A NARRATIVE JOURNEY OF CHILDREN WITH AUTISM SPECTRUM DISORDER: THE EFFECT OF STRUCTURED DRAMA INTERVENTION ON FUNCTIONALITY IN EDUCATION

by

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DECLARATION

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Financial assistance from the National Research Foundation (NRF) for this research is hereby acknowledged. Opinions given or conclusions reached in this work are those of the author and should not necessarily be regarded as those of the NRF.

Plagiarism

I, the undersigned, hereby declare that the work contained in this thesis is my own original work, and that I have not previously submitted it in its entirety or in part at any university for a degree. I declare that this is not the work of anyone else. It is the result of my own efforts, with the support and guidance of my study leaders.

I declare that any sources, published or from the internet, that I have used have been duly acknowledged in the text and in a list of references in accordance with the University's policy.

I hereby also declare that the language editing was done by a qualified person, Dr I. Noome (DLitt English, UP), see Annexure C.

…… ……

Marlene Zwiegers Date

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ABSTRACT

Children with Autism Spectrum Disorder (ASD) often experience challenges in the social, communicative and behavioural domains. They are often marginalised and isolated in education, excluded from peers and opportunities to learn. South Africa's *White Paper 6* calls for children such as those with ASD to be accommodated. This implies that, where necessary, interventions are required. This study discusses drama techniques as an intervention strategy.

The main purpose of the study was to explore the effect of a structured drama intervention on children with ASD to address their challenges with functionality in education. Autism Spectrum theories and prior research on autism's impact on the functionality of children with ASD in education were explored to provide a background on the extent of their daily challenges. Various drama techniques relevant to children with ASD were researched. This prior research provided a framework for the empirical study and the selection of appropriate drama techniques to offer participants possible support.

The sample consisted of children diagnosed with the Autism Diagnostic Observation Schedule (ADOS) as being on the autism spectrum. The narratives of 11 children (6-16 years) were documented to create understanding for their challenges. Mixed methods were employed to assess whether the chosen drama techniques decreased social, communicative and behavioural challenges. The Childhood Autism Rating Scale (CARS) and Canadian Attention Deficit Hyperactivity Disorder Resource Alliance – Weiss Functional Impairment Rating Scale, Parent Report (CADDRA WFIRS-P) were used as pre- and post-intervention tests for possible development (or a lack thereof) in relevant areas. These quantitative tests, together with qualitative methods, such as interviews and transcribed video-graphs, provided the necessary triangulation to validate the quantitative scores of participants.

The drama intervention consisted of 12 classes over three months. A greeting session (for socialization) at the start of a class preceded the use of suitable drama techniques (breathing, relaxation, voice development, movement, improvisation, short scenes, role play and art activities). Quantitative scores indicated development in socialization, communication and behaviour (at home and in education) in most participants.

Qualitative feedback provided more details on development in these areas. Social development manifested in areas such as increased compassionate and affective social skills, improved socialization and an expanded sense of humour. Development in communication skills took the form of progressively improved self-expression, increased reciprocal communication and a seemingly greater effort to communicate. Functional behaviour increased, specifically at home. Some participants demonstrated helpfulness with tasks, increased willingness to share, compliance with instructions, independent work habits, self-acceptance and affectionate behaviour. Unfortunately, for some participants, victimization, unsupported needs at school, academic demands, family circumstances, and/or failure to reinforce lessons from the drama intervention at home or continue classes affected the sustainability of the impact of the interventions. Drama intervention in a group setting provided a safe place for participants to learn through play. The group offered an important socializing space where most participants benefitted from the company of other children. This in-depth empirical study showed that the playful aspect of the drama intervention supported most participants' development and offered progressive conditioning in increased functionality.

Key words:

Autism Spectrum Disorder (ASD); drama therapy; drama techniques; socialization; communication; behaviour; emotional regulation; mixed-methods research; Childhood Autism Rating Scale (CARS); Canadian Attention Deficit Hyperactivity Disorder Resource Alliance – Weiss Functional Impairment Rating Scale, Parent Report (CADDRA (WFIRS-P)); play.

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CHAPTER 1:
INTRODUCTION

1.1 BACKGROUND

An Autism Spectrum Disorder (ASD) is a lifelong impairment that manifests in unique ways in each person with ASD. The totality of this disorder is better described as a spectrum (ASD), rather than in a monolithic way as a single disorder (APA, 2013:50; Koudstaal, 2011:341). It is specifically defined as a complex group of neurodevelopmental conditions, and it is characterized by a triad of challenges in the domains of communication, social interaction, and restricted behavioural patterns, specific interests and activities (APA, 2013:50-51).

If a child is diagnosed with ASD, it is not only that child and his/her family who is affected, but also the child's teachers (Batson, 2010:7). Children with ASD tend to display anti-social behaviour and ineffective communication skills (Koudstaal, 2011:343-353). Such ASD impairments hamper the development of the potential of these children and may trigger dysfunctional behaviour by these children in school. The child's education should be an essential component of an appropriate response to mitigate the impact of the disorder on a child with ASD.[1]

This study attempts to ascertain the effect of structured drama techniques on the functionality of a sample group of children with ASD. It expands on prior research which suggests that various drama techniques can embrace the challenges children with ASD face, and appear to enable some of these children to develop appropriate social and communication skills to enhance their functionality in an education setting (Corbett *et al*., 2011:505; Howley & Arnold, 2005:9). The study heeds the call for greater understanding of children with ASD by Temple Grandin (2006),[2] a person on the autism spectrum supported from childhood with appropriate interventions, and empowered by these interventions to develop into an adept adult who uses her potential fully, eventually obtaining a PhD in animal science (Stokes, 2002:16).

[1] ASD is discussed in detail in Chapter 2.
[2] Grandin's experience and insights are discussed in more detail in Section 2.3.3.

In research such as that described in this thesis, researchers must remember that they are considering children with a neurodevelopmental condition (APA, 2013:50*)* and a neurobiological disorder (Manning-Courtney *et al*., 2003:283) and that they need to learn about and from this realm. As a drama teacher, I am passionate about drama techniques as therapy, but I acknowledge that there is unlikely to be a single therapy or method available that can serve as a miracle *cure* for any child on the autism spectrum. It may however, fit into a trans-disciplinary approach that may benefit individual children with ASD.

The position of the Republic of South Africa's (RSA's) Department of Education (DoE) concerning disabilities is set out in the *Education White Paper 6: Special Needs Education: Building an inclusive education and training system* (hereafter referred to as *White Paper 6*), which acknowledges the presence of differential learning needs in schools. *White Paper 6* thus acknowledges that ineffective support may pose challenges to children with various needs:

> The Ministry appreciates that a broad range of learning needs exists among the learner population at any point in time, and that where these are not met, learners may fail to learn effectively or be excluded from the learning system (RSA DoE, 2001:7).

The *White Paper*'s recognition of this situation appears to apply to the challenges faced by children with ASD, as outlined by Koudstaal (2011:343-344, 353). She stresses the specific learning needs of children with ASD and emphasises that their unsupported educational needs are often related to exclusion from education (Koudstaal, 2011:343-344, 353). This is precisely what *White Paper 6* implies.

My immediate quest in this study was to grasp the impact of autism on children and gain a better understanding of their learning needs, especially those unique to children with ASD. I chose to focus my research on drama techniques and drama therapy as a means of support in these areas of challenge. The main focus of this study was exploring possible ways of using drama with children with ASD. Specifically, I researched and evaluated the effectiveness of selected drama techniques on children with ASD to determine the outcome of these techniques as an intervention to enhance their functionality regarding social communication and behaviour.

To underpin my research, I reviewed prior research on ASD in general, and drama techniques used with children with ASD in particular. The literature review is discussed fully in Chapter 2. The literature review revealed a gap in the available knowledge on ASD and drama techniques in South Africa. At the time of the research (as far as I could ascertain), no local studies had been published focusing specifically on ASD and drama, which is the interface explored in this thesis. Only two existing studies were loosely related to this area of interest. They focused on drama and its effect on Learners with Special Educational Needs (English, 2002) and its effect on neurologically impaired children (Shirley, 1984). Yates and Le Couteur (2012:7) have confirmed that children with ASD are neurologically impaired and are thus children with special educational needs. Hence, although Shirley's (1984) study is somewhat dated, both studies were reviewed to gain insight into the South African situation.

Two fairly recent international studies show that drama techniques are effective in changing anti-social to more functional behaviour and meeting some communication challenges of children with ASD (Neufeld, 2012:8, 15; Batson, 2010:11). This review revealed differences between the groups previously studied, regarding the combination and number(s) of participants, the specific drama techniques chosen to suit participants, and the specific goals of these studies. Differences between such studies can partly be attributed to the uniqueness of the characteristics of children on the spectrum. Although they have certain shared characteristics, each child has different needs and potential. No single child on the spectrum can be considered representative of all children on the spectrum. This understanding created an awareness in me, as a researcher, that there is no rigid recipe enabling families and educators to support all children in this population. Therefore, quite rightly, the research methods and techniques used in prior research differed, because the researchers understood the need to adapt to the diversity of participants in their studies. I also focused on the participants in this research as unique individuals and their unique needs before compiling a syllabus and deciding on class formats. Hence, my mixed methods study differed from prior studies in the international arena in terms of the group combinations, number of participants, drama techniques used and goals of the study, and in combining qualitative and quantitative methods.[3]

[3] The methods used are discussed in detail in Chapter 3.

The literature review (see Chapter 2) assisted me to construct two key concepts for this thesis, namely ASD and drama techniques, in the context of theories on disability. These two concepts guided me to understand the world of autism and how ASD and drama techniques could be combined to bridge the challenges (where possible) experienced by the participants in this research. The research on enhancing the socialization, communication and behavioural skills of children with ASD through drama techniques (see Chapters 3 and 4) also afforded me an opportunity to empower children with ASD to recognise and use their strengths.

1.2 RESEARCH PROBLEM

Children with ASD learn and function differently from neurotypical children. This implies that one child with ASD may often require attention equal to that needed by six neurotypical children (Bateman, 2013:276). If individual attention is not provided as required, it is tantamount to a lack of appropriate support. Barriers to learning then arise, and children with ASD are prevented from achieving higher functionality (Cumine, Dunlop & Stevenson, 2010:81).

Children with ASD face various social, communication and behavioural challenges. This has an impact on their ability to develop and maintain social relationships. Social skills become increasingly important during adolescence, when peers and social networking are integral to children's lives (D'Amico, LaLonde & Snow, 2015:22). A lack of social skills, added to the isolation experienced by children with autism, creates an *impasse* – the greater their isolation, the fewer their opportunities to develop the socialization skills that they need to maintain relationships. Instead, their experience of isolation also reveals the negative impact of peer rejection and bullying, which have been found to increase anxiety and depression diagnosed in children with ASD (Mitchell, Regehr, Reaume & Feldman, 2010:52). Effective interventions are important to support their revealed social needs. A study by D'Amico *et al.* (2015:22) has established that therapeutic interventions involving drama therapy could support children on the spectrum to develop in the safe space of a drama group. The necessary social skills could be practised in drama class and appeared to support the integration of appropriate social behaviour (D'Amico *et al.,* 2015:22).

The description of the wider education background regarding some of the challenges faced by children with autism, including *White Paper 6,* revealed an awareness of the impact of disabilities that lead to the exclusion of children with disabilities in education. Subsequent to the release of *White Paper 6* (RSA DoE, 2001)*,* the Department of Education published guidelines for inclusive education in 2005, with short-term goals which were to be implemented from 2004 to 2006 (RSA DoE, 2005:3). Some relevant terms in *White Paper 6* are the following:

- Special Schools are schools that present a specialised education programme for children "requiring access to high-intensive educational and other support either on a full-time or a part-time basis" (RSA DBE, 2014:8);
- Special Schools Resource Centres are "special schools transformed to accommodate learners who need access to high intensity educational support programmes and services, as well as providing a range of support services to ordinary and full-service schools" (RSA DBE, 2014:8);
- Full-service Schools are "ordinary schools that are specially resourced and orientated to address a full range of barriers to learning in an inclusive education setting" (RSA DBE, 2014:7); and
- "Barriers to learning" refer to difficulties that arise in the education system, the learning site and/or within the child him-/herself and which prevent access to learning and development for these children as learners (RSA DBE, 2014:7).

The DoE's short-term goals include

- a national advocacy and education programme for inclusive education;
- an outreach programme to mobilise out-of-school children and youth;
- an audit of special schools;
- a programme to improve the quality of education for children with disabilities;
- the conversion of 30 special schools into resource centres;
- the conversion of 30 primary schools to Full-service Schools (for children in need of special educational support); and
- the implementation of district support teams and the establishment of systems to enable early identification of barriers to learning for them to be addressed in the Foundation Phase (Grade R-3) (RSA DoE, 2005:3).

All these goals indicate a commitment to address, and an awareness of, the needs of children who experience challenges in education.

I agree with the views of this document, which reminds educators to see disability in terms of the rights of those who are disabled, rather then (as in the past) only in medical terms. Most importantly, barriers to learning in the education system must be recognised and the necessary interventions should be provided. The *Draft policy on Screening, Identification, Assessment and Support* (*SIAS*) document of the Department of Basic Education (DBE) also admits that there is as yet

> …limited knowledge and [a limited] availability of intervention programmes which can address barriers to learning arising from disability and developmental delays in a systematic and concentrated manner (RSA DBE, 2014:36).

The *SIAS* (RSA DBE, 2014:36) document mentions, amongst other things, service providers for children with disabilities who provide useful information and essential support regarding strategies to support children with disabilities in formal schooling. These service providers are a valuable source of knowledge and support for educators (RSA DBE, 2014:36). Although the *SIAS* document does not mention any support intervention by name, in terms of this definition, I envision employing drama techniques as an intervention to support children with disabilities in educational structures.

The documents mentioned above are valuable, but thus far there is not much proof of the efficacy of the use of educational assessment documents to ascertain the impact of autism on children with ASD in education. Nor are assessment documents used to measure the effectiveness of practical guidelines for schools regarding the autistic population. It is beyond the scope of this study to consider the wider use of such documents – the focus was rather on the provision of knowledge on ASD and on the effectiveness of drama techniques in an intervention programme for children with ASD, which was mentioned as an area where there was a lack (RSA DBE, 2014:36).

Drama techniques were employed in this study to address functionality, specifically that found in children with developmental delays, such as autism, as there is a gap in the knowledge regarding the effectiveness of such interventions, largely because of the limited availability of such programmes.

The research problem of this study is to discover whether using drama techniques as an intervention has any effect on the functionality of children with ASD in education. Emanating from the above, the following research questions inform the research:

- What theoretical perspectives inform the diagnosis and research on children with ASD?
- How does autism affect the functionality of children with ASD in education?
- What grounding perspective underpins selected drama techniques that could be employed to address the triad of challenges in children with ASD?
- What is the impact of the selected drama techniques on the socialization, communication and behavioural proficiencies of children with ASD in education?

These research questions led to the formulation of the main aim and objectives of the study.

1.3 AIM AND OBJECTIVES OF THE STUDY

The main aim of the study is to explore the effect of a structured drama intervention on children with ASD to address their challenges with functionality in education. To achieve the main aim, I address the following specific objectives:

- to explore the theoretical perspectives that inform the diagnosis and research on children with ASD;
- to determine the impact of autism on the functionality of children with ASD in education;
- to investigate the grounding perspective that underpins selected drama techniques which could be employed to address the triad of challenges in children with ASD; and
- to conduct empirical research to determine whether and how selected drama techniques may have a positive impact on the socialization, communication and behavioural proficiencies of children with ASD in education.

With the above aim in mind, I endeavoured to create a haven of compassion and understanding for the participating children with ASD. In this space, I explored their learning barriers and explored specific drama techniques as an intervention for the sample of children with ASD in this research. The goal was to assist them to

overcome some obstacles in the education system. The journey with autism and drama seemed a worthwhile road to travel, as there are many facets of ASD and drama that allow drama techniques as an intervention. These different areas in drama were researched, and, where possible, applied in the drama classes to accommodate the needs of the participants with ASD in this study.

1.4 RESEARCH DESIGN: MIXED METHODS

A mixed method design in a transformative paradigm was used in this study. Mertens (2012:809) argues that the transformative paradigm employs a mixed method research design when quantitative and qualitative data are used for research purposes. A transformative design protects a vulnerable group from the bias that may arise from using a single method (Mertens, 2007:214). This was therefore an appropriate design to employ for the 11 vulnerable participants (aged 8 to 16 years) with ASD in this study.

The quantitative data collection instruments that I employed were the Autism Diagnostic Observation Schedule (ADOS) test (Lord *et al.,* 1999), the Canadian ADHD Resource Alliance, Weiss Functional Impairment Rating Scale-Parent Report (CADDRA, WFIRS-P) (University of British Columbia, 2011:1-3) and the Childhood Autism Rating Scale (CARS) (Schopler *et al.,* 1988). The ADOS was administered by an autism specialist who specialises in neuro-developmental diseases and who is qualified to conduct the ADOS. The ADOS scores confirmed that the participants in the study are on the autism spectrum. The other two tests were employed as pre- and post-intervention tests to confirm changes in specific areas. The CADDRA (WFIRS-P) questionnaires were completed by the participants' parents to identify changes in the participants' lives in the areas of family, school learning and behaviour, life skills, self-concept, social activities and risky activities. The CARS was applied as an impartial third-party observation by a special needs educator to report changes (if any) in the participants' socialisation, communication and behaviour.

The qualitative data collection instruments used in this study were semi-structured interviews, reflective interviews with the participants' parents and observations of participants during the drama intervention. Details of the mixed methods and instruments used are provided in Chapter 3. The mixed methods design chosen is also aligned with the prescribed ethics of the transformative paradigm, as suggested

by Shannon-Baker (2016:331). Ethics such as anonymity and protection are described briefly in the section below.

1.5 ETHICAL CONSIDERATIONS

Babbie (2014:65-75) reminds researchers that proper conduct towards the participants in research should include ensuring voluntary participation, participants' safety, anonymity and confidentiality, quality analysis and reporting. The requirements of review boards and codes of ethics must be followed. Based on these requirements for ethical research, I began by obtaining ethical clearance from the Ethics Committee of the University of the Free State (see Annexure A) as a form of oversight. I also obtained the necessary informed consent from families and participants, and ensured anonymity and confidentiality (see Section 3.11 for a more detailed discussion). Ethics in data analysis and reporting were followed in line with the expectations regarding proper scientific research.

1.6 LIMITATIONS

This study was limited by several factors (see Section 5.5 for a full discussion of this). Potential limiting factors were the small number of participants, the constraints of time and cost that had to balanced against the time consuming compilation and analysis of data derived from mixed methods, the possibility of partiality, and the limited number of drama intervention classes. Moreover, there were challenges regarding the availability of direct feedback from the education system, and conducting an open study in a non-rigid scientific experimental study. Initially, there were 12 participants, but only 11 participants completed the study. Mouton (2011:150) warns against such a small selection of participants, since a small sample makes it problematic to generalise results to a broader population (it should be acknowledged from the outset that generalisation would in any case be problematic with a highly diverse population such as children with ASD). However, MacLeod *et al.* (2014:419) confirm that small-scale studies may have an impact on larger projects, especially in disability research.

1.7 KEY TERMS AND CONCEPTS DEFINED FOR THE PURPOSES OF THE STUDY

A number of key terms and concepts recur in this study. They are defined below for the purposes of the study, to clarify how these terms are used throughout the thesis.

The first three are terms used to distinguish individuals with ASD, as opposed to those without ASD:

- *Autism:*
  Autism is a genetically caused neuro-developmental disorder (Williamson & Martin, 2012:1254). According to Koudstaal (2011:341), autism is a neurologically based, pervasive developmental disorder that influences both the development and the functioning of the brain. This is a lifelong disorder (Myles, Hagen, Hoverstott, Hubbard & Trautman, 2005:5).
- *Autism Spectrum Disorder (ASD):*
  According to the American Psychiatric Association's (APA's) newest *Diagnostic and Statistical Manual of Mental Disorders* (DSM), the *DSM 5*, autism is best described under the umbrella term *autism spectrum disorder* (ASD) (see Section 2.2.3). ASD includes "disorders previously referred to as early infantile autism, childhood autism, Kanner's autism, high-functioning autism, atypical autism, pervasive developmental disorder not otherwise specified, childhood disintegrative disorder, and Asperger's disorder" (APA, 2013:53).
- *Neurotypical:*
  The term describes people who are "normal" with "normal" neurology (*Urban dictionary*, 2012; Fitzpatrick, 2010:12).

The next two terms are often used in a more general sense, but here I consider them in relation to children with ASD. The aspects mentioned are areas that need specific attention to support children with ASD:

- *Social skills:*
  Children with ASD must be patiently taught effective interaction with their peers and the skills to relate appropriately in social encounters (Giannopulu, 2013:327).
- *Behaviour*:
  The behaviour of some children with ASD exposes their inability to live in a world

where they are overpowered by sensory input. This may manifest in seemingly inappropriate behaviour such as rocking, echolalia (the repetition of words or phrases), hand flapping and tantrums (Ball, 2008:4).

The following six terms are widely used. They imply a long-term focus on the outcome of education for children with ASD, as well as compliance with the *South African Schools Act*, *84 of 1996* (RSA, 1996). These terms are clarified mostly in terms of *South African Schools Act* in this research.

- *Formal education:*

  In this study, formal education refers to the public (government) school system in South Africa, which includes both mainstream government schools and special schools (schools for children with designated disabilities).

  The term is not used in identical ways in the literature, for example, in DoE documents (RSA DoE, 2001) and by Rinquest (2005). *White Paper 6*'s call for inclusive education acknowledges that challenges such as the high learner: classroom ratios and high learner to educator ratios found in mainstream government schools tend to exclude children with certain disabilities from formal education (RSA DoE, 2001:54). Rinquest (2005:8) describes the South African government school system as an "ordinary education system" which lacks provision for the kind of highly specialized "formal" and formative education needed for children with ASD.
- *Schools:*

  Both public (government) schools and independent (private) schools enrol learners from Grade 0 to Grade 12, and adhere to the *South African Schools Act, 84 of 1996* (RSA, 1996:4).
- *Public schools:*

  Public (government) schools enrol learners from Grade 0 to 12 and learners are entitled to an education where their educational requirements are serviced (RSA, 1996:6). They are staffed and paid for by the government, via the DoE.
- *Special schools:*

  Special schools are schools that present a specialised education programme for children "requiring access to high-intensive educational and other support either on a full-time or a part-time basis" (RSA DBE, 2014:8).

- *Private schools:*

  These schools are also known as independent schools. Such schools may be established and maintained by any (legal) person at their own cost. However, these schools must be registered by the DoE (RSA, 1996:28, 32).
- *Home schooling:*

  This form of education also resorts under independent schools. Parents of learners may apply for registration to educate their children at home. The DoE will accept the registration if it is in best interest of the children, on condition that certain standards are maintained (RSA, 1996:30). The types and formats of home schooling vary. The sample in this study included some children educated at home. The study did not examine the syllabus followed at home for each participant, as this was beyond the scope of this research.

1.8 OUTLINE OF THE STUDY

The thesis is divided into five chapters.

Chapter 1 provides a general overview of the research area, namely the need for intervention for children with ASD who are challenged in the education context. Based on this problem area, the aim and objectives could be presented, namely to explore relevant theoretical perspectives informing the diagnosis and research on children with ASD; to determine the impact of autism on the functionality of children with ASD in education; to investigate the grounding perspective that underpins selected drama techniques which could be employed to address the triad of challenges in children with ASD; and to conduct empirical research to determine whether selected drama techniques may have a positive impact on the socialization, communication and behavioural proficiencies of children with ASD in education. Key terminology relevant to this study is discussed to clarify what autism is, and how the study defines schooling in the South African education system. Finally, an outline of the study is presented.

