise books of learners with ASD in classrooms of these participants indicated that these learners were developing language. For instance, written exercises of these learners reflected that their performance in language activities was poor at the beginning of the school year in comparison with their performance at the end of the school year.

Sub-theme 7: Self-independence

Participants (92%) reported that learners with ASD in their classrooms developed independent living skills. These included the execution of household chores, self-feeding and toileting. The competency of learners with ASD in independent living skills was seen to foster their acceptance by their families and society. For example,

“Some learners are now able to operate the microwave or prepare some easy to make food like noodles, spreading butter or jam on bread, preparing tea, preparing soup, helping with cleaning of tables, helping with cleaning of classroom or being independent with dressing, brushing teeth or being independent with completing the toilet routine” (Participant 4).

“They are scooping independently. I used to hold their hands to scoop and mix and spread butter and slice bread. This gives me pleasure” (Participant 6).

“For a child who came to class messing himself, and he is no longer doing that, is a success for me. A child who was unable to feed himself, and right now he is able to feed himself, is a success for me. This enables him or her to be liked by the family and societal members” (Participant 2).

Learners in classrooms of participants (75%) were observed carrying out daily living activities independently that included preparing their own breakfast, setting tables for lunch, sweeping the floor, wiping tables after eating, feeding themselves and visiting the bathrooms on their own. Participants (75%) had visible weekly duty rosters on the walls of their classrooms. These weekly duty rosters indicated roles and responsibilities of

individual learners with ASD in these classrooms on specific days of the week. Such roles and responsibilities included emptying the bin, wiping dining room tables and setting the table. Records of participants, in particular the social records, showed that all learners with ASD had specific roles and responsibilities expected of them inclusive of personal grooming.

Sub-theme 8: Reading and writing

Participants (67%) reported that learners with ASD in their classrooms demonstrated improvement in literacy and numeracy. These included reading, writing and counting. It was believed that teaching learners with ASD in special school classrooms intervened on their literacy and numeracy deficits.

“Most of my learners are now able to read and write. When they came, some of them were unable to write but now, they can write” (Participant 10).

“I have a learner who was unable to write but, since he enrolled at this school, he has improved” (Participant 8).

“Some of my children are now able to count, retell the story, some can even write sentences about the story. It’s pleasing” (Participant 9).

Learners in classrooms of all participants (100%) were observed carrying out written language and mathematics tasks in their daily writing exercise books. There were several written activities in literacy, numeracy and life skills in the workbooks. However some learners still needed hand-over-hand assistance. Some learners were observed reading stories with little text independently, but others still needed to see the visuals to be able to read. Records of all participants (100%), including daily lesson plans, constituted daily literacy and numeracy activities including reading vocabulary, word building, addition and subtraction tasks. Evaluations of lesson plans of these participants indicated that learners with ASD needed further reading following a computer programme to improve their literacy and numeracy skills. Workbooks of learners of these participants showed written language and mathematics tasks including

word completion and addition and multiplication.

Sub-theme 9: Confidence and leadership roles

Participants (75%) reported that learners with ASD in their classrooms developed self-confidence in executing societal and school roles and responsibilities. This included addressing the audience on public media, operating the computers independently, identifying colours and serving at public institutions that fostered appreciation and recognition of learners with ASD. For instance,

“We were once invited to a radio presentation. There was a learner in my class who loved reading. I took him to radio 702 to read. I felt like I he had memorised the book because his words were just correct. He read very well” (Participant 6).

“When they go for computers, they now know their passwords and how to log in. I only notify them that we are doing mathematics literacy. They will go choose an activity according to their own abilities” (Participant 3).

“The other parent was saying, ‘I did not know that my son knows colours’. I do not know where they were going but the son said ‘I want blue’ pointing at a blue shirt” (Participant 12).

“I have a boy who is now hired by the school. We taught him a lot of office work including how to use the computer, filing” (Participant 5).

Some learners with ASD in classrooms of the participants (58%) were observed taking control of their peers when the participants stepped out of the classrooms. For instance, in one of the classes, a learner with ASD stood up and continued to engage other learners in a speaking and listening activity of explaining “afternoon news”. Some learners were observed leading in learning activities like brain gym, which involves numbers and words. In other classes of the participants (33%), some learners with ASD initiated group games like “bingo”, roll and dice activities and engaging other learners with ASD. Learners in other classes were, on many occasions, seen making choices during learning activities. For instance, one learner was very particular about the colours

he wanted to use to paint a tarred road and kept looking for black and white paint in all the cupboards. It was noted in the reflexive journal that learners in participants' classes (58%), particularly the low support classes, showed responsibility and were able to manage and be in charge of themselves and their peers. They were seen assisting their peers to go to the toilet, collecting food for them, helping them to choose what they wanted to buy at the school tuck shop and helping them do mathematics calculations such as addition, money and change in the classroom. Record books of participants (67%), in particular, daily lesson plans, showed that learners with ASD were assigned independent assignments across subjects. These included computer based mathematics and language problems and life skills' activities such as laundry and self-grooming.

6.5.3 Theme: Strategies to improve teaching of learners with ASD

All participants (100%) revealed several strategies to enhance the teaching of learners with ASD in special schools. These included training of teachers, teamwork, the provision of requisite resources, fostering awareness of ASD, use of modern technology, individualised teaching, the provision of family support and the use of motivation. Such service provisions were perceived to meet the individuality of learners with ASD in their teaching.

Sub-theme 1: Training

All participants (100%) reported that the training of teachers to teach learners with ASD could enhance the teaching of these learners. They reported that such training needed to include practically oriented pre-service and in-service training of teachers in universities and schools respectively. It was felt that such training could foster in teachers knowledge and information about learners with ASD and strategies to teach these learners.

“At university level, they must include ASD as an initial course for training teachers so that they have the knowledge on how to teach learners with it” (Participant 10).

“We give training here at school for new teachers to understand learners with ASD, how to help them and how to teach them. We train them for a week. Resultantly, they teach well” (Participant 7).

“Every new educator that comes is offered training every term. Teachers require practical training on Makaton and TEACCH and making tasks. We have it every week. All the phases come together every week for training. We also get training from Autism South Africa and GDE is trying to offer something critical in teaching learners with ASD” (Participant 3).

Record books of participants (58%), who had initial and in-service teacher training on teaching of learners with ASD, including social record books, individual progress records, remedial records and daily lesson plans, showed that they addressed the individual needs of these learners in the domains of their teaching. These included the teaching methods, content, environment and assessment. For instance, IEPs that were responsive to the needs of learners with ASD were designed, implemented and evaluated diagnostically and prescriptively. Participants (58%) who had initial and in-service teacher training on teaching learners with ASD were observed managing pedagogical content, process, setting and product/assessment in response to the individuality of learners with ASD. For example, some of the participants (42%) who had initial and in-service teacher training on teaching learners with ASD were observed teaching these learners forms of transport using objects, pictures and text simultaneously as pedagogical media in response to the diverse needs of these learners and to promote their mastery of the subject. Other participants (16%) who had initial and in-service teacher training on teaching learners with ASD were observed teaching traffic lights to learners with ASD through song and dance, and using a colour chart with primary and secondary colours to teach colours to learners with ASD. This was seen to address the diversity of learners with ASD in special school classrooms. Participants (58%) who had initial and in-service teacher training on teaching learners with ASD were observed demonstrating competence in managing the teaching and learning content, methods, product and environment in response to the diverse needs of these learners, using Makaton and TEACCH. These participants were seen using multi-

sensory, hands-on, individualised, pair, trio and group work teaching and learning activities as and when necessary in response to the individual needs of learners with ASD. The record books of participants who had initial and in-service teacher training on teaching learners with ASD were seen to constitute differentiated teaching and learning subject matter, activities and media. The workbooks of the learners of these participants constituted individualised and whole class assignments, which included open-ended tasks and close-ended tasks. Inversely, participants (42%) who lacked initial teacher training on teaching learners with ASD demonstrated a lack of competence in addressing the diversity of these learners. For instance, in one class, a participant was observed focusing his teaching on only learners with ASD who were verbal while those with the condition, who were non-verbal, were not the focus of his attention. In another classroom, a participant was observed just reading from the book with no visual symbols or objects to concretise the story and some of the learners with ASD were not even paying attention because it was too abstract. The reflexive journal revealed that teachers require pre-service and in-service training constituting the theory and practice of teaching learners with ASD in order to teach these learners. Such training could include what ASD is, behavioural manifestations of ASD and management with respect to teaching and learning methods, content, environment and assessment.

Sub-theme 2: Resources

Participants (92%) revealed that the provision of resources of the government and district could improve the teaching of learners with ASD. Such resources were reported to include technology, facilities, materials, time and finance. These resources were perceived to facilitate interactive teaching and learning as well as individualised teaching and learning of learners with ASD. For example,

“In order to improve teaching learners with ASD, we need lots of resources, like smart board, time, lots of hand-over-hand facilities and Learner Teacher Material Support must be enough” (Participant 12).

“The government and the district can really be instrumental in providing finance,

appropriate resources. Remember, we use individualised and collaborative learning activities interchangeably in teaching learners with ASD” (Participant 11).

“We need a proper school building. As you can see, we are a bit squashed. We share space and the playground with the public” (Participant 3).

“If schools are built for learners with ASD, they should be vocational with all equipment. If it is time to cook, children should see the full process” (Participant 6).

Spacious classrooms were observed to facilitate ease of mobility of learners with ASD and the teacher participants. Transitions, from group sitting arrangement to individual workstations of learners with ASD within participating classrooms (100%), was observed to be flexible because of this spacious setting. Teaching and learning materials, facilities and resources, including textbooks, Makaton books, worksheets, charts and computers, in classrooms of participants (58%) were seen to facilitate teaching and learning of learners with ASD, for instance, using mathematics computer programmes. Learners with ASD were observed learning independently, for instance, browsing on the internet. Daily lesson plans of the participants (58%) constituted teaching and learning activities that included the use of concrete and pictorial media, including counters. It was noted in the reflective journal that participants (42%) did not have enough resources to use to teach learners with ASD. For instance, in one class, three learners shared a Makaton book. In another classroom, learners with ASD took turns to do a spelling activity on the computer because they had one computer for the whole class. In another classroom, they waited for a radio to listen to rhymes as it was being shared among classes within the phase.

Sub-theme 3: Parents

Participants (67%) reported that parental involvement and participation could improve the teaching of learners with ASD. Parents who were involved in the education of children with ASD were able to afford these children learning resources, implement school interventions at home, inform teachers on the needs of these children and receive guidance and counselling from teachers on the etiological foundation of the

condition and the lack of treatment for it. Thus, it was believed that parental involvement and participation in the education of children with ASD could promote diagnostic and prescriptive teaching of these children.

“Learners whose parents are hands-on in school activities perform better compared to those whose parents are not” (Participant 4).

“There are parents that are 100% involved in children’s learning. So, the teachers play their part at school and they play their part at home. The children of these parents perform well” (Participant 9).

“Teachers and parents must work together to teach children with ASD. We do not have to break that chain because we have to assist the parents to realise that their children with ASD were not bewitched make them understand that there is no cure for it” (Participant 1).

Record books of participants (8%) indicated that parents who worked in collaboration with teachers facilitated the holistic development of learners with ASD. The intervention record books of teachers constituted teaching strategies that addressed the educational, social and career needs of learners with ASD that were based on the information provided by the parents of these learners. Homework books of learners with ASD that had the signatures of their parents revealed that these learners were doing well owing to the support provided. Social record books indicated that participants guided and counselled parents of learners with ASD and had recorded the positive development of these parents, including their willingness and commitment, to provide these learners with resources, including uniforms and pens, and attending school meetings as well as taking up relevant roles and responsibilities. In participants’ classrooms (8%), parents were observed to support the learning of their children with ASD with various teaching resources. These included old magazines and newspapers for art and craft, wool for knitting skills, empty tins to use as skittles during physical education, bottle tops for addition and subtraction in mathematics. Learners with ASD in classrooms of these participants were seen using these resources in teaching and learning.

Sub-theme 4: Awareness

Participants (58%) revealed that fostering knowledge and information about learners with ASD among stakeholders, including parents and communities, through awareness campaigns could improve the teaching of these learners. It was reported that such awareness campaigns needed to be provided using public media inclusive of TV and radio. Mounting of awareness campaigns about learners with ASD for stakeholders was felt to promote their involvement and participation in the teaching of these learners. For instance,

“We need to spread the word to the community that we have kids with ASD at school because some are still being kept at home as we speak” (Participant 1).

“If the parents learn more about these kids, they are more involved, they are more hands on. ASD can be known in our communities because these parents are coming from the communities” (Participant 2).

“When we use the media, the information will be disseminated to many people. If we have programmes on television or radio, every day many people will get the information on ASD and have positive attitudes about it” (Participant 10).

Record books of participants (8%) inclusive of social record books, remedial records and intervention books showed that learners with ASD whose parents were involved in their teaching progressed in educational and social domains. For instance, such parents attended IEP meetings, were involved in school meetings, consulted and engaged with the teachers and were always willing to try new tasks with their children while following instructions from the teacher, as revealed in communication books. Learners with ASD whose parents were observed at the participating institution engaging with the participants (8%) were seen to improve in various domains of learning at home and at school, including academic achievement and social interaction.

Sub-theme 5: Support

Participants (75%) revealed that support of stakeholders could improve the teaching of

learners with ASD. Such stakeholders were perceived to include school administrators, family and siblings. Support of stakeholders was believed to afford psychosocial assistance to teachers and parents of learners with ASD and to foster social acceptance and support of these learners by their typically developing siblings. For instance,

“Support from authorities is very important. Staff need support and it seems nobody cares; they earn a salary at the end of the month. Teaching these children takes a lot out of teachers. They have to be emotionally stable and patient. They need support, even compensation is very important” (Participant 9).

“There are days that parents come to attend courses and support each other” (Participant 7).

“For learners with ASD, sibling and family support is important. They must know that we have a brother or a sister that is not like us to support him or her” (Participant 1).

Records of participants (60%) including social records, progress records and evaluation records, who worked in collaboration and discourse with other stakeholders, inclusive of therapists, social workers, head of department, school administration and guardians, showed that learners with ASD performed better in all aspects of learning at the school. Participants (42%) who were observed working in collaboration and discourse with other stakeholders were seen to improve the teaching and learning of learners with ASD. During the 89 days of non-participant observation, three parent and sibling support group meetings were held at the school. This was seen to assist parents in learning about ASD, its characteristics and management to facilitate their working together with teachers in the development and progress of their children with the condition at the participating institution. During informal conversations with participants (50%), they mentioned that, in these meetings, parents shared their positive and negative experiences, including stigmatisation from other members of the society and appreciation by other members of the society that allowed them to learn from each other about learners with ASD. Records of participants, particularly parent registers, revealed that some parents attended courses on Saturdays to learn about Makaton signing and

management of learners with ASD. This was recorded as educating them on how to communicate with their children with ASD at home and assist them with homework and after school activities. Teachers held their own meetings per phase to discuss and share experiences with these learners once a week, on Tuesdays, as revealed in the calendar of activities of the school. This was recorded to educate them various ways to manage and teach learners with ASD by gleaning from their colleagues' experiences according to the intervention record books of the participants. It was noted in the reflexive journal that the principal, vice principal, social worker and therapists did not take part in these support groups but instead delegated the head of phases to lead these discussions and then report to them. This was seen to impede the progress of learners with ASD as decisions regarding teaching, learning and development of these learners would be delayed. All participants (100%) criticised this arrangement as they felt everyone involved with these learners should support each other and be part of every meeting to ensure the improvement and progress of learners with ASD at the school.