Chapter 2 presents the literature review that underpins the drama intervention and the mixed method research, as described in detail in Chapter 3. The chapter looks at the statistics available on the prevalence of ASD to highlight the need for support for the challenges faced by children with ASD. The history of ASD is briefly considered. The effect of the triad of challenges (see Section 2.3) is discussed, along with some

of the learning problems experienced by some children with ASD (see Section 2.4). The view on their challenges is extended with an explanation of comorbidities (see Section 2.5), as well as their possible special skills (see Section 2.6). Lastly, effective education intervention is considered (see Section 2.8).

Chapter 2 also presents a literature overview of the psychological theories associated with ASD. These theories are scrutinized for their impact on children with ASD and are linked to drama techniques as a support for the development of certain problem areas for children with ASD (see Section 2.7.1). Chapter 2 then considers holistic intervention for autism by the means of drama classes. Prior research on drama techniques as an intervention for children with ASD is reviewed, focusing on structured play as an element of drama is explained (see Sections 2.10 to 2.11).

Chapter 3 explains the study's methodology. It comments on the transformative paradigm used with mixed methodology, its ontology and axiology. This paradigm ensured that the vulnerable study population (children with ASD) was protected and that the results were validated in various ways. The central epistemology and research design are discussed, explaining the choice of a mixed methodology. The triangulation between the literature, the results of quantitative instruments before and after the drama intervention, and interviews with the parents after the drama intervention are explained. The chapter sets out the sampling, group composition and data collection in detail, as well as the quantitative instruments used and their application. The study's qualitative aspects and the drama intervention that lies at the centre of the study are discussed. Data analysis is explicated. I also indicate I did to enhance the validity of the study, and to ensure that all the required ethical considerations were taken into account and implemented to protect this population.

Chapter 4 provides an overview of the research findings and data analysis, showing the practical application of each part of the design to provide an explanation of the results of the study. The findings of the data collection via quantitative and qualitative means are described and discussed in relation to the related data on the participants. The results of the quantitative instruments, namely such as Childhood Autism Rating Scale (CARS) (Schopler, Reichler & Rochen-Renner, 1988) and the Canadian ADHD Resource Alliance, Weiss Functional Impairment Rating Scale-Parent report

(CADDRA, WFIRS-P) (University of British Columbia, 2011:1-3)[4] are presented, showing scores before and after the drama intervention. Qualitative findings are also discussed in this chapter to determine the participants with ASD's challenges in education and the impact of the drama intervention.

Chapter 5 presents the conclusion to the study, focusing on the main findings and recommendations emerging from them, the limitations of the study and suggestions for further research, and reflections on the study and its value.

1.9 SUMMARY

This chapter introduced the reader to the severe impact of autism on different areas of the lives of children with ASD, including its impact on education, as these children are often excluded from the benefits of education and by their peers. The Department of Education's (2001) *White Paper 6* calls for greater accommodation of children such as those with ASD. It creates an opening for the use of drama techniques and drama therapy as an intervention strategy in the areas of social, communication and behavioural development for children with ASD, since these areas form part of their functionality or dysfunctionality in the world of neurotypical peers. The aim of this study is to support children with ASD within their areas of social, communication and behavioural challenges in a trans-disciplinary team.

The chapter has set out the research problem, aim and objectives of the study, and defined key terms and concepts. The main aim of this study is to discover whether drama techniques as an intervention have any effect on the functionality of children with ASD in education. This investigation starts with the literature review presented in Chapter 2, which considers ASD, the theoretical perspectives which inform the diagnosis, support and research on children with ASD, the grounding perspective in selected drama techniques to address the challenges in children with ASD. The methodology explained in Chapter 3 provides the findings presented in Chapter 4.

The next chapter, Chapter 2, provides a detailed description of ASD and the theoretical underpinnings surrounding ASD. It emphasises the importance of understanding autism in the education sphere. The chapter underpins the implementation of drama techniques with children with ASD in this study.

[4] The original 2011 version is cited, and this is identical to the 2014 issue of the instrument.

CHAPTER 2:
LITERATURE REVIEW:
AUTISM SPECTRUM DISORDER, DISABILITY THEORY, ASD AND EDUCATION, AND DRAMA INTERVENTION

2.1 INTRODUCTION

This chapter presents the literature review on ASD (definitions, prevalence, its history and impact). Next, I consider theory relevant to ASD. The chapter also engages with interventions in education in general, and in ASD in particular. I complete the chapter by discussing drama as a potential intervention for children with ASD.

2.2 ASD – A DIVERSE DISORDER

Autism spectrum disorder (ASD) varies from person to person, making each person's ASD unique. When a child is diagnosed with ASD, the diagnosis and the accompanying labelling by society is relevant to both the child and the parents who receive this diagnosis regarding their child. ASD impairments may pose learning challenges, compounded by comorbidities that affect the education and functionality of children with ASD, but there may be mitigating special skills. Education and intervention have a role to play in this challenging equation, as I show in Section 2.8. Factors that have an impact on a child with ASD are explored below in the context of educational intervention and related services supporting the needs of children with ASD internationally and in South Africa.

2.2.1 Prevalence

Given that ASD is a disorder that affects children's education, it is important to consider that statistics suggest that this disorder is increasingly prevalent in South Africa and world-wide, necessitating research in this area. It is a matter of concern that it is very difficult to obtain accurate South African statistics on autism. Currently, statistics on autism from the United States are generally employed to estimate the prevalence in our country (Bateman, 2013:276). Statistics on the prevalence of ASD should be interpreted with caution, because they are arrived at in various ways, making them difficult to assess and compare. Some statistics are based on parent

reports, others on professional records, household or telephone surveys. Statistics also differ regarding the sampling of different age groups (3 to 17 years, 4 or 8 years). Definitions of ASD have changed over the years and the criteria chosen can influence statistics on ASD prevalence (Zablotsky, Black, Maenner, Schieve & Blumberg, 2015:1-2).

To avoid confusion, the statistics quoted in my study rely on data using one method and focusing on one age group, namely the household survey published by Zablotsky *et al.* (2015) for the United States' Centers for Disease Control and Prevention (CDC) for the National Health Statistics Report of 2015. (This implies that these figures may differ from other statistics on ASD prevalence). The 2011 to 2013 statistics from this report indicated that 1 in 80 children (aged 3 to 17) had ASD in the United States (Zablotsky *et al*., 2015:4). By 2014, the prevalence of autism had increased to an estimated 1 in 45 in the same age group (Zablotsky *et al.,* 2015:4). The data in the National Health Interview Survey (NHIS) of USA in 2014 published in 2015 (cited in Zablotsky *et al.*, 2015:4) appear to be the most recent statistics on ASD prevalence in the age group of 3 to 17 years.

However, there are other statistics on ASD prevalence published in 2016 (Christensen *et al*., 2016:1). According to these statistics, 1 in 68 children is diagnosed with ASD. These statistics are the most recent, but are based on a different survey which was completed in 2012, considering 8-year-old children diagnosed with ASD and monitored by the Autism and Developmental Disabilities Monitor Network (ADDM) in the US (Christensen *et al*., 2016:1).

2.2.2 History, definitions and scientific findings

Manning-Courtney *et al*. (2003:283) indicate that Eugen Bleuler coined the term "autism" in 1906. He described it as a condition where a person seems to be unaware of reality and is functioning without any awareness of others. By 1938, autism was seen as a psychotic illness (Kanner, 1973:69). In 1943, Kanner, a physician, identified 11 classic cases of children with this condition, and later termed the condition "early infantile autism" (Kanner, 1973:91). He described children with autism as socially isolated, inflexible in their routines, as using abnormal language and fixated on objects, and as having good cognition (Kanner, 1973:92-93). In the same year, 1943, the Austrian paediatrician and medical theorist Hans Asperger

observed that autism seemed to manifest in inappropriate social approaches, intense interests and an absence of a two-way conversation, according to Manning-Courtney *et al.* (2003:284). More damagingly, psychoanalyst Bruno Bettelheim claimed in 1950 that autism was produced by detached mothers, an unjust theory that stigmatized mothers until the late 1960s (Manning-Courtney *et al*., 2003:284). In 1950, autism was known as “pseudo-autism” (Kanner, 1973:126), since it was argued that autism was a form of schizophrenia.

In 1964, Rimland (cited in Kanner, 1973:133) found that schizophrenia and early infantile autism were two different disorders. Kanner (1973) changed the focus of his definition of autism in 1968 from social isolation, rigid routines and abnormal language use to children who have difficulty in forming an emotional attachment to people. He also confirmed that autism was not caused by dysfunctional parenting (Kanner, 1973:126, 137-138).

In 2012, autism was recognised as a “genetically determined neurodevelopmental disorder” (Williamson & Martin, 2012:1254), which occurs three to four times more in male than female children (Lord & Bishop, 2010:4). Twin studies suggest heritable estimates of up to 90% (Yates & Le Couteur, 2012:5). Several chromosomes relate to certain autistic traits, and some children on the spectrum have abnormal chromosomes or chromosome deletions, affecting their language, social abilities, communication and mental flexibility. There seems to be genetic overlap in the areas of emotional, perceptual and language skills, affecting several brain areas and functions (Kovas & Plomin, 2006, cited in Giannopulu, 2013:324), making it difficult to pinpoint a specific origin for ASD. Genetic modifications may not be the primary cause of ASD, but may be a predetermining factor (Markram, Rinaldi & Markram, 2007:79).

An extra X chromosome in boys and girls seems to increase their risk for ASD (Van Rijn *et al.*, 2014:311), and abnormal extra X/Y chromosomes, including those of 45X/46, XY mosaicism, are found in children with ASD (Margari, Lamanna, Craig, Simone & Gentile*, 2*014:277). Traits of extra chromosomes to the 47, XXY or 47, XYY karyotype are linked to communication and social challenges, and ASD features (Margari *et al.*, 2014:277; Van Rijn, Bierman, Bruining & Swaab, 2012:1303-1304). Usually fragile X and Klinefelter syndrome (KS) are indicated by XXY chromosomes, found specifically in some boys with ASD traits. Rett’s syndrome is also characterised

by the extra X chromosome, found in some girls with ASD (Margari *et al.*, 2014:277), linked to severe mental challenges (Markram & Markram, 2010:17). Trisomy X is found in girls to the 47, XXX karyotype, but does not necessarily indicate that they are on the spectrum – lower scores in language and social abilities indicate susceptibility for an ASD diagnosis (Van Rijn *et al*., 2014:311, 317). For a child with mental challenges or dysmorphic features, clinicians should test for Fragile X syndrome (Yates & Le Couteur, 2012:8), which is also a factor to consider for a diagnosis of ASD (Toro *et al*., 2010:363), as fragile X forms part of 1% of cases of males with ASD characteristics (Carbone, Farley & Davis*,* 2010:454), or even 1% to 3% in the case of Fragile X and tuberous sclerosis, the two most consistent genetic conditions related to ASD (Yates & Le Couteur, 2012:6).

There are many other underlying medical genetic conditions, such as Angelman syndrome, Prader-Willi syndrome, 15q11-q13 duplication, deletion of chromosome 2q, Smith-Lemli-Opitz syndrome, Apert syndrome, mutations in the ARX gene, De Lange syndrome, Smith-Magenis syndrome, Williams syndrome, Noonan syndrome, Down syndrome, velo-cardio-facial syndrome, myotonic dystrophy, Steinert disease, Duchenne's disease, Timothy syndrome, 10p terminal deletion and Cowden syndrome (Fuentes & Martín-Arribas, 2007:655), and chromosome 15q13.2q13.3 BP4–BP5 microdeletion or duplication syndrome (Miller *et al*., 2009:242), which may include traits of ASD.

It is beyond the scope of this study to go into a more in-depth discussion on genetics – suffice it to say that a combination of genes seems to determine autism, and a single specific genetic etiology is unknown (Sykes, Toma, Wilson & Monaco, 2009, cited in Giannopulu, 2013:326). Thus, more research needs to be conducted. It is important to remember that it seems to be specifically the genes involved in brain development that are affected in children with ASD (Carbone *et al., 2*010:453-454).

2.2.3 Current definition of ASD

The table overleaf, cited *verbatim* from the DSM-5, provides criteria for defining ASD and its severity. These criteria reveal the importance of support for children on the autism spectrum and explain the different domains that are affected at three different levels (APA, 2013:52), namely the children's social impairment, their communication and imagination, and their behaviour and repetitive patterns.

Table 2.1: Severity levels for autism spectrum disorder

Severity level	Social communication	Restricted, repetitive behaviors
Level 3 Requiring very substantial support	Severe deficits in verbal and nonverbal social communication skills cause severe impairments in functioning, very limited initiation of social interactions, and minimal response to social overtures from others. For example, a person with few words of intelligible speech who rarely initiates interaction and, when he or she does, makes unusual approaches to meet needs only and responds to only very direct social approaches.	Inflexibility of behavior, extreme difficulty in coping with change, or other restricted/repetitive behaviors markedly interfere with functioning in all spheres. Great distress/difficulty changing focus or action.
Level 2 Requiring substantial support	Marked deficits in verbal and nonverbal social communication skills; social impairments apparent even with supports in place; limited initiation of social interactions; and reduced or abnormal responses to social overtures from others. For example, a person who speaks simple sentences, whose interaction is limited to narrow special interests, and who has markedly odd nonverbal communication.	Inflexibility of behavior, difficulty coping with change, or other restricted/repetitive behaviors appear frequently enough to be obvious to the casual observer and interfere with functioning in a variety of contexts. Distress and / or difficulty changing focus or action.
Level 1 Requiring support	Without supports in place, deficits in social communication cause noticeable impairments. Difficulty initiating social interactions, and clear examples of atypical or unsuccessful responses to social overtures of others. May appear to have decreased interest in social interactions. For example, a person who is able to speak in full sentences and engages in communication but whose to-and-fro conversation with others fails, and whose attempts to make friends are odd and typically unsuccessful.	Inflexibility of behavior causes significant interference with functioning in one or more contexts. Difficulty switching between activities. Problems of organization and planning hamper independence.

Source: APA (2013:52)

The DSM-5 recognises and emphasises the need for support for children with ASD in different areas and describes their challenges at different levels, which informs this study, making it more relevant.

To achieve greater compassion for their journey, it is important to understand how ASD affects children – what has been called their triad of impairments (social, communicative and behavioural) – and the contributory factors, specifically the neurological differences in the brains of children with ASD, the neurocognitive and sensory issues they struggle with and their comorbidities. These impairments expose the restricted range of coping strategies in the children with ASD that require effective support to develop progressive functional behaviour.

2.3 EFFECT OF THE TRIAD OF IMPAIRMENTS ON CHILDREN WITH ASD

Children with ASD tend to display a variety of behaviours characteristic of this neurological disorder. Educators in school need to be aware that certain behaviour displayed by children with ASD is indicative of the children's restricted range of coping strategies and high levels of frustration. They also need to realise that these behaviours and challenges have a neurocognitive and/or genetic basis. Poor functioning of several areas of the brain has a profound impact on the functionality of children with ASD – negative behaviour in children on the ASD spectrum is not intentional. Neurological impairment may also be linked to the genetic make-up of these children. (It falls beyond the scope of this study to investigate all the neurological impairments in detail.)

Three main areas of impairment have been identified. The first person to mention this triad of impairments was Dr Lorna Wing, a psychiatrist (Neufeld, 2012:4), who noticed that children with ASD all struggle with social interaction, communication and imagination, as well as repetitive behaviour (Wing, 2001:83). Below, the impact of these impairments is considered, pointing forward briefly to the suitability of drama techniques as interventions to improve the functionality of children with ASD. These techniques are explored in more detail in Sections 2.11 to 2.14.

2.3.1 Social impairment

Children with ASD's social interactions are compromised (Lord & Bishop, 2010:4) by deficiencies in their preverbal social skills and speech prosody, the absence of eye contact, and the marginalisation of children with ASD. I consider these areas in the context of whether these challenges can be supported by drama techniques which focus on the child's development of skills to establish rapport with fellow actors (in this case, other children). The effective use of the children's bodies and voices, facial expressions and understanding of texts support children to create this much-needed form of socialization in drama class as a place where they can play (socialize), have fun and develop self-confidence (Schneider, 2007:19-20, 22).

2.3.1.1 Social challenges in children with ASD

Educators teaching children with ASD must remember that the development of social relationships is made very complex by the presence of different personality types on

the ASD spectrum. Wing (2001:14-16) identifies four main different types – children with ASD who are aloof, passive, active but odd, and stilted. None of these types are "naturally" part of a social group. These groups have been described as follows (Koudstaal, 2011:344-345):

- children who are *aloof* are isolated by choice;
- *passive* children initiate no contact and occupy themselves with ritualistic behaviour;
- children who are seen as *active but odd* try to interact by conducting monologues as a form of conversation; and
- children who are characterised as *stilted* greet everyone in a strange formal or mechanical manner.

Children with ASD in the "stilted" group are also known as "little professors" (*Inclusion Notebook*, 2007:6). Although children with ASD are often seen as isolated, they do not necessarily lack a desire for social contact; they only lack social skills (Wolfberg & Neufeld, 2010, cited in Neufeld, 2012:5). Social skills in children with ASD can be cultivated by means of role play,[5] which gives these children opportunities to practise *being* another person by acting a character in a story (Hodermarska, 2013:72-73). Role play in the drama class appears to teach social skills through the process of acting (O'Leary, 2013:7).

2.3.1.2 Preverbal and social skills

A lack of social skills is evident in children with ASD from early childhood, when these children do not develop social relations through joint attention, smiling and pointing, which are also known as *preverbal skills* (Caplan, 2006:2). These *preverbal skills* form the basis of friendships and interactive play. It is thus understandable that children with ASD have difficulty in understanding the concept of friendship and pretend play (Carbone *et al., 2*010:455).

Drama teachers working with children with ASD need to recognise that children with ASD must be *taught* specific play skills (Giannopulu, 2013:327; Cumine *et al.,*

[5] There are various definitions for role play. According to Smilansky (1990, cited in Neufeld, 2012:29), role play is when a child enacts another person in voice and or body language. Role play is also when a child enacts another person's actions or speech patterns to play, for example, a child enacting a mother who rocks a baby to sleep (Neufeld 2012:29).

*2*010*:*64). Games in the drama class can be used to teach the necessary friendship and play skills (Schneider, 2007:29).

2.3.1.3 Speech prosody

Children with ASD are often marginalised by peers for their strange speech prosody (Whiffen, 2009:229), such as monotony. In the case of children with ASD, speech prosody challenges relate to peculiar intonation and inflection, as well as an inability to control the volume of their voices (Wing, 2001:21).

Voice techniques used in drama can be effective interventions to train children with strange inflections to acquire more natural speech (Ozonoff, Dawson & McPartland, 2002:198). Practising phrases in drama class develops their ability to interpret and deliver the phrases with the correct intonation to convey the correct meaning (Ciro, Guhrs, Hardie, Sesiu, Singh & Watson, 2012:35; Schneider, 2007:38-39). The rules of voice techniques are more easily followed by children with ASD in such a context, because the rules clearly apply to everyone in the class, and the children willingly follow universal rules (Wing, 2001:4149-4150).

2.3.1.4 Lack of eye contact

Atypical functioning of the amygdala causes a tendency in children with ASD to focus on a person's mouth instead of the person's eyes (Klin, Jones, Schultz, Volkmar & Cohen, *2*002:900). The amygdala is situated in the forebrain, between the hippocampus and the temporal stem. The amygdala of young children with ASD is larger than that of neurotypical children, but is usually the same size in older children with ASD as in neurotypical children (Schumann *et al.*, 2004:6399). A larger amygdala is also found in neurotypical children and adolescents who suffer from general anxiety disorder (GAD) (De Bellis *et al.*, 2000:54), which is a comorbidity for ASD (Simonoff, Pickles & Loucas, 2008, cited in Maskey, Lowry, Rodgers, McConachie & Parr*, 2*014:1).

The amygdala is part of the limbic system, which regulates emotion, memory and motivation (Weiten, 2010:99-100) and general social behaviour relating to recognising fear, recollection and learning (Schumann & Amaral, 2006:7674; Schumann *et al*., 2004:6394; Mundy, 2003:794). Hence, a dysfunctional amygdala in children with ASD affects their ability to focus, facial recognition, joint attention and

social communication. They also lack awareness of real danger (Rogers & Dawson, 2010:5). Unfortunately, these described social impairments leave the children with ASD vulnerable to rejection and abuse.

Structural differences affect their social development from birth (Pierce, Müller, Ambrose, Allen & Courchesne, 2001:2070). They tend to focus on background noise or small unimportant details instead of a person's voice or face, including a failure to make eye contact, which poses a challenge in social communication and expression (Rogers & Dawson, 2010:5). Because the eyes mostly carry the message of negative emotions, children with ASD find it difficult to identify negative emotions in others, especially when the mouth conveys positive emotional messages (Ashwin, Chapman, Colle & Baron-Cohen*, 2*006:359), even when the person experiences negative emotions. This tendency explains why children with ASD struggle to interpret facial expressions correctly. Coaching can help these children to develop the necessary social skills, such as looking at people's eyes to read their emotions (Ashwin *et al., 2*006:359). Some need to learn appropriate facial expressions (Ashwin *et al*., 2006:357) and how to display empathy and recognise non-verbal signals.

Drama games and social stories are supportive drama techniques to assist children with ASD to make eye contact (Schneider, 2007:29). A social story about listening, for example, enables these children to understand that eye contact is part of non-verbal language which communicates interest in the conversation (Baker, 2006:11-14).

2.3.1.5 Marginalisation

Children with ASD should not be isolated and separated from other groups in an educational setting. Marginalised children with ASD are usually left without friends, and the tendency of these children to be alone exposes them to psychological defencelessness. Bullying is a common dilemma in schools, and needs to be addressed rigorously to protect especially children with ASD (Cappadocia, Weiss & Pepler, 2012:267; Carter, 2009:150; Whiffen, 2009:236-237), who need to learn skills to protect themselves against bullies in educational settings.

It is possible to prepare a child with ASD to deal with bullying in a drama group by means of role play or improvisation on the subject of bullies. These techniques support children with ASD to handle bullies in a positive way, to protect them and decrease the anxiety experienced in an uncomfortable situation (Ramamoorthi & Nelson, 2011:178; Schneider, 2007:152).

The after-effect of bullying experiences has been noted to cause some children with ASD to become suicidal, and/or to experience depression and marginalisation (Carter, 2009:151). A decline in the incidence of bullying of children with ASD has been noted where the correct information has been disseminated, and useful strategies have been suggested. Incidents of physical injury, fear of peers, isolation during recess and being victims of a gang have been noted (Carter, 2009:150). Bullies tend to exploit the fact that children with ASD are mostly loners to abuse, so an efficient countermeasure is appointing peer-buddies for these children (Cappadocia *et al*., 2012:273-274). Drama teachers can protect children with ASD, and should not allow any bullying in class (Kennedy, Banks & Grandin*, 2*011:197-198).

2.3.2 Communication and imagination

Numerous factors complicate effective communication for children with ASD. The communication challenges of children on the ASD spectrum can vary from their being mute, to using speech filled with echolalia (the repetition of words or phrases used by people around them) or rigid speech patterns, although some children with ASD use normal speech (Lord & Bishop, 2010:4). Communication difficulties can also be marked by the use of seemingly inappropriate sentences when requesting something, or incessant crying due to inability to explain a need (Wing, 2001:18). The subsections below provide more detail on the absence of verbal ability and body language, deficiencies in imagination, a preference for visual over verbal methods, and other communication challenges.

2.3.2.1 Verbal ability and body language

Communication for neurotypical children consists of verbal ability, combined with the skill to read and use body language. By contrast, children with ASD experience challenges with using and reading body language. Factors such as inappropriate

facial expressions, strange gestures, the absence of eye contact and the inability to practise joint focus, as well as strange and peculiar postures and monotone speech, sometimes marked with echolalia, compromise these children's ability to communicate successfully (Lord & Bishop, 2010:4).