Sub-theme 6: Knowing individual learners

Participants (92%) reported that teachers' knowledge and information on individual learners with ASD, including their individual levels of cognitive functioning, interests and capabilities, could improve the teaching of these learners and facilitate their provision of child-centred pedagogy to these learners, for example,

"If you don't know the level of the learners, you can't do anything. At the end of the day, you have many activities in front of them. It will frustrate you because you don't know how to teach them" (Participant 1).

"We take into consideration their likes and dislikes" (Participant 9).

"We look at the learners as individuals. Knowing the strengths and weaknesses helps us to teach them from the known to the unknown" (Participant 11).

Record books of participants (63%), particularly progress and evaluation records,

showed that teachers who knew their learners with ASD as individuals taught them according to their needs and abilities. IEPs of these participants showed that learners were doing different activities according to their abilities and interests. In their lesson planning, it was evident that participants started with basic simple activities before progressing to complex tasks. These various learning activities, which were included in their lesson plans, were suitable for the level of learners and what they were able to do. For instance, a lesson plan for counting from 1 to 10 in the ECD phase indicated that they started with counting objects, then associated numbers with objects, and then finally identified the numbers without the objects. Participants (63%) were observed assigning learners tasks according to their likes, capabilities and levels of understanding. For instance, in a class with learners with low support needs, a learner who was obsessed with cars was seen doing addition using small toy cars as counters and seemed to enjoy his task. In a class with learners with medium support needs, learners were observed doing a sequential story using cartoon pictures and actively participating because all the learners were fond of cartoon characters. In a class with learners with low support needs, learning activities involved rhymes and songs as the learners found peace and calm in music.

Sub-theme 7: Life skills

Participants (83%) reported that the adoption of life-skills oriented approach could improve the teaching of learners with ASD. Such an approach was perceived to include linking the teaching of learners with ASD to their daily life, practical subjects and careers of their own choice. This was believed to foster in learners with ASD independent living and self-sustenance. For example,

“Teaching them 20+20 it doesn’t make sense to them because they are not even going to use such things in their lives. Instead, teach them shopping, gardening, cooking and washing clothes. These are the things that will be best for them to become more independent” (Participant 10).

“The curriculum should be designed in such a way that most of the time they could

be out doing practical subjects like food and nutrition. They can prepare food and have a laundry room to wash. They can even have motor mechanics workshops” (Participant 5).

“If we look at life skills that they can do, they will be able to do those skills and earn a living” (Participant 2).

All participants (100%) were observed teaching learners baking and food preparation skills on different days, according to their classroom timetable. Such skills included making sandwiches with different fillings, including tuna, butter, jam, tomato and lettuce, making fruit salad, juice squeezing, frying eggs, making popcorn, making jelly and making a vegetable salad. Participants were also observed teaching learners with ASD self-help skills, including toileting, personal grooming and washing dishes. Records of participants (100%) in particular daily lesson plans showed that baking and food preparation activities were part of the weekly learning activities at the school. Class timetables of all participants indicated that baking and food preparation was allocated one hour once a week. The reflexive journal revealed that baking and food preparation activities were done in the classrooms, as the school did not have enough rooms to create kitchens that would accommodate all classes.

Sub-theme 8: Technology

Participants (89%) reported that the use of information and communication technology could improve the teaching of learners with ASD. Information and communication technology was reported to include computers with internet access, assistive devices and talking toys. The use of information and communication technology was felt to give learners with ASD a voice and ability to express themselves independently, for instance,

“I think teachers need to have a lot of access to the internet since we don’t have a lot of textbooks like the so-called normal schools. For us to be resourceful, we need computers with printers for preparation of teaching resources” (Participant 4).

“Since some of these pupils cannot talk and even write, we can have assistive devices for them to simplify their learning” (Participant 5).

“I want toys that talk because there are AAC equipment that will really help with respect to independent learning and functioning of learners with ASD” (Participant 11).

Participants (65%) were observed using modern assistive devices, such as iPads and Talkers, to aid the communication of learners with ASD. This was seen to facilitate communication during teaching and learning especially with those learners who were unable to sign or understand Makaton. The availability of internet access facilitated learning as all participants googled and downloaded different teaching and learning activities. All participants (100%) used a photocopying machine to get copies of their worksheets. Records of participants (50%), particularly lesson plans, incorporated technology in the teaching of learners with ASD. It was noted in the reflexive journal that a wide range of new technological devices aid communication of learners with ASD, which is an important aspect of their teaching.

Sub-theme 9: Reinforcement

Participants (75%) revealed that they positively or negatively rewarded learners with ASD according to what motivated, encouraged and kept them focused during teaching and learning or what inhibited their negative behaviour. Participants reported that they used these interest-based rewards to maintain good behaviour in the classroom, for instance, awarding learners free play while doing any activity of their choice. Participants reported that the use of reinforcement could enhance the teaching of learners with ASD. This included free play, computer time, games, puzzles, drawing and colouring, for example,

“To keep these learners focused, you have to know what they like most. To achieve the learning goals, it is much easier when you give them an activity, then you reward them with what they like most. They will quickly work on an activity to finish it because they want to do their activity that interests them” (Participant 5).

“When we reward them, we need to use something that they like because this encourages them to do well” (Participant 7).

“As a way of motivating learners, we give them rewards or activities that they like. But, for those who behave badly, you can withdraw what they like and they reform”
(Participant 10).

Participants (67%) were observed rewarding learners with computer playtime, video games, drawing puzzles, watching cartoons, colouring and weaving newspaper sticks after they had finished an activity or if they behaved well. They also used these rewards to motivate these learners. For instance, they would tell learners that, if they complete an addition task in mathematics, they would be rewarded with computer playtime or any fun activity of their choice. In participants' classes, reward star charts were visible on the walls. If learners performed well, they would get star stickers next to their name and whoever gets the most stickers would be rewarded at the end of the day or week. Records of participants (75%), including progress and social records, indicated that learners who performed and behaved well were mostly rewarded with own choice activities of their interest. This was seen to motivate them further into working harder and maintaining the good behaviour.

6.6 Conclusion

The current chapter presented and analysed findings of the present study on teaching strategies for learners with ASD at a special school in Johannesburg East District in Gauteng Province of South Africa. The school context was discussed. Biographical information of participants was presented and analysed. Findings of the study were presented under three themes, namely, teaching strategies, teaching experiences and strategies to improve teaching. Sub-themes that emerged under teaching strategies included routine pre-learning activities, classroom-based morning assembly, life-based teaching, fixed and surprise visual schedules, physical activities-based behaviour management, curriculum adaptation, active learning, Makaton and speech, concrete and media based teaching, class assistant support, therapist support, social stories, play, structured classroom environment and TEACCH tasks. Cluelessness, bunking and harm, family negligence and resources, non-cooperation, behaviour, verbalisation, self-independence, reading and writing were sub-themes that emerged under teaching

experiences. Strategies to improve teaching of learners with ASD included training, resources, parents, awareness, support, pedagogy, life skills, technology and reinforcement. The following chapter presents a discussion of the findings.

CHAPTER 7: DISCUSSION OF FINDINGS

7.1 Introduction

Embedded in the capability approach, the present interpretivist/constructivist qualitative single case study explored the teaching strategies for learners with ASD at a special school in Johannesburg East District in the Gauteng Province of South Africa as the context for proposing strategies to enhance the teaching of these learners. The previous chapter presented and analysed the findings of the study organised around the three themes that were derived from sub-research questions of the study and the sub-themes that emerged from the respective themes. The current chapter presents a discussion of the findings of the study based on these themes and sub-themes. The themes are teachers' strategies for teaching learners with ASD; teachers' experiences in teaching learners with ASD; and strategies to enhance the teaching of learners with ASD. The discussion is presented embedded in the theoretical framework that underpinned the study, namely, the capability approach and the reviewed related international and South Africa literature on the focus of the study.

7.2 Teaching strategies for learners with ASD

The current section discusses teachers' strategies for teaching learners with ASD revealed in the findings of the present study. This section specifically addresses the sub-research question, written in section 1.5.2 which reads: How do teachers teach learners with ASD at a special school in Johannesburg East District in Gauteng Province of South Africa? The discussion is presented with reference to the reviewed related international and South Africa literature on the subject using the capability approach as the theoretical framework.

In teaching learners with ASD in special school classes, teachers rigidly adhered to routine daily classroom pre-learning activities, including welcoming and feeding these learners. This finding resonates with the capability approach, which requires teachers to provide learners with structured and predictable teaching and learning environments to

facilitate the development of their capabilities and functionings (Chiappero-Martinetti & Venkatapuram, 2014). Similarly, a qualitative study of Majoko (2017) found that teachers presented learners with ASD in Zimbabwe with clear routines of daily expectations, activities, roles and responsibilities for successful teaching of these learners. In the same vein, past research shows that teachers need to expose learners with ASD to meaningful and predictable teaching routines to avoid meltdowns of these learners for their effective teaching (Landsberg et al., 2012). Thus, teachers' exposition of learners with ASD in special school classes to the same daily pre-learning activities can foster in these learners readiness to learn in these settings. Teachers rigidly adhered to the provision of pre-learning material and resources, including sitting blocks, to learners with ASD in special school classes to teach these learners. Similarly, the capability approach is founded on the premise that learners require necessary material and physical resources to learn and allow them to achieve functionings of their choice (Dalkilic & Vadeboncoeur, 2016). The foregoing finding aligns with a previous qualitative study by Edwards (2015) that found that teachers in Tanzania ensured the availability of adequate and relevant teaching and learning resources for pedagogy of learners with ASD in their classes. In the same vein, Lindsay et al.'s (2014) qualitative study on Canadian teachers found that the availability of resources enabled these teachers to ensure the teaching of learners with ASD as they could address the individuality of these learners. Thus, the pooling of necessary equipment promotes the teaching of learners with ASD in special school classes.

In teaching learners with ASD, teachers supported these learners, including accompanying them to the bathrooms, depending on their individual needs. The capability approach is also grounded in teachers' addressing of diversity of learners in pedagogy to aid the development of their capabilities and functionings (Norwich, 2014). This finding is consistent with past research that found that teachers need to consider the individuality of learners with ASD to successfully teach them (Majoko, 2019). Previous research, similarly, established that addressing the full range of needs of learners with ASD underpins the successful teaching of these learners (Mendel, 2010) and requires teachers to use individual needs based approaches that address the

diversity of these learners.

In teaching learners with ASD, teachers used classroom based morning assembly that entailed gathering these learners in their respective classrooms every morning of every school day at the same time. This finding is consistent with the capability approach, which posits that learning can take place in any environment as long as the learners are provided with support for them to achieve their capabilities (Underwood et al., 2012). Similarly, a mixed approach study by Ngara (2014) in New Zealand found that teachers promoted the teaching of learners with ASD in any classroom environment in the absence of distractive stimuli. In the same vein, previous research demonstrates that the elimination of irrelevant stimuli within a learning environment affords learners with ASD the opportunity to focus their attention on teaching (Smith, 2012). The use of classrooms, instead of the traditional open air spaces, as assembly points in special schools can promote the teaching of these learners in these settings.

Teachers taught learners with ASD diverse activities based on daily issues and activities including days of the week and weather to foster their independent living and cope with the content taught as well its mastery and application. The embedment of teaching in the daily lives of learners with ASD can improve their independent functionality. The capability approach also acknowledges the diversity of individuals and the relationships between their valued functionings and capabilities (Dalkilic & Vadeboncoeur, 2016). Similarly, in Zimbabwe, a qualitative study by Majoko (2017) established that teachers adapted pedagogical activities to meet the diverse and unique needs of learners with ASD in their classes. Past research found that teachers' implementation of educational activities that are responsive to the diverse needs of learners with ASD facilitates the teaching of these learners (Able et al., 2015). Teachers taught learners with ASD in the morning before they were exhausted. The capability approach also postulates that, in order for individuals to flourish in a positive way, they need to be awarded opportunities to realise their capabilities (Norwich, 2014). Similarly, previous research established that teachers need to strategically time their delivery of lessons to learners with ASD (Majoko, 2016) and that adopting innovative strategies

facilitates teaching learners with unique needs (Florian & Black-Hawkins, 2011). Thus, timed teaching can promote the learning of learners with ASD in special school classes.

Teachers grounded the teaching of various subjects to learners with ASD, including maths literacy, computers and physical education, to the daily living of these learners including business transactions. This finding resonates with the capability approach, which requires teachers to provide holistic educational opportunities for learners for their well-being and optimum functionality in their daily existence (Mitra, 2014). Similarly, a qualitative study in Canada by Lindsay et al. (2014) found that teachers capitalised on capabilities of learners with ASD in their contexts as a basis for pedagogy of these learners while Majoko (2017) established that teachers in Zimbabwe based their teaching on the strengths and contexts of learners with ASD. Grounding the teaching of learners with ASD in their life and capabilities is foundational in their learning.

Teachers used attractive fixed individual and group schedules in teaching learners with ASD in response to the needs of these learners, which fostered their clarity of expectations and ultimate calmness. The capability approach postulates that teachers should nurture the teaching environment to cater for the individual needs of learners, based on their capabilities (Robeyns, 2007). Similarly, Knight et al. (2014) established that visual schedules promote independence and behaviour of learners with ASD during transitions and changes. Similarly, a quantitative study by Macdonald et al. (2018) in the USA found that the use of visual schedules yielded a positive effect on the behaviour of learners with ASD. Teachers' use of attractive schedules in teaching learners with ASD in special schools is a point of departure from the current practices in teaching these learners in different countries. For instance, Majoko (2018) established that the use of attractive schedules in teaching learners with ASD distracts the learning of these learners. Thus, creativity and innovation of teachers, instead of their adherence to traditional practices, can facilitate the teaching of learners with ASD.

Teachers prepared learners with ASD in advance for any changes in their schedules to prevent outbursts. The capability approach is also founded on the premise that educational practices must be open to change for certain learners' functionings because

of their diverse nature and capabilities that can change at any time (Dalkilic & Vadeboncoeur, 2016). Past research also reveals that visual schedules support learners with ASD to be aware of upcoming events using pictures, without any prompting, and to engage in acceptable behaviour (Sterling-Turner & Jordan, 2007). Past research demonstrates that, in South Africa, teachers use visual schedules in classes, which facilitate awareness of upcoming events, and changes that occur in the activities of learners with ASD in their classes (Enock, 2011). Teachers' flexible use of visual schedules facilitates teaching of learners with ASD in special school classes.

In teaching learners with ASD, teachers implemented various individualised behaviour management strategies, including music and physical activities that expended the energy of these learners and eliminated tension, meltdowns and tantrums. Similarly, the capability approach advances that any factors fundamental in clarifying situations, which may have an effect on an individual's ability to achieve specific goals, must be taken into account (Robeyns, 2005). This is inconsistent with a qualitative study by Lindsay et al. (2014) who established that teachers in Canada provided learners with ASD with manipulative toys, which retained their focus, prevented behaviour outbursts and reduced their stress. Previous research also demonstrates that, by simply explaining the changes in routine to learners with ASD in Zimbabwe, teachers avoided meltdowns of these learners (Majoko, 2017). Enock (2011) also established that, in South Africa, teachers perceived that putting pictures on the class timetable reduced anxiety, outbursts, and panic modes of learners with ASD in their classes. Thus, simple environmental adaptations can promote positive behaviour in learners with ASD, which can make their teaching more effective. In teaching learners with ASD, teachers adapted the curriculum to the individual learning needs of these learners to meet their levels of support needs. The capability approach also requires teachers to provide various possibilities that meet the unique needs of diverse learners and promotes their achievement and success in education (Robeyns, 2014). This finding is consistent with past research, which found that, in teaching learners with ASD, teachers need to modify curriculum activities to suit the individual unique needs of these learners (Lynch & Irvine, 2009). Teachers in this study adapted the curriculum to the individual learning

characteristics of learners with ASD inclusive of the tempo of learning to facilitate their understanding and active participation in different learning activities. The capability approach also reveals that teaching should be based on what learners are able to do to realise their individuality (Robeyns, 2014). Lindsay et al. (2014) established that, when planning individual tasks for learners with ASD, teachers in Canada maintained flexibility and creativity. The adoption of a spiral approach in teaching learners with ASD in special school classrooms promotes conceptualisation and motivation of these learners in these settings.

Teachers used child-centred pedagogy including role-play and drama that drew the attention of learners with ASD. This finding resonates with the capability approach, which requires teachers to adopt a needs based approach to teaching that puts the individuality of learners at the centre to facilitate the development of their unique potentialities (Mitra, 2014). Similarly, Crosland and Dunlap (2012) established that, because of the behavioural characteristics of learners with ASD, the use of prompts is necessary when enforcing instructional routines and behaviour to evoke academic and behavioural activities for these learners. Inversely, Sivaraman and Fahmie (2018) established that learners with ASD do not always need to be prompted to learn. Thus, the use of child-centred pedagogy is integral in teaching learners with ASD. Teachers used Makaton and speech to teach learners with ASD that also fostered communication between verbal and non-verbal learners with ASD. This finding aligns with the capability approach that is founded on fostering communication between verbal and non-verbal learners to encourage social development of these learners (Sen, 2009). Past research also reveals that teachers are required to foster communication and increase interaction among learners with ASD (Lindsay et al., 2013). Similarly, Majoko (2017) established that teachers in Zimbabwe used words with actions and sign language to teach learners with ASD to communicate. Thus, exposition of verbal and non-verbal learners with ASD to Makaton and speech as a universal means of communication promotes their use of expressive and interactive verbal language.

Teachers relied on class assistants who enabled them to manage the behaviour of

these learners and took charge of them in their absence. Consistent research found that, in North West England, teacher assistants mainly assisted learners with ASD to stay focused and follow instructions during teaching (Symes & Humphrey, 2011). Similarly, previous research reveals that a shadow aide in Malaysia helps learners with ASD to adapt in learning environments and lessens the burden on the teachers (Busby et al., 2012). Teaching learners with ASD requires teachers to have class assistants. Contrarily, Adamowycz (2008) posits that the presence of assistant teachers in classrooms in the USA restricts the much-needed interactions between teachers and learners. Previous research also reveals that learners who have teaching assistants in mainstream secondary schools in England receive less attention from their teachers, underperform academically and appear isolated from their peers (Symes & Humphrey, 2011). Furthermore, that the presence of a teaching assistant meant that learners with ASD were less likely to work independently and be socially included (Symes & Humphrey, 2012).

Teachers shared roles and responsibilities with their class assistants, including accompanying learners with ASD to the toilets and feeding them. The capability approach also underscores the fundamentality of supporting individuals to do what they can based on their strengths (Nussbaum, 2011). Lindsay et al. (2014), similarly, established that the provision of support to teachers from different professional fields, inclusive of teaching assistants, improved the teaching of learners with ASD in Canada. Emam and Farrell (2009) also found that the interrelations between teacher assistants, teachers, and learners in the classroom strengthen performance of learners with ASD in the UK. Past research indicates that the provision of paraprofessionals in mainstream classes enhances the teaching of learners with ASD in South Africa (Roberts, 2007). Thus, teaching learners with ASD requires extra support in the form of class assistants to support teachers in delivery of services to these learners.

In teaching learners with ASD, teachers received the support of therapists who provided physical and speech therapy to these learners that improved their functioning in physical, speech and behaviour domains. The capability approach also considers such

educational developments as an enhancement of individuals' freedom to do and to be what they value (McCowan, 2011). Previous studies in Israel demonstrate that the provision of qualified personnel in the classrooms facilitates effective functionality and cooperation between teachers and learners with ASD (Eldar et al., 2010). Speech therapists supported teachers with strategies for teaching learners with ASD. The capability approach is founded on the premise that learners require individualised support, which meets their diverse needs (Norwich, 2014). Lindsay et al. (2014) posit that the provision of assistance to teachers from professional fields, such as therapists in Canada, is fundamental in improving teaching of learners with ASD. Past research reveals that teachers consult and collaborate with therapists when planning learning programmes for learners with ASD according to their individual and unique needs (Kaweski, 2011). Teachers require the support of other professionals to tap strategies for teaching learners with ASD.

In teaching learners with ASD, teachers utilised concrete and picture media as these learners primarily relied on visual perception to understand taught concepts and skills as some of them could not read. In line with the capability approach, the amount and quality of resources provided to learners are instrumental in promoting their realisation of their capabilities (Chiappero-Martinetti & Venkatapuram, 2014). The foregoing finding aligns with previous research, which found that teachers in Swaziland use pictures to support learners with ASD to communicate effectively during lessons (Thwala, 2018). Previous research established that learners with ASD require consistent and concrete objects and stimulation in the form of PECS in their teaching (Oren et al., 2007). Heflin and Alaimo (2007) found that the use of picture media (PECS) during teaching of learners with ASD fosters in them the ability to recognise meaning through visuals rather than recall. Past research demonstrates that, in South Africa, teachers use visual cues in the form of PECS to improve learners' verbal utterances, communicative intent and requests (Travis & Geiger, 2010). Picture media harnessed from the locality of school facilitates teaching of learners with ASD.

Teachers used play, inclusive of games, puzzles and building blocks, which developed

social interaction competence in learners with ASD. The capability approach also requires teachers to use strategies that warrant the possibility of expanding individual capabilities (Hoffman, 2006). Consistent evidence reveals that play allows children with ASD to capitalise on their natural interests while moulding behaviour and promoting learning (Davidson, 2015). Kalyva and Avramadis (2005) also found that weekly circle of friends sessions, involving games and singing, increase and improve social interactions between learners with ASD and their typically developing peers. Similarly, a qualitative study by Pang (2010) established that play sessions reduce behavioural problems and promote social interaction of children with ASD. Teachers' use of a natural tendency of learners with ASD, particularly play, facilitates the teaching of these learners.

In teaching learners with ASD, teachers used social stories to support these learners to cope with new events, expectations, and changes that occur in their lives or at school and foster in these learners social awareness and the navigation of daily life. This finding resonates with the capability approach, which also requires teachers to present possible practical opportunities, which allow individuals to realise their valuable doings in their daily lives (Chiappero-Martinetti & Venkatapuram, 2014). Similarly, Schneider and Goldstein's (2010) qualitative study established that the use of individualised illustrated social story in an educational setting promoted improvement in target behaviour in learners with ASD. Sansoti and Powell-Smith (2006) found that the use of social stories to teach social skills to learners with ASD facilitates improvement in their behaviour that is similar to their typically developing peers. Embedment of teaching of learners with ASD in their social life activities, including social stories, promotes the teaching of these learners.

In teaching learners with ASD, teachers nurtured and sustained a structured classroom environment, which afforded these learners time and space to focus on their individual activities while working in stations. The capability approach also postulates that environmental conversion factors influence an individual's ability to achieve "beings and doings" (Robeyns, 2005). The above-mentioned finding is consistent with Hume et al. (2012) who established that there was an improvement in the accuracy of tasks and a

decrease in prompting by the teacher when learners worked on individual work systems. Previous research also found that there is an increase in on-task behaviour and a decrease in prompting when work systems are in place (Hume & Odom, 2007). Teachers' structuring of classrooms can promote the teaching of learners with ASD.

In teaching learners with ASD, teachers used TEACCH tasks that were structured and involved the use of several visuals, which afforded these learners learning opportunities that addressed their individual needs. The capability approach also advocates for practices that support agency and diversity by increasing classroom participation of learners to achieve the functionings that they value within their capabilities (Dalkilic & Vadeboncoeur, 2016). Past studies also indicate that the TEACCH approach accommodates learners' abilities, needs, interests, strengths, and weaknesses by providing visually clear instructions (Landsberg et al., 2012). Similarly, a qualitative study by Braiden et al. (2012) established that learners with ASD in Ireland indicated increased improvement in expressive and receptive language skills after administering the TEACCH approach. The use of research evidence based practices promotes the teaching of learners with ASD.

7.3 Teachers' experiences in teaching learners with ASD

This section discusses the findings of this study on teachers' experiences in teaching learners with ASD. The discussion is presented with reference to the reviewed related international and South African literature on the sub-research question embedded in the theoretical framework of the study, namely, the capability approach. This section specifically addresses the sub-research question of the study written in section 1.5.2 of this dissertation, which reads: How do teachers experience teaching learners with ASD at a special school in Johannesburg East District in Gauteng Province of South Africa?

Teachers had both positive and negative experiences in teaching learners with ASD. This finding aligns with previous research, which found that teachers in Israel experienced success and failure in teaching learners with ASD (Eldar et al., 2010). Similarly, past research has established that in Australia, teachers also have both

positive and negative experiences in teaching learners with ASD (Soto-Chodiman et al., 2012) while Majoko (2018) established that teachers experienced individual and systemic facilitators and barriers in teaching learners with ASD.

On their initial recruitment to teach at the special school, teachers lacked knowledge and skills to teach learners with ASD. This is inconsistent with the capability approach, which postulates that factors inclusive of knowledge and skills are fundamental in influencing the realisation of individual capabilities (Chiappero-Martinetti & Venkatapuram, 2014). The above-mentioned finding is consistent with previous research, which found that teachers in Kenya have difficulties when teaching learners with ASD due to a lack of professional knowledge and skills (Mwendo, 2011). Similarly, past research found that, in the USA, teachers lack the appropriate professional dispositions and competencies to teach learners with ASD (Goodrow, 2016). Thus, the professional development of teachers can bridge their lack of training in teaching learners with ASD. In teaching learners with ASD, teachers had feelings of guilt and self-blame, as they perceived that they failed to teach these learners as was expected of them. This finding contradicts the capability approach, which enlists and entitles education as a basic capability, which is necessary for human welfare and development that teachers should effectively deliver to learners (Sen, 1999). The foregoing finding resonates with Edwards' study (2015) which established that teachers in Tanzania had limited knowledge of teaching learners with ASD. Similarly, past research found that, in Ethiopia, teachers lack knowledge and understanding about ASD and are unsure of how to manage the teaching of learners with the condition (Tekola et al., 2016). Past studies indicate that teachers in South Africa experience feelings of despair and hopelessness because they have poor results because learners with ASD do not perform well academically (Waber, 2013).

Teachers used trial and error in teaching learners with ASD because they implemented different teaching strategies experimentally. This finding contradicts the capability approach, which advances that, for individual capabilities of learners to be achieved and to flourish, teachers need to afford them an opportunity to expand their freedoms though

internal and external factors (Sen, 1999; Chiappero-Martinetti & Venkatapuram, 2014). The foregoing finding is also inconsistent with Soto-Chodiman et al. (2012) who established that teachers in Australia overcome their individual feelings of discontent and annoyance towards learners with ASD based on experience without prior training. Similarly, Lindsay et al. (2013) found that learners with ASD pose a challenge to teachers who have an obligation to teach them with very little or no training.

Teachers had difficulties in the management of the behaviour of learners with ASD, including the non-attendance of lessons and harming each other that resulted in havoc and chaos at the special school. Previous research also demonstrates that teachers in Canada found it challenging to manage meltdowns of learners with ASD as they lacked understanding of the management of these learners during teaching (Lindsay et al., 2013). Similarly, past research demonstrates that teachers experience challenges in managing the behaviour of learners with ASD in South Africa (Waber, 2013). Barnes (2009) established that many teachers experience tension in the management of social and emotional being of learners with ASD. Teachers lacked the cooperation of parents of learners with ASD. Inversely, the capability approach is grounded in the premise that knowledge of learners' cultural and contextual beliefs provided by their parents and themselves, is necessary for the achievement of their valued functionings (Dalkilic & Vadeboncoeur, 2016). The foregoing finding is consistent with previous research, which demonstrates that, in Canada, there is an absence of open communication between parents of learners with ASD and their teachers (Lindsay et al., 2013). Previous research reveals that low levels of parental involvement in the education of learners with ASD are primarily due to a lack of time (Margaritoiu & Eftimie, 2011).

Teachers also confronted parents who were negligent of their children with ASD because of their denial of this condition. This finding is inconsistent with the capability approach which asserts that, for individuals to achieve their valuable "doings and beings", it is necessary for them to be well-nourished, healthy, clothed and sheltered (Kuhumba, 2018). The foregoing finding also contradicts the international human rights policies and legal frameworks, including the Convention on the Rights of the Child

(United Nations, 1989), Convention on the Rights of persons with Disabilities (United Nations, 2006) and Universal Declaration of Human Rights (United Nations, 1948) which all mandate the right of every child to enjoy life in decent conditions, which ensure dignity, promote self-reliance and facilitate the child's active participation in society. Similarly, previous studies found that parental denial delays readiness for action and ultimately slows engagement with the parent and the care of the child (Gentles, Nicholas, Jack, McKibbon, & Szatmari, 2020). Parents of learners with ASD need to collaborate with teachers.

Teachers taught learners with ASD who were from broken families including divorced families, which resulted in the teachers providing these learners with basic teaching and learning resources, including stationery. The capability approach also advances that the provision of learning resources is fundamental for individuals' positive experiences and opportunities (Norwich, 2014). This finding resonates with previous research, which established that parents and families can negatively affect children with ASD, which, in turn, diminishes the positive effects of intervention (Karst & Van Hecke, 2012). Past research found that an increase in parenting stress, conflict, and child behavioural problems contribute to a high rate of divorce for parents of children with ASD (Hartley et al., 2010). Teachers lacked the psychosocial and material support from parents of learners with ASD in teaching these learners. Previous studies, similarly, demonstrated that ASD has a continuous impact on the economic status of families and siblings and has an effect on the lifestyle of individual family members (Begum & Mamin, 2019). Garbacz et al's (2016) established that parents of children with ASD report lower family involvement and poorer relationships with their child's teacher. Teachers experienced a lack of support of parents including not assisting children with ASD with homework and not attending meetings on the development of their IEPs, which interfered with the academic progress of these learners. This contradicts the capability approach, which requires parents, children and teachers to reinforce a system that provides resources for individual expansion of varied capabilities (Taylor, 2013). Past studies, similarly, established that parents of children with ASD show lower self-efficacy or belief in their ability to take care of these children and are therefore less active in their development

(Karst & Van Hecke, 2012). Previous research found that parents of children with ASD are not all equally motivated, skilled or capable of delivering the interventions for these children (Siller, Autman, & Sigman, 2013).

Teachers experienced behavioural challenges of learners with ASD including antisocial behaviour and sensory in/sensitivity that hampered the realisation of learning outcomes for these learners. This finding is inconsistent with the capability approach, which requires teachers to address disability issues based on the personal characteristics, including physiological impairment, availability of resources and economic and social context surrounding the individual children (Mitra, 2014). This finding resonates with Goodrow (2016) who established that, in the USA, teachers find it challenging to manage distinct social and emotional behavioural manifestations of learners with ASD because of their lack of professional preparation for these learners. Previous research also shows that, in Australia, teachers have difficulties in managing interactional behavioural problems of learners with ASD manifesting from the communication barriers of these learners (Soto-Chodiman et al., 2012). The lack of professional training and knowledge on behaviour management of learners with ASD interferes with the teaching of these learners.

Teachers witnessed the development of literacy and numeracy, inclusive of reading, writing, and counting, in learners with ASD. This finding resonates with the capability approach, which postulates that being literate is one of individual functionings that allows individuals to be actively involved in societies (Kuhumba, 2018). Similarly Eldar et al. (2010) established that teachers' success in teaching learners with ASD in Israel included the improvement in learning and academic skills in all subjects of these learners. Thus, teaching learners with ASD in special school classrooms improves their numeracy and literacy deficits. Teachers witnessed the verbal development of learners with ASD, including imitation of words, expressing of own names and fluent communication of learners who were initially non-verbal. This aligns with the capability approach which postulates that, for learners to excel and realise their capabilities, institutions and social arrangements are necessary for the enhancement of individual

freedoms (Kuhumba, 2018). The foregoing finding aligns with previous research that established that schools in Zimbabwe promote the holistic development of learners with ASD (Majoko, 2018). Similarly, Siller et al. (2013) found that school mitigates the communication and social difficulties of children with ASD and Hartley et al. (2010) established that schools foster academic, social, and career development of learners with ASD.