These challenges are related to the neural networks in the structurally different amygdala and inverse functioning of the Mirror Neuron System in children with ASD (Rogers & Dawson, 2010:11). This system involves several brain areas and plays a role in the development of social behaviour, language and organisational skills, and in understanding the consequences of behaviour (Rogers & Dawson, 2010:11) as well as another perspective called Theory of Mind (ToM), which involves neural activity (Kana, Libero, Hu, Deshpande & Colburn, 2014:99). Information about a simulated action is stored in this system and then passed on to core ToM regions (the medial parietal frontal cortex and temporal parietal junction) to create meaning behind the action (Rizzolatti & Sinigaglia, 2008, cited in Kana *et al*., 2014:99). Weaker connectivity in these areas is observed in children with ASD, mainly between the frontal areas, altering coordination in their tempero-parietal areas (Kana *et al*., 2014:103), and language development (Williams, Whiten, Suddendorf & Perrett, 2001:290-292).

Children with ASD also have a lower number of Purkinje cells in the cortex of the cerebellum (Vargas, Nascimbene, Krishnan, Zimmermann & Pardo, 2005:71). These cells are responsible for motor functions. Thus changes in the cerebellum's neuronal density may play a role in sensory integration (Ritvo, Freeman & Scheibel, 1986, cited in Marco, Hinkley, Hill & Nagarajan, 2011:51). These sensory difficulties present as challenges in auditory and visual processing. This affects their language and the ability to read facial expressions (Marco *et al*., 2011:53).

Echolalia is the repetition of certain phrases like a parrot. It may seem nonsensical, but still shows children's need to communicate. The already limited vocabulary of the children can also be marked by the incorrect use of pronouns and requests (Whiffen, 2009:220; Szatmari, 2004:94). Children with ASD require patient teaching on how to use these parts of speech (Whiffen, 2009:220; Hobson, Chidambi, Lee & Meyer, 2006:150). For example, a child with ASD might ask an adult: "Would you like a drink?" Instead of saying: "I would like to drink something." The child associates the question with someone bringing the child something to drink; therefore, the child

repeats the question verbatim (Wing, 2001:16). Szatmari (2004:94) reports another example: a boy with ASD kept on asking the doctor what would happen to him if he caused trouble at school. The doctor admits that he understood only at a later stage that the boy was trying to communicate that he was being bullied at school. The boy could not understand why the bullies did not get into trouble, but lacked the ability to communicate this concern appropriately.

Another ineffective communication pattern is an inability to limit incessant one-way conversations about interests (Kennedy *et al*., 2011:66). Children with ASD usually have limited interests, focusing on certain topics or objects (Koudstaal, 2011:345). They appear to experience difficulty in responding appropriately in conversations when they are talking about their passion. They keep on speaking as if they are performing a monologue, which leaves no chance for the other person to interject, respond or reciprocate (Howlin, 1986, cited in Caplan, 2006:3). These children may interrupt inappropriately and cannot keep a conversation flowing between people (Mundy, 2003:798). In a flowing conversation, the partners in a dialogue react to interjections. Mostly, children with ASD are unaware of the effect that one-sided conversations and inappropriate interruptions have on friends and family. A drama class is a safe space to demonstrate such a conversation and the effect thereof on other people. A discussion with the group afterwards can ensure that children with ASD grasp the impact of this unsocial behavioural pattern (Schneider, 2007:46-47).

The children may also laugh in circumstances where a neurotypical child would be serious (British Columbia Ministry of Education, 2000:12-13). Literal responses are also typical, and may be associated with extra Y and X chromosomes in children with ASD (which produce a negative impact on their structural and pragmatic language abilities (Lee *et al*., 2012:1073, 1079). The ability to use pragmatic language refers to the ability to understand what is socially expected in a reciprocal conversation. For example, an educator might ask a new child with ASD at school where he comes from when he enters the class for the first time (meaning what other school or town), and the child might respond very literally: “From the hallway” (Kutscher, 2005:88).

2.3.2.2 Lack of imagination

The earliest marker for a lack of imagination in children with ASD is often seen in the area of pretend play (Carbone *et al., 2*010:455). These children may line up toys in

neat rows, but do not use them as objects to play with (Carbone *et al.*, 2010:455). Sometimes they use toys such as a play broom for their functionality, but this is not accompanied by imaginary play. Children with ASD struggle to understand imaginative play (Wing, 2001:22), making it difficult for them to join other children in play. This does not mean that they cannot enact stories. They sometimes portray characters of a story meticulously and expect others to join them, but their characterisation is an exact replica of the story, without any variation, and they expect others to keep to this script as well (Wing, 2001:22-23, 89-90). If imaginative play is a lack in children with ASD, drama class is a good place to develop these children's imagination and play skills, as these elements are the essence of creative drama (McCaslin, 2005:18-19).

2.3.2.3 Communication challenges

Educators need to consider that children with ASD can face a challenge when they have to follow lengthy verbal instructions and to execute the indicated order of an instruction (British Columbia Ministry of Education, 2000:10). Too many words become lost in their hearing (Wing, 2001:20). Communication challenges or an inability to understand language affect the children's understanding of others and of discipline (Van Bourgondien, 1993:131, 132). This inability appears to be aggravated by anxiety when the children misunderstand verbal communication, or their fear of the unfamiliar gets the upper hand (British Columbia Ministry of Education, 2000:59). Drama teachers should adapt communication methods in drama class to ensure that the children can understand all instructions (Hajidiacos, 2011:106-107). These two impairments of the triad (social and communication impairments) expose the needs and frustrations of children with ASD. The consequences of these two impairments seem to relate directly to the third impairment, behavioural patterns.

2.3.3 Behaviour and repetitive patterns

Behavioural challenges in children with ASD include strange conduct, sensory issues, anxiety and aggression. This section also looks at the impact of an absence of self-awareness on the functionality of children with ASD.

2.3.3.1 Strange conduct

The marginalisation of children with ASD is caused partially by the apparently eccentric behaviour of some of these children (Kennedy *et al*., 2011:66; Caplan, 2006:1). Each child with ASD differs from others, so each child's strange conduct is unique to that child. Greater empathy can be created for these children if educators understand that the children find comfort in their own seemingly bizarre behaviour as a mechanism to cope with stress, boredom or unhappiness (Howlin, 1997:105). Below, I discuss rigid routines, a preoccupation with specific objects, unacceptable behaviour and repetitive movements as elements of the strange conduct of children with ASD, and consider drama techniques as an example of an intervention that may be effective in countering these challenges.

- *Rigid routines*

  Children with ASD may seem inflexible in their routines. These rigid routines may seem nonsensical to others, but the children may keep on repeating them (British Columbia Ministry of Education, 2000:13). They resist changes to their routines and become anxious when change is imminent. They feel safe in an inflexible routine, as a way to create order in a seemingly chaotic life (Wing, 2001:90).

  A drama class can be structured to provide the necessary safety for children with ASD. However, in this structure, some flexibility can be demonstrated and practised to teach the children to become less rigid in their behaviour in a safe space. If we teach appropriate social skills to a child with ASD, we are co-creators of a future effective and fulfilled adult with ASD (Schneider, 2007:38, 24, 75-76).

- *Preoccupation with objects*

  Rigid behaviour may be displayed in a preoccupation with segments of toys or other items – the children become engrossed in the movement of the blades of a fan or rotating wheels, or in arranging toys in a straight line instead of playing with them (Carbone *et al*., 2010:455; British Columbia Ministry of Education, 2000:13). Society considers prolonged repetitive behaviour strange. However, specific familiar objects can comfort a child with ASD (Cotugno, 2009:1268), just as a favourite toy comforts a neurotypical child at bedtime. Preoccupation with specific objects can calm children with ASD if their sensory system is overloaded, or if they are agitated (Stokes, 2002:10). An attachment to objects may seem

eccentric, but can be useful to these children. Favouring certain objects and repetitive hand movements seem to benefit children with ASD (Park, 2005:269). Objects can be used in negotiation, to motivate children to perform certain tasks (Roane, Vollmer, Ringdahl & Marcus, 1998:605). Favourite objects can be a source of motivation to assist a drama teacher in class, when children with ASD experience difficulty in focusing or complying with instructions (Roane *et al*., 1998:605).

- *Unacceptable behaviour*

  Emotional regulation refers to the ability to externalise and internalise the evaluation and modification of emotional reactions to achieve certain goals (Thompson, Lewis & Calkins, 2008, cited in Thomson, Riosa & Weiss*, 2*015:1). An inability to regulate emotion (also called emotional regulation impairment) is often noted in children with ASD (Thomson *et al*., 2015:1). Motor dysfunction and social impropriety are a result of prefrontal cortex dysfunctions (Mundy, 2003:801). Children with ASD may, for example, undress or urinate in public. Young children with ASD find it difficult to understand that such behaviour is considered strange and inappropriate social behaviour (Wing, 2001:34). Hence, unacceptable behaviour in children with ASD should not be seen as deliberately negative.

  Some children with ASD utter strange sounds (Cumine *et al., 2*010:8) as their way of communicating. Others have a limited range of language or behavioural skills, and may use sound to portray what they are trying to communicate, without considering that it appears strange. There is also a possibility that they may be hampered by their limited vocabulary (Lord & Bishop, 2010:4).

  It is important to see the children's strange conduct as a means of communicating, rather than as challenging behaviour. Unfortunately, perceived strange behaviour can lead to estrangement; therefore, videotaping can be helpful to make children aware of their differences (Ozonoff *et al*., 2002:87). Conversations about ASD with children on the spectrum, in the form of social stories or personal accounts, could support children with ASD to understand the effect of their behaviour on friends or family (Ozonoff *et al., 2*002:212-213). Social stories are ideal to use in drama class to practise social skills by means of improvisation and short plays which serve as a visual demonstration for children to see and to experience the effects of unsocial behaviour (Baker, 2006:109-117).

- *Repetitive movements*

  Repetitive movements can take the form of hand flapping, finger flicking, rocking, walking on tiptoe and spinning objects (Lord & Bishop, 2010:4; Myles *et al., 2*005:6), such as the blades of a fan (British Columbia Ministry of Education, 2000:12-13). Rigid behaviour is visible in these repetitive movements and unusual obsessions (Cumine *et al., 2*010:67; Cotugno, 2009:1268). Repetitive behaviour may be linked to a dysfunctional prefrontal cortex (Mundy, 2003:801).

  Repetitive movement can be a means to relieve the anxiety experienced by children with ASD in an alien world (Szatmari, 2004:38), for example, Grandin (2006:34) reports that rocking calmed her when she felt overloaded. Not all repetitive movement is related to stress, but it appears that rigid repetitive structured behaviour creates a world of order for children with ASD (Szatmari, 2004:38, 55). Unfortunately, stereotyped movements draw attention to children with ASD, as this behaviour appears strange. However, these movements can be controlled by instructing children to perform a constructive task, or to carry a load of books (Wing, 2001:114).

  If repetitive movements are indeed a sign of anxiety, it is important to teach children with ASD to contain this anxiety with specific skills. Some helpful skills include relaxation, the use of weighted clothes, or allowing an anxious child to move to a separate classroom to calm down, if the space is available (Neufeld, 2012:84; Stokes, 2002:8). These techniques are helpful to prevent an escalation of anxiety and to assist the child to unwind. A knowledgeable drama teacher should notice mounting anxiety in a child with ASD and take immediate action to counter this anxiety, to support the child. It is easier to avoid a tantrum than to deal with anger or aggression that upsets the whole drama group (Guli, 2004:101).

2.3.3.2 Sensory issues

Children with sensory issues can experience sensory overload in a large class, leading to concentration difficulties (Mastrangelo, 2009:39). Sensory challenges such as noise or a smell can undermine learning in school for children with ASD (Myles *et al., 2*005:6). Some children with ASD experience hypo-responsiveness, and others experience hyper-responsiveness to sensory input. Hypo-responsiveness is a lack of

response to pain, or a lack of response to certain sounds, whereas hyper-responsiveness in children with ASD causes these children to be extremely sensitive to sounds, light and touch (Baranek, David, Poe, Stone & Watson, 2006:591). Children with hyper-responsiveness experience even the sound of rain as “gunfire”.

Self-care is another issue related to touch-defensiveness. A refusal to perform certain self-care actions, such as bathing, may be misunderstood as a lack of self-care, instead of recognised as a sensory issue (Gutman, Raphael-Greenfield, Kerr, Seidlitz & Wang, 2014:16). It must be understood that levels of hyper- and hypo-responsiveness can be inconsistent, and that such responsiveness may not be present at all times (Grandin, 2006:66-67). Educators who are uninformed about ASD find it difficult to understand the inconsistency of sensory issues in children with ASD. Below, the sensory challenges (visual, tactile, auditory, gustatory and olfactory, vestibular and proprioceptive disparities) are listed and discussed, in view of the impact of these challenges on the functionality of children with ASD in education.

- *Vision*

  Visual challenges for children with ASD are varied. Children on the spectrum can differ in their reaction to light sensitivity, and may experience depth perception challenges and distorted vision caused by movement. Light-sensitive children tend to cover their eyes in the presence of bright light. Some cannot tolerate fluorescent lighting (Mastrangelo, 2009:39), as they can see the “sixty-cycle flicker”, which makes a room seem to pulse (Grandin, 2006:70). Other children with ASD may stare at shiny objects for long stretches of time (British Columbia Ministry of Education, 2000:17). Atypical functioning of the cerebellum (Dawson, 2010:10) and the temporal lobe in the children with ASD makes it difficult for them to disengage their attention from objects.

  The cerebellum controls effective cognitive, motor and attention behavioural skill functioning (Rogers & Dawson, 2010:8; Courchesne *et al*., 2007:400). Cognitive and motor functions of the brains of children with ASD are compromised by the affected cerebellum (Rogers & Dawson, 2010:10; Landry & Bryson, 2004:1119). The temporal lobe is responsible for language and social perception. The fusiform gyrus and the superior temporal sulcus (STS) in the temporal lobe are responsible for facial perception and the gaze of the eyes (Rogers & Dawson, 2010:5; Dawson *et al.*, 2002:586). As already indicated, children with ASD have difficulty

in recognising emotions and facial expressions (Mundy, 2003:795) and with disengaging focused attention from an object or activity (Landry & Bryson, 2004:1120). Anomalies (in white matter), alterations and low connectivity in the temporal lobes of individuals with ASD create functional and anatomical connectivity challenges, resulting in social perception challenges (Kana *et al*., 2014:104), as opposed to increased local connectivity in the tempero-occipital regions.

Over-connectivity in the areas of visual processing in the posterior brain regions has been found in children with ASD, correlating with superior functioning in this area (Simmons, Robertson, McKay, Toal & Pollick, 2009, cited in Keown, Shih, Nair, Peterson, Mulvey, & Müller, 2013:568). This explains children with ASD's inclination to focus on details and their challenge with *Gestalt* processing (Dakin & Frith, 2005, cited in Keown *et al*., 2013:568), confirming the theory of Weak Central Coherence (Happé, 1990, cited in Keown *et al*., 2013:568).

Some children with ASD also have depth perception challenges and find it difficult to walk down stairs (Grandin, 2006:62, 69). Another complication is that some children are unable to see moving people or objects. The movement distorts the vision of these children (British Columbia Ministry of Education, 2000:35).

It is important to know that a tired child with sensory overload tends to experience increased anxiety, which worsens the child's sensitivity and reactions to certain sensory input. It can be helpful if an overloaded child can be sent to a quiet place, to calm down (Neufeld, 2012:84). The drama teacher needs to be sensitive to the sensory challenges experienced by children with ASD in the class and can prevent some sensory challenges by not using fluorescent lights in the drama class (if possible), to prevent possible visual sensory overload.

- *The tactile system*

  A person's tactile system provides an understanding of the surrounding environment. Through their tactile senses, people connect socially, are aware of the temperature and sensitive to what they experience as pain or as hurting others. The tactile system acts as a warning system for temperature, touch and pressure (British Columbia Ministry of Education, 2000:17). The dorsal medial frontal cortex and the anterior cingulate cortex act as warning systems for pain. Atypical functioning of these two areas in children with ASD explain self-injurious

behaviour. The impact of tactile challenges on children with ASD include hyper- and hypo-sensitivity, touch defensiveness and perceptions of personal space.

The tactile systems of children with ASD function differently from those of neurotypical children. Some children on the spectrum are hypo-sensitive and others hyper-sensitive. Parents of a child with ASD can inform the drama teacher about the hyper- and hypo-sensitivities of their child. Drama class can be helpful, as, for example, tolerance to touch and understanding for touch defensiveness can be taught in a drama class. If children with ASD are hyper-sensitive to touch, it is advisable to ask these children for permission to touch them. This is preparation for touch. The performance of social stories about tactile tolerance and information about different kinds of touch in the drama class are also advisable, if touch is a challenge (Gray, 2010:83-88).

Disturbing aspects of hypo- and hyper-responsiveness concerning touch include self-injurious behaviour by some children with ASD, caused by atypical functioning of the anterior cingulate cortex, which compromises the warning system for pain (Mastrangelo, 2009:34; Pinkham, Hopfinger, Pelphrey, Piven & Penn, 2008:172; Eisenberger, Lieberman & Williams, 2003:291; Mundy, 2003:802-803). This may manifest as “biting, scratching and head banging”. It can be an indication of discomfort, pain or illness. Three reasons found for resorting to self-injurious behaviour are to release chemicals in the body to decrease pain and increase a feeling of comfort, to relieve boredom and to seek attention (Wing, 2001:104-105). Another study suggests that injurious behaviour is not attention-seeking – self-injury may also occur when children with ASD are frustrated by their inability to complete a given task (Mesibov, Browder & Kirkland, 2002, cited in O’Reilly, Sigafoos, Lancioni, Edrisinha & Andrews, 2005:308).

Hypo-responsiveness with regard to pain can be a source of danger to children with ASD: the children might get hurt or hurt others without realising it because of their own low response to pain (British Columbia Ministry of Education, 2000:17). It is thus important to assess each situation regarding self-injury to understand its cause. An informed drama teacher should not be fearful when encountering self-injury, but needs to understand that children with ASD may be communicating feelings of frustration, discomfort or illness.

Tactile sensory issues complicate the life of children with ASD in various ways. In school, set activities form part of every schoolday. Some of the children with hypersensitivity to touch (touch-defensiveness) find it difficult to line up for a class, because of unintentional physical contact with other children (Myles *et al., 2*005:11). Another complication in this area arises when they experience discomfort from wearing some forms of clothing. They may undress in public to escape this discomfort (British Columbia Ministry of Education, 2000:35).

- *Personal space and inappropriate touch*

  Social complications for children on the autism spectrum also arise when these children are hypo-reactive. In the school environment, children with ASD who have tactile hypo-reactive challenges may annoy peers because the children are unable to understand that there is generally a personal space between people. Teaching the concept of personal space is an important aspect of a child with ASD's Individual Education Plan (IEP) (Mastrangelo, 2009:40). Challenges with their tactile system may manifest in the form of inappropriate touching of others, or of putting objects in their mouth. The complications caused by this unsocial behaviour may lead to marginalisation (Caplan, 2006:1; Guli, 2004:1).

  Rehearsing short social stories in drama class can educate children with ASD on how to discriminate between appropriate and inappropriate touching. It can also enable them to practise the necessary social skills concerning personal space, so that they can avoid marginalisation (Baker, 2006:15-20).

- *The auditory system*

  Neurotypical children in school consider it normal to function in moderate noise levels. Children talk, laugh and move around from class to class. The school environment is thus filled with numerous sounds, which can be a challenge for children with ASD who have auditory sensory challenges. Some children on the autism spectrum experience loud noises as painful (if they are hyper-responsive), while others experience such noises as pleasurable (if they are hypo-responsive) (Marco *et al.*, 2011:49; Park, 2005:62).

  The auditory issues related to sound are not easy for educators or children with ASD to handle, especially if a class is filled with children who have no sensory problems with noise. Children with ASD become overloaded and close down to the process of learning (Grandin, 2006:65, 82; Myles *et al., 2*005:11).

A drama teacher's sensitivity towards the sensory challenges of children with ASD may determine the ability of these children to function at a higher level in the drama class. Teachers must be sensitive to non-verbal cues from children with ASD. Some children with an auditory sensitivity may cover their ears with their hands to avoid auditory input (Marco *et al.*, 2011:49). If this happens during a movement session on music in the drama class, it would be an indication of auditory overload and that the volume should be turned down.

- *Olfactory and gustatory systems*

  The olfactory and gustatory systems of children on the autism spectrum can be oversensitive. This happens particularly when other senses are distorted. If the vision and hearing of children with ASD become distorted, they may start to rely on their olfactory system. This can present as strange behaviour, because children with ASD will try to smell everything and anything. This could also affect their eating habits. Some children with ASD will eat only particular foods. The odour and/or taste of other foods repels them and prevents them from eating those foods (Grandin, 2006:71; Myles *et al.*, 2005:11).

  Hypo-responsiveness in the gustatory system can also lead to peculiar or dangerous behaviour. When children with ASD are seen licking and/or chewing objects or smelling people, their behaviour does seem unusual. There is some risk if children's lowered sense of smell leads to their tasting or smelling a dangerous object or substance (British Columbia Ministry of Education, 2000:36).

  Challenges with these senses can impair the social relationship between children with ASD and their peers and educators. Children with ASD may appear rude and tactless if they react in extreme ways (hyper-responsively) to specific odours such as a particular perfume or deodorant (British Columbia Ministry of Education, 2000:17). For example, after close observation it was found that one child with ASD attacked the teacher when she wore a certain perfume (Cumine *et al., 2*010:66). An informed drama teacher should be aware that some smells and tastes can cause a severe reaction in some children with ASD.

- *The vestibular and proprioceptive system*

  The vestibular system guides people as to their physical position on earth. A functional vestibular system also relays information allowing people to know whether they are in an upright position, even if their eyes are closed. If their

vestibular (balance) and proprioceptive (movement) systems are dysfunctional, children with ASD can appear extremely clumsy or adopt a strange body posture. These systems also affect handwriting (*Inclusion Notebook*, 2007:6; Park, 2005:106, 144), and may lead to spinning, poor posture and injurious behaviour.

If a child walks close to a wall, with tensed muscles and the head at a rigid angle, and appears to be physically disoriented, the child may be showing hyper-reactivity concerning the vestibular and proprioceptive systems (British Columbia Ministry of Education, 2000:35). Some report specific challenges in the vestibular system, relating to difficulty in walking down stairs, running or jumping (Elwin, Ek, Kjellin & Schröder, 2013:238). A hypo-reactive child with ASD behaves in the opposite way – the child may seem lethargic, but still crave constant movement. Pacing or repetitive movement may be seen, but mostly the child is generally passive towards movement (British Columbia Ministry of Education, 2000:35). The drama curriculum can contain movement exercises to develop children's body awareness and healthy posture on stage. Movement and music develop controlled and purposeful body awareness in children with ASD (See, 2012:1107).

Some children with ASD may engage in movement such as "whirling and spinning", which upsets the vestibular system, although the children experience the movement as pleasurable (British Columbia Ministry of Education, 2000:18).

Poor posture and lack of coordination are linked to challenges in the proprioceptive system (Myles *et al*., 2005:11) resulting in the children's slumping in a chair and handwriting challenges. The sensory system must be integrated with body awareness to produce a flow from the sensory system to the hand to produce handwriting, a complex process that is affected by the proprioceptive and the vestibular systems (Park, 2005:106-111, 144). The challenges with posture can be corrected over time with patience and understanding of the relevant systems in children with ASD who do not function well.

Correct posture, movement, stretching and relaxation exercises in drama classes create body awareness in children with ASD and support the development of a balanced posture. Faulty sensory perception leads to poor posture. Body awareness and correct posture learnt by using the Alexander technique in drama class can correct this faulty perception (Brennan, 2002:56).

The vestibular and proprioceptive systems sustain children's ability to discern whether they are hurting someone. Children with ASD who hurt another child say that the hurt is unintentional. The problem originates in a flawed vestibular and proprioceptive system that relays inaccurate information to the brain, resulting in an inability to discern whether the touch or force applied is appropriate (Myles *et al., 2*005:11). Appropriate support in the drama class is the use of a social story. A visual cue card is also a practical reminder for children with ASD to refrain from touching other children (Howley & Arnold, 2005:115-119).

These two affected systems, the vestibular and proprioceptive systems, in children with ASD, explain strange body posture, challenges with movement and inaccurate positioning or discernment of hurtful physical behaviour. Processing issues in the described sensory systems of children with ASD often lead to socially unacceptable behaviour (Friend, 2011, cited in Gutknecht, 2015:14), specifically manifested in aggression. The impact of aggressive behaviour is profound on the personal and educational development of children with ASD.

2.3.3.3 Anxiety and aggression

Several categories of anxiety are described below to explain the cause and effect of anxiety and aggression on the social behaviour of children with ASD. Social anxiety, aggression, and a lack of self-awareness and ideation (a lack of variation) have an effect on the application of disciplinary measures in the education of children on the autism spectrum, as discussed below.

- *Social anxiety*

  Anxiousness in children with ASD is partly caused by their frustration at being unable to express appropriate emotions, and at challenges with sensory integration. A fear of sensory overload and change, combined with an inability to understand people and social situations, adds to social anxiety in these children. Some of the children on the spectrum revert to a "total shutdown" when they are over-stimulated, whereas others become aggressive (Friend, 2011, cited in Gutknecht, 2015:14; British Columbia Ministry of Education, 2000:18-19).

- *Aggression (disruptive behaviour)*

  Disruptive behaviour can be a barrier to education for children with ASD. They may cry and/or resort to aggression. This behaviour may include kicking,

screaming, spitting and tantrums (Koegel, Singh & Koegel, 2010:1058). Such aggression has a detrimental effect on their functionality in general and in education in particular. It is important to intervene the moment when disruptive behaviour is displayed. This keeps children with ASD from escalating to worse behaviour (Horner, Carr, Strain, Todd & Reed, 2002:423-424, 433).

Disruptive behaviour can be stopped if the stimulus that causes it can be isolated and removed. For example, a particular nursery song was removed from the curriculum of one child with ASD, and the disruptive behaviour ceased. Disruptive behaviour such as self-injury should not be regarded as a sign of mental illness, but rather as an indication that stimuli are overwhelming children (Lovaas, 1993:621). A careful analysis of the occurrence of the behaviour is important to determine the cause of aggression in children with ASD. Although it is not always possible to discern the cause of certain behaviour, it is useful to teach children with ASD skills in the drama class to cope with stressors (Cumine *et al., 2*010:72; Szatmari, 2004:154, 152, 72; Horner *et al.*, 2002:435).

- *Lack of self-awareness and ideation*

  If a child seizes a toy from another child without asking permission, most educators see this as an act of violence. In the realm of ASD, ideation (a lack of variation), social anxiety and a lack of social awareness need to be considered as a possible cause for this kind of action (Cumine *et al*., 2010:15). Rage (violence) may also be displayed if others refuse to give in to the demands of children with ASD. Although this behaviour is inappropriate, it must be understood that such behaviour by children with ASD actually demonstrates their lack of appropriate communication abilities (Prizant & Wetherby, 1993:118).

  A lack of self-awareness regarding social communication in children with ASD is also demonstrated by their expression of anger. This reaction is involuntary and is usually induced by outside factors (Gutknecht, 2015:51). It is also linked to the children's inability to choose alternate actions; therefore, children with ASD may conform rigidly to an inflexible pattern (Mastrangelo, 2009:34). This lack of self-awareness and ideation is also seen in the non-compliance of children with ASD with discipline and their unresponsiveness to it (Van Bourgondien, 1993:132).

  Increased self-awareness in a child with ASD can be established by a drama therapist who gives children a platform to express all feelings, both negative and

positive, freely (Caplan, 2006:21). Lack of self-awareness of these feelings in children with ASD is part of the cause of rigid patterns of behaviour (Park, 2005:147).

A variety of social, communication and behavioural impairments thus have a profound impact on children with ASD. The comprehensive explanation of each area reveals a disruption of the children with ASD's functionality, when compared to that of neurotypical children. The challenges in these areas complicate daily living. It is specifically their sensory impairments that create a narrative of a world that most of us cannot comprehend, because it is not part of our daily experience. Visual sensitivities can cause tremendous anxiety in these children due to depth perception and distorted vision challenges in children with ASD. Auditory sensitivities can cause pain, closing the children to learning and resulting in dysfunctional behaviour. A faulty vestibular and proprioceptive system also has an impact on posture and movement and makes some of these children unable to discern hurtful physical touch. It is understandable that these challenges cause anxiety, maladaptive behaviour, marginalisation and, in some cases, aggression. None of these behavioural patterns are due to ill-disciplined behaviour, but rather to complex neurological differences and sensory overloads. Educators and drama teachers must also take note of a range of learning challenges that affect the education of children with ASD. Therefore, information on these learning challenges and the possible suitability of drama interventions to reduce the impact of these challenges need to be considered.

2.4 THE IMPACT OF LEARNING CHALLENGES ON CHILDREN WITH ASD

ASD affects children's education in the form of learning disabilities relating to inferential learning, conceptual learning, language formation and perspective-taking (Schneider, 2007:16-17). The sections below review each learning disability, and the children's inability to deal with the concept of time.

2.4.1 Inferential learning disability

The inferential learning disability of children with ASD manifests in their challenges with figurative, abstract language and non-verbal cues (Schneider, 2007:16-17). Some children with ASD have excellent reading abilities, but may have difficulty understanding the context of words (Szatmari, 2004:169) and recognising the

meaning of non-verbal communication (Winner, 2000, cited in Schneider, 2007:16). Atypical functioning of the dorsal medial frontal cortex and the anterior cingulate cortex are determining factors in this learning disability, as they govern children's ability to understand language in a complex form and regulate emotion (Pinkham *et al*., 2008:172; Eisenberger *et al*., 2003:291; Mundy, 2003:802-803).

In drama class, children with ASD can become aware of non-verbal cues through social stories, and can practise these different verbal signals. Modelling these signals through social stories in a drama class offers a visual modality to teach children with ASD. It is an effective method to teach new social skills and to enable these children to develop an understanding of non-verbal body language (Baker, 2006:1-14).

Children with ASD tend to be very literal, so they experience difficulty in understanding figurative speech, irony or abstract ideas (Koudstaal, 2011:352-356). For example, participants with ASD in a research project by Guli (2004:97) were unable to grasp the figurative meaning of "standing in someone else's shoes". They interpreted the figure of speech literally (Stokes, 2002:9). Numerous short stories can be used in drama class to support development in this area. Stories containing an appropriate form of humour are an effective method to experiment with the figurative meaning of words (Schneider, 2007:44). Figurative and abstract language can also be practised in drama class, using improvisation, where the figurative and abstract meanings of words can be enacted (Schneider, 2007:45).

2.4.2 Conceptual learning disability

Conceptual learning disability complicates the education of children with ASD when they experience difficulty in summarising and organising. These children tend to be detail-oriented, for example, some children with ASD can remember all the flags in the world because of their memory for detail. They are also predisposed to an inability to visualise the bigger picture, making summarising difficult (Schneider, 2007:16). The art of summarising requires us to forget some details, and focus only on the most salient points, which gives neurotypical children the ability to generalise (Szatmari, 2004:172). The underlying neurological origin of conceptual learning disabilities lies in the connectivity in the temporal lobes of children with ASD (Keown *et al*., 2013:567). The focus on detail in this conceptual learning disability relates to

the theory of Weak Central Coherence (see Section 2.7.1.3) regarding *Gestalt* processing (Dakin & Frith, 2005, cited in Keown *et al., 2*013:568).

Children with ASD also experience challenges in the areas of planning, organising and multi-tasking, also known as Executive Function (Brown & Klein, 2011:1471-2). A detailed description of Executive Function is provided in Section 2.7.1.2. These skills can be developed in children with ASD in drama class, using drama techniques such as storytelling, improvisation and role play to teach children to create a concise story through careful planning and organising (Schneider, 2007:16, 56).

2.4.3 Language formation learning disability

The language formation learning disability in children with ASD leads to the monologues (Loyd, 2011:35) typically conducted by these children, and an inability to solve problems (Schneider, 2007:17). The prefrontal cortex of children with ASD forms part of the neurological complexity of this learning disability, where children may fail to notice that other children in the group would prefer to respond and form part of the conversation (Yates & Le Couteur, 2012:7; Peter, 2009:11).

The prefrontal cortex regulates the guiding of attention, organisational skills, non-concrete thinking and acceptable social behaviour (Rogers & Dawson, 2010:8), inhibiting socially maladapted behaviour. It helps people to read others' body and facial language, enabling them to adapt their behaviour if necessary. Children with ASD seem unaware of others' needs and continually talk about their own interests, not recognising that other people lose interest. Children with ASD also have difficulty recognising that other people are offended (as shown by people's faces) when the children say or do something inappropriate (Rogers & Dawson, 2010:5). Weak connectivity and a decreased response in the medial prefrontal cortex and the temporal parietal junction have been confirmed by Lombardo, Chakrabarti, Bullmore and Baron-Cohen (2011, cited in Kana *et al.*, 2014:98). Functional changes in these brain areas cause ineffective social functioning or ToM (Kana *et al*., 2014:98). As with other atypical neurological functions in children with ASD, differences in the prefrontal cortex may be combined with other non-neurotypical challenges.

2.4.4 Perspective-taking learning disability

The perspective-taking learning disability is also related to the lack of Theory of Mind (ToM) (see Section 2.7.1.1). When this skill is absent, children with ASD can easily say things that sound rude and hurtful to peers (Yates & Le Couteur, 2012:6). An inability to understand another person's feelings and perspective is not conducive to the formation of friendships (Schneider, 2007:17). Drama teachers and educators should bear in mind that this disability stems from atypical functioning in the Mirror Neuron system (see Section 2.3.2.1). Neural connectivity problems can make it more difficult, but the children can be supported to develop perspective taking. Social stories can be rehearsed in drama class to provide support for this perspective-taking learning disability. Appropriate social stories can deal with respect for other people and expressing oneself in a respectful way (Gray, 2010:98-100).

2.4.5 Concept of time

Another compromised cognitive function is difficulty with the concept of time. This leads to an inability to wait (O'Leary, 2013:23), and to complete tasks within the time allocated to a task (Williams, Boucher, Lind & Jarrold, 2013:1565). A marker of this inability is children with ASD's repetitive questioning about a sequence of events. They expect an interlocutor to relay the specific details on request, repeatedly. The inability to understand that an activity draws to a close is also associated with this challenge (Peck & Scarpati, 2009:4; Wing, 2001:79).

Drama teachers and educators need to break up tasks for children with ASD to assist them to complete the tasks within the time allocated. Transition activities (see Sections 2.8.3 and 3.8.2.3) provided by the teacher in the drama class can help the children to understand when an activity is drawing to a close (Cumine *et al., 2*010:47, 73).

The impact of the inferential, conceptual, language formation and perspective-taking learning disabilities, combined with the challenge to understand time concepts, has a profound impact on children with ASD's functionality in education. Unfortunately, there are also several comorbidities, discussed in the next section, which exacerbate the myriad challenges faced by children with ASD.

2.5 THE IMPACT OF COMORBIDITIES ON CHILDREN WITH ASD

A wide variety of psychiatric, behavioural and neurodevelopmental comorbidities are associated with autism (Yates & Le Couteur, 2012:7). Attention deficit hyperactivity disorder (ADHD), obsessive-compulsive disorder (OCD), mood disorder (Miller *et al*., 2009:246) and epilepsy are a few of many comorbid disorders found in some children with ASD (Bolton, Carcani-Rathwell, Hutton, Goody, Howlin & Rutter, 2011:289; Schumann & Amaral, 2006:7676). Tourette syndrome, dyspraxia, dyslexia, phobias, anxiety, sleeping difficulties, feeding difficulties and self-injurious behaviour are also mentioned (Yates & Le Couteur, 2012:7). These comorbidities can all affect the children's functionality in education. For the purposes of this thesis, in relation to drama, I discuss only the four comorbidities (ADHD, OCD, anxiety and epilepsy) most relevant to the participant sample.

2.5.1 Hyperactivity

Hyperactivity or ADHD in children with ASD manifests as excessive activity, impulsiveness and inattentiveness (Williamson & Martin, 2012:1253). Children with ASD and ADHD can present disorderly work and display an inability to shift attention (Kennedy *et al*., 2011:20-22; Carbone *et al., 2*010:455; Ackerman, 2009:90; Miller *et al., 2*009:246).

Educators need to discern between ADHD and the possibility that ADHD may present as hyperactivity or inattention by a gifted child who is not sufficiently challenged by the curriculum or is exposed to unsuitable teaching strategies (Rinn & Nelson, 2009:20, 23). Unchallenged children with ASD can also display behaviour that seems hyperactive, but actually indicates that the children are not sufficiently stimulated by the work for it to hold their attention (Kennedy *et al., 2*011:23). It can also indicate to an educator that these children with ASD are exposed to ineffective teaching strategies, such as non-visual strategies or an auditory model of teaching (Koudstaal, 2011:356). A consequence is inattentive behaviour demonstrated by the children with ASD and that is not caused by ADHD (Kennedy *et al*., 2011:23). It is important to distinguish between inattentive behaviour due to ADHD and other causes, and to be sure of the cause before therapy or interventions are instigated.

First line of intervention for ADHD and ASD usually involves medical support, usually assuming that medication for children with ASD should be the same as for neurotypical children demonstrating hyperactivity. However, methylphenidate (Ritalin) and dextroamphetamine (Adderall), which are usually prescribed, may be less effective in children with ASD than in neurotypical children. Scientific trials reveal higher sensitivity to side effects in children with ASD (Williamson & Martin, 2012:1253). Clinical trials with the antipsychotic medication Risperidone indicate effective control of irritability in children with ASD and ADHD (Williamson & Martin, 2012:1254). Another study suggests that Atomexetine (Strattera) is more effective, with fewer side effects, than stimulants used for ADHD in children with ASD (Saccani, Buzzi & Paccione, 2013:4). Saccani *et al*. (2013:4) acknowledge that there is some controversy about the effectiveness of some of the medication prescribed for children with ASD and ADHD.

It is important to note the medical interventions used for children with ASD, but a fuller discussion of these is beyond the scope of this thesis. Williamson and Martin (2012:1249) put the use of medication into perspective: medication can play a role in a comprehensive treatment plan aimed at decreasing challenging behaviour, but it should not be seen as a cure-all to treat the symptoms of underlying social and communicative challenges, or repetitive behaviour. My study focuses on the treatment of these symptoms to address these challenges. Fortunately, there are a variety of non-medical interventions available to support children with ASD specifically to address challenging ADHD behaviour.

Drama teachers should recognise that with hyperactive behaviour in children with ASD, the hyperactive behaviour is not the problem, and should seek to discover what motivates the behaviour. Once the motivation is known, appropriate strategies can be applied to create an environment of learning for children who display hyperactivity (Ackerman, 2010:235). A specific focus to address ADHD-like behaviour is using movement in the education system in general and in drama class in particular. Kinaesthetic movement is a means to work towards focus and attention, enabling children with ASD and hyperactivity to complete tasks and connect with others more effectively (Park, 2005:135), because many of these children use movement as a strategy to calm their nervous system. An effective intervention for hyperactive children with ASD is letting the child sit on an exercise ball, which invites movement,

which static seating does not. This aids concentration effectively and learning may take place (Stokes, 2002:10). Therefore, movement in drama class is an appropriate drama intervention for children with ASD who struggle with hyperactivity. The movement and music release tension in the body, helping these children to become much calmer and to focus in class (See, 2012:1105). Drama interventions can thus make effective use of the need for movement among children with ASD in an educational setting, and help them to use their bodies as a tool to enhance learning.

2.5.2 Obsessive-compulsive disorder

The second comorbidity in some children with ASD is obsessive-compulsive disorder (OCD). Sensory sensitivities in children with ASD seem to cause OCD or repetitive behaviour – rigid motor, verbal and sensory responses, routines and rituals (Lord & Bishop, 2010:4-5). These children use these rituals as an instrument to create order (Szatmari, 2004:56). Examples of obsessive or repetitive behaviour include hand-flapping, spinning and rigidly adhering to a set time for watching a movie daily. Repetitive use of objects in particular is seen in OCD behaviour associated with ASD (Carbone *et al., 2*010:455; 459), for example, a child who would only enter the school through certain doors and counted the pot plants in the schoolyard before he was prepared to enter the school (Cumine *et al., 2*010:6-9). Obsessive or repetitive behavioural patterns in children with ASD are challenging for children to control (Muris, Steerneman, Merckelbach, Holdrinet & Meesters, 1998:392).

Obsessive behavioural patterns usually stem from unintegrated sensory systems in children with ASD. Movement in drama class can aid the integration of these systems (Park, 2005:8, 92). Other helpful drama techniques are to model the effect of OCD patterns through role play, improvisation and stories. A visual and active way of reliving and enacting OCD-type behaviour creates understanding in children with ASD who have difficulty to see beyond their own perspective. The performance of such stories is an effective ASD-type of intervention method, enabling the children to actively experience acceptable social behaviour (Wilmer-Barbrook, 2013:43-48).

2.5.3 Anxiety

Between 30% and 60% of children with ASD also suffer from anxiety (Dawson, 2010:22; Myles *et al., 2*005:215; Little, 2002:54; Muris *et al.,* 1998:391), which has a

severe effect on their lives (and those of neurotypical children). Anxiety affects both children's functionality and the brain itself. The anxiety of children with ASD is related to sensory sensitivities, general fear and specifically a fear of change, an inability to communicate effectively and the children's difficulty in understanding social behaviour (British Columbia Ministry of Education, 2000:18).

De Bellis *et al.* (2000:56) hypothesise that an enlarged amygdala can be caused by genetic factors related to continual anxiety during developmental stages. Chronic anxiety can result in a smaller amygdala (Schumann & Amaral, 2006:7878). The process is reversed over time, as a continued anxiety response has a possible deteriorating effect on the amygdala when children with ASD grow older, resulting in a smaller amygdala, due to a loss of neurons (Schumann & Amaral, 2006:7678).

It is important to support anxious children in developing coping skills to decrease anxiety. Several techniques (meditation/mindfulness and yoga) are effective for stress reduction (Hölzel *et al*., 2010:11-12). Hölzel *et al*. (2010:11-12) report on a study in which stress reduction and its effect on the amygdala were measured in an eight-week programme with mindfulness (a form of meditation) and yoga relaxation techniques. Results on the effect of stress on the amygdala were conflicting, but a measured reduction in the right amygdala grey matter density correlated with effective stress reduction on neurotypical males (32 years) experiencing stress.

In this study, I focus on techniques associated with drama for relaxation and other areas of development. These techniques are ideally practised at the start of a drama class, to release anxiety and stress, and to enhance focus in the class (McAllister-Viel, 2009:165; Iyengar, 2001:21, 32-34, 157). Cognitive behavioural therapy can reduce anxiety in participants with ASD by 78.5% in the areas of repetitive, disruptive and social behaviour (Wood, Drahota, Sze, Har, Chiu & Langer, *2*009:225-226, 231). Appropriate interventions for children with ASD assist the acquisition of coping mechanisms to control anxiety, which lessen the detrimental effect of these comorbidities. A drama teacher would not necessarily use cognitive behavioural therapy, but rather appropriate drama techniques to develop social behavioural skills. Some drama techniques are effective in decreasing anxiety in children with ASD (Corbett *et al*., 2011:505). Anxiety also appears to correlate with epilepsy as a comorbidity, confirming the importance of establishing skills to contain anxiety.

2.5.4 Epilepsy

A fourth comorbidity in some children with ASD is epilepsy (Williams *et al*., 2001:288), which has an extensive impact. Temporal lobe epilepsy damages the amygdala (Pitkänen, Tuunanen, Kälviäinen, Partanen & Salmenperä, 1998:250). There is a relation between intellectual challenges, epilepsy and ASD. Seizures are prevalent in female adolescents with ASD (older than ten years) who experience intellectual challenges (Bolton *et al., 2*011:289, 292; Amiet *et al*., 2008:581).

Up to 18% and 29% of children with autism experience epileptic seizures (Yates & Le Couteur, 2012:7). In one study with 150 participants with ASD, 22% had epilepsy (Bolton *et al., 2*011:293). Educators should know that epilepsy is a comorbid factor in children with ASD (Bolton *et al., 2*011:293), as it has an effect on anxiety in children with ASD and educators who have to deal with seizures. This condition may create aggressive outbursts or self-injury, which can warn an educator or drama teacher that a seizure is imminent (Grandin, 2006:135). Relaxation and breathing techniques can be practised in the drama class (Iyengar, 2001:21, 32-34, 157). These techniques support children with ASD skills to contain mounting anxiety, which forms part of the onset of epilepsy (Bolton *et al., 2*011:293*)*.

2.6 SPECIAL SKILLS

I conclude the discussion of ASD as a condition by considering special skills, to balance the picture with the special strengths of children with ASD. Such skills are a gateway to children with ASD's development in line with the Intense World Theory, which calls for suitable strategies to demonstrate the hypersensitivities of children with ASD as gifts rather than disabilities, and thereby support successful social integration in society (Markram & Markram, 2010:22). Children with ASD naturally understand these gifts, and excel from these areas of strength, so this is a place from which educators and drama teachers need to start, rather than a place of weakness. It is often the application of these children's areas of strength and interests that can help build an important bridge between educators, a drama teacher and children with ASD.

Some children on the autism spectrum are categorised as having Asperger Syndrome (AS) or High Functioning Autism (HFA). These children have special

abilities and a high IQ (Kennedy *et al*., 2011:76, 123; Rutter, 2011:396). Hence, Winebrenner (2003:133) calls these gifted but learning-disabled children "twice exceptional". When these strengths are acknowledged in children with ASD and they are asked to demonstrate them in drama class or school (Kennedy *et al., 2*011:200), they gain peers' respect and social acceptance may follow (Winebrenner, 2003:133). Children with ASD are authenticated when they are given validated roles (Harrower & Dunlap, 2001, cited in Eldar, Talmor & Wolf-Zukerman, 2010:99), demonstrating their skills in class. This also leads to their successful inclusion in class and gives children with ASD a sense of pride, motivating them to even higher achievements (Eldar *et al., 2*010:110). Children with ASD are given a fair chance to develop their potential when educators focus on the strengths (Kennedy *et al., 2*011:124). This enhances children with ASD's self-esteem (Ozonoff *et al*., 2002:114).

Sacks (1985, cited in Happé & Frith, 2009:1345) raised awareness on children with ASD who demonstrate extraordinary skills. He mentions twins in an institution who could count matches thrown out on the floor in a matter of seconds and provide the prime number thereof almost immediately. He found that the only way he could communicate with the twins was to use this mathematical ability of theirs, since ordinary communication was impossible. However, it must be stated that savant skills do not occur in all children with ASD.

It is important to expose all children to opportunities for development. A stronger focus on discovering the abilities of children with ASD is advocated. This positive attitude enables them to acquire a possible suitable future vocation (Happé & Frith, 2009:1347). Such skills may not be relevant to all situations, and are offered here only to caution against focusing too much on social, communication and behavioural challenges, and dismissing the possible skills of children with ASD. We should not see children with ASD who experience severe difficulty in communicating as uneducable. We cannot truly know what a mind with autism is thinking (Hacking, 2009, cited in Happé & Frith, 2009:1348). Children with ASD who lack communication skills are usually trying to communicate, even when if it is only through their behaviour (Tissot & Evans, 2003:428).

The development of children with ASD through the use of art, specifically music, provides special opportunities for social and personal development (Heaton, 2009, cited in Happé & Frith, 2009:1348). It is easy to overlook strengths, such as

perseverance and an ability for endless repetitive action, in children with ASD (see Section 2.3.3). These are rare traits when compared to neurotypical children, who tire easily of repetitive work (Happé & Frith, 2009:1349). These traits can be applied fruitfully for future vocations of children with ASD.