Teachers witnessed the development of independent living skills, including the execution of household chores, self-feeding, and toileting in learners with ASD. This finding resonates with the capability approach, which advances that individuals can exercise their agency and act on personal choices to achieve their valued goals in an equal society provided they are afforded conducive environments (Terzi, 2014). Similarly, previous studies show that teachers in Tanzania observed their learners with ASD achieving well in home activities and other skills as well as in the academic area (Edward, 2015). Thus, teaching learners with ASD facilitates their self-reliance. Teachers witnessed the development of self-confidence in the execution of societal duties, roles and responsibilities of learners with ASD, inclusive of addressing the audience in public media and working at public institutions. This finding resonates with the capability approach, which posits that individual functionings and capabilities are expanded based on what they value within an inherent democratic social set up (Taylor, 2013). Previous research found that in Israel, teachers witnessed the development of independence, ability for self-help, coping with transition and changes, perseverance and self-restraint in learners with ASD (Eldar et al., 2010).

7.4 Strategies to enhance teaching of learners with ASD

This section discusses strategies to enhance the teaching of learners with ASD as revealed in the findings of this study. The discussion is presented with reference to the reviewed related international and South African literature on the sub-research question embedded in the theoretical framework that underpinned the study, namely, the capability approach. This section addresses the sub-research question of this study raised in section 1.5.2 of this dissertation, which read as: How can the teaching of

learners with ASD be enhanced at a special school in Johannesburg East District in Gauteng Province of South Africa?

Teachers revealed several individual and institutional capacity building oriented strategies that could enhance the teaching of learners with ASD. This aligns with the capability approach which is an enabling framework to analyse and monitor individual and systemic developments in schools for improvement in education quality (Robeyns, 2005). Previous research also found that individual and institutional capacity building oriented strategies that are premised on the realisation of the pedagogical goals of learners with ASD are foundational in the enhancement of the teaching of these learners (Majoko, 2016). Training of teachers on teaching learners with ASD, inclusive of their practical oriented pre-service and in-service professional preparation and development training in universities and schools, could enhance the teaching of these learners. In line with this finding, an education system rooted in the capability approach in terms of its policies and practices allows learners to identify their functionings through fostering the necessary professional competence in teachers (Dalkilic & Vadeboncoeur, 2016). Forlin (2011) also established that the provision of comprehensive training to pre-service teachers equipped them with skills, positive attitudes and knowledge to teach learners with unique needs. Similarly, Edwards (2015) found that regular in-service training, through seminars and workshops, supported teachers to acquire appropriate and necessary knowledge and skills required to teach learners with ASD.

The provision of resources, including technology, facilities, materials, time and finance of the government and district, could improve the teaching of learners with ASD through facilitating interactive teaching as well as individualised education of these learners. The capability approach also advances that the success of human development is dependent on the provision of resources and utilities (Sen, 1999). Previous research demonstrates that the provision of sufficient material, technological, financial, human and time resources enhances the teaching of learners with ASD (Majoko, 2017). This study established that the pooling of learning resources of parents could enhance the teaching of learners with ASD. Similarly, Edward (2015) established that, in Tanzania,

material support facilitates the participation of learners with ASD in classrooms.

The implementation of school interventions by parents at home could enhance the teaching of learners with ASD through synergy and syllogism. This finding aligns with the capability approach, which advances that the relationship between the teachers, learners and families is foundational in the creation and evaluation of practices (Dalkilic & Vadeboncoeur, 2016). Previous research also demonstrates that parents' conveying of situations at home and in the community to teachers promotes the teaching of learners with ASD (Patterson et al., 2012). The South African Schools Act 84 of 1996 places parents as meaningful partners in school governance who can collaborate with teachers to ensure learners receive quality education across the curriculum (Singh, Mbokodi, & Msila, 2004). Parents' informing of teachers of the needs of learners with ASD could enhance the teaching of these learners in special school classes. This finding resonates with the capability approach which postulates that the selection of reasonable functionings for children by their families contributes to teachers, parents and learners working together (Dalkilic & Vadeboncoeur, 2016). Similarly, past research found that teachers consult and collaborate with parents when planning learning programmes for learners with ASD for successful teaching of these learners (Kaweski 2011). Previous research established that partnerships between families and schools, particularly quality communication between parents and teachers, greatly influences the success of learners at school and elsewhere (Cheatham & Ostrosky, 2011). Parental involvement could enhance the teaching of learners with ASD in special school classrooms through promoting diagnostic and prescriptive teaching of these learners. The capability approach also advances that parents must determine the valued functionings of their children as they know what is required by their children for the improvement of their well-being (Dalkilic & Vadeboncoeur, 2016). Past research found that teachers established rapport with parents to create open communication and good relations that facilitate the teaching of learners with ASD (Lindsay et al., 2014).

The dissemination of knowledge and information on learners with ASD to stakeholders, including parents and communities, through awareness campaigns using public media,

including television and radio, could enhance the teaching of these learners. This finding aligns with the capability approach, which asserts that, due to continuous change in the environment and practices, there is need for a dynamic assessment of new educational practices that can expand individual capabilities (Dalkilic & Vadeboncoeur, 2016). Similarly, past studies show that, in the USA, advocacy and support for learners with ASD improves awareness of these learners among parents, teachers and learners thus enhancing their teaching (Able et al., 2015). Previous research demonstrates that disability awareness programmes improved the attitudes of teachers towards learners with ASD and ultimately enhanced their teaching of these learners (Lindsay & Edwards, 2013). Consistently, Erasmus et al. (2019) found that it is imperative to raise awareness of ASD among parents and communities in South Africa.

Stakeholders, including school administrators' support of teachers, could afford them psychosocial support that could enhance the teaching of learners with ASD. Similarly, the capability approach advances that public goods and services, non-tangible resources, inclusive of cultural practices, traditions, norms and values, are necessary in the creation of capabilities (Chiappero-Martinetti & Venkatapuram, 2014). Previous research has established that provision of educational support to schools and learning sites in South Africa from the DBST reduces barriers to learning as they provide resources, advice and interventions (Waber, 2013). Similarly, consistent evidence indicates that the DBST must ensure teachers who need mentoring, support and training receive it (Johnson & Green, 2007). The foregoing finding is consistent with past research, which found that increasing the level of school based support to teachers and teaching assistants in Australia enhanced the teaching of learners with ASD (Soto-Chodiman et al., 2012). Similarly, previous research established that the involvement of stakeholders in the USA is vital, as teachers need a support system to yield positive results (Humphrey & Symes, 2013). Stakeholders, inclusive of school administrators' support of parents, could afford them psychosocial support that could enhance the teaching of learners with ASD. Consistent evidence demonstrates that encouragement and support of parents from leaders in schools is vital in enhancing the teaching of learners with ASD (Horrocks et al., 2008). Past studies indicate that the involvement of

parents of learners with ASD in implementing interventions at home enhance teaching of these learners (Carbone, Behl, Azor, & Murphy, 2010). The support of stakeholders, including school administrators, fostering in typically developing children positive attitudes towards their siblings could enhance the teaching of these learners. This finding aligns with the capability approach, which advances that the engagement of families, teachers and learners in principled practices allows them to acknowledge each other's differences, hence making sure their capabilities are enhanced in learning environments (Dalkilic & Vadeboncoeur, 2016). Similarly, teachers in Zimbabwe report that teaching typically developing learners on ASD promotes the development of positive attitudes towards learners with this condition (Majoko, 2017).

The knowledge and information of teachers on individual learners with ASD, including their individual levels of cognitive functioning, interests and capabilities, could improve the teaching of these learners through facilitating the provision of child centred pedagogy to them. The capability approach also emphasises respect for human diversity and heterogeneity (Norwich, 2014). Similarly, past studies demonstrate that, in Scotland, teachers are equipped with knowledge and special skills to accommodate the diverse needs of learners with ASD, which enhances the teaching of these learners (Davidson, 2015). Previous research reveals that teachers in the USA need a broader understanding of ASD to gain knowledge and direction on how to manage these learners according to their needs (Hendricks, 2011). Teachers' knowledge of the individual capabilities of learners with ASD is key in teaching these learners.

The adoption of a life-skill oriented approach, including linking the teaching of learners with ASD to their daily life and practical subjects, could improve the teaching of these learners. This finding is consistent with capability approach, which upholds that the provision of a suitable framework can aid in the assessment and evaluation of individual well-being thus promoting their capabilities (Sen, 1992). Similarly, Bennett and Duke (2014) found that learners with ASD need to acquire various daily living skills in order for them to be successful in post-school environments. Previous research established that daily living skills are among the functional skills needed for success in current and

future environments of learners with ASD because they consist of those activities needed in the community, domestic and employment circles (Volkmar & Wiesner, 2009). Teaching learners with ASD practical subjects that could enable them to make their own career choices in the future could enhance their teaching. The capability approach also postulates that liberalism is an important aspect in individuals' lives since it enables them to make their own life decisions, which is valuable to them (Robeyns, 2005). Similarly, previous research demonstrates that teaching functional academics to learners with ASD allows them to respond to stimuli in order to perform employment, community and independent skills (Storey & Miner, 2011). Previous studies found that families and schools should work together to teach daily living skills to children with ASD from an early age for these children to be successful adults (Carothers & Taylor, 2004). Teaching life skills fosters independence and self-sustenance in learners with ASD.

The use of information and communication technology, including assistive devices, in teaching learners with ASD could improve the teaching of these learners through enabling them to independently express themselves. Similarly, past research found that the use of technology is beneficial to learners with ASD as it assists them with effective operation and communication (Boser et al., 2014). Previous research established that learners with ASD appreciate and accept the use of modern technology during teaching (Brasher, 2014). A shift to modern and advanced technology can be beneficial to the teaching of learners with ASD.

The use of positive and negative reinforcements, based on the individual interests of learners with ASD, could enhance the teaching of these learners through motivating them to behave positively and inhibit their negative behaviour. This finding aligns with the capability approach, which advances the need for learners to be afforded the freedom of choice based on their diverse nature within their capabilities (Vergunst et al., 2014). Similarly, previous research shows that teachers in Zimbabwe use reinforcement to develop and promote motivation and desired behaviours in children with ASD in their classrooms (Majoko, 2017). Past studies demonstrate that, in Canada, teachers

rewarded learners with ASD for good behaviour, which encouraged these learners to remain focused and avoided unexpected tantrums (Lindsay et al., 2014). Consistently, Crosland and Dunlap (2012) found that the use of positive reinforcement by teachers in the USA prevents the manifestation of challenging and inappropriate behaviour. Thus, interest based reward facilitates teaching of learners with ASD in special school classes.

7.5 Conclusion

The current chapter discussed findings of the present study on teaching strategies for learners with Autism Spectrum Disorder at a special school in Johannesburg East District in Gauteng Province of South Africa. Findings on teaching strategies, teaching experiences and strategies to improve the teaching of learners with ASD were discussed and supported with both international and South African literature. The following chapter presents the summary, conclusion and recommendations of the study.

CHAPTER 8: SUMMARY, CONCLUSION AND RECOMMENDATIONS

8.1 Introduction

Embedded in the capability approach, the present interpretivist/constructivist qualitative single case study explored the teaching strategies for learners with ASD at a special school in Johannesburg East District in the Gauteng Province of South Africa as the context for proposing strategies to enhance the teaching of these learners. The previous chapter presented a discussion of the findings of the study embedded in the theoretical framework and the reviewed international and South African literature. This chapter presents the summary, conclusion and recommendations of the study. This includes a review of the context of the research problem presented in Chapter 1, the theoretical framework presented in Chapter 2, the review of related international literature on inclusive education and teaching strategies for learners with ASD in Chapter 3, review of related South African literature on inclusive education and teaching strategies for learners with ASD in Chapter 4, the research methodology and design presented in Chapter 5, presentation and analysis of findings presented in Chapter 6 and presentation of discussion in Chapter 7. The chapter also presents limitations of the study, contribution of the study, recommendations for further study and final remarks.

8.2 Review of the research problem

Since the Salamanca Statement and Framework for Action on Special Needs Education (UNESCO, 1994) reaffirmed the commitment to education for all, as enshrined in the Universal Declaration of Human Rights (United Nations, 1948), and renewed the pledge of the World Conference on Education for All (UNESCO, 1990) in 1994 to ensure the rights for all children including learners with ASD regardless of individual differences, several countries adopted inclusive education (Pantic & Florian, 2015; Olcay-Guy & Vuran, 2015). Although inclusive education has been adopted globally, there is no single universally accepted definition of it due to the conceptual complications in defining it including what constitutes it and what counts as evidence of its practice (Ainscow, 2010; Pantic & Florian, 2015; Majoko, 2018). The worldwide pursuit of

inclusive education is underpinned by global and African regional human rights instruments including conventions, guidelines, treaties, declarations, charters, statements and recommendations (UNESCO, 1994; Florian & Black-Hawkins, 2011), which mandate the inclusion of all learners in regular education despite their individual differences emanating from diverse variables influencing human diversity such as race, ethnicity, gender, language or disability. Consistent with other countries, South Africa adopted inclusive education in compliance with the human rights instruments (Makoelle, 2014), which was a major shift from a segregated system of education that prevailed during apartheid (Murungi, 2015). South Africa has passed and enforced policies and legislations on inclusive education (Landsberg et al., 2012) but, despite the passage and enforcement of supportive policies and legislation, teaching strategies for learners with ASD are a challenge for teachers in many countries (Mwendo, 2011). Internationally, several studies have examined teaching strategies for learners with ASD in different countries, such as Zimbabwe (Majoko, 2017), Canada (Lindsay et al., 2014), New Zealand (Ngara, 2014), the USA (Crosland & Dunlap, 2012) and Scotland (Davidson, 2015), but they have yielded inconsistent findings. Unlike the rest of the world, teaching strategies for learners with ASD seem to have not been intensely investigated in South Africa according to the best knowledge of the researcher based on a literature review. Teaching strategies for learners with ASD remain an international challenge (Humphrey & Symes, 2013; Lindsay et al., 2013) even though teachers are expected to use teaching strategies that address the needs of these learners in special schools. The country thus, has an international and national mandate to ensure the institutionalisation of teaching strategies that meet the needs of all learners, including those with ASD in special schools (Naicker, 2009) since it is a signatory to relevant global and African region human rights instruments and has passed policies and legislation on inclusive education. However, what constitutes successful and effective teaching strategies for learners with ASD remains to be established (Emam, 2008). Thus, embedded in the capability approach, the current study explored teaching strategies for learners with ASD at a purposefully sampled special school in Johannesburg East district in Gauteng Province of South Africa as a context for

proposing strategies to enhance the teaching of these learners in special schools.

8.3 Review of the theoretical framework

The current study is embedded in the Capability Approach originally formulated by Amartya Sen (1985). The capability approach places human capabilities at the centre, inclusive of justice and quality of life (Oosterlaken & Van den Hoven, 2012) and attempts to answer the question of equality (Reindal, 2009). The capability approach revealed that teachers' strategies for teaching learners with ASD in special schools are grounded in an accumulation of knowledge and information that enhance the teaching of these learners and promote the realisation of human rights and social justice in their education. The capability approach emphasises what learners are able to do (Robeyns, 2014). Thus, teaching learners with ASD in special schools must be based on their strengths and not their deficits (Nussbaum, 2011).

The capability approach is rooted in liberalism, which values individual freedom (Robeyns, 2005). Teaching strategies used for learners with ASD in this study afforded them the freedom of choice. The utility of teaching strategies for these learners further expanded their individual capabilities. Families, children and educators' engagement in principled practices, which allowed them to acknowledge each other, enabled the enhancement of the capabilities of learners with disabilities in learning environments (Dalkilic & Vadeboncoeur, 2016). The partnerships, relationships and teamwork of teachers and other stakeholders, including parents and siblings, facilitated the teaching of learners with ASD in special school classrooms in this study.

The capability approach recognises that personal, social and environmental factors are important for the quality of education (Yates, 2007). Learners with ASD at the participating special school in Johannesburg East District were afforded environmental, social and personal needs, which facilitated the expansion of their capabilities. Furthermore, the acknowledgement of human diversity and the relationships between their valued functionings and capabilities is fundamental (Dalkilic & Vadeboncoeur, 2016). Thus, the uniqueness of learners with ASD in special schools is a major aspect

to be valued hence teaching strategies must meet those needs. The provision made for diverse needs for learners with ASD in special school classrooms, promoted positive opportunities for these learners to flourish (Norwich, 2014).

The capability approach recognises democracy and a social set up in classrooms, which allows the expansion of individual capabilities (Taylor, 2013). Learners with ASD at the participating special school contributed in decision making, which involved their well-being and their societal values. This created and promoted a democratic learning environment, which afforded these learners an opportunity to achieve their functionings and capabilities. The capability approach also stresses that quality endowments and resources must be readily available to individuals (Chiappero-Martinetti & Venkatapuram, 2014). Learners at the participating special school were provided with most of the learning resources. However, learners were not exposed to technological teaching resources inclusive of iPads, talkers and fidget toys. The capability approach posits that the provision of support to learners in any learning environment facilitates the achievement of their capabilities (Underwood et al., 2012). Contrarily, in this study it was noted that learners lacked support in terms of food and clothing from their parents because of family feuds including denial and divorce, which hindered them from being actively involved in their classes. Being well nourished and being clothed are important functionings that allow individuals to achieve their capabilities (Kuhumba, 2018).

8.4 Review of related international literature on Inclusive Education and teaching strategies for learners with ASD

Before the Salamanca Statement and Framework for Action on Special Needs Education reaffirmed its commitment to inclusive education (UNESCO, 1994), learners who experienced barriers to learning, including those with ASD the world over, were educated in special classes in regular schools and in special schools (Pantic & Florian, 2015). Since 1994, globally, several countries, inclusive of African countries, have complied with human rights instruments, including the Convention on the Rights of the Child (United Nations, 1989), which mandate the right of every learner to receive education without discrimination, the Universal Declaration of Human Rights (United

Nations, 1948), which mandates the right to free and compulsory education for all children, the Salamanca Statement and Framework for Action on Special Needs Education (UNESCO, 1994), which requires all schools to accommodate all children despite their physical, emotional social, intellectual, linguistic or any other needs, the African Charter on the Rights and Welfare of the Child (OAU, 1999), which calls for the protection and promotion of basic human rights and freedoms of children in Africa, and the Incheon Declaration (UNESCO, 2015), which enshrines the promotion of lifelong opportunities and equitable rights for all, in pursuit of inclusive education (Olcay-Guy & Vuran, 2015). Although inclusive education has been viewed differently due to the complexity in defining it, its main agenda globally is to ensure that all children are educated, regardless of their abilities or disabilities, in regular classrooms (Majoko, 2018; Liasidou, 2012). This involves modifications and changes in strategies, structures, approaches and content to address the diverse needs of all learners (Majoko, 2017). Although inclusive education has been adopted globally, its implementation varies around the world (McMenamin, 2011).

Five countries from Africa, Asia, Europe, Australia and the USA shed light on international perspectives on inclusive education and teaching strategies for learners with ASD in this study. In line with the international arena, Zimbabwe adopted inclusive education in 1994 (Chakuchichi, 2013) after being subjected to inequalities which promoted discrimination emanating from the British colonial rule (Mupondi & Munyaradzi, 2013). It has since ratified several global human rights instruments on inclusive education (Majoko, 2019). Zimbabwe has passed and enforces policies and legislations in line with inclusive education and human rights (Chireshe, 2013) which mandate the inclusion of learners with barriers to learning, including ASD, in regular classrooms. These include the Zimbabwe Education Act of 1987 as amended in 2006, the Disabled Persons Act of Zimbabwe of 1996 and the Zimbabwe Constitution Amendment Number 20 of 2013 section 75. The Department of Teacher Education of the University of Zimbabwe provides strategic support for the professional preparation of teachers to realise inclusive education. The Department of Schools Psychological Services and Special Needs Education offers a variety of programmes that promote

equal access and quality education to all learners, including those with ASD (Mugweni & Dakwa, 2013). A common curriculum for primary and secondary education has also been adopted although a lot still needs to be done regarding its implementation (Deluca et al., 2013). Despite an absence of clear and specific policies on inclusive education in Zimbabwe, many stakeholders have continued to promote it (Chireshe, 2011; Chikwature et al., 2016). The lack of valuable resources has limited the implementation of inclusive education in most schools which is a disadvantage for learners with disabilities, including those with ASD, who are enrolled in these schools (Chireshe, 2013). Large class sizes remain a challenge for teachers who have to cater for individual unique needs of all learners, including those with ASD (Mandina, 2012). Consistent with several other countries, Zimbabwe offers a continuum of services in inclusive education. Consequently, children with high support needs including ASD are educated in special schools

Consistent with the rest of the world, Australia adopted inclusive education in 1994 (Soto-Chodiman et al., 2012) and aspired to provide equal and quality inclusive practices in education (OECD, 2013). Although this has been a slow process, learners with diverse educational needs, including those with ASD, in the country are registered in special facilities or classes within the regular school setting (Soto-Chodiman et al., 2012). Policies, such as Disability Discriminating Act (DDA) of 1992 and the Disability Standards Education (2005), among others, have been passed and enforced in Australia (Boon et al., 2014). In support of inclusive education, some parts of Australia have initiated programmes, such as Building Inclusive Classrooms (BIC) and Building Inclusive Schools (BIS), which cater for the unique needs of all children, including those with ASD (Soto-Chodiman et al., 2012). Many learners with disabilities, including ASD, have been accommodated in regular classes since this paradigm shift (Round et al., 2015). Teachers' attitudes have played a significant role in creating barriers in the implementation of this movement in Australia (Sharma et al., 2011). Thus, in many teacher education programmes, inclusive education has been made a compulsory subject (Boyle et al., 2011). Teachers in Australia are now receiving professional training, which prepares them to implement strategies that show differentiation of

learners with disabilities, including those with ASD (AITSL, 2012).

In alignment with the global world, India embraced inclusive education (Ross, 2017). The Sarva Shiksha Abhiyan (SSA) of 2001 policy mandates the rights of all children with special needs to education. However, the provision of education in India for children with disabilities, including those with ASD, has been unsuccessful as most of these learners have not been enrolled (Mani, 2001). Although the government has passed inclusive policies for learners with disabilities, including those with ASD, more work in terms of implementation remains to be done (Singh, 2016). Learners with high support needs, including ASD, are served in special schools in India. Although India has addressed inequality in education and created diverse opportunities for children with and without disabilities, including ASD (Sharma & Das, 2015), the country still lacks specially trained teachers, suitable infrastructure and resources, positive attitudes, awareness and developed frameworks for inclusive education (Pavenkov et al., 2015). With their lack of skill in implementing inclusive education, large class sizes are overburdening Indian teachers (Singh, 2016). Teachers in India also lack experience in teaching learners with disabilities, including those with ASD, do not receive any form of support in their classrooms (Das et al., 2013) and teacher-training programmes do not accommodate disability issues (Myreddi & Narayan, 2000).

Together with the international arena, the United Kingdom (UK) adopted an inclusive education philosophy (Pantic & Florian, 2015) and passed policies and legislation on it including the Children and Families Act of 2014 (Education and Training Statistics for the United Kingdom, 2013) and the Equality Act of 2010 (Gibson, 2015) among others. Laws in the UK advocate for inclusive education and prohibit discrimination in education. Children with special educational needs, including those with ASD, have the right to learn in regular schools as long as there is a mutual agreement among parents and other learners are not disrupted (Education Act of 1996 sec 316 as amended by Special Educational Needs and Disability Act of 2001). Reasonable strategies, which accommodate diverse needs of learners in the UK schools, including those with ASD, have been passed (Equality Act of 2010). An individualised plan, including education,

social and health provisions for learners with special educational needs, including those with ASD, has also been institutionalised as mandated by the Children and Families Act of 2014 and the Special Education Needs Code of Practice. Although the UK has seen a number of learners with disabilities, including those with ASD, being educated in regular classrooms, it remains to be seen whether these settings cater for the diverse needs of all learners with disabilities, including those with ASD (Emam & Farrell, 2009).

Before 1994, most learners with disabilities, including those with ASD, in the USA were not regarded as being fit to learn in mainstream classes, as they required more attention from their teachers, which disadvantaged other learners (Dudley-Marling & Burns, 2014). In alignment with the global world, the USA also adopted inclusive education (Olcay-Guy & Vuran, 2015). The USA passed and enforces legislative frameworks on inclusive education including No Child Left behind Act of 2002, Individuals with Disability Education Act (IDEA) and Every Child Succeeds Act (2015). In the USA, most learners with disabilities, including those with ASD, learn with their typically developing peers (U.S. Department of Education, 2012). As promulgated by the Education for All handicapped Children Act, all children with disabilities, including ASD, are entitled to free education (Kritzer, 2012). All learners with disabilities, including those with ASD, in the USA receive benefits from school district programmes, which are equal to their typically developing peers (Pilon, 2013). Learners with disabilities, including ASD, in the USA each have an individualised education programme (IEP) which suits their unique needs (Kritzer, 2012). Although the USA has institutionalised several support initiatives for learners with disabilities, including ASD, it continues to ensure its policies are inclusive of everyone. Educating learners with disabilities, including those with ASD, in inclusive classrooms is still considered inappropriate in the USA and efforts to form an alliance between special and general education is an ongoing process (Hossain, 2012). To facilitate one-on-one support to learners with disabilities, including ASD, there is a need for reduced class sizes in the USA classrooms (Dudley-Marling & Paugh, 2009).

Teachers used behavioural, organisational and naturalistic teaching strategies. Behavioural teaching strategies included prompting, reinforcement, social stories,

dealing with obsessive-compulsive behaviour and peer mediation. Teachers used prompts to reinforce instructional routines, to probe responses in academic and behavioural activities of learners with ASD (Ncube, 2014; Crosland & Dunlap, 2012) and to increase desirable behaviour in learners with ASD during teaching (Crosland & Dunlap, 2012). Teachers used reinforcement which promoted and encouraged desirable behaviour and motivated learners with ASD in the classroom (Majoko, 2017). Teachers' use of social stories showed positive and immediate improvement in targeted behaviours of learners with ASD (Sansoti & Powell-Smith, 2006). Teachers explained changes in routine to manage compulsive behaviours of learners with ASD (Majoko, 2017). Teachers enlisted the help of typically developing peers to model positive behaviour and social norms to learners with ASD (Chan et al., 2009).

Teachers used organisational teaching strategies, inclusive of visual schedules, work systems, structured routines, environmental modifications, PECS and TEACCH, to teach learners with ASD. The use of visual schedules promoted the independence of learners with ASD and helped them to navigate and plan during the day (Sterling-Turner & Jordan, 2007; Knight et al., 2014). Teachers' use of work systems when teaching learners with ASD indicated improvements in accuracy of tasks and reduced prompting (Hume et al., 2012). Teachers used structured routines to notify learners with ASD about any changes and transitions ahead of time (Crosland & Dunlap, 2012). The use of structured routines assisted teachers to maintain order in response to the needs of these learners (Majoko, 2016). Teachers maintained structured learning environments and eradicated distractive stimuli, which allowed learners with ASD to focus during teaching (Ngara, 2014; Smith, 2012). Teachers' use of PECS yielded positive results as most of the learners with ASD were able to request their needs independently and carry out learning tasks with little initiation during teaching and learning (Yoder & Stone, 2006; Tincani et al., 2006). Teachers used the TEACCH approach, which facilitated learners' improvement in expressive and receptive language skills (Braiden et al., 2012).

Teachers used naturalistic teaching strategies, including capability, academic modification, social skills training, collaboration and teamwork, structured Lego play,

technology aided instruction and intervention and a circle of friends. Teachers capitalised their teaching on learners' strengths and not their weaknesses as a basis for successful pedagogy (Lindsay et al., 2014; Majoko, 2017). Teachers modified and reduced learning tasks when teaching learners with ASD to maintain their attention (Majoko, 2017). Teachers afforded learners with ASD opportunities to interact socially with other learners during learning activities, which fostered social skills in them (Majoko, 2017). Teachers collaborated with expert stakeholders to gain knowledge and established and maintained good relations with parents in teaching learners with ASD (Kaweski, 2011; Lindsay et al., 2014). Teachers' use of play in teaching learners with ASD reduced undesirable behaviour and increased social interaction with improvements in language development (LeGoff & Sherman, 2006; Pang, 2010). In teaching learners with ASD, teachers used an iPad, a speech-generating device that increased learners' communication abilities (Kagohara et al., 2010). Teachers used First Author software, which facilitated the development of writing skills as indicated by an improvement in the quality of work presented by learners with ASD (Akhmedjanova, 2015). Teachers employed the circle of friends strategy involving games, which indicated improvement in social interactions among learners with and without ASD (Kalyva & Avramadis, 2005).

Teachers did not know how to manage learners with ASD in their classroom as they lacked adequate training and professional development (Edwards, 2015; Lindsay et al., 2013; Mwendu, 2011). Teachers experienced tension in the management of learners with ASD because they did not understand how to manage meltdowns and behavioural manifestations of these learners (Goodrow, 2016; Lindsay et al., 2013). Major complications experienced by teachers emanated from communication barriers, as they did not understand what learners with ASD needed (Soto-Chodiman et al., 2012). Teachers experienced feeling of anxiety and frustration because of their inability to respond to these learners' needs (Emam & Farrell, 2009). Teachers were frustrated by additional workload that came with curriculum modification to accommodate learners with ASD in their classrooms, hence they were not confident teaching these classes (Soto-Chodiman et al., 2012; McCray & McHatton, 2013). The shortage of teaching resources impeded their teaching of learners with ASD (Able et al., 2015; Majoko,

2017). Teachers' lack of assistive technological devices hindered the possibilities of learning for learners with ASD (Lindsay et al., 2013). Teachers did not have enough time to prepare for learning activities for learners with ASD who needed more attention and additional support during learning (Scruggs et al., 2007). Teachers did not have good relations with parents of learners with ASD and experienced communication challenges with them (Lindsay et al., 2013).

Comprehensive in-service training of teachers through workshops and pre-service training could equip them with skills, knowledge and positive attitudes to teach learners with ASD. Disability awareness programmes on ASD could improve the attitudes of teachers and enhance their teaching of these learners (Lindsay & Edwards, 2013). The use of modern advanced technological assistive devices could enhance the teaching of learners with ASD (Boser et al., 2014). Increased stakeholder support from teachers' leaders could enhance the teaching of learners with ASD (Eldar et al., 2010; Humphrey & Symes, 2013). The provision of assistance from therapists and class assistants could enhance the teaching of learners with ASD (Lindsay et al., 2014). The provision of sufficient human, financial, time, material and technology could enhance the teaching of learners with ASD (Majoko, 2017). Teachers' reinforcement of the behaviour of learners with ASD could enhance their teaching (Litton et al., 2017; Crosland & Dunlap, 2012).