To conclude, it seems that not all savants are autistic and not all children with ASD possess savant skills. There is no consensus on the prevalence of savantism in children with ASD. Initially 10% of children with ASD were believed to present with savant skills (Happé & Frith, 2009:1346), but cohort research indicates that 30% of respondents to show extraordinary skills in memory, music or calculation (Howlin, 2009, cited in Happé & Frith, 2009:1346). Importantly, recurring evidence suggests that most of the children with special skills have a nurturing family base. Their families consistently provide caring support, enabling them to experience functional living (Treffert, 2009:1353). Educational development is ensured by determining and appropriating the specific learning style of children with ASD – for example, research confirms that children with a visual learning style are blocked from learning effective comprehension and communication in an educational environment where auditory learning styles are employed (Tissot & Evans, 2003:425-426).

A balanced and ethical outlook on the development of children with ASD focuses on their strengths to improve their social and communicative abilities and minimise challenging ASD traits (Treffert, 2009:1355). Effective training methods are found in arts, such as music, storytelling, social stories and drama (Treffert, 2009:1355). Hence, I focus on the use of stories and drama techniques as support measures.

2.7 THEORIES RELEVANT TO ASD

In this section, I briefly consider theories that are applicable to this study. The section shows how four psychological theories and the theory of Positive Disintegration developed by Dabrowski apply to children with ASD, highlighting the impact of ASD on children. It is important to consider such theories, as they promote understanding of the social, communication and behaviour challenges faced by children with ASD, and help to create empathy and support for these children. The chapter also emphasises how important it is to implement effective interventions in the education and lives of children with ASD. The strategy of using drama to support the development of children with ASD is also briefly explored in relation to the theories,

considering its effect on the functionality of children with ASD in education. (The use of drama techniques is discussed in more detail in Sections 2.11 to 2.14.)

2.7.1 Psychological theories on ASD

Four theories explain the behaviour of children with ASD to a large extent. These are Theory of Mind (ToM), the Executive Function, Systemizing and Central Coherence theories. These theories and their relevance for children with ASD are investigated below. Drama techniques are paired with the challenges these children face (as explained by the theories concerned) to suggest possible support for the children's lack of socialization, and their communication and behavioural challenges.

2.7.1.1 Theory of Mind

The presence of Theory of Mind (ToM) in a child is reflected by effective social interaction, marked by a child's ability to read and understand another child's feelings and different viewpoints (Peterson *et al., 2*012:469). Even though ToM seems to be clearly present in neurotypical children by the age of four (Peterson, Wellman & Slaughter, 2012:469), the foundation of this ability starts much earlier, in the form of joint attention.

Neurotypical children's development of ToM is supported by joint attention, which is the ability of children to draw the attention of another person to an object, to give attention to the same object (Cumine *et al*., 2010:26). Joint attention develops very early (at the age of 12 to 15 months) to provide an infant with information about his/her environment and basic language (Redcay *et al.*, 2013:2512). According to Carbone *et al*. (2010), in neurotypical children, declarative pointing starts a few months later, at the age of 18 months. This is the ability of children to point to an object, turn attention to the adult, smile and share a social experience. When a child points to an object to obtain it, this is called imperative pointing. This is a functional and not a social action, as joint attention and declarative pointing seem to be (Carbone *et al*., 2010:454-455). For neurotypical children, joint attention and declarative pointing are also the start of the reciprocal communication process related to eye contact and emotions; ToM assists children to gain insight into their own behaviour and the behaviour of others (Kana *et al*., 2014:98). Behaviour is demonstrated to children through social cues such as body language, gestures and

facial expressions to support children to gain a mental understanding of the minds of people around them (Kana *et al., 2*014:98). The presence of ToM thus facilitates effective reciprocal communication (Moore, Bosacki & Macgillivray, 2011:1164).

The subject of ToM, especially in children with ASD, has been much debated. Experiments have been done on the use and comparison of different tasks to determine ToM in neurotypicals and children with ASD.[6] It falls beyond the scope of my study to use these tasks to determine whether ToM is present in children with ASD or not. The important factor is that ToM is usually only delayed in children with ASD and can be developed (Moran *et al.,* 2011:2691).

Considering that ASD is a neurological developmental disorder (Yates & Le Couteur, 2012:5), an appropriate starting place is to study the functional brain network of children with ASD relevant to ToM (Kana *et al., 2*014:98). At a neural level, the Mirror Neuron System (MNS) activates different parts of the brain in core ToM regions, such as the medial prefrontal cortex (MPFC) and the tempero parietal junction (TPJ) (Kana *et al.*, 2014:99). Kana *et al.*'s (2014:98) study used functional magnetic resonance imaging (fMRI) and find that different parts of the brain were activated in children with ASD from those in the brains of neurotypical children performing ToM-related tasks. The participants with ASD in Kana *et al.*'s (2014) study displayed lower activation in these regions than neurotypical participants. The neural systems of children with ASD demonstrate a weakened function and this is one reason for social deficits in children with ASD (Kana *et al., 2*014:104).

Challenges with social cognition and an inability to understand that people might have different viewpoints are additional markers of the presence of ASD in children. It was initially attributed to an absence of ToM in children with ASD (Baron-Cohen, Leslie & Frith, 1985:39, 41-44). However, researchers such as Iao and Leekam (2014:17) have demonstrated the presence of ToM in children with ASD. Kana *et al.* (2014:104) postulate that the determining factor of this challenge is then not an absence of ToM, but rather weak functioning of the neural network in the brain of children with ASD, which in turn also influences effective ToM.

[6] The False Belief, False Photo and the False Sign tasks are used to determine the presence of ToM for neurotypical children, as opposed to children with ASD (Iao & Leekam, 2014:1-2). The older age group (four to 12 years) has also been tested with the Reading the Mind in the Eyes Test and the Comic Strip Task (Philpott, Rinehart, Gray, Howlin & Cornish, 2013:109).

Children with ASD differ from neurotypical children in their use of joint attention, declarative pointing, pretend play, social cognition and mental understanding of alternative views in others. It has been established that the development of ToM is preceded by the formation of joint attention, but the development of joint attention is hampered by the absence of declarative pointing and eye contact at 18 months in children with ASD. Initial weak development of joint attention compounds their challenge with understanding facial expression and emotions (Cumine *et al., 2*010:26-27). Pretend play (at 18 months) is usually absent in children with ASD. Neurotypical children at this age tend to mimic adults' use of a phone, often speaking gibberish, imitating adults' phone conversations. By contrast, children with ASD prefer to press the phone's buttons repeatedly (Carbone *et al*., 2010:455).

If the above findings are correct, then support in this area by means of appropriate drama techniques may strengthen underdeveloped ToM in children with ASD (Kutscher, 2005:115). Guli (2004:84-85) has confirmed that drama techniques can be effective in the development of weak areas in children with ASD relating to imaginary play and role play to demonstrate alternative perspectives [ToM] and practise social skills such as empathy and compassion. There also seems to be some association between ToM, Executive Function and Central Coherence in children with ASD. Instead of seeing these issues as separate constructs in describing children with ASD's behaviour, they should perhaps rather be seen as one functional system for cognitive development, describing some of the behaviour of children with ASD.

2.7.1.2 Executive Function theory

Neurotypical children are able to plan and organise – abilities central to Executive Function theory. Functionality originates in the myelination, pruning and proliferation in the brain, and it leads to self-organisation, which is part of successful executive functioning (Laycraft, 2012:98). A lack of Executive Function (see Section 2.4.2 on Conceptual learning disability) in people with ASD is defined as an inability to plan, control impulses, organise, adapt thought and behaviour, comprehend consequences and adapt behaviour accordingly (Ozonoff, Pennington & Rogers, 1991:1083).

Research confirms difficulties and additional challenges experienced by children with ASD in the areas of

- cognitive flexibility (Sumrud-Clikeman, Fine & Bledsoe, 2014, cited in Vanegas & Davidson, 2015:78),
- planning (Geurts, Verté, Oosterlaan, Roeyers & Sergeant, 2004, cited in Vanegas & Davidson, 2015:78),
- inhibition (Verté, Geurts, Roeyers, Oosterlaan & Sergeant, 2006, cited in Vanegas & Davidson, 2015:78)
- visual spatial working memory and verbal fluency (Czermainski, Dos Santos Riesgo, Guimarães, De Salles & Bosa, 2014:85, 90), and
- time-based prospective memory tasks.[7]

It has also been found that Executive Dysfunction in children with ASD starts as early as the preschool years, and seems to be associated with limited capacity for flexibility to adapt behaviour as they grow older (McLean, Harrison, Zimak, Joseph & Morrow, 2014:1008). Such findings highlight the importance of appropriate intervention (in small groups) as early as possible to support children with ASD to develop flexible behaviour patterns and verbal strategies (Akbar, Loomis & Paul, 2013:500). The development of Executive Function is an ongoing process as children grow into adolescence. The myelination process (an increase of white matter in the brain) takes place during adolescence (Luna & Sweeney, 2004:296). This process forms part of the development of the Executive Function in the brain, which facilitates immediate information processing. Children with ASD have difficulty reacting immediately to a question because their brain needs more time to process information on the question asked (Brown & Klein, 2011:1472) than the brains of neurotypical children. Executive Function theory suggests a deficit of the executive functionality in children with ASD (Dawson *et al*., 2002:589).

Repetitive behaviour in children with ASD is symptomatic of a dysfunctional "self-monitoring and supervisory attentional system", which is also related to faulty Executive Function (Mundy, 2003:801). Therefore, children with ASD experience difficulty in controlling repetitive behaviour (Mak-Fan, 2012:17). The "supervisory

[7] The time-based prospective memory task requires children with ASD to perform a task in a pre-specified time. The impact of limited ToM on time-based prospective memory task as an Executive Function task may be linked to poor performance at such tasks even by high-functioning children with ASD (Williams, Boucher, Lind & Jarrold, 2013:1555, 1565).

attentional system" is also the system that enables a person to perform goal-oriented tasks, an ability which is compromised in children with ASD (British Columbia Ministry of Education, 2000:14; Norman & Shallice, 1986:6-18). The performance of goal-oriented tasks is addressed by the Executive Function theory. A lack of Executive Function in children with ASD necessitates support to these children in the areas of planning, overcoming rigidity, and achieving flexibility and time management (Brown & Klein, 2011:1472; Dawson *et al.*, 2002:589; Ozonoff *et al.*, 1991:1083).

Support can be provided in a drama class specifically to strengthen the skills implicit in Executive Function. Drama classes include tasks that require all children to plan, to be goal-oriented and flexible, and to become aware of time management. Activities such as improvisation and/or performing social stories or short plays require children to structure a performance. This implies that students have to plan the scenes, create a climax, develop characters for the story, and complete the story in a set time frame (McCaslin, 2006:154).

2.7.1.3 Central Coherence theory

Central Coherence theory adds another perspective. A lack of Central Coherence appears to be a gift in some cases for children with ASD. However, there are challenges that need to be addressed and that require intervention where possible. The theories of Central Coherence (see Section 2.4.2 on Conceptual learning) address a cognitive style which includes the ability to form the meaning(s) of words within a particular context and to perceive the *Gestalt* or the complete picture (Frith, 1989, cited in Happé, Briskman & Frith, 2001:300). Children with high functioning autism and Asperger Syndrome have a definite deficit in this regard, making it hard for them to determine the correct meaning of certain words in context (Jolliffe & Baron-Cohen, 1999:149, 179). This deficiency relates to weak Central Coherence. A lack of Central Coherence can lead to incorrect assumptions about context.

However, a lack of central coherence can also be seen as a unique cognitive style which enables children with ASD to discern embedded (hidden) figures in two-dimensional forms. Children with ASD see the individual elements in a picture, and not the complete picture (Happé, 1996:873, 876). The cognitive strength of this style lies in a "detail" orientation which is also perceivable in some parents of children with ASD, if these parents pursue careers in mathematics, engineering and physics

(Happé *et al.*, 2001:300). Recent research has added new insights: children with high functioning autism displayed weak Central Coherence on linguistic tasks, but not on visiospatial tasks (an embedded figure task), whereas children with Asperger Syndrome produced similarly weak Central Coherence results on both tasks (Vanegas & Davidson, 2015:87).

Weak Central Coherence explains why children with ASD struggle to perceive a person's face as a whole, or to link events to a bigger picture. Thus, children with ASD rather play with parts of a toy than with the whole toy. It seems that a lack of Central Coherence in children on the autism spectrum may explain their inclination to see objects and people in part, not as a whole (Dawson *et al., 2*002:590), but it also sometimes gives them a superior ability to perceive detail (Mak-Fan, 2012:14).

Together, the theories on ToM, Executive Function and Central Coherence explain a variety of social, cognitive and behavioural challenges experienced by children with ASD.

Systemising theory attempts to explain children with ASD's strengths (for example, the ability to understand systems) rather than their difficulties (for example, in the area of experiencing and expressing empathy.

2.7.1.4 Systemising theory

The Systemising versus Empathising theory, also called the Extreme Male Brain theory, was developed in 1944 by Hans Asperger, who explained the ability of a person with ASD to understand systems well, rather than the feelings of others (Frith, 1991, cited in Baron-Cohen, Richler, Bisarya, Gurunathan & Wheelwright, 2003:3). One reason for this phenomenon in the understanding and responses of persons with ASD may be that systems have an established input and outcome (Baron-Cohen *et al., 2*003:3).

Baron-Cohen *et al.* (2003:1-2) suggest that empathy is a pathway to understanding social dynamics. Empathising with someone else allows a person to predict the other person's behaviour, and to respond appropriately. Children with ASD have to face two challenges here: firstly, they struggle to empathise and, secondly, they find that other people's behaviour is not a predetermined process, making it difficult to predetermine other people's feelings, because people's mental states differ (Baron-

Cohen *et al*., 2003:1-2). Although recent research shows no difference between the systemising abilities of neurotypical children and those with high functioning autism on the one hand, and those of children with ASD on the other (Vanegas & Davidson, 2015:88), it has been confirmed that children with ASD prefer systemised activities and rule-driven behaviour and activities (Wheelwright & Baron-Cohen, 2011, cited in Vanegas & Davidson, 2015:88). Some children with ASD have an above-average systemising quotient (Vanegas & Davidson, 2015:88). Thus, children with high functioning autism might have above-average skills in specific areas, for example, they are able to do mathematical and calendric calculations, and memorise train timetables (Hermelin, 2002, cited in Baron-Cohen *et al., 2*003:3).

Systemising Theory partly explains a lack of empathy in children with ASD. Research on participants aged four to 11 years has confirmed the systemizing quotient to be higher and the empathy quotient lower in children with ASD than in neurotypical children (Auyeung, Wheelwright, Allison, Atkinson, Samarawickrema & Baron-Cohen, 2009:1509). However, the theory should not be interpreted as signifying a lack of compassion; children with ASD just function in a different way in the things that they are able to interpret (Baron-Cohen *et al., 2*003:2-3, 6). A drama teacher working with children with ASD should support empathy development by harnessing drama techniques such as role play, which are ideal to practise the development of empathy (McCaslin, 2006:10). Enacting drama scenes enables children with ASD to develop a sense of understanding of other children's feelings and viewpoints (Schneider, 2007:19-20, 40, 57).

The abovementioned theories (ToM, Executive Function, Central Coherence and Systemising) partially explain some of the challenges experienced daily by children with ASD. The impact of these challenges on the functionality of these children should be considered in the context of these psychological theories. The challenges of children with ASD exposed by these psychological theories may make the uninformed feel negative about the prognosis for children with ASD. However, the Theory of Positive Disintegration developed by Dabrowski, which is discussed in the next section, enables hope for children with ASD.

2.7.2 Understanding ASD through Dabrowski

In this section, Dabrowski's theory[8] of Positive Disintegration is explored to see whether this theory may be harnessed to develop the potential of children with ASD. Aspects of Dabrowski's theory (discussed below) relate to developmental support to all children and the various levels of people's development.

Dabrowski's theory of Positive Disintegration encourages support for all people to assist them in taking responsibility for their own lives. However, Dabrowski suggests that the support that is given needs to meet certain requirements. The family should raise children in an environment where support is rooted and cultivated in affection, trust, encouragement, interest and order (Dabrowski & Piechowski, 1977a:61). It is also important to become aware of different signs of giftedness (or otherness) in children that may indicate that extra support is needed to help the children develop their potential. Dabrowski's theory is a mirror that can be held up to look at the process of development, through chaos, to order (Laycraft, 2009:114). This theory enables parents of children with ASD to adopt a positive outlook on the challenges that these children and their families face.

Parents often experience a sense of chaos when they first realise their child is on the autism spectrum. As they stumble through the challenges of coping with ASD towards the integration of effective interventions to support their child, the chaos turns into order. After they have been left reeling by the many difficulties they face, they can reach a stage of integrating relevant interventions to support their child, and their perspective can change from despair to hope (Whiffen, 2009:212).

Educators and drama teachers who embrace ASD by acquiring knowledge and choosing appropriate interventions in support of children with ASD move from chaos to order and can support these children and their parents to do so too. Ball (2008: 48-50, 54) reminds us that children with ASD are not different from neurotypical children in desiring success, affection and acceptance, and wanting to overcome failure. Moreover, children with ASD, like neurotypical children, need to be held accountable for their actions, applauded for their successes and motivated to achieve

[8] Kazimierz Dabrowski's work (1969) was translated into English by Dr. Michael M. Piechowski. Together they revised and elaborated on the original manuscript (Dabrowski, 1977a:xiv)

more, in spite of the many challenges they experience (Ball, 2008:52-56). Accountability and support can move children with ASD from chaos to order.

Dabrowski and Piechowski (1977a:18-30) identified five levels of development that also apply to children with ASD but may unfold differently from how they unfold in neurotypical children. The levels of development in the graphic in Figure 2.1 (below), which I compiled based on Dabrowski's work, enables us to adopt a positive perspective on the process of development through effective intervention in children with ASD.

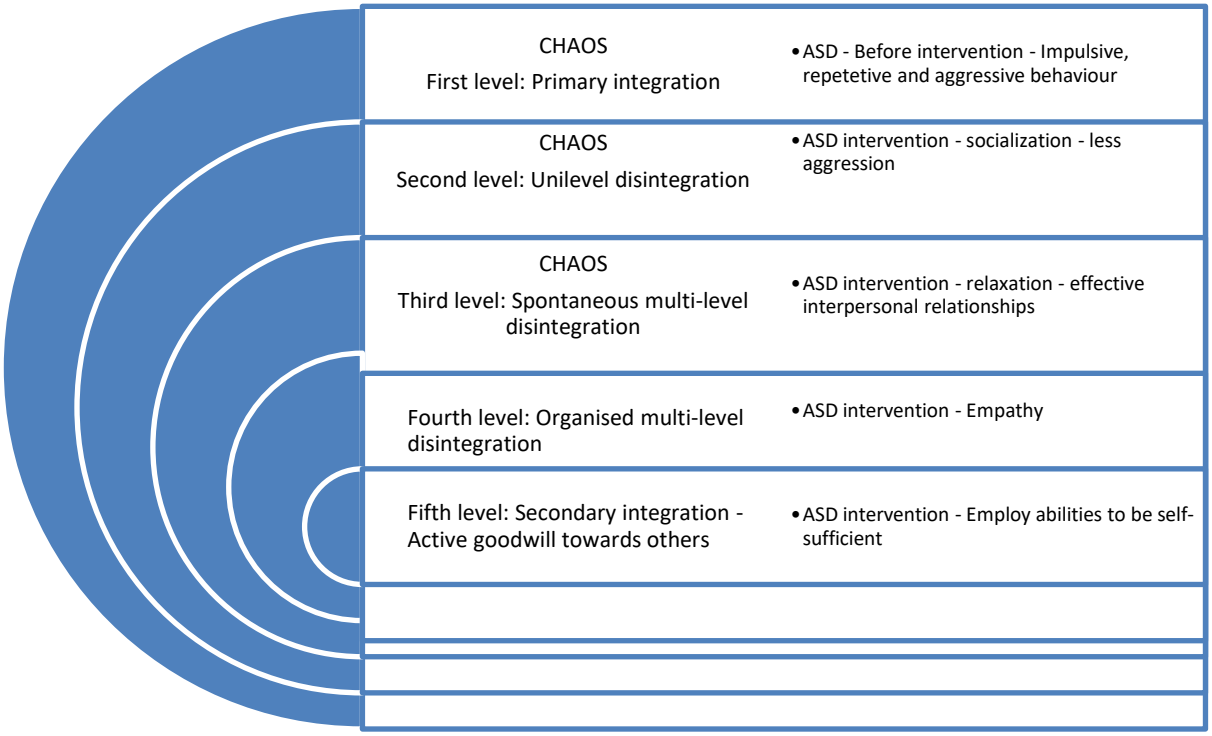

Figure 2.1: Dabrowski's levels and ASD development

Source: Compiled by Zwiegers, based on Dabrowski and Piechowski (1977a:18-30)

- *First level: primary integration*

  The primary integration level identified by Dabrowski is marked by rigid behaviour, which Dabrowski refers to as "primitive" behaviour (Dabrowski & Piechowski, 1977a:20). The term can be usefully employed to describe the nature of repetitive behaviour of children with ASD (Dawson *et al*., 2010:17), as impulsive behaviour is often triggered by challenges experienced by children with ASD. For example,

children with ASD find it difficult to wait, as they cannot grasp time concepts. They may resort to impulsive behaviour, which may take the form of repetitive (and occasionally aggressive) behaviour. Their inability to contain impulsivity is a challenge in adulthood, when people are expected to be self-sufficient (Wing, 2001:79). It is thus important to help children with ASD to move beyond the primary integration level described by Dabrowski, to a point where impulsivity (what he calls “primitive behaviour”) is restricted and contained. Dabrowski concedes that the transition from the first to the second level is quite difficult. However, a favourable environment and appropriate support which encourages empathy and inner reflection may assist a person to break through the rigidity of the first level (Dabrowski & Piechowski, 1977a:103). Interventions working with children with ASD to help them to obtain essential social skills may be possible, for example, drama techniques assisting them to become functional adults (Schneider, 2007:24).

- *Second level: unilevel disintegration*

  The second level of development, unilevel disintegration, occurs when rigidity or impulsivity is replaced by variable feelings which do not contain as much aggression as can be seen in the rigid patterns displayed at the primary level. It manifests as a level of instability related to a lack of direction and inner organization, which can cause fluctuating feelings (Dabrowski & Piechowski, 1977a:23-26).

  Children on the autism spectrum who have been taught to communicate appropriately and to use different methods of specific socialization tend to display less aggression than children with ASD who have no means to communicate or socialize (Ball, 2008:249). Suitable interventions have been shown to have a positive effect on the rigid behaviour of children with ASD (Carbone *et al.,* 2010:459; *Inclusion Notebook,* 2007:6, 9).

  Dabrowski was concerned about the detrimental effect of anxiety in unilevel disintegration (Dabrowski & Piechowski, 1977a:25), which, as stated above, is marked by fluctuating, often contradictory, feelings. Therefore, it is important to provide support to work through disintegration to overcome feelings of anxiety, which may include suicidal tendencies and depression, as demonstrated by one of Dabrowski’s patients during unilevel disintegration (Dabrowski & Piechowski,

1977b:65). Appropriate interventions can alter the high anxiety levels experienced by children with ASD, enabling them to reduce repetitive behaviour (Wood *et al.*, 2009:224, 231). Some children with Asperger Syndrome may experience thoughts of suicide, especially when they are exposed to incidents of bullying at school (Carter, 2009:150).

Drama techniques such as enacting social stories as an intervention against marginalisation and bullies are important ways to help children on the autism spectrum to develop an understanding of bullying, and the strength to stand up against bullying (Gray, 2010:112-130). Such development would assist children with ASD to move on from unilevel disintegration towards becoming integrated at the third level of spontaneous multilevel disintegration.

- *Third level: spontaneous multilevel disintegration*

  Unilevel disintegration still forms part of the *chaos* phase, which needs to be integrated by moving to the third level of spontaneous multilevel disintegration. At this level, a person experiences discontent, realising that there is a superior way of functioning. There is also an enhanced understanding of others, which progresses into meaningful relationships (Dabrowski & Piechowski, 1977a:26-28). With regard to ASD, Dabrowski's description of this level confirms the views of researchers in the field of autism who have found that appropriate interventions can enhance children with ASD's current social functioning to minimise anxiety and develop more effective interpersonal relationships (Wood *et al., 2*009:231).