8.5 Review of related South African literature on Inclusive Education and teaching strategies for learners with ASD

A paradigm shift from the apartheid education system, characterised by racial inequalities, human rights abuses and a lack of access to social services, particularly in education, found South Africa pursuing an inclusive education movement in solidarity with the global world (Donohue & Bornman, 2014; Mzizi, 2014). Since its commitment to this ideology, South Africa has enacted several policies and legislative frameworks on inclusive education (Murungi, 2015). The Section 28 of the South African Constitution (Act 108 of 1996), which incorporates the Bill of Rights, stipulates the rights of every child while section 29(1) (a) states the basic education rights for every child. Section 9(2) mandates equality of achievement of everyone in education, in spite of individual

differences, while sections 9(3), (4) and (5) guarantee non-discrimination. Section 32 (a) promulgates that no one must be excluded from pursuing basic educational goals (Du Plessis 2013). The passing and enforcement of these policies solidifies government's effort to create equality in educational opportunities for learners with and without disabilities, including those with ASD (DoE, 2001). Several other policies, including the South African Schools Act (SASA) (Act 84 of 1996), the National Education Policy (Act 27 of 1996), the National Strategy on Screening, Identification, Assessment and Support (SIAS, 2014), the National Commission on Special Needs in Education and Training (NCSNET), and the National Curriculum Statement (NCS) all promote inclusive education. The Education White Paper 6, Building an Inclusive Education and Training System (DoE, 2001) provides a framework of how the education and training system must transform itself to contribute to establishing a caring and humane society that accommodates diverse learning needs (DoE, 2001). It defines inclusive education as acknowledging that all children can learn given the right support; accepting the diverse needs of all learners; ensuring education structures and systems meet the unique needs of all learners; recognising and respecting learners' differences arising due to class, gender, disability, ethnicity, age, language or HIV status; admitting that learning occurs at home and in the community formally and informally; and increasing and empowering learners' full participation in school to realise their optimal goals by minimising barriers to learning (DoE, 2001b:16).

Following the SIAS guidelines (DBE, 2014), the provincial government promotes inclusive education policies in districts and schools by enlisting the help of District Based Support Teams (DBSTs) and School Based Support Teams (SBSTs). DBSTs are mandated to coordinate expert support service providers inclusive of psychologists, curriculum developers, therapists, management specialists and administrative experts within their districts (DoE, 2002). The DBST supports teachers and management school teams by offering assistance in ensuring that the teaching and learning environment is responsive to individual learning needs (Landsberg et al., 2012). At school level, the SBST, which includes the teachers, the school principal, the parents of learners experiencing barriers to learning and the educational psychologist, work closely as a

team to offer support to all learners, including those with ASD (DBE, 2014).

Teachers in South Africa used reinforcement, behaviour management, visual schedules, social skills training and the picture exchange communication system (PECS) in teaching learners with ASD in various classroom settings. Preschool teachers praised learners with ASD verbally upon giving a correct answer during teaching and learning (Enock, 2011). Teachers in early childhood development centres controlled behaviour outbursts, panic modes and reduced anxiety by putting pictures on class timetables (Enock, 2011). The use of visual schedules in ECD classes prepared learners with ASD of future events and sudden changes, which occurred during teaching (Enock, 2011). Teachers engaged learners with ASD in small groups and teams during teaching to enhance their social skill development (Enock, 2011). Teachers used PECS, a visual communication system, which improved learners' communicative intent, verbal utterances and requests (Travis & Geiger, 2010). In teaching learners with ASD in South Africa, teachers experienced challenges in managing the behaviour of these learners (Waber, 2013). Teachers expressed that they felt helpless and hopeless as their efforts continuously yielded poor results. Teachers felt that learners with ASD performed poorly academically (Waber, 2013). Teachers indicated the need to create awareness on ASD in communities (Erasmus et al., 2019). A reduction in the number of learners in classrooms could enhance the teaching of learners with ASD (Roberts, 2007). The provision of class assistants could also improve the teaching of learners with ASD (Roberts, 2007).

8.6 Review of research methodology and design

Research Paradigm

The constructivist/ interpretivist research paradigm underpinned this study. The ontological, epistemological, axiological, methodological and rhetorical assumptions of the interpretivist research paradigm informed this study. The constructivist paradigm attempts to understand certain phenomena within a natural setting where numerous realities can be socially constructed reflecting various experiences (Fisher, 2010;

McMillan & Schumacher, 2014; Mertens, 2015). Thus, individuals participating in a research construct knowledge.

Research approach

A qualitative research approach was used in this study. Qualitative research investigates a phenomenon by approaching a setting with an open mind with the aim of understanding and giving a descriptive analysis and explanation of events from the inside (Flick, 2018). Participants in the present study were interviewed individually and observed while teaching in their respective classrooms according to their designated class timetables. Teaching and learning documents, including teachers' lesson plans, learners' workbooks, individualised educational plans, communication books, rosters, homework books, visual schedules, reward charts, learners' activity sheets and record books were analysed.

Research design

A single case study design was used in the present study. The research was conducted at a selected special school in Johannesburg East District in Gauteng Province of South Africa.

Population and sampling

The population of the current study comprised teachers from the participating special school in Johannesburg East District in Gauteng Province of South Africa. Participants were purposively selected by means of critical case sampling that entails selecting participants based on the purpose of the study with the expectation of acquiring rich and unique information from them (Creswell & Clark, 2011). Thus, 12 teachers, three males and nine females were purposefully selected at a special school in Johannesburg East District in Gauteng Province of South Africa to explore their teaching strategies for learners with ASD. The inclusion criteria for the teachers who participated in the present study was at least three years' teaching experience of learners with ASD at a special school and an undergraduate teaching qualification.

Data collection instruments

Face-to-face semi-structured individual interviews, non-participant observation, document analysis and field notes were used to collect data

Trustworthiness

The quality standard of a constructivist paradigm is measured by trustworthiness, which comprises credibility, dependability, transferability and confirmability (Lincoln & Guba, 1985). These elements were discussed in section 5.5. It was also imperative to avoid any interference with participants' expressions during individual face-to-face semi-structured, in-depth interviews, non-participant observations and document analysis. I listened to data collected from individual participants during its analysis. I also received guidance from an experienced researcher throughout the research process.

Ethical considerations

Ethical considerations were observed in this study. I applied and secured permission to conduct research from the Research Ethics Committee (REC) at University of South Africa and was granted ethical clearance (see Appendix A). I also got permission from the Gauteng Department of Education to conduct research at one special school for learners with ASD in Johannesburg East District (see Appendix B). I sought permission from the School Governing Body and the principal of the school (see Appendix C and D). With the principal's assistance, I held a meeting at the school to explain the purpose of the research and the usefulness of its findings before commencing with data collection (see Appendix E). After asking for their voluntary participation, teachers who were willing to be part of the study signed participant consent forms (see Appendix F). Participants were also assured of confidentiality and anonymity throughout the study and had the right to withdraw at any time. Participants were not exposed to any form of danger during the study. Participating teachers were asked to issue parent consent forms (see Appendix G) to learners in their respective classes as they were going to be observed during teaching and learning. All forms were signed and returned before data collection commenced.

8.7 Summary of the findings of the study

The summary of the study findings of this study are structured around the sub-research questions written in section 1.5.2. These include teaching strategies for learners with ASD, teachers' experiences in teaching learners with ASD and strategies to enhance the teaching of learners with ASD. The following sub-section presents teaching strategies for learners with ASD.

8.7.1 Sub research question 1: Teaching strategies for learners with ASD

Various individualised and group teaching strategies were used for learners with ASD at the participating special school in Johannesburg East District in Gauteng Province of South Africa. Teachers used and adhered to routine pre-learning activities including toileting, breakfast and welcoming learners with ASD, dependent on their needs, which made them ready for learning and prevented disruption of lessons. Teachers used classroom-based morning assembly every day while they were "still fresh" to teach different activities based on daily living. Teachers believed that the entrenchment of teaching in the daily lives of learners with ASD fostered independent daily living. Teachers used attractive fixed schedules, which captivated and kept learners with ASD aware of activities of every school day and calmed and settled them on a daily basis to enhance their clarity of expectations. Teachers prepared learners with ASD for any changes within their usual schedule, which also prevented outbursts. Teachers used physical activities to manage the behaviour of learners with ASD, which expended the energy of these learners and ultimately eliminated tension, meltdowns and tantrums, which facilitated their teaching. Teachers also adapted the curriculum and exposed learners with ASD to different teaching activities that met their levels of support needs during teaching which motivated these learners to attempt to do different learning activities. Teachers entrenched their teaching in child-centred pedagogy, including role-play, drama, prompting, repetition and imitation, to capture the attention of learners with ASD. Teachers also used Makaton and speech to foster communication between verbal and non-verbal learners with ASD at the participating special school. Teachers appreciated the help of class assistants, especially in managing the behaviour of

learners with ASD, as they were unable to cope with teaching in their absences due to the characteristic behaviour manifestations of these learners.

Therapists were reported to support teachers with teaching strategies to teach learners with ASD and provided speech and physical therapy to learners with ASD, which improved the functionality of these learners in these domains. Nevertheless, they were not seen supporting learners with ASD or their teachers during the entire data collection period. Teachers used concrete and visual educational media to teach learners with ASD, which facilitated the teaching of these learners as they primarily relied on visual perceptions to understand concepts and skills that were being taught. Teachers also used play, which included games, puzzles, soccer and boxing, to teach learners with ASD in their classrooms. The use of play in teaching these learners developed their social interaction competence. Teachers used social stories to support learners with ASD to cope with new events, have clear expectations and cope with changes occurring in their school lives by preparing them in advance. Social stories inculcated in learners with ASD social awareness for the navigation of their daily lives. Findings also revealed that teachers nurtured and sustained structured classroom environments as a strategy to teach learners with ASD, which afforded these learners time and space to focus on their individual activities. Teachers used TEACCH tasks, which afforded learners with ASD teaching that addressed their diverse needs because TEACCH tasks were structured and involved the use of several visuals, which facilitated the teaching of these learners in special school classrooms.

8.7.2 Sub-research question 2: Teachers' experiences in teaching learners with ASD

Teachers at the selected special school in Johannesburg East District in Gauteng Province of South Africa had both positive and negative experiences in teaching learners with ASD in their classes and in the school at large. Teachers' experiences stemmed from individual and systematic factors. Teachers had no knowledge about ASD when they started working with learners with ASD. They felt guilty and blamed themselves because they felt that they failed to deliver what was expected of them as

teachers for learners with ASD. Teachers also experienced challenges with managing behaviour of learners with ASD who sneaked away, escaped and ran around the school or into the central business district causing chaos around the school. Teachers had to deal with parents who were in denial of their children with ASD leading them to be negligent of their children and to have negative attitudes towards them. Parents of these children were also more likely to be divorced. Due to these unstable situations, some learners with ASD lacked school resources and materials, had poor health, were emotionally disturbed, lacked proper food and were always tired resulting in teachers offering more support to them, which was very demanding for them. Teachers did not work well with parents of learners with ASD and lacked their support in teaching these learners. Parents proved to be difficult to work with, did not assist learners with ASD with homework, did not practise skills taught at school and failed to attend meetings on drawing up of IEPs. This interfered with the learners' progress, as they did not receive support at home. Teachers also experienced behavioural challenges including sensory in/sensitiveness, fine motor skills challenges and antisocial behaviour of learners with ASD, which manifested from the condition. Such behaviours hindered the realisation of desired learning objectives for these learners.

Despite these negative experiences, teachers experienced success in teaching learners with ASD at the special school. Learners with ASD improved in verbal skills, were able to imitate words, say their names, and communicated fluently. Thus, the teaching of non-verbal learners with ASD fostered in them verbal development. Teachers also noticed improvement in literacy and numeracy deficits particularly in reading, writing and counting of learners with ASD. Teachers witnessed learners with ASD develop independent living skills, including self-feeding, toileting, and execution of household chores, which fostered their acceptance by their families and the society in its entirety. Teachers also experienced learners' development of self-confidence in executing different roles and responsibilities at school and society, which fostered their recognition and appreciation.

8.7.3 Sub-research question 3: Strategies to enhance the teaching of learners with ASD

Several individual and institutional capacity building oriented strategies could enhance the teaching of learners with ASD. Practically oriented pre-service and in-service training of teachers in universities and schools respectively could foster knowledge and information in teachers about learners with ASD and strategies to teach these learners, which could enhance the teaching of these learners. The provision of resources of the government and district, including technology, facilities, materials, time and finance, could improve the teaching of learners with ASD. These resources could facilitate interactive teaching and learning as well as individualised teaching of learners with ASD, which could enhance the learning of these learners. Parental involvement and participation could improve the teaching of learners with ASD in special schools. Parents who were involved in the education of children with ASD could afford these children learning resources, implement school interventions at home, inform teachers on the needs of these children and receive guidance and counselling from teachers on the etiological foundation of the condition and the lack of treatment for it. Parental involvement and participation in the education of children with ASD could promote diagnostic and prescriptive teaching of these children. Fostering knowledge and information about learners with ASD among stakeholders, including parents and communities, through awareness campaigns, could improve the teaching of these learners. Such awareness campaigns could be done using public media inclusive of TV and radio. Mounting of awareness campaigns about learners with ASD for stakeholders could promote their involvement and participation in the teaching of these learners. Support of stakeholders could afford psychosocial support to teachers and parents of learners with ASD and it could foster social acceptance of these learners by their typically developing siblings. Teachers' knowledge and information on individual learners with ASD could improve the teaching of these learners. This could include their individual levels of cognitive functioning, interests and capabilities. The adoption of a life-skills oriented approach, including linking the teaching of learners with ASD to their daily lives, practical subjects and careers of their own choice, could foster in these

learners independent living and self-sustenance. The use of information and communication technology, inclusive of computers with internet access, assistive devices and talking toys, could afford learners with ASD a voice and the ability to express themselves independently. The use of interest-based rewards and reinforcement, including free play, computer time, games, puzzles, drawing and colouring, to maintain good behaviour in the classroom could enhance the teaching of learners with ASD.

8.8 Limitations and overcoming limitations of the study

This study was carried out at only one special school in Johannesburg East District yet there are many special schools, which enrol learners with ASD in the Gauteng Province of South Africa. Thus, the transferability of the findings this study to other districts or provinces in South Africa is unknown. A non-probability sample of 12 teachers, three males and nine females, selected from one special school was used in this study that further limited transferability of findings. Since this was a qualitative and naturalistic study, chances of it being replicated are minimal. Data and information in the current study were sought from teachers at one special school yet other teachers for learners with ASD from other special schools could illuminate the subject. During the course of the research, I observed that some participants were holding back information, especially during face-to-face interviews, because they felt interrogated on their professional weaknesses in teaching learners with ASD at the school, hence they were not entirely open in their responses.

Several strategies were used to overcome the above-mentioned limitations of this study. I had to employ critical case sampling (Etikan et al., 2016). Thus, only participants who met the inclusion criteria of having taught learners with ASD for at least three years at the selected special school and who were in possession of an undergraduate teaching qualification, were part of the study. Non-participant observation and document analysis were used in the present study to substantiate data that were collected through individual, face-to-face interviews where some teachers were not forthcoming with their responses. The use of multiple data collection instruments allowed me to triangulate

and make findings of this study more convincing (Yin, 2009). Objectivity of the study was maintained by audio recording all individual interviews that I conducted with teachers at the selected school based on the research objectives. I comprehensively presented the research methodology and design of the study.

8.9 Delimitations of the study

This study explored teaching strategies for learners with ASD at a special school in Johannesburg East District in Gauteng Province of South Africa. The sample constituted of 12 special school teachers for learners with ASD. Only teachers with three years' of experience teaching learners with ASD at the selected special school and in possession of an undergraduate teaching qualification participated in this study. The teachers were individually interviewed and observed in their classes as they engaged with their learners during lesson delivery. Teachers' lesson plans, learners' workbooks, individualised educational plans, communication books, rosters, homework books, visual schedules, reward charts, learners' activity sheets and record books were analysed. A single case study design was used to explore teaching strategies for learners with ASD at a selected special school. The capability approach served as a theoretical lens for this study.

8.10 Conclusion

The current study explored teaching strategies for learners with ASD at a special school in Johannesburg East District in Gauteng Province of South Africa as the context for proposing strategies to enhance the teaching of these learners. To this end, the objectives of the study were to explore teachers' strategies in teaching learners with ASD at a special school in Johannesburg East District in Gauteng Province of South Africa, to describe teachers' experiences in teaching learners with ASD at a special school in Johannesburg East District in Gauteng Province of South Africa and to propose strategies to enhance the teaching of learners with ASD at a special school in Gauteng Province of South Africa. Twelve teachers for learners with ASD possessing undergraduate teaching qualifications and a minimum of three years' teaching

experience participated in this study. The study used the constructivist/interpretivist research paradigm, qualitative research approach and single case study design embedded within the capability approach. Data were collected through individual, semi-structured, face-to-face, in-depth interviews, non-participant observation, document analysis and field notes.

Teachers at the participating special school in Johannesburg East District in Gauteng Province of South Africa used various teaching strategies in teaching learners with ASD. The teachers used these strategies for either individual or group learning in response to the diverse needs of learners with ASD in their special school classrooms. Teachers used behavioural practices, which included therapist support, social stories, class assistant support and behaviour management, natural practices, which involved the use of Makaton and speech, play, praxis, curriculum adaptation and active learning, and organisational practices, which included TEACCH, visual schedules, structured classroom environments, concrete and picture media, pre-learning activities and morning assembly.

Teachers at the participating special school had both positive and negative experiences while teaching learners with ASD in their classrooms and the school at large. Teachers' experiences stemmed from family, individual learners and levels of functioning of learners with ASD. Teachers' lack of knowledge about ASD and the management of these learners was a major challenge for them during teaching. Teachers also experienced family problems and a lack of cooperation from home, which hindered the progress of learners with ASD in their special school classrooms. However, teachers also encountered positive experiences while teaching learners with ASD in their special school classrooms. They reported that learners with ASD showed improvements in reading and writing skills, self-independence, verbalisation and in execution of leadership roles at school and society.

Several strategies could be used to enhance the teaching of learners with ASD in special school classrooms. Service provisions, such as training of teachers, teamwork, provision of requisite resources, fostering awareness of ASD, use of modern

technology, individualised teaching, the provision of family support and the use of motivation were perceived to meet the individuality of learners with ASD in their classrooms. Based on the findings of the present study, it can be concluded that an exploration of teaching strategies for learners with ASD in special schools in South Africa can serve as a context for proposing strategies to enhance the teaching of these learners in special school classrooms.

8.11 Contribution of the study

The present study is the first of its kind to investigate teaching strategies for learners with ASD at a special school in Johannesburg East District in Gauteng Province of South Africa. The current study originates and extends the breadth and depth of the body of knowledge, attitudes, skills and understanding regarding teaching strategies for learners with ASD, teaching experiences and teaching enhancement strategies. It accumulated knowledge and information on the environment, process, content and product of teaching learners with ASD that policy makers can use to inform the development and amendment of policies on the education of these learners in special schools in South Africa and elsewhere. This body of knowledge and skills will assist special needs and inclusive education stakeholders, institutions and organisations, including teachers, parents, administrators, the community and the government, in strategising improvements for teaching learners with ASD in special schools. This study also serves as a springboard for future research in teaching strategies for learners with ASD in South Africa and elsewhere.

8.12 Recommendations on teaching strategies for learners with ASD in special schools

Based on the findings of the present study, the capability approach and reviewed international and South African literature on teaching strategies for learners with ASD in special schools, the following recommendations have been proposed as ways of enhancing the teaching of learners with ASD in special school classrooms:

- Specialised training on how to teach and manage learners with ASD could be institutionalised for trainee teachers in colleges and universities with extensive hands-on practicals involving learners with ASD in special school settings. Teachers need to be knowledgeable about ASD, its characteristics, management and how to engage with these learners during teaching. Teachers also need to spend at least a year in special schools for learners with ASD to engage on a more practical level with these learners during their training. Exposition of teachers to such knowledge in both theory and practice could enhance the teaching of learners with ASD in special schools.
- Continuous training for teachers in special schools for learners with ASD could be institutionalised within the school system so that they are well informed of their expectations when teaching learners with ASD. In-service training is fundamental as it continuously educates teachers who are already in the system who may not have received the appropriate and necessary training on ASD and how to teach and manage these learners.
- Placing qualified administrators in special schools for learners with ASD who understand that their involvement in planning and decision-making is fundamental to the education of learners with ASD. A principal who is well versed with ASD is bound to make reasonable suggestions and decisions that benefit teachers and learners with ASD. The progress of the school, innovations and improvements have a direct impact on learners with ASD and the teachers who engage with these learners in their classrooms, hence qualified management and administrators could facilitate positive development and enhance the teaching of learners with ASD in special schools.
- An increase in budget for special schools for learners with ASD so that they can afford to sustain their facilities and get supplies that includes state-of-the-art technological devices. Learners with ASD require many visual and concrete objects as they rely and understand mostly by seeing. They also need new

technology in the form of manipulative and fidget toys, iPads and computers therefore an increase in budget for special schools for learners with ASD could afford these learners the tools they need during their teaching. Provision of requisite resources facilitates teaching in special school classrooms.

- Organising awareness campaigns on ASD in society through national radio and television. Most societies seem to lack knowledge about ASD hence an increase in awareness about the condition through televised documentaries and radio programmes could improve people's knowledge and understanding of the condition. Educating societies makes them more accepting of learners with ASD, their families and siblings, which could enhance the teaching of these learners in special schools.
- Monitoring and evaluating speech and occupational therapists placed in government special schools for learners with ASD to work together with the teachers. Therapists need to be constantly supervised to ensure that they are supporting teachers and learners with ASD in their classrooms. Collaboration of teachers, speech and occupational therapists could enhance teaching and learning of learners with ASD in special school classrooms.
- Establishing and reinforcing collaborative cultures between parents of learners with ASD and their teachers especially in drawing up of IEPs. Parents are an indispensable component in the teaching of learners with ASD in special school classrooms. Thus, collaboration of parents of learners with ASD and their teachers facilitates teaching and learning of learners with ASD
- Mandatory entry point, national certification and basic training for class assistants working in special schools for learners with ASD could improve their knowledge of ASD, which facilitates their execution of duties in the classroom and the school at large, thus enhancing the teaching of learners with ASD in special school classes.

8.13 Recommendations for further research

Following are the recommendations for future studies in the field of teaching strategies for learners with ASD in special schools in South Africa.

- The present study was confined to only one special school for learners with ASD in Johannesburg East District in Gauteng Province of South Africa, which is a relatively small coverage. A more comprehensive study executed around the entire Gauteng Province or the country would establish a large pool of teaching strategies, teaching experiences and teaching enhancement strategies. This would also provide a wider baseline for strategising improvements in teaching learners with ASD.

In the current study, data and information were directly obtained from teachers only. More information would have been solicited if therapists, social workers, principals and officials from the Department of Education responsible for special schools for learners with ASD were included as research participants.

8.14 Final comments

The current study explored teaching strategies for learners with ASD at a special school in Johannesburg East district in Gauteng Province of South Africa as the context for proposing strategies to enhance the teaching of these learners. This qualitative single case study specifically examined teachers' experiences and strategies to enhance the teaching of learners with ASD in special school classrooms in Johannesburg East District in Gauteng Province of South Africa. The study accumulated valuable knowledge and insight into strategies that could enhance the teaching of learners with ASD in special school classrooms in South Africa.

Teachers used various teaching strategies for individuals or for group of learners with ASD in response to their diverse unique needs at a special school. Strategies used in their classrooms included Makaton and speech, play, praxis, curriculum adaptation and active learning, TEACCH, visual schedules, structured classroom environments,

concrete and picture media, pre-learning activities, morning assembly, therapist support, social stories, class assistant support and behaviour management.

Teachers had positive and negative experiences in teaching learners with ASD in their classes and in the school at large. Teachers reported a lack of knowledge, management of learners with ASD, family problems and a lack of cooperation as challenges that they faced while teaching learners with ASD in special school classrooms. Positive experiences that teachers encountered included significant improvement in reading and writing skills, verbalisation, self-independence, and execution of leadership roles at school and society.

Training of teachers, teamwork, provision of requisite resources, fostering awareness of ASD, use of modern technology, individualised teaching, the provision of family support and use of motivation could enhance the teaching of learners with ASD in special schools.

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APPENDIX A: Research ethics clearance certificate



UNISA COLLEGE OF EDUCATION ETHICS REVIEW COMMITTEE

Date: 2017/09/13

Ref: **2017/09/13/60034777/36/MC**

Dear Ms Nyatanga

Name: Ms S Nyatanga

Decision: Ethics Approval from
2017/09/13 to 2020/09/13

Student: 60034777

Researcher:

Name: Ms S Nyatanga

Email: sinyatanga@gmail.com

Telephone: 0730978786

Supervisor:

Name: Dr T Majoko

Email: majokt@unisa.ac.za

Telephone: 012 4812933

Title of research:

**Teaching strategies for learners with Autism Spectrum Disorder in Johannesburg:
A case study**

Qualification: M Ed In Inclusive Education

Thank you for the application for research ethics clearance by the UNISA College of Education Ethics Review Committee for the above mentioned research. Ethics approval is granted for the period 2017/08/16 to 2020/08/16.

*The **high risk** application was reviewed by the Ethics Review Committee on 2017/09/13 in compliance with the UNISA Policy on Research Ethics and the Standard Operating Procedure on Research Ethics Risk Assessment.*

The proposed research may now commence with the provisions that:

1. The researcher(s) will ensure that the research project adheres to the values and



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principles expressed in the UNISA Policy on Research Ethics.

2. Any adverse circumstance arising in the undertaking of the research project that is relevant to the ethicality of the study should be communicated in writing to the UNISA College of Education Ethics Review Committee.
3. The researcher(s) will conduct the study according to the methods and procedures set out in the approved application.
4. Any changes that can affect the study-related risks for the research participants, particularly in terms of assurances made with regards to the protection of participants' privacy and the confidentiality of the data, should be reported to the Committee in writing.
5. The researcher will ensure that the research project adheres to any applicable national legislation, professional codes of conduct, institutional guidelines and scientific standards relevant to the specific field of study. Adherence to the following South African legislation is important, if applicable: Protection of Personal Information Act, no 4 of 2013; Children's act no 38 of 2005 and the National Health Act, no 61 of 2003.
6. Only de-identified research data may be used for secondary research purposes in future on condition that the research objectives are similar to those of the original research. Secondary use of identifiable human research data requires additional ethics clearance.
7. No field work activities may continue after the expiry date 2020/09/13. Submission of a completed research ethics progress report will constitute an application for renewal of Ethics Research Committee approval.

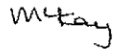
Note:

The reference number 2017/09/13/60034777/36/MC should be clearly indicated on all forms of communication with the intended research participants, as well as with the Committee.

Kind regards,



Dr M Claassens
CHAIRPERSON: CEDU RERC
mcdtc@netactive.co.za

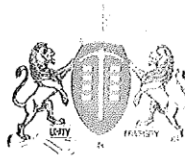


Prof V McKay
EXECUTIVE DEAN

Approved - decision template – updated 16 Feb 2017

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APPENDIX B: GDE approval letter



GAUTENG PROVINCE

REPUBLIC OF SOUTH AFRICA

8/4/4/1/2

GDE RESEARCH APPROVAL LETTER

Date:	16 November 2017
Validity of Research Approval:	05 February 2018 – 28 September 2018 2017/318
Name of Researcher:	Nyatanga S
Address of Researcher:	8318 Bosnia Crescent Ext7 Cosmo City Randburg 2194
Telephone Number:	073 097 8786
Email address:	sinyatanga@gmail.com
Research Topic:	Teaching strategies for learners with Autism Spectrum Disorder in Johannesburg: A case study
Number and type of schools:	One LSEN School
District/s/HO	Johannesburg East

Re: Approval in Respect of Request to Conduct Research

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

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

Faith Tshabalala 17/11/2017

Making education a societal priority

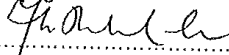
Office of the Director: Education Research and Knowledge Management

7th Floor, 17 Simmonds Street, Johannesburg, 2001
Tel: (011) 355 0488
Email: Faith.Tshabalala@gauteng.gov.za
Website: www.education.gpg.gov.za

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

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

Kind regards



Ms Faith Tshabalala
CES: Education Research and Knowledge Management

DATE: 17 / 11 / 2017

Making education a societal priority

2

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APPENDIX C: Letter to the Principal

TITLE: TEACHING STRATEGIES FOR LEARNERS WITH AUTISM SPECTRUM DISORDER IN JOHANNESBURG: A CASE STUDY

24 August 2017

The Principal

Dear Madam

I, Sitembile Nyatanga am doing research under the supervision on of Dr Tawanda Majoko in the Department of Inclusive Education towards a Master's degree with University of South Africa. I kindly invite your school to participate in the study entitled **Teaching strategies for learners with Autism Spectrum Disorder in Johannesburg: A case study**. The purpose of the study is to interrogate and explore how teachers teach learners with Autism Spectrum Disorder in a special school. The school has been selected because it accommodates learners with Autism Spectrum Disorder. The principal of the school will be kindly requested to provide a list of teachers who meet the inclusion criterion.

The study will entail interviewing and observing 12 selected teachers at a selected special school accommodating learners' with ASD, analysing participants' lesson plans, individualized educational plan and learners' workbooks in the observed classes. The participants should be holders of at least an undergraduate teaching qualification and have at least two years' experience teaching learners with Autism Spectrum Disorder. A meeting with the identified potential participants will then be convened in which the researcher will explain the purpose and scope of the study so that they can decide to participate or not to participate from an informed position.

The benefits of this study are that the findings may highlight gaps and strategies in the teaching of learners with Autism Spectrum Disorder. This study is anticipated to benefit

several stakeholders of the inclusive and special school movement including teachers, learners, policymakers and researchers. Teacher education institutions are envisaged to be provided with valuable information for preparing and developing teachers in teaching learners with ASD. It is anticipated that the study will accumulate strategies that may enhance effective teaching of learners with Autism Spectrum Disorder in South Africa and elsewhere. Consequently, learners may eventually be afforded effective teaching strategies that are responsive to their full range of needs. Teachers engage in reflecting practices basing on the information gleaned from the present study. This study is expected to serve as a baseline for future research on the topic. The current study is expected to yield knowledge and information that can be used to inform policy makers on teacher preparation and development for teaching learners with Autism Spectrum Disorder in Special Schools in South Africa and other countries.

Due to the complexity and nature of Autism Spectrum Disorder, which entails unannounced behaviour manifestations, I kindly seek permission to visit the selected special needs school to familiarise the learners and their learning routine prior to data collection, to mitigate and potential unsettling of these learners during data collection.

Feedback on research findings will be made available to the school through a workshop. A research report on the study findings will be given to the Department of Education Johannesburg East District. Discussion of the findings will be held with teachers at the school.