- *Fourth level: organised multilevel disintegration*

  Organised multilevel disintegration is characterised by an attitude of "what ought to be, will be", where self-value, self-actualization and responsibility (Dabrowski & Piechowski, 1977a:29) configure into self-awareness, self-control, identification, empathy and education of oneself (Laycraft, 2009:114). Drama-based interventions can develop the required empathy in children with ASD (Neufeld, 2012:8; Guli, 2004:85) to move towards this kind of disintegration. Children with ASD who are supported can move to the fourth level described by Dabrowski, thus developing empathy to show care for those around them (Dawson, 2012:1158). This is the level where a person, including a person on the autism spectrum, is able to show awareness of self and others, control, empathy and development (Cotugno, 2009:1268).

- *Fifth level: Secondary integration*

  The highest development level identified by Dabrowski is the fifth level of secondary integration, which may be described as a life of active goodwill to others. This level of living results in a realisation of the higher self and is characterised by authentic expression of universal compassion and self-sacrifice (Dabrowski & Piechowski, 1977a:29). Secondary integration is realised by those who give their life in the form of service to humanity (Piechowski, 2009:104). This level of secondary integration can only be achieved by people with ASD with a starting point of intervention or support. Although it is not necessarily possible for all people on the ASD spectrum (or for all neurotypical people) to attain this level, I have included it in this discussion to emphasise that all children on the spectrum deserve support; others who have more power do not have the right to decide to withhold appropriate education towards such a potential if it seems that individuals are unable to learn something (Kasa-Hendrikson, 2005:63).

I started this section with Dabrowski's theory of Positive Disintegration, which encourages support and understanding for the process of development through several levels. This support sustains children to take responsibility for their own lives. Another way of describing support for gifted children is summarised by Roeper (1990, 1991, cited in Morelock, 1996:8), who sees such support as a process of preparing a child for life, not for success.

The importance of the theory of Positive Disintegration lies in its relevance to education for children, where the aim is to develop the whole child. Unsupported people (including children) are unlikely to develop beyond the basic level identified by Dabrowski. This implies that a lack of appropriate support has an impact on a person's development, leading to stunted development if the person's self-worth is not supported and nurtured. Dabrowski calls for support for development apply to children on the autism spectrum too. Children with ASD require understanding and compassion to develop their abilities, and thus reduce the marginalisation they are exposed to. Dabrowski's theory thus applies to children with ASD in an educational setting too. A structure of discipline and understanding enables children with ASD to become more functional children and adults (Kennedy *et al., 2*011:183-207).

2.7.3 Conclusion on theories relevant to ASD

This section has provided an overview of various psychological theories relevant to ASD to provide a landscape for the challenges faced by children with ASD, and to enable greater understanding of the vast need for effective early support. Testing for the presence or absence of ToM in children has long been considered one of the most important ways to diagnose ASD, as ToM was believed to be absent in children with ASD. Research on the brain and children with ASD has revealed a more complex picture. The different theories overlap, and no single theory covers all the aspects of ASD or can pinpoint the cause of ASD. Various psychological theories and neurophysiological studies on the brain must be considered to understand each child with ASD's unique traits fully. This section has examined particularly Dabrowski's theory of Positive Disintegration, which explains different developmental levels recognised in people, including both neurotypical children and those with ASD. The discussion has been briefly linked to the use of drama techniques to address some areas of weakness and draw on some strengths to create a background for the use of drama in the intervention explored in this study.

The next section focuses on the impact of ASD on the education of children on the spectrum. The role of the disability theory is considered and an overview of educational intervention and related services of support for children with ASD is provided.

2.8 EDUCATIONAL INTERVENTIONS

In this section, I discuss educational support systems to ensure understanding for the inclusion of children with ASD in general education. Next, I briefly consider the South African education system, including basic interventions to ensure effective intervention at school for children with ASD. I also reflect on the possibility of related services beyond the education system used internationally (focusing on the United States) and in South Africa in order to understand the intervention needs of children with ASD.

People's perspectives on ASD and the management of ASD can influence the position of children with ASD in the community. If the Department of Education designs a place for children with a disability (in this case, ASD) where they are

supported and understood, the disability (for example, ASD) is seen as a condition (Pohl, 2009:7). When education does not create a place of empathy and support, the disability (here, ASD) is seen as a disorder, and marginalisation becomes part of the life of individuals with that disability (Lynch & Irvine, 2009:853; Linton, 1998:121-122).

Ball (2008:55) calls on the families of children with autism to recognise ASD as an alternative ability, warning parents that where the primary focus on autism is "autism as a dis-ability", such a focus "dis-able" the life of the family. We as educators and teachers should beware of adopting the view that ASD is a disorder. In the light of this *caveat*, the section below describes the nature and background of effective educational intervention for children with ASD in a class situation.

I look briefly at the practicalities of student/staff ratios, classroom structure, behaviour management, related services and autism-trained professionals who can provide support for early intervention and appropriate development of children with ASD. Most intervention strategies offer some benefit, but no single strategy should be singled out as the ultimate intervention (Koudstaal, 2011:355). Children with ASD are surrounded by parents, various therapists, medical practitioners and the education system, and they need to work as a transdisciplinary team to support the children's needs and abilities (Koudstaal, 2011:353). Finally, I consider support systems for children with ASD in the United States and the reality in South Africa.

2.8.1 Student/staff ratio

Internationally, the trend is to accommodate children with ASD in a learning situation with a two-to-one student:staff ratio. Indeed, a one-on-one student:staff ratio is recommended in primary school in the foundation phase, because this is the only chance that children with ASD have to progress in education. If these children are left behind, it becomes extremely difficult for them to catch up (Ball, 2008:319-320).

Research on special education schools in South Africa indicates a lack of available statistics on the ASD learner:educator ratio. However, the reference to "overcrowded classes" in a study by Strydom, Nortjé, Beukes, Esterhuyse and Van der Westhuizen (2012:256, 263) suggests that the ratio of educators to children with special needs (including children with ASD) in South Africa is far from ideal. A national school specialising in the education of children with ASD mentions a ratio of six to eight

children to one educator and an assistant. The school admits that in some instances the ratio of educators to children is higher. The school indicates that it is impossible to attain the one-to-one ratio sometimes needed. They also emphasise that the mainstreaming of children with ASD would depend on each child's abilities and must be assessed as such (Vera School for Learners with Autism, 2012:1).

The situation in mainstream schools in the country is not clear. It is postulated that children with special needs are neglected by educators in mainstream schools, due to a lack of the required specific skills in educators (Dada, Dipholo, Hoadley & Volmink, 2009, cited in Strydom *et al., 2*012:257). There is also a lack of curriculum guidelines for educators to work with children with special needs, which limits quality teaching (Dada *et al., 2*009, cited in Strydom *et al., 2*012:257). In the light of these factors, it is important to take note of what children with ASD specifically need to function optimally in the educational environment.

2.8.2 Classroom structure

Optimal learning for a child with ASD should take place in a classroom where a well-organised, structured routine is followed, with a desk partition that separates the child from others in the class (Carnahan, Hume, Clarke & Borders*, 2*009:13). The educator needs to combine different instruction methodologies. The main aim is to remember that *visual over verbal* is important for children with ASD. Visual schedules should accompany verbal communication to ensure that the child understands what is expected. An effective strategy is to use fewer words and more pictures (Pierce, Spriggs, Gast & Luscre*, 2*013:267).

The classroom should not be visually overwhelming for children with ASD. Subdued colours on the walls and in class help these children not to be overstimulated. It is beneficial to have closed shelves and well-organised spaces for each different activity, and to label materials distinctly (Ball, 2008:322-323). Minimal furnishing helps the children to focus their attention on the schoolwork. Little things catch their attention. A minimalist classroom provides the least distraction for children with ASD.

2.8.3 Behaviour management approach

Educators need to be able to teach all children in an environment where learning can take place in optimal circumstances. The ideal learning environment for children with

ASD consists of a few rules, accompanied by visual schedules that are followed in the class. The best rules are positive rules. Negative or penalising rules have the least effect on children with ASD (Ball, 2008:322). Disciplinary measures such as “scolding, spanking, isolation and guilt or shame” are ineffective (Van Bourgondien, 1993:131). Impaired language ability renders a verbal reprimand, blame or shaming inadequate. Spanking and any form of physical discipline is never an option – some children on the autism spectrum have an atypical experience of pain. In any case, such forms of discipline are rightly forbidden in South African schools. Educators who try to reprimand these children with isolation (time-out) could find that this measure does not work either. Some children with ASD are comfortable with isolation and prefer to be alone, which renders this disciplinary measure ineffective (Van Bourgondien, 1993:131).

Appropriate support for educators in dealing with children on the autism spectrum would be the following:

- clearly defined behaviour management approaches for tantrums, used by all staff;
- consistency and the consequent application of policies and rules by all educators;
- a crisis intervention plan to ensure that educators know how to handle emergencies (Ball, 2008:322); and
- visual schedules, predictable routines and transition activities to support children with ASD in their challenges with anxiety and insecurity.

These support systems lessen temper tantrums or inappropriate behaviour patterns. Prevention is best for children with ASD (Van Bourgondien, 1993:132-133). The best behaviour management approach is to maintain consistency, effective discipline and support for educators. However, the description of the support needs of the children with ASD would be incomplete without a review on related services as additional support, beyond the education system.

2.9 RELATED SERVICES

Speech therapy, occupational therapy and physical therapy are all relevant therapies to support the challenges of children with ASD (Ball, 2008:321). The importance of nutrition, exercise, counselling and coaching in the process of development of children on the autism spectrum has also been pointed out (Kennedy *et al.*, 2011:172-178). Drama as a therapy is also suggested by Tony Atwood (cited in

Schneider, 2007:9) to develop appropriate social conduct (Loyd, 2011:233). Drama techniques for children with Asperger Syndrome have been employed, using their strengths, namely their powers of observation and imitation (Schneider, 2007:6, 12).

The situation of children in South Africa is best understood if we observe what is done for children with ASD in the United States to understand the needs and intervention needed. The greater picture provides insight into what can be done in South Africa with what is available.

2.9.1 United States – Autism support by trained professionals

The international interventions are not covered in totality, as providing background on support is not the main aim of the study. Therefore, I only look at one country to describe the diverse needs of children with ASD, namely the United States. The United States provides each of its federal states with a State Interagency Coordinating Council (SICC) to handle all finances and coordination for the early intervention programmes for children with disabilities. This is prescribed according to United States federal law, in Section 635 of the *Individuals with Disabilities Education Improvement Act* (IDEA) (USA, 2004:2748). The professionals surrounding children with ASD should be the following:

- an early intervention specialist;
- an individual family service programme (IFSP) coordinator;
- an education specialist;
- a behaviour specialist;
- an occupational therapist;
- a physiotherapist;
- a speech and language therapist;
- a social worker;
- a medical professional (developmental paediatrician, neurologist, and a vision specialist);
- a psychologist; and
- the child's parents or guardians.

This team of therapists is assembled according to the needs of the child and the services required by the parents (Cumine *et al., 2*010:14; Ball, 2008:88-89, 87). The

family also need help in their home, and paraprofessionals provide support in this area (Rogers & Dawson, 2010:45-46). Early intervention has been proved to alter brain activity – studies using electro encephalographs (EEGs) have confirmed that with such intervention some children with ASD show recovery which matches the EEGs of neurotypical children (Dawson *et al*., 2012:1159). However, other research warns parents not to see *recovery* as the ultimate goal for a child with ASD, because not all children are able to *recover*. Parents are reminded to focus on the development of each individual child (Ozonoff, 2013:114).

2.9.2 South Africa – Autism support by trained professionals

Parents and educators in South Africa are encouraged to follow a transdisciplinary approach, consisting of parents and educators with a sound knowledge of autism. Approaches that stimulate the child are encouraged (Koudstaal, 2011:352-355):

- singing, drama, art and music therapy;
- communication and language development (gesture and signing programmes such as Makaton, PECS, PICS, or Carol Gray's Social stories);
- educational programmes (TEACH and Daily Life Therapy);
- biomedical programmes (Applied Behavioural Analysis);
- sensory approaches (neurosensory motor integration therapy, movement therapy such as Sherborne massage, yoga, rhythmic dance, aromatherapy, reflexology, auditory integration therapy and audio psycho phonology, such as the Tomatis system; and
- medical intervention (where the doctor prescribes appropriate medication for the child's needs).

Intervention for ASD is costly for the parents of children with ASD. The lack of coordination in South Africa between therapists, teachers, the family, parents and the child is a stumbling block in the growth and development of children and generally adds to the cost of therapy. South African parents are obliged to bear the financial burden of all these services for a child with ASD (Koudstaal, 2011:354).

At present there is little coordination among the approaches for the family. Services would be more effective if teams had a coordinator to ensure that everyone is working towards the same goals, enhancing the effect of intervention and managing

the learning curves of the needs of a specific child. Parents are advised to surround their child with ASD with a support team, service providers and the local support group, Autism South Africa, for assistance in developing the child's skills (Venter, 2011:40). Autism South Africa endorses a Special Needs Adapted Program (SNAP) to train parents, educators and tutors to assist children with ASD (SNAP, 2012:n.p).

2.9.3 Comparison of support for children with ASD available in the United States and South Africa

There are several differences between the support available for children with ASD in the USA and in South Africa, as summarised below.

The USA provides the following support:

- The State Interagency Coordinating Council (SICC) handles finances and coordination for early intervention programmes for children with disabilities.
- Early intervention specialists are available.
- An individual family service programme coordinator is appointed.
- The coordinator works with an education specialist.
- A behaviour specialist is on the team.
- The rest of the team includes an occupational therapist, physiotherapist, a speech therapist and a language therapist, a social worker, a medical professional, and a psychologist.

In South Africa, the situation is as follows:

- There is a lack of coordination between support and the provision of specific funding for children with disabilities.
- There is no early intervention – the first diagnosis is made by a medical doctor, who does not provide intervention.
- There is no individual family service programme coordinator
- In some provinces, there are education specialists with some experience of assisting children with ASD, but not in all provinces, and not in rural areas at all.
- Parents are directed to relevant therapists who work with children with ASD, but are often left to cope with behavioural challenges themselves.

- Occupational therapists, physiotherapists, speech and language therapists, social workers, medical professionals, and psychologists are available, but they may not be trained specifically to address ASD, and their services are not combined with the efforts of a coordinator for effective therapy leading to a *one-child-one-plan* for all professionals working with a child with ASD.

The main difference is the amount of state support regarding funding – the USA provides better funding. There is also much better coordination between services and therapies in the USA, and there is a clear understanding of the need for early intervention support. In South Africa, there is a strong leaning to a variety of suggested therapies, instead of the coordinated effort found in the USA. Therefore, the support provided in the two countries is dissimilar, as discussed in Sections 2.9.1 and 2.9.2, and it seems that South Africa lags behind the USA in terms of the assistance provided to children with ASD.

The importance of coordination between therapist(s), educator(s) and families with children with ASD cannot be overestimated. Teamwork is vital to reduce the cost of therapy for the families with children with ASD, and for the state, where funding is provided. Cost is a determining factor and therefore effective intervention at the earliest stage possible is important for every child with ASD.

2.9.4 The need for development support for children with ASD in South Africa

The current lack of educational support needed for children with ASD is daunting, but if the necessary support is really given to these children, much more is given than educational concessions. What is actually given is an opportunity to become a functional adult, with the possibility to be sustained with a career. Most of all, it provides an opportunity to be an adult who blesses us with the gifts within – the gifts which are developed through patience and grace extended by educators who believe in giving all children a fair chance in life (Kasa-Hendrickson, 2005:63).

For the sake of this study, I focus specifically on drama techniques. They are not a cure or comprehensive solution, but should be seen only as one of many viable options to support children with ASD. Therefore, drama as an intervention is placed alongside other therapies and the education system for a holistic approach to children with ASD. Achieving efficient autism-specific intervention is difficult,

especially in view of the absence of the ideal educator:learner ratio and appropriate expectations from educators, and the fact that the ideal classroom structure and management approaches in the formal education setting are seldom present. Other challenges in this area seem to be a lack of statistical information and educator skills pertaining to an education system geared towards ASD.

The next section provides more background on drama as an intervention option, and discusses a variety of drama techniques. It presents a holistic overview of different interventions suitable to the needs and strengths of children with ASD. The impact of drama techniques on the specific areas of challenge is explained to demonstrate the relevance of drama techniques as a form of support for children with ASD.

2.10 DRAMA AS A HOLISTIC INTERVENTION FOR ASD

Educational support for children with ASD requires the education system to assess suitable holistic intervention options for the development of children on the spectrum. The focus of this study is to determine the effect of drama techniques on the functionality of children with ASD in education. I chose drama techniques as a modality to consider for children with ASD because of the element of play that is prominent in drama. A review of the scientific publications on ASD reveals that play is not a natural part of the lives of children with ASD. These children do play, but there are constraints and limitations, resulting in rigid, concrete, unsocial and unimaginative play (Hellendoorn, Van der Kooij & Sutton-Smith, 1994, cited in Mastrangelo, 2009:35). These limitations affect the lives of children with ASD tremendously, and therefore promoting a fuller range of play should be part of the development curriculum for these children (Mastrangelo, 2009:34).

Vygotsky's[9] theory on play, as discussed in Section 2.11.1, addresses the importance of play in all children's lives. After briefly discussing Vygotsky's theory, I provide some theoretical background on creative drama, psychodrama and drama therapy, to ascribe the suitability of drama in diverse forms for children with ASD. National and international research in the area of drama and ASD are reviewed to ascertain the diverse needs of children with ASD. The diverse drama techniques are

[9] This Russian author's name is sometimes spelled Vygotsky, and sometimes Vygostkii, depending on the chosen transcription of the name from the Cyrillic alphabet. I adopted the most common version, Vygotsky.

paired with the needs of children with ASD and evaluated for their suitability. The specific drama techniques proposed for this study are elucidated for the specific needs of the participants with ASD. I adopted these techniques to enhance integrated learning for children with ASD in the hope of enhancing their daily functionality in an education setting. These specific approaches are implemented by engaging the emotions, the body and the mind, which constitute drama (Munro & Coetzee, 2007:104).

2.11 STRUCTURED PLAY AS AN ELEMENT OF DRAMA

One of the main areas of deficit in children with ASD relates to their social relationships (Neufeld, 2012:15). Social relationships are cultivated between neurotypical children by means of play, therefore, it is relevant to look at the value of play for children with ASD. The value of play for all children seems to lie in its contribution to the formation of identity, the development of problem-solving, social skills and relaxation. Other areas of influence through play are flexible thinking processes and the stimulation of the Mirror Neuron System.

Children's identities develop through the freedom of playful interaction between them. Play also develops problem-solving skills in social relationships. The concepts of sharing and cooperation, and an understanding that people have different viewpoints are enhanced through social interaction whilst playing (Open University, 2011, cited in Gleăve & Cole-Hamilton, 2012:12). Play also enables relaxation (Hobson & Stickgold, 1994, quoted in Peter, 2009:10): "…when children engage in playful activity, the brain slips out of gear as in other mental states such as daydreaming."

The activity of playing enhances opportunities for learning, especially flexible thinking in children with ASD (Peter, 2009:10). A deficit is found in children with ASD who experience difficulty in playing (Neufeld, 2012:15). The challenge in play as activity for children with ASD is related to their Mirror Neuron System (see Sections 2.3.2.1, 2.4.4 and 2.7.1.1). Hence, it is understandable that drama as an activity stimulates the weak connectivity in the brain of the child with ASD. This physical connection is also known as the "mind-body connection" (Galligan, 2009:25). According to Galligan (2009:25), drama activities (play) act as a workout for the brain to strengthen weak Mirror Neuron System connections. This is conducive to learning in the underdeveloped social and communication areas of the children with ASD. These

drama activities need to be action-based, as action introduces transformation for children with ASD. He also reminds us that the plasticity of the brain ensures continual development, therefore, early intervention is critical (Galligan, 2009:25).

Research in this area suggests that the development of the necessary social skills in children with ASD is made possible by means of structured play (Wolfberg, 1999, cited in Cumine *et al., 2*010:63). Play is one element of drama; therefore, I noted Vygotsky's (1933, 1966, 1978) focus on the importance of play for the mental (cognitive) development of children, as well as the ideas of Elias and Berk (2002) and Duncan and Tarulli (2003), who used play as a focus for their research in their studies. A few key terms discussed below are pretend play, socio-dramatic play and dramatic play.

2.11.1 Various forms of play develop social skills and control hyperactivity

When children take an object and pretend that it represents another object, it is seen as pretend play; for example, a hairbrush might become a telephone. Socio-dramatic play is defined as play between two or three children, taking on the roles of other people (role play) and acting out social situations through cooperation with other children. Dramatic play takes place when children take a role as another person and enact that person's actions (Smilansky, 1990, cited in Neufeld, 2012:13). Below, I consider Vygotsky's faith in the importance of play in cognitive development for children.

Duncan and Tarulli (2003:272) confirm Vygotsky's view (1933, 1966:22) of the importance of promoting play as a key factor that determines the development of the child. Pretend play develops as early as at age two to three years in neurotypical children. The use of pretend play is specifically useful for young children who struggle with hyperactivity. The control of behaviour through pretend play prepares children with hyperactivity to display more functional behaviour later in school (Elias & Berk, 2002:233, 235).

Pretend play and dramatic play are regarded as solitary activities, whereas socio-dramatic play is seen as a social encounter between two or more children. Socio-dramatic play contains rules that teach children to control their behaviour. The outcome of this discipline, this self-control, brings a sense of accomplishment to

children. Through socio-dramatic play (Elias & Berk, 2002:216-218), children develop an understanding of society's norms and of how to control their own behaviour according to those norms (Vygotsky, 1933, 1966:22-24).

Play in itself has no end result in mind, but the result resides in the action of playing (Leont'ev, 1981, cited in Duncan & Tarulli, 2003:273). In this sense, play differs from school and related tasks, where the end result is often evaluated and quantitatively assessed. Socio-dramatic play for children is an experience, where development occurs effortlessly. Children are mostly unaware of the learning taking place, but the learning is the hidden outcome of socio-dramatic play. At the same time, such play also develops children's understanding of the socio-dynamics of the world (Vygotsky, 1978:102-103). Play also develops reflective thought and social cooperation. The value of play is that it seems to add significantly to children's academic and later success in life (Vygotsky, 1978:100).

2.11.2 The value of play for children with ASD

According to Neufeld (2012), research has confirmed the benefits of play for neurotypical children, but only a few studies have demonstrated the benefits of play for children with ASD. This dearth of evidence is strange, because the benefits brought by play to a neurotypical child's life are usually the very areas of lack in a child with ASD (Neufeld, 2012:15). If Vygotsky is correct in assuming that play is a preceding factor for social development in children, I would agree with Cumine *et al.* (2010:64) that children with ASD need to learn to play to develop the necessary social skills, through the use of drama techniques. Selected drama techniques seem to strengthen the development of social skills, such as maintaining and making contact with a person, taking on different roles in different settings, and cooperating with others in a social setting. Role play in particular, as a drama technique, helps children with ASD to develop empathy (Neufeld, 2012:15-16).

Socio-dramatic play provides children with ASD with chances to experiment with social situations and to learn by doing (Peter, 2003:21). The children experience fun (Cumine *et al., 2*010:64) and engage in flexible thinking, learning to understand the impact of social behaviour on others and to integrate events and see links between them (Peter, 2003:21-22).

I intend to employ several types of play (drama techniques) in my research to develop the areas of social engagement, communication and imagination, as well as address behavioural challenges in children with ASD. Hence, play (socio-dramatic play) is relevant to this study for the participants. The section on creative drama below focuses on the work of McCaslin (2005, 2006) and Spolin (1986), who facilitate several types of play in creative drama to develop children's social, communicative and behavioural abilities.

2.12 CREATIVE DRAMA

Creative drama consists of several drama techniques, with the main focus on developing children's potential. It is especially McCaslin (2005, 2006) who sees play as an element of drama. Therefore, her work and techniques are discussed in the light of Vygotsky's work, which highlights the importance of play, as noted in Section 2.11 above. After considering McCaslin's (2005, 2006) work, I discuss the ideas proposed by Spolin (1986), who believes that creative drama encourages children to develop within themselves, and in their cooperation with another.