Yours sincerely

Sitembile Nyatanga

MEd Student Researcher

Cell phone number: 073 097 8786

Email: sinyatanga@gmail.com

APPENDIX D: Letter to the SGB

REQUEST FOR PERMISSION TO CONDUCT RESEARCH AT JOHANNESBURG
HOSPITAL SCHOOL

TITLE: TEACHING STRATEGIES FOR LEARNERS WITH AUTISM SPECTRUM
DISORDER: A CASE STUDY

Date 24 August 2017

The School Governing Body

Johannesburg Hospital School

Dear Chairperson

I, Sitembile Nyatanga am doing research under the supervision of Dr. Tawanda Majoko, a senior lecturer in the Department of Inclusive Education towards a Master's Degree with University of South Africa. We are inviting you to participate in a study entitled **Teaching strategies for learners with Autism Spectrum Disorder in Johannesburg: A Case Study.**

The purpose of this study is to interrogate the effectiveness of teaching strategies for learners with Autism Spectrum Disorder at Johannesburg Hospital School. Your school has been selected because it accommodates learners with Autism Spectrum Disorder. The study will entail interviewing and observing 12 selected teachers at your school, analysing participants', individualised educational plans and learners' workbooks in the observed classes.

The benefits of the study are that findings may highlight gaps and strategies in teaching of learners with Autism Spectrum Disorder. This study is anticipated to benefit several stakeholders of inclusive and special school movement including teachers, learners, policymakers and researchers. Teacher education institutions are envisaged to be

provided with valuable information for preparing and developing teachers in teaching learners with Autism Spectrum Disorder in South Africa and elsewhere. Consequently, learners may eventually be afforded effective teaching strategies that are responsive to their full range of needs teachers engage in reflecting practices basing on the information gleaned from the present study. This study is also expected to serve as a baseline for future research on the topic. The current study is expected to yield knowledge and information that can be used to inform policy makers on teacher preparation and development for teaching learners with Autism Spectrum Disorder in South Africa and other countries.

Due to the complexity and nature of Autism Spectrum Disorder, which entails unannounced behaviour manifestations, I kindly seek permission to visit your school to familiarise with learners and their learning routine prior to data collection, to mitigate any potential unsettling of these during data collection. There will be no reimbursement or any incentives for participation in the research. There are no potential risks anticipated in this study.

Feedback on research findings will be made available to the school through a workshop which will entail sharing the results with participants in this study. A research report on the study findings will be given to the Department of Education in your District.

Yours sincerely

Sitembile Nyatanga

MEd Student Researcher

Cell phone number: 073 097 8786

Email: sinyatanga@gmail.com

APPENDIX E: Participant information sheet

TITLE: TEACHING STRATEGIES FOR LEARNERS WITH AUTISM SPECTRUM DISORDER IN JOHANNESBURG: A CASE STUDY

24 August 2017

Dear prospective participant

My name is Sitembile Nyatanga and I am doing research under the supervision of Dr Tawanda Majoko in the Department of Inclusive Education towards a Master's Degree with University of South Africa. We are inviting you to participate in the study entitled **Teaching strategies for learners with Autism Spectrum Disorder in Johannesburg: A case study.**

THE PURPOSE OF THIS STUDY

This study is expected to collect information that could highlight strengths and shortcomings in the teaching of learners with Autism Spectrum Disorders in special schools. The research may also lay a basis for teacher preparation and development for teaching learners with Autism Spectrum Disorder. Should this happen, learners with Autism Spectrum Disorder in special schools whose educational needs are presently being not fully catered for will be the major beneficiaries of this research.

WHY ARE YOU BEING INVITED TO PARTICIPATE

You have been selected to participate in this research because you are a teacher who is teaching at a special school which caters for learners with Autism Spectrum Disorder. The selection criteria for participants were given to the principal of the school who assisted in identifying the most appropriate participants for this study. You are among the twelve participants all of whom possesses at least an undergraduate teaching qualification and you have at least two years' experience teaching learners with Autism

Spectrum Disorder.

THE NATURE OF MY PARTICIPATION IN THIS STUDY

The study involves unstructured face-to-face individual interviews, lesson observations and document analysis. During the unstructured interviews, you will be asked questions that will allow you to express your views with regards to your teaching of learners with Autism Spectrum Disorder, the success and challenges you have encountered when teaching these learners and strategies that you think can enhance their teaching. Each interview session is expected last between 45 to 60 minutes and will be carried out during participants free time at any convenient place. The interview will be audio-taped with your kind permission to facilitate accurate data capturing. Only one of your usual lesson will be observed by the researcher. The researcher will also seek permission to analyse your lesson plans, individualized educational plan and your learner's workbooks.

WITHDRAWAL FROM PARTICIPATION

Participating in this study is voluntary and you are under no obligation to consent to participation. If you do decide to take part, you will be given this information sheet to keep and be asked to sign a written consent form. You are free to withdraw at any time and without giving a reason.

POTENTIAL BENEFITS OF TAKING PART IN THIS STUDY

The benefit of taking part in the current research is the satisfaction derived from contributing to development of insight into special education specifically towards the teaching of learners with Autism Spectrum Disorder.

NEGATIVE CONSEQUENCES OF PARTICIPATING IN THE RESEARCH PROJECT

Participants will be required to make up time for the in-depth interview. Some may be inconvenienced if the time schedule for the interview clashes with other commitments they might be having. Also, you might experience a degree of discomfort since the

researcher will conduct lesson observation and will also request for lesson plans learners' workbooks. Some participants might consider lesson observations as an invasion of privacy.

CONFIDENTIALITY

Your name will not be recorded anywhere and no one will be able to associate you with the answers you give. Your answers will be given a code number or a pseudonym and you will be referred to in this way in the data, any publications, or other research reporting methods such as conference proceedings.

Your answers may be reviewed by people responsible for making sure that research is done properly, including the transcriber, external coder and members of the Research Ethics Review Committee. Otherwise, records that identify you will be available only to people working on the study, unless you give permissions for other people to see the records.

The research findings may be used for other purposes, such as research report, journal articles and/or conference proceedings. Also, a report of the study may be submitted for publication but individual participants will not be identifiable in such a report.

PROTECTION AND SECURITY OF DATA

Hard copies of your answers will be stored by the researcher for a period of 5 years in a lockable safe cabinet for future research or academic purposes. The electronic information will be stored on a password protected computer. Future use of this store data will be subject to further Research Ethics Review and approval if applicable. After 5 years, hard copies will be shredded and/or electronic copies will be permanently deleted from the hard drive of the computer through the use of relevant software programme.

PAYMENT OR INCENTIVES FOR PARTICIPATING IN THIS STUDY

There shall be no payment or reward offered for participating in the research study.

ETHICS APPROVAL

This study has received written approval from the Research Ethics Review Committee of the College of Education, UNISA. A copy of the approval letter can be obtained from the researcher if you so wish.

HOW YOU WILL BE INFORMED OF THE FINDINGS/RESULTS OF THE RESEARCH

Should you require any further information or want to contact the researcher about any aspect of this study, please contact me on this number 073 097 8786 or email me at sinytanga@gmail.com

Should you have concerns about the way in which the research has been conducted, you may contact Dr Tawanda Majoko at majokt@unisa.ac.za telephone : +27124842933.

Alternatively, contact the research ethics chairperson of the College of Education Research Ethics Committee, Dr Madaleen Claasens at mcdtc@netactive.co.za telephone: 012 429 3111

Thank you for taking time to read this information sheet and for participating in this study.

Sitembile Nyatanga

MEd Student Researcher

Cell phone number: 073 097 8786

Email: sinyatanga@gmail.com

APPENDIX F: Participant consent to participate in this study

I, _____ confirm that the person asking my consent to take part in this research has told me about the nature, procedure, potential benefits and anticipated inconvenience of participation.

I have read and understood the study as explained in the information sheet.

I have had sufficient opportunity to ask questions and am prepared to participate in this study.

I understand that my participation is voluntary and that I am free to withdraw at any time without penalty.

I agree to the following:

- Recording of the in-depth interview,
- Being observed while teaching, and
- Having my lesson plans, individualised educational plan and learners' workbooks analysed.

I have received a signed copy of the informed consent agreement.

Participant Name & Surname (please print) _____

Participant signature

Date.....

Researchers Name & Surname (please print)

NYATANGA SITEMBILE

Researcher's signature

Date.....

Cell phone number: 073 097 7876

Email: sinyatanga@gmail.com

APPENDIX G: Parental consent for minors

Dear Parent

Your child, _____ is invited to participate in the study entitled **Teaching strategies for learners with Autism Spectrum Disorders in Johannesburg: A Case Study**. I am undertaking this study as part of my Master's research with University of South Africa. The purpose of the study is to interrogate and explore the effectiveness of teaching strategies for learners with Autism Spectrum Disorder at a special school and the possible benefits of the study are the improvement of education for learners with this condition. I am asking permission to include your child in this study because he/she is part of a class that will be observed during the research study. I expect to have a approximately 100 other learners participating in the study.

If you allow your child to participate, I shall request him/her to:

- Participate during the lesson
- Submit classwork books, homework books, communication books for document analysis

Any information that is obtained in connection with this study and can be identified with your child will remain confidential and will only be disclosed with your permission. There are no foreseeable risks to your child participation in the study. Your child will receive no direct benefit from participating in the study, however the possible benefits to education are improvement in the teaching of learners with Autism Spectrum Disorder. Neither your child nor you will receive any type of payment for participating in this study.

Your child's participation is voluntary. Your child may withdraw from participation at any time. Withdrawal will not affect your child in any way. Similarly, you can agree to allow your child to be in the study now and change your mind later without any penalty. The study will take place during classroom activities with prior approval of the school and

your child's teacher. The information gathered from the study and your child's participation in the study will be stored securely on a password locked computer for five years after the study. Thereafter, records will be erased.

If you have further questions about this study, please ask my supervisor, Dr Tawanda Majoko, Department of Inclusive Education, College of Education, University of South Africa email address majokt@unisa.ac.za or telephone: +27124842933

You are making a decision about allowing your child to participate in this study. Your signature below indicates that you have read the information provided and have given permission for him/her to participate in the study. You may keep a copy of this letter.

Name & Surname of child (please print) _____

Parent's name..... Signature.....
Date.....

Researcher's name NYATANGA SITEMBILE
Signature..... Date.....

Cell phone number: 073 097 7876

Email: sinyatanga@gmail.com

APPENDIX H: Interview guide

TITLE: TEACHING STRATEGIES FOR LEARNERS WITH AUTISM SPECTRUM DISORDER IN JOHANNSBURG: A CASE STUDY

Background information

Participant Code

Gender_____

Age_____

Teaching
qualifications_____

Teaching Experience_____ Grade_____ Number of
learners_____

1. Describe your typical day teaching learners Autism Spectrum Disorder.
2. How do you understand ASD? (Probe for characteristics)
3. How do you teach learners with Autism Spectrum Disorder? (Probe for effectiveness of the used strategies particularly responsiveness to individuality of these learners)
4. How do you ensure successful teaching of learners with Autism Spectrum Disorder?

5. What works well in your teaching of learners with Autism Spectrum Disorder?
6. What does not work well in your teaching of learners with Autism Spectrum Disorder?
7. How do you experience teaching learners with Autism Spectrum Disorder? (What are the challenges? What are the opportunities?)
8. What are your instances of success in teaching learners with Autism Spectrum Disorder?
9. What are your instances of difficulties in teaching learners with Autism Spectrum Disorder?
10. How do you review your professional training to teach learners with Autism Spectrum Disorder?
11. What strategies do you think can enhance the teaching of learners with Autism Spectrum Disorder?
12. What else would you like to add that we did not talk about regarding teaching strategies for learners with Autism Spectrum Disorder?

APPENDIX I: Observation checklist

TITLE: TEACHING STRATEGIES FOR LEARNERS WITH AUTISM SPECTRUM DISORDER IN JOHANNESBURG: A CASE STUDY

Background information

Participant code

Class name _____

Aspect	Remarks
<p>Physical Environment</p> <p>a) Floors (Acoustic/carpeted)</p> <p>b) Patterned or plain floors</p> <p>c) Colour of walls</p> <p>d) Lighting</p> <p>e) Noise</p>	

<p>f) Smells</p> <p>g) Safety (locks, handles, windows, electrical sockets, secured entrances)</p>	
<p>Classroom Organisation</p> <p>a) Classroom layout</p> <p>b) Classroom design</p> <p>c) Sensory corner</p>	
<p>Classroom Management</p> <p>a) Following schedules and routines</p> <p>b) Individual timetable (daily/weekly)</p>	

c) Visual display (words/pictures)	
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<p>Teaching and learning activities</p> <p>a) Individual tasks</p> <p>b) Group tasks</p> <p>c) Visual structures (organisation, clarification, instructing)</p>	
<p>Interaction of teacher and learners</p> <p>a) One on one interaction</p> <p>b) Group interaction</p>	

<p>c) Whole class interaction</p>	
<p>Use of different assessments</p> <p>a) Ability assessments</p> <p>b) Achievement assessments</p> <p>c) Emotional and behavioural assessments</p>	
<p>Making abstract concepts concrete or simplified</p>	
<p>Strategies for supporting learners</p> <p>a) Use of many forms of communication e.g. Speech, pointing, gestures and body language, pictures, objects, written language, technology.</p>	

<p>b) Use of clear instructions</p> <p>c) Use of visual ALWAYS</p> <p>d) Prompting engagement</p> <p>e) Sign posting change to usual routine</p> <p>f) Rewarding positive behaviour</p> <p>g) Provision of checklist for learners</p> <p>h) Provision of timers/stopwatches as visual reminders</p> <p>Participation of learners in all learning activities</p>	
<p>Questioning techniques</p>	

<p>a) Is language simple, clear and direct?</p>	
<p>Time and support during learner responses</p> <p>a) Does teacher pay attention to individual needs throughout the teaching and learning process</p>	
<p>Follow up support and additional assistance to learners during and after lessons</p>	
<p>Use of variety of resource materials and tangible aids</p> <p>a) For example, real objects, photograph or computer animation</p>	
<p>Nature of class tasks</p>	

<p>a) Written</p> <p>b) Practical</p> <p>c) Oral</p>	
<p>Strategies to enhance teaching</p>	
<p>Use of code teaching</p> <p>a) Are there 2 qualified teachers with or without same expertise jointly teaching the class</p>	

<p>Use of collaboration</p> <p>a) Is teacher working with someone as a classroom assistant?</p>	
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<p>Use of guided notes</p> <p>a) Does teacher have prepared handouts with activities/tasks for use during teaching?</p>	
<p>Use of self-management intervention</p> <p>a) Are there activities designed to change/maintain learners' behaviour?</p>	
<p>Use of instructional adaptations</p> <p>a) Variety e.g., use of technology</p> <p>b) Something that catches learning attention</p> <p>c) Are topics interesting and tailored to what learners like?</p>	

<p>d) Does teacher move around the classroom when delivering instruction to learners?</p> <p>e) Are learners prepared in advance?</p>	
<p>Use of additional teaching</p> <p>a) Is teacher aware of all learners' strengths and weaknesses?</p> <p>b) Does teacher get additional help in form of a shadow teacher/aide?</p> <p>c) Does teacher have a behaviour plan in place in case of meltdowns due to sensory overload?</p>	
<p>Use of multi-level instruction</p> <p>a) Does teacher allow varying outcomes</p>	

<p>from learners after teaching a concept?</p>	
<p>Use of technology</p> <p>Are learners using:</p> <p>a) Computers</p> <p>b) iPad</p> <p>c) Digital tools</p> <p>d) Verbal apps with visual scene display</p>	
<p>Building community in the classroom</p> <p>a) Does teacher greet each learner as they enter the classroom daily?</p> <p>b) Is there morning meeting/circle time?</p>	

<p>c) Have rules been set together?</p> <p>d) Are learners given a chance to socialise with one another in the classroom?</p>	
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Signature of researcher:

Date:

APPENDIX J: Editor's letter

Barbara Shaw

Editing/proofreading services

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Full member of The Professional Editors' Guild

To whom it may concern

This letter serves to inform you that I have done language editing, reference checking
and formatting on the thesis

**TEACHING STRATEGIES FOR LEARNERS WITH AUTISM SPECTRUM
DISORDER IN JOHANNESBURG: A CASE STUDY**

by

SITEMBILE NYATANGA



Barbara Shaw

19/10/2020