2.12.1 McCaslin's work

Play relates to drama. Hence, drama techniques in the realm of creative drama are explored to discover the value of this important element in the social development of neurotypical children (McCaslin, 2005:15). Creative drama provides opportunities for children to have an artistic encounter, an educational and a social experience (McCaslin, 2005:18-19). Play is therefore a suitable intervention to develop a variety of skills in the domain of the social, communicative and behavioural challenges of children with ASD (Mastrangelo, 2009:43). The sole purpose of creative drama is to develop children's ability to participate in a group, and it is not intended for performance for an audience (McCaslin, 2006:7-11). My study's aim is similar. I am not developing the participants in this study to perform in public, but aim to develop the whole child for the sake of the child.

There are a number of key terms relating to creative drama that need to be clarified. Creative drama is often used as an umbrella term for playmaking, stories and improvisation (McCaslin, 2006:7-11). The importance of these drama techniques lies in the effects of playmaking or dramatic play in children. These techniques lead to the

development of empathy in children, which in turn develops understanding for others in the group, and these factors promote change within a child (McCaslin, 2006:10). Empathy and understanding for the perspectives of others are two very important challenges for children with ASD, who can be supported through suitable drama techniques to address this area (Peter, 2009:16).

The value of creative drama lies in the creative play which develops imagination, creative thinking, cooperation within a group, and an awareness of social differences in society. It provides a healthy release for pent-up emotions and at the same time develops effective speech. Creative play is also a positive form of recreation and is particularly appropriate for children with special needs (McCaslin, 2006:13-17) or in this study, children with ASD. Creative drama is highly suitable for children with special needs, because they naturally enjoy stories too. The specific value of creative drama lies in the development and strengthening of the skills of children with special needs (McCaslin, 2006:18).

Appropriate social behaviour and cooperation in a group are modelled in creative drama. The modelling of group behaviour teaches children with ASD social awareness and effective friendship skills, such as reciprocal socialization, interaction and shared interests (Loyd, 2011:263). This corresponds with the focus of my study. I use drama techniques in my study not to polish a story, but to support children with ASD. The process of acting and participating in drama techniques, through structured intervention, develops the skills of children with ASD (Peter, 2009:13).

A drama teacher can create an environment of trust in the drama class to encourage self-confidence, freedom and learning in children with special needs (McCaslin, 2006:19-20). One of the key aspects of this study is to become aware of factors that obstruct the functionality of children with ASD, especially in education. This obstruction is caused by a variety of social, communicational and behavioural or imaginational challenges which marginalise and imprison children with ASD (Eldar *et al.,* 2010:105). Drama, on the other hand, creates a sense of freedom and self-confidence which removes barriers to learning or imprisonment (McCaslin, 2006:20).

Children with special needs must be accommodated in activities by ensuring that the children are able to understand and enjoy the activities. Children with disabilities need to experience that they are heard and seen. The class activities and the

teacher's attitude determine a child's experience of success and positivity in attending the next class (McCaslin, 2006:299). Most creative drama teachers are not therapists. However, it is possible to use drama techniques to strengthen a child's abilities and self-esteem, as a therapist would. The important factor would be to work in collaboration with a therapist to help a child to develop skills and strengths in line with communal goals (McCaslin, 2006:300). This is the transdisciplinary approach used by Pimpas (2013:58-59) to enable and empower children with ASD. If McCaslin is correct, the value of creative drama or drama techniques, as an intervention, seems valuable to the development of challenged areas in children with ASD.

Various challenges could arise in the drama class such as difficulties with problem-solving, cooperation, undesirable, inconsiderate and anti-social behaviour and ADHD, which can be addressed by structured creative drama. A drama teacher can use creative drama as a means to develop insight in the uniqueness of every child, as well as to develop children's ability to use their imagination, and to engage in problem-solving and cooperation in a group (McCaslin, 2006:18-19).

Consistent discipline and clear guidelines can help children to understand which behaviour is deemed acceptable in the creative drama class. A disciplined structure creates a place of safety where children experience the freedom of self-expression without harming others (McCaslin, 2006:31-35), which is an important feature for the development of children with ASD too (Schneider, 2007:33-34).

Hyperactivity in the drama class also occurs with some children with ASD (Neufeld, 2012:74). As with all children, this can be a distracting element in class. Helpful strategies are short activities, which are supportive to children with ADHD, and help them to stay involved in the drama class activities (McCaslin, 2006:34). This is especially appropriate for children with ASD, as the use of movement and music calms children with ASD who struggle with hyperactivity (See, 2012:1113-1114).

Another challenge that may be encountered in a drama class is anti-social behaviour. This type of behaviour must be nipped in the bud, in order to provide a place of safety and freedom for the whole group. Children who display anti-social behaviour must get the message from the drama teacher that such *behaviour* is rejected, but not the children themselves (McCaslin, 2006:35). Children with ASD frequently display inappropriate behaviour, caused by their underdeveloped social skills

(Mathews, Erkfritz-Gay, Knight, Lancaster & Kupzyk, 2013:329). The suggested balanced discipline structure (McCaslin 2006:35) was integrated in drama intervention. Wholesome discipline was employed as guidance to acceptable social behaviour and also to create a safe space where all participants could develop holistically.

The drama class can act as a safe haven where children feel accepted and accommodated (McCaslin, 2006:35), especially those with challenges. It is critical that the drama class provides a place of self-expression for children with a disability (McCaslin, 2006:35). Although McCaslin speaks specifically of children with physical disabilities, the argument also applies to children with ASD. They also need acceptance to build their self-confidence and a place where they can feel free to express themselves through fun and playful interaction between friends (Sherratt & Peter, 2002:12, 16).

The drama class is also intended as a place where participants can be prepared for difficult social situations, such as violence or bullying. Although violence may not be encountered in the drama group, it seems to be part of some children's lives in school. A creative drama class is an ideal place to reflect on solutions to violence, and to engage in interactive play about it (McCaslin, 2006:34). Children with ASD can be equipped through playing in short scenes to practise sensible behaviour in situations with bullies (Schneider, 2007:152-153). Interviews with parents revealed that bullies were a factor in the lives of some of the participants. One of the themes explored in the drama intervention was therefore an improvisation or role play on the emotion of anger and the experience of bullying, as well as various coping mechanisms to deal with such situations.

It is valuable for this study to focus on the work that McCaslin (2006) designed specifically for children with special needs. Children with special needs are described as children who can have exceptional intellect, or are mentally challenged, or as underachievers. Sadly, not much was done in the past to accommodate these children and to understand that their basic needs are much the same as those of neurotypical children (McCaslin, 2006:281). It is important to meet the needs of these children and to integrate them with their peers to minimise marginalisation (McCaslin, 2006:281). McCaslin's work covers valuable areas of development for children with other disabilities, but these ideas can be applied specifically for children with ASD

too. Isolation, social relations, self-esteem, structure, marked space, closure activities and drama as an after-school activity were all elements to consider for children with ASD. The following elements are described and explained in the perspective framework of McCaslin's work relating to the participants in this study.

- *Isolation, socialization and self-esteem of children with ASD*

  Children with special needs, in this case ASD, are often isolated (Wood *et al., 2*009:228), and creative drama is an ideal place to cultivate social relationships and friendship through a shared interest in drama (McCaslin, 2006:299). A creative drama class is usually small enough for a drama teacher to discern the strengths, weaknesses and challenges of a disabled child, and therefore provide individual attention (McCaslin, 2006:299). Understandably, children with special needs are unable to do everything, but there are things they can do to create a sense of accomplishment and build the children's self-esteem. However, a drama teacher must be sensitive to the needs of children with disabilities; such needs may be revealed through non-verbal communication (McCaslin, 2006:299).

- *Structured drama classes for ASD*

  There should be a theme and a definite structure in a prepared creative drama class. The creative drama space should be clearly marked, as identification of the working space is important for these children (McCaslin, 2006:299). These elements count for children with ASD too; they also require structure and a clearly marked area per activity (Hajidiacos, 2011:47-48). The end of the class should be indicated with a closure activity (McCaslin, 2006:299) to ensure a smooth transition for children with ASD, because they have difficulty with closure (Peck & Scarpati, 2009:4).

- *Drama as an extra-curricular activity after school*

  Drama as an after-school activity provides a number of positive possibilities (McCaslin, 2006:375). There is no concern about time constraints as in regular school hours. A drawback is the possibility of absenteeism (McCaslin, 2006:279). The consistency in structured times for an after-school drama intervention is an important element for children with ASD, who dislike routine changes (Yates & Le Couteur, 2012:7). To adhere to these suggestions, the time frames for classes were determined between me and the parents to minimalize absenteeism, as well as to provide a routine and structure for the participants.

The abovementioned elements (socialization, establishing self-esteem, structure, marked areas, closure activities and drama as an after-school activity) were planned into the structure of the drama intervention used in this study to enable and support the participants on the spectrum. Hereby, I acknowledged that they needed specific ASD-strategies for effective support in the drama intervention. To explain the relevance of her thoughts for this study, I conclude this section on McCaslin's work with her view of creative drama as education and education as art (McCaslin, 2006:xiv) – it is not only relevant to the child via the tool of drama, but is just as relevant in education.

2.12.2 Spolin's work

Spolin started her work in creative drama in 1924. She founded the Spolin Theater Games Center in Los Angeles in 1975. The games are specifically designed for drama teachers and students. The students are empowered to develop performance skills and an understanding of theatre and fellow actors. The games are useful in improving non-verbal and verbal communication, focus and cooperation between group members. The games consist of elements of play that create a sense of freedom in a child. Spolin (1986:1-3) claims that all children have the ability to play, which is in itself a tool for the development of social skills. Mastrangelo (2009) argues that children with ASD first need to be taught how to play with peers (rather than playing in isolation). Only then can play become an ideal place to learn social skills (Mastrangelo, 2009:43).

Spolin (1986:56, 67-68, 72-75) mentions a variety of theatre games. I highlight one game that was employed to help participants with non-verbal communication, namely a sensory game named "gibberish", which stimulates children's ability to use their bodies and faces as communication tools. The game consists of sounds accompanied by body language, voice tone, and facial expressions to demonstrate the meaning of the gibberish (Spolin, 1986:123). Children with ASD enjoy this type of game, also called "Blah-Blah", because it takes away the expectation of communicating through words. However, non-verbal communication skills should be cultivated through repetition (Schneider, 2007:58-59). The "gibberish" game cultivates listening and observational skills. Each practice can be evaluated by the amount of variety in voice tone, the flow of the gibberish and if it sounds like a

conversation (Spolin, 1986:124-125). This can be a valuable model for children with ASD who have a problem with reciprocal communication, as it teaches a child to react to a fellow actor's non-verbal conversation (Schneider, 2007:58-59). The game was integrated into the drama intervention cycle to help develop the areas of non-verbal communication, listening, observation, voice tone and reciprocal communication.

However, a word of caution is extended to drama teachers when working with children on the spectrum. The drama teacher must keep in mind that some children on the autism spectrum are tactile sensitive (Marco *et al*., *2*011:49). They experience difficulty to tolerate touch and therefore need to be prepared in advance if a game will involve touch. In the discussion afterwards, they have an opportunity to relate the way they experienced touch, which could bring understanding for the other group members, who may not have a problem with tactile defensiveness. Although there was a possible obstacle, there was also the advantage of an opportunity for learning which could benefit participants in the study.

2.12.3 McCaslin and Spolin's work and its relevance to children with ASD

The value of McCaslin (2005, 2006) and Spolin's (1986) work in the area of creative drama is that it provides valuable insight on the impact of drama techniques on all children. As indicated, most areas of drama development suit the diverse needs of children with ASD. Both these writers provide valuable suggestions for a creative drama teacher. McCaslin's (2006) work especially focuses on children with disabilities, which opens up a rare view of the alternative motivation for teaching drama, specifically related to and suitable for children with ASD's needs and strengths as mentioned with related research in the area of autism and drama.

2.13 DRAMA AS THERAPY

The diversity of drama gave birth to a myriad of different drama terms. Although I do not use all types of drama techniques in this study, some terms are clarified here. In the sections below, the terms *psychodrama* and *drama therapy* are explained, and their origins are traced. The reader will notice that drama therapists and drama teachers use the same techniques, for example, improvisation, role play, stories and movement. This overlapping use of certain drama techniques in drama therapy and

creative drama can be confusing. Therefore, each section explains the aim and goal for the respective technique, which should clarify its use in each area. The sections below expose the reader to recent researchers such as Andersen-Warren (2013), Hodermarska (2013), Pimpas (2013) and Wilmer-Barbrook (2013), who employ drama therapy specifically for children with ASD.

2.13.1 Psychodrama

Psychodrama as therapy gives validity to a personal narrative and communicates that people's stories are sufficiently valid to be listened to. The consequence of this therapy is a sense of dignity for people and the realisation that there is special significance in their personal experiences (Nasir & Akinboye, 2013:88).

As early as 1934, Moreno called for role play and role reversal in psychodrama (Moreno, Moreno & Moreno, 1955:158, 160-163, 175; Shoobs, 1944:152-168). For Moreno, role play referred to the way people understand others, communicate and become one with the person they enact. He used role play as one of the basic techniques in Viennese Spontaneity Theatre, which he established for inner healing purposes through psychotherapy. Patients were afforded a chance to engage in role play to discover themselves and others, solve challenging situations and practise applicable situations to feel more prepared to face such situations in real life. He also used role play in his own family to understand the dynamics of the behaviour of his neurotypical teenager son, Jonathan. This technique enabled Jonathan to understand his parent's perspectives. Consequently, it corrected Jonathan's inappropriate social behaviour and strengthened his identity of himself (Moreno *et al.*, 1955:158, 160-163, 175).

Psychodrama is thus a relatively old technique used by Moreno and various other researchers. As far back as 1944, psychodrama was used to create a curriculum for boys with delinquent behaviour in a school. They demonstrated a lack of discipline, aggression, stealing and a sense of discouragement. Shoobs (1944:152-153) quotes Moreno (1934) made a heart-felt plea for psychodrama in the following words: "…every public school, high school and College should have a psychodrama stage as a guidance laboratory for their everyday problems" (quoted in Shoobs, 1944:152-153). The results of Moreno's study indicated that psychodrama created respectable attitudes, self-discipline and positive interrelationships in the boys. Other outcomes

were improved class attendance and schoolwork (Shoobs, 1944:167). The benefit of using Moreno's psychodrama stage in this study was that it created a safe place for children with ASD to work through their everyday challenges.

More recent studies indicate that Moreno's role reversal technique is helpful in resolving conflict in personal situations, and that this technique is more effective than merely listening or observing (Yaniv, 2011:53, 56). An interesting angle is created when psychodrama is used in combination with other drama elements or therapies which seem effective too. It seems the focus is on action and not passive listening or observation. This would be ideal for some children with ASD, as they learn more through body action/movement than passive observation (Sherratt & Peter, 2002:4).

Psychodrama and drama therapy are also a useful combination for effective therapy in certain disorders. An integrated form of therapy combining drama therapy, psychodrama and verbal therapy has been reported to be an effective form of support for patients with eating disorders (Pellicciari, Rossi, Iero, Di Pietro, Verrotti & Franzoni, 2013:611). Pellicciari *et al.* (2013:607) drew on Moreno's principles of psychodrama, where patients act scenes from their lives, voice unexpressed feelings, show understanding in their own and other people's behaviour and learn to use appropriate behaviour. This seems to be a healthy platform for children with ASD too, as they experience the same lack of expression, understanding and acceptable behaviour (social cognition) (Kana *et al., 2*014:104). Although psychodrama has been used for a long time, it seems that recent therapists and researchers find it valuable in combination therapies (psychodrama and other drama therapies) where role play or role reversal is used as an effective means to engage in appropriate self-discovery and to support the development of effective relationships.

2.13.2 Drama therapy and ASD

Drama teachers do not necessarily use drama *therapy*, but the same techniques (albeit with different names) are applied as therapeutic tools for children with ASD, and they are recognisably drama techniques. The North American Drama Therapy Association (NADTA, 2014) defines drama therapy as a participatory process consisting of shared stories, emotions and feelings (cited in D'Amico *et al*., 2015:25).

The true essence of drama therapy is found in the projection of a person into a character in a story (D'Amico *et al., 2*015:26). It is this transference of character in drama therapy that seems to induce reflective and insightful behaviour in children. Emmunah (1994, cited in Galligan, 2009:22) argues that drama therapy encourages emancipation and liberation from isolation. This is specifically needed for the children with ASD too (Galligan, 2009:22). Drama therapy also builds on play as an important aspect of growth, as it allows children who were deprived of an opportunity to play to experience play and practice new roles (Koekemoer, 2006:20). I have already mentioned that children with ASD have to learn to play (see Section 2.11.2) to offset the play-deprivation that originates in their early developmental challenges.

2.13.3 Drama projection, drama reality, role play and storytelling

Drama therapy can be used for anyone who can benefit from the positive outcomes mentioned. Four components of drama therapy (drama projection, drama reality, role play and storytelling) have been identified as effective forms of intervention for children and adolescents with ASD (D'Amico *et al., 2*015:26). Only three components (drama projection, drama reality and role play) are defined here, to narrow down the focus to the components used in this study:

- *Drama projection*, as already explained, refers to the use of imagination to become another character.
- *Drama reality* is the use of "*as if",* which creates emotional awareness in children with ASD and allows them to discover their selfhood (D'Amico *et al., 2*015:26).
- The *role play* method (to enact a role) was developed by Landy (1993, cited in D'Amico *et al., 2*015:27). Research by Wilmer-Barbrook (2013:43) has confirmed that this technique supports the development of social skills in children with ASD.

These terms must be seen in the context of drama techniques to show the relation of drama therapy in drama class for children with ASD. Terms such as "enacting" and "role play" are used for drama with the same benefits for children with ASD. Drama projection and drama reality can be seen as enacting, if the mentioned definition is applied (D'Amico *et al., 2*015:26) and compared to Loyd's (2011) interpretation of drama. He employed drama in his work with participants with ASD. Drama is thus seen as a form of enactment; participants make "sense of the world through enacting

aspects of it whether they are particular characters, situations or emotions" (Loyd, 2011:56).

This confirms the validity of drama as an intervention for children with ASD, but there are a variety of uses for drama therapy in the support of children with ASD, as an overview of the work of researchers such as Andersen-Warren (2013), Godfrey and Haythorne (2013), Hodermarska (2013), and Wilmer-Barbrook (2013) shows. They found that drama therapy supports the development of social, affective behaviour, identity formation, communication and imaginative skills. (All these therapists used a spectrum of drama techniques, but only those related to this study are mentioned.)

Andersen-Warren (2013:3) investigatated drama therapy in children and young people with ASD and used dramatic forms (drama and movement) to foster effective social and emotional behaviour. Some non-verbal and imaginary skills that showed marked improvement were the participants' compassion, eye contact, kinesthetic language, listening skills and imaginative play.

Godfrey and Haythorne (2013) established that the outcomes of drama therapy include improvements in self-worth, imagination, social skills, communication skills, groupwork and psychological wellbeing. Their programme consisted of a basic structure which remained the same with every class, in order to provide a fixed structure for the clients with ASD to reduce anxiety. The therapy includes a wide variety of drama techniques, of which greeting, drama games, imaginative play, movement and relaxation, are mentioned here. All the caregivers, parents and teachers reported that they were in favour of drama therapy because of its constructive effect on clients with ASD (Godfrey & Haythorne, 2013:23, 28).

Hodermarska (2013) focused on the integration of learned skills in work with children with ASD. The challenge of integrating appropriate learned behaviour warrants a focus on drama therapy as an enabling factor for children with ASD. Specific appropriate behaviour can be rehearsed through the use of drama therapy, particularly role play, untill the ability to integrate it to several areas of the child's life is realised (Hodermarska, 2013:72-73).

Wilmer-Barbrook (2013:43, 48-52) uses drama therapy to improve social and communication skills for children on the autism spectrum. She employs various drama therapy techniques – I focus on improvisation, role play and movement in this

section. She reported a general improvement of 24% in the areas of self-confidence, communication, social skills and emotions in participants with ASD (Wilmer-Barbrook, 2013:48, 55). She calls for funding for drama therapy to give children with ASD access to these benefits (Wilmer-Barbrook, 2013:44).

2.13.4 Conclusion on drama therapy

Drama therapy includes many techniques that can be used by both drama therapists and drama teachers. The literature reports that a transdisciplinary approach between therapists, teachers and parents to develop an overall individual plan which is practised by all to embrace a child with ASD appears to be constructive. Each therapist, educator or drama teacher has an extremeley valuable perspective, and when these approaches are combined, it becomes possible to provide more holistic therapy and a fun-filled experience for children with ASD.

However, the main focus in this study is the development of children with ASD's social, communicative and behavioural skills. It seemed worthwhile to employ the drama techniques that I have mentioned (enacting, movement, greeting skills, drama games, improvisation, role play and relaxation), to develop and support the children's social and communication skills, affective behaviour, non-verbal skills, imaginative play, identity formation and self-confidence. The important factor of structure in drama interventions has been confirmed in research with children with ASD (Godfrey & Haythorne, 2013:32), who need routine structure in the drama class for development. Structure in class formed the foundation of the drama intervention used in my study, and it remained the same throughout the study, to engage the participants in a mode of learning as far as possible.

2.14 LOCAL AND INTERNATIONAL RESEARCH ON ASD AND DRAMA

This study is founded on other relevant national and international completed studies on drama techniques and their effect on children with ASD. A variety of relevant research in the national and international arena is reviewed to assess the value of drama from different angles and how it can be used to support children with ASD.

2.14.1 South African research

Studies in this area in South Africa are scarce. The only studies remotely related to this subject (drama and ASD) in this country are the work of English (2002) and Shirley (1984). Although these studies are not recent, they are reviewed to investigate the views on ASD and drama in South Africa, because they provide a baseline of sorts for this study.

2.14.1.1 English: Action and drama techniques

English (2002:8, 15) undertook a literature review on the application of action and drama techniques for children with special needs. Her main objective was to study literature on the use of action and drama techniques in combination with psychodrama to address the emotional needs of learners with special educational needs (LSEN) in South Africa. Some important findings include her conclusion that alternative therapies are needed for children with special educational needs, and that there was a lack of support for the underprivileged (English, 2002:47). ASD is a special educational need, and there is a lack of support for these children; therefore, I deem my study to be relevant.

English (2002:74) cites only one international article containing information on the effect of psychodrama techniques on children with ASD. This article mentions a constructive change as a result of the application of these techniques, namely in the expression and responsiveness of children with special educational needs, specifically ASD (Eliasoph & Donnellan, 1995:549-560). English (2002:1) concludes that drama techniques appear to be effective as a therapeutic tool for all children with special educational needs in the South African educational context.

2.14.1.2 Shirley: Effect of drama on neurologically impaired children

Shirley (1984:28-66) researched the effect of drama on neurologically impaired children. She employed a variety of drama techniques: voice work, nursery rhymes, action songs, stories, mime, non-verbal communication, mirror work, masks, puppetry, Drama-in-Education (DIE), costumes, Theatre-in-Education (TIE) and music. Her focus was on children diagnosed as impaired with cerebral palsy, quadriplegia or Down Syndrome, or considered “retarded” (Shirley, 1984:74-98). The change in terminology must be noted: in 1984 children were referred to as “retarded”,

now the term “intellectual disability” is used. The 1961 term has been eliminated from the DSM 5 because of the pejorative tone (Harris, 2014:95). My study uses the terms “mental challenges” or “intellectual disability” as indicated in the DSM 5 (APA, 2013:33)

Shirley (1984) based her research on children with a variety of neurological impairments, whereas I focus specifically on children with ASD. ASD is a neurological impairment (Wing, 2001:151), and therefore I take note of her study. She also used drama techniques such as stories and breathing. However, Shirley (1984:30) admits that her stories were too complex for the children to perform and she had to rely on more elementary stories. Her employment of breath as a drama technique was meant to develop the voices of children. At the same time, it is true that breathing techniques serve as the primary source of energy to prepare the voice for effective intonation and prosody, which is important for children with ASD too (McAllister-Viel, 2009:165). Shirley concluded that her study confirmed that drama established self-confidence, independence, cooperation and communication in participants (Shirley, 1984:112). Below, I take the reader on a brief journey through international research on the area of drama and ASD, to discover many avenues in these two areas as support for children with ASD’s diverse needs.

2.14.2 International research

Key international studies related to drama and ASD are those of Neufeld (2012), Hajidiacos (2011), Batson (2010), Caplan (2006), Park (2005), Guli (2004) and Ward (1999). A variety of drama techniques are mentioned. These vary from integrated drama, improvisation, role play, non-directive play and pretend play to Arts Integration (arts, drama, music and dance), creative drama, process drama and narrative. The different studies reveal many avenues to develop children with ASD by means of drama techniques.

2.14.2.1 Neufeld: Integrated drama and ASD

Neufeld (2012:3) aimed his research on integrated drama groups at promoting symbolic play, empathy and social engagement with peers in children with autism. He focused on increasing social understanding of three participants on the autism spectrum (Neufeld, 2012:3). Neufeld (2012:19) also focused on the development of

play in all areas for children with autism. Drama games and improvisation were the tools that he used to foster play in the participating children. All the ideas for improvisation were suggested by the children in the groups themselves (Neufeld, 2012:19).

Neufeld (2012:83) reports social development in the children with ASD in his study. A limitation in his study was the two venues he chose, one for supported play and one for unsupported play. The venue for the unsupported play was a small separate room, close to the room he used for the supported playgroup. At the end of the study, he realised he should have used the same venue for both groups (Neufeld, 2012:23). For the supported play, he originally used a venue which featured uncluttered space and had a stage area indicated by blue tape (Neufeld, 2012:22). The venue had to be changed to suit the school programme. He then used the school library for the supported play, but found that this venue offered many distractions. The value of Neufeld's study is not only the valid work he has done with his research group, but also in his practical application of knowledge of children on the autism spectrum. This can be seen from his selection of the original venue for supported play (it was uncluttered and had a clearly demarcated stage area) (Neufeld, 2012:22).

In my own research, the fact that I used my own private studio thoughout the study was an advantage. I could control the venue, which is not the case when a researcher has to rely on government property. The venue used in my study was thus a constant factor, whereas in Neufeld's study it became a variable which had an unknown impact on his study.

2.14.2.2 Hajidiacos: Cultivating friendship through drama

Hajidiacos (2011) studied the effect of drama on children with ASD. She is a mother with a son on the autism spectrum, but also a drama teacher and a researcher. Her auto-ethnographic study shows the process whereby children on the spectrum learn (Hajidiacos, 2011:36). She developed a ten-week drama programme to assist children with ASD in cultivating friendships and empathy (Hajidiacos, 2011:36). Her study focused on her journey with her son with ASD, 19 other children with ASD and interviews with their parents to assess whether her programme for children with ASD would be feasible. The participants' ages ranged from five to ten years on the verbal scale, and some on the non-verbal scale (Hajidiacos, 2011:52).

Play (drama) is important for children on the autism spectrum. It seems to be an approach that is known to have potential, but is not necessarily employed in therapy for children with ASD (Gommeltoft & Nordenhoff, 2007, cited in Hajidiacos, 2011:37). Hajidiacos applied play elements in the drama programme. She also uses greeting sessions at the start and end of her classes to facilitate friendship in the group. She employed the strategies of the *Mantle of an Expert* to facilitate drama, improvisation and three autism-specific intervention methods (Hajidiacos, 2011:46-47). Qualitative analysis of her data, based on the commentaries of the participating children's parents, indicated that the programme was successful, so it was recommended for families with children on the autism spectrum. The highest rating in the appraisal by the parents was given for the drama class structure, and the teacher's knowledge of ASD (Hajidiacos, 2011:2). This confirms the significance of a structured drama class and of a teacher trained in the theory and practical application of autism-based strategies for children with ASD.

2.14.2.3 Batson: The effect of Arts Integration on children with ASD

Batson's (2010) main aim in her thesis was to determine whether Arts Integration studies would affect the social skills, communication skills and behaviour of high functioning children with autism from pre-school to Grade 8. She conceded that few prior studies in the area of Arts Integration had been undertaken. Arts Integration consists of elements of dance, drama, visual art and music in a school curriculum of reading, language, mathematics and social studies (Batson, 2010:11). Her study focused on children with ASD in a broad school curriculum. She used two groups (one was a control group) to compare the impact of Arts Integration. The classroom observations showed a promising difference between the students using the Arts Integration curriculum and the control group (Batson, 2010:iv).

2.14.2.4 Caplan: Emotional expression, drama therapy and ASD

Caplan (2006:1) used Intensive Behavioural Intervention (IBI) as the starting point for her research. IBI only covers the development of cognitive, behavioural and language skills in children with ASD. She recognises that the improvement of emotive expression and sociability is a gap in IBI treatment (Caplan, 2006:1). Her study consisted of two children on the autism spectrum: a four-year-old non-verbal child, and a 17-year-old verbal child (Caplan, 2006:1). Her main aim was to assist

them with emotional expression and the development of social interaction through drama therapy. She used various models to conduct her research. The first is the non-directive play therapy model created by Virginia Axlin in 1969, which develops the ability to establish social relationships, express emotions appropriately, acquire specific social skills (Caplan, 2006:iii) and develop pretend play (Josefi & Ryan, 2004, cited in Caplan, 2006:26). The second is Renee Emunah's five-stage model of drama therapy, which is meant to improve communication and emotive expression (Caplan, 2006:26). The third is Robert Landy's method for role play (Lewis & Johnson, 2000, cited in Caplan, 2006:27). Caplan (2006) focused on the individual and made adjustments for each child. She followed their lead and did not refrain from doing something different. To establish trust with the four-year-old, she conducted the drama therapy on a trampoline (Caplan, 2006:59). Children on the autism spectrum take a while to trust someone new, and if the therapist opposes these children from the beginning, there is difficulty in fostering trust. She reached her goal, because in both of the participants, she formed a relationship of trust and safety where social interactions, although minor in the younger child, took place (Caplan, 2006:59-63).

Her research emphasises the need not to compare children, but to look at where a child starts. Ward (1999) and Caplan (2006) agree on the importance of focusing on a child's development within. Caplan's (2006) study focused on one-on-one participation with drama therapy using non-directive play for the non-verbal child and Emunah's model for the older child with ASD (Caplan, 2006:60-61). She acknowledges that it is impossible to generalise the positive results of dramatic play therapy based on such single cases. However, she confirms the importance of creating a safe space for children with ASD's development in the drama class and the vital significance of a sense of discovery in the therapist. She learnt a significant lesson in her research: it is essential to surrender preconceived ideas and focus on the needs of the child in order to discover what is best for that specific child (Caplan, 2006:94-95).

2.14.2.5 Park: Occupational therapy, drama techniques and narratives

Park (2005) researched the use of stories in an ethnography of a group of children with ASD in a occupational therapy clinic. She is an occupational therapist who

decided to use narrative and drama techniques as an intervention method in her study of five children (five-year-olds with ASD) over a period of more than 11 months (Park, 2005:4). Her narrative methodology conveys the story of each child and the therapist's journey in their unique experience with drama strategies, instead of a clinical methodology. In this methodology, therapists employ a story in their therapy to entice the child on the autism spectrum to take part in the different therapeutic exercises for the integration of their sensory challenges. Park weaves her personal narrative through her research. The idea of using the narrative arose by accident. Whilst she was having a therapy session with one of her patients, he fell and broke his arm. For a while, she questioned her own ability to keep her patient safe (Park, 2005:17-18, 20). This steered her on a journey where she sought to find another way of connecting and working with her patients. Her journey impelled her to employ drama as a technique, and narrative to help her to find another perspective and not only work on her own clinical perspective as an occupational therapist. She endeavoured to become part of the patients' journey to embrace their own ability to find answers to their challenges (Park, 2005:25). This is the strength of the narrative method which I employed in my study as well.

Park's (2005) ethnographic study started from the field of occupational therapy and combined this field with drama. Her vast knowledge and medical explanations of the challenges faced by children with ASD and the impact of ASD on their behaviour is instrumental. Her use of drama techniques in combination with occupational therapy practices, through the employment of the body and senses, confirms that drama techniques are an appropriate vehicle to offer assistance to children with ASD (Park, 2005:56-60). She acknowledges that it was difficult for her and the therapists working to leave their "land of implicit disciplines" (occupational therapy) behind, to enter the narrative journey of drama with the children. The way she conveys the children's stories through drama, conflict and healing brought her to a space where she was confronted with her issues around control. This journey into their stories exposed her to be as vulnerable as the children themselves (Park, 2005:271).

2.14.2.6 Guli: Creative drama, social needs, learning disabilities

Guli (2004) explored the effects of creative drama intervention on the social needs and non-verbal learning disabilities of children and adolescents. She conducted an

extensive research project with a control and a treatment group. Her group consisted of 23 children and adolescents, ranging in age from eight to 14 years. The treatment group consisted of a variety of children with learning disabilites and social needs. Only two children with ASD were included in this group, along with children with non-verbal learning disabilities and ADHD. The challenge she encountered is one I foresaw in my own study. It is not possible to pair children on the autism spectrum with children in a control group. The differences between individual children on the autism spectrum are too vast and the children are too different to do this effectively. Guli (2004:110) admits that this was a limitation in her study.

She employed creative drama for the development of weak areas in the group she was working with (Guli, 2004:33). Areas she focused on were the development of the imagination, individuality, cooperation, social awareness, speech, focus and expressiveness in the participants. She drew on McCaslin's work in her study, especially McCaslin's theory, to enable participants to experience social growth via creative drama. This is achieved when children and drama teachers understand and accept each other, which promotes self-confidence (McCaslin, 2006:14-16).

Process drama is part of Guli's curriculum, according to the model of Bowell and Heap (2001, cited in Guli, 2004:36). This model has four stages, which are all about learning through the medium of drama. Guli's (2004) use of the Social Competence Intervention Programme is also interesting. She employed this programme to adapt creative drama activities to address perception and integration impairments in children with ASD. This programme was used to facilitate change and collaboration between psychology and creative drama (Guli, 2004:16). Guli's (2004) study included a variety of children with learning challenges; there were only two children on the autism spectrum. Guli (2004:5) employed Voeller's model, dividing the group she worked with into three subtypes, "[a]ggressive and manipulative, withdrawn and passive", and lastly a group of children who are unable "to regulate their own behaviour". In terms of Voeller's model, children with ASD are part of the second subtype, namely children who are withdrawn and passive (Guli, 2004:5).

Guli (2004) touches on an important aspect of research concerning the population of ASD. It is recommended that single participant designs be used – these require a smaller number of participants. Children with ASD are too diverse to work with in experimental group designs. The amount of quality behavioural observation data is

more controlled in smaller studies and delivers significant effects (Guli, 2004:110). The results of Guli's (2004) study point to improved social relations and perspective taking (empathy). It is however difficult to discern if this is due to the specific drama intervention, or the impact of contact between children (Guli, 2004:222), who are usually isolated. She also remarks on a very important issue concerning the impact of culture: Western culture tends to apply a deficit model to children with ASD, but it possible that other cultures may view these children differently. She quotes a boy with ASD's summary of himself: "One unusual thing about me is that I have what some people would call a disability but I call a gift – Asperger Syndrome" (Jackson, 2002, quoted in Guli, 2004:112).

The conclusion of her study can be summarised in the realisation that the education system needs to collaborate with other departments, such as school psychology, drama and special education, for the benefit of children with ASD. Most important of all, it is imperative that graduate students in education, psychology and other disciplines be trained in these type of interventions concerning drama experience. She remarks that a lack of resources and funding cripples such an endeavour, as the first programmes to be cut are usually "arts programs, school psychology services and special education resources" (Guli, 2004:112).

2.14.2.7 Ward: Art, drama and a relationship with a child with ASD

Ward (1999) explored the development of a relationship between a client with ASD and a therapist by employing art and drama in her research. She focused on her relationship as a therapist with a child with ASD. As a drama therapist, she discovered that she has to provide suppport in the development of her client's sensory awareness. Sensory awareness is a phase that is experienced by most children in their first three years, but children with ASD who are touch-defensive miss this phase of sensory development. She devised a sensory awareness programme based on her client's unique abilities (Ward, 1999:18-19). Her focus on her client is commendable:

> I was not so intent on helping this child to become like me and fit into my world; rather I could focus on discovering who he was and who he wanted to become in the world (Ward, 1999:85).

Her first priority was to build a trust relationship through drama and art, in which this child with ASD could feel safe to explore his own abilities. She had no intention of

developing the child through drama and art, but rather to employ the use of toys and imaginative play (pretend play) to interact with her client on a sensory level. The importance of her study is embodied in her focus. She altered her focus from *her* progress with the client to the progress perceived in *the client himself* (Ward, 1999:86, 90). Ward's (1999:82-83) use of toys facilitating pretend play in her study interacted on a sensory level with the child with ASD. The result was the develoment of a good relationship between her and the child. Ward (1999:78-83) was brought face to face with issues of *being good enough.* In some children with ASD we should realise that the miracle or development can manifest in small gestures – children placing a trusting hand in the person's hand working with them, or just glancing in their direction (Ward, 1999:82). A drama teacher or educator working with children with ASD should focus on the journey with the children. It is imperative to be content with the *moment* and to "let change happen in its own time" (Ward, 1999:77).

2.14.3 Concluding remarks on drama techniques in ASD research

In this study, autism-specific interventions were used in the programme I compiled to facilitate learning on a basis conducive to learning in children on the autism spectrum (see Section 3.8). In South Africa, no specific prior studies concerning drama and the effect thereof on ASD have been published to date. Internationally, the drama studies of Neufeld (2012), Batson (2010), Park (2005), Guli (2004) and Ward (1999) were done with groups of five or fewer children on the autism spectrum. The auto-ethnographic study of Hajidiacos (2011) was a research project where 19 children on the autism spectrum were exposed to drama techniques, and then the parents were interviewed to determine the effect of the techniques on their children with ASD.

As the international studies discussed above show, drama techniques are not a new tool. They have been employed by many researchers for different purposes and with various focuses. The prior studies have used several drama techniques to facilitate their particular focus for their particular profession or participants. The gap, it seems, is not a lack of possible drama techniques in the form of stories and improvisation, but the use of a combination of different activities of greeting, breathing, movement, stories and painting at the end, to support the needs of participants. These techniques should differ from child to child to suit the specific abilities and needs of

the children. This specifically applies to South Africa where there are a few studies on ASD, but none specifically adressing the effect of drama on children with ASD.

The South African education system (DoE, 2001:5-7) and the system in countries such as the United States, as expressed in the *Individuals with Disabilities Education Improvement Act* (*IDEA*) of 2004 (USA, 2004:2649), advocate that children with special needs be mainstreamed. It does seem that drama as a specialised form of instruction in a mainstream school can help certain children with ASD to bridge the gap and give children on the spectrum the necessary support to function in mainstream schools (Kempe & Tissot, 2012:101). Schools in England and Wales seem to follow this trend (Loyd, 2011:59). However, it needs to be said that not all children with ASD can function in a mainstream school, and that some require more specialised settings (Kempe & Tissot, 2012:101).

The diversity of needs in the children with ASD are different from child to child and must be assessed as such. There are a wide variety drama techniques suitable for the children on the spectrum. The children with ASD's needs in this study were matched to the relevant drama techniques to explain the possible impact on their functionality.

2.15 SUMMARY

Chapter 2 examined the challenges faced by children with ASD, which need to be addressed purposefully, individually and with empathy. Their strengths should be a starting point. The history of children with ASD reveals a challenging road from labelling mothers, to discovering the neurodevelopmental causes and complex gene aetiology and brain complexities that underlie this condition. The recognition of the role of impairments, cognitive learning challenges and comorbidities can bring hope, provided that there are several support structures to enable children with ASD in most areas, and that interventions are attempted.

Chapter 2 also dealt with holistic support for and effective ASD-related interventions for children with ASD. The focus was on the theoretical construct of drama and the impact it might have on children with ASD. Play is seen as an element of drama – to show the importance of this often underestimated element in education, a description of various educational values of play was given. I described the value of drama

techniques in different areas. Psychodrama and drama therapy were explained and their relevance to drama techniques were discussed to elucidate the use of these same techniques in other areas. It was established that the use of the body in acting supports the development and awareness of emotions. The limited South African and more extensive international literature reveals supportive evidence for the use of drama techniques in many forms for children with ASD, as is discussed in the context of the methodology applied in this study set out in Chapter 3.

CHAPTER 3:
METHODOLOGY

3.1 INTRODUCTION

This chapter presents the methodology applied in this study, contextualising it in the study's chosen paradigm, ontology, axiology and epistemology (Henning, Van Rensburg & Smit, 2004:11). My study was influenced by my choice of a transformative paradigm, which "provides a framework for addressing inequality and injustice in society using….mixed methods strategies" (Mertens, 2007:212). The chapter then discusses mixed method design research. This discussion is followed by a detailed explanation of the population and sample used, and the way in which the participants were chosen and recruited. The participants' demographics and personal details are supplied, while respecting their right to anonymity. The research setting is clarified. The methods of quantitative and qualitative data collection used in the study are then described, including the procedure followed in the drama intervention, before the focus moves to data analysis. The issues of validation and ethical considerations are then explored in relation to this study.

3.2 THE TRANSFORMATIVE PARADIGM, ITS ONTOLOGY AND AXIOLOGY

A study's paradigm provides the direction that a study will take. A transformative paradigm appears to be the ideal lens to study the phenomenon of ASD and the effect of drama techniques on children with ASD as a vulnerable population in the bigger context of education. In this section, I explain the ontology and axiology of the transformative paradigm, because its epistemology and the methodology applied in this study flow from the choices made in this regard. Throughout, I link my application of these constructs in the study.

Mertens (2012:806) argues that a transformative researcher must be reminded of the existence of various realities in society. The ontology of the transformative paradigm embraces these multiple realities in society that relate to the participants with ASD in this study. Children with ASD have their own realities, just as neurotypical children have theirs. For this reason, I aimed to work and meet the children in the group in a

place where I could recognise and acknowledge their perspectives, allowing their realities to teach and guide me too.

Mertens (2012:804) argues that the axiology of a transformative paradigm reminds a researcher to respect the history and norms of participants and potentially to aim to increase social justice for them – in this case, in the context of the *education* for children with ASD. Mertens (2012:804) therefore calls on scientists to be sensitive to areas (such as the formal educational setting) where participants might experience discrimination. MacLeod, Lewis and Robertson (2014:407) and other researchers have established that children with ASD are a vulnerable population prone to experiencing inequality and marginalisation (Caplan, 2006:1; Guli, 2004:1). In the context of this study, the question then arises whether drama techniques are able to provide a basis for changes that will reduce this marginalisation and inequality in the educational context; and it is one of the aims of this study to seek an answer to this question.

Mertens (2012:805) reminds researchers to stay true to the ethics of the transformative paradigm by asking three questions:

- What guidelines for research need to be considered in this context?
- How can I show respect for children with ASD who have been marginalised?
- How can I incorporate the voices of children with ASD for them to be heard in the education system?

These questions were my guidelines in this study. This study had to engage with the views of the participants and their parents' experiences of the impact of ASD on the education of the children. I therefore developed and showed respect for the children through the discovery of the narratives of the children and their families in the qualitative section of the study (see Section 4.3). The resonance of their voices in the transcriptions in Chapter 4 became the means to authenticate their lives, not through my understanding, but in terms of their own descriptions of their lives.

MacLeod *et al*. (2014:417) and Caplan (2006:1) advocate giving participants on the autism spectrum a voice in research and opportunities to voice their views and experiences of life. Hence, I include some comments by participants on the spectrum in the results chapter (Chapter 4), to give the participants and their parents a platform to speak. These narratives of the children's experiences reveal the marginalisation

the children have suffered in their schooling. From their self-narratives, we may learn to understand their points of view and experiences, in this case, in educational settings. Because this population is under-represented in research, merely paraphrasing and summarising their words would take away their way of expression (MacLeod *et al.*, 2014:417), and would silence narratives about experiences unknown in the literature by and about neurotypical people. Neurotypical people cannot easily write about the experience of a person with ASD, because it is not a part of the reality that neurotypical people experience. Hence, Hacking (2009, cited in MacLeod *et al.*, 2014:417) confirms that self-narratives of participants on the autism spectrum enable understanding among educators and caregivers, especially of apparently inexplicable behaviour such as hand-flapping (neurotypical people see this action as meaningless, whereas for some children with ASD this action releases anxiety). The self-narratives create another perspective on the participants, who experience and make sense of life in their own unique ways.

3.3 EPISTEMOLOGY

The two words “control” and “trust” describe a research epistemology aptly. A researcher needs to assess who takes control of the research and should also determine what types of action will develop trust between a researcher and the participants (Mertens, 2012:807-808). As a transformative researcher, it was important for me to surrender sole control of this study, by acknowledging the need for input from an autism specialist and a specialist educator, the participants with ASD themselves during the intervention, and their parents before and after the intervention.

Trust was established by including the voices of parents and the marginalised participants in this study, by citing their comments *verbatim* where possible (translated where necessary), thus giving them a platform where their voices can be heard, as recommended by Shannon-Baker (2016:327). Trust was also developed with the process of my immersion in the theoretical perspectives of ASD and drama, and the background, interests and life stories of the participants, as revealed through interviews and other means (these are discussed in Section 4.3). In the context of this study, it meant that I could develop understanding for my participants by acknowledging their stories and accommodating their needs in this research,

wherever possible. This confirmed the processional development of trust as prescribed by Mertens (2012:808).

3.4 RESEARCH DESIGN: MIXED METHODS

Kumar (2014:22) defines a mixed method design as a combination of quantitative and qualitative methods selected from two different paradigms, as opposed to a multiple design, which combines quantitative and qualitative measures from a single paradigm (Kumar, 2014:22). Adopting a slightly different view, Mertens (2012:809) argues that a transformative paradigm adopts a mixed method design in which qualitative and quantitative data are used for research purposes. Hennink, Hutter and Bailey (2011) hold a similar view to Mertens (2012), arguing that a mixed method design involves using different qualitative methods (Hennink *et al*., 2011:82). In my study, I choose Mertens's (2012) definition, and regard a mixed method design as relevant to the transformative paradigm, which provides a value system for this study.

In a transformative paradigm, a mixed method research design can be used to protect a vulnerable group of children from bias that may arise from results emanating from the use of a single method (Mertens, 2007:214). The children with ASD in this study are part of such a vulnerable population and they are challenged with inequality in society daily, as has been repeatedly confirmed by researchers who study people with ASD (MacLeod *et al*., 2014:407; White, Keonig & Scahill, 2007:1858; Guli, 2004:1). A variety of methods, such as the mixed methods design, is needed to work ethically with this particular vulnerable group of children.

Henning *et al*. (2004:11) explain that the term "methodology" refers to the methods used to attain the required knowledge in specific ways in a study to create understanding for the world we live in. It has been established above that my study deals with children who have been diagnosed with ASD. These children varied in the severity of the challenges they faced and in their strengths (see Section 3.6). The methodology used in this study was chosen to suit the diverse needs of these children with ASD.

The research design refers to the way I chose to conduct the research and deal with the data to validate and empower the participants in the study. I adopted a mixed method design as my research strategy, because it allowed triangulation to verify the

findings. Triangulation implies a verification of the findings by using a variety of research methods (Babbie, 2014:121). Kumar (2014:386) explains that triangulation provides a richer description of results, because a data set can be researched with different approaches that provide support for a researcher's conclusions.

For the purposes of this study, a mixed method design was therefore chosen, including triangulation, to interpret the results from the different data sets. The literature study was used as one leg of the triangle, and the qualitative and quantitative results as the other two legs (see Figure 3.1) complemented each other in the interpretation of different data sets' results, and revealed more information than anticipated.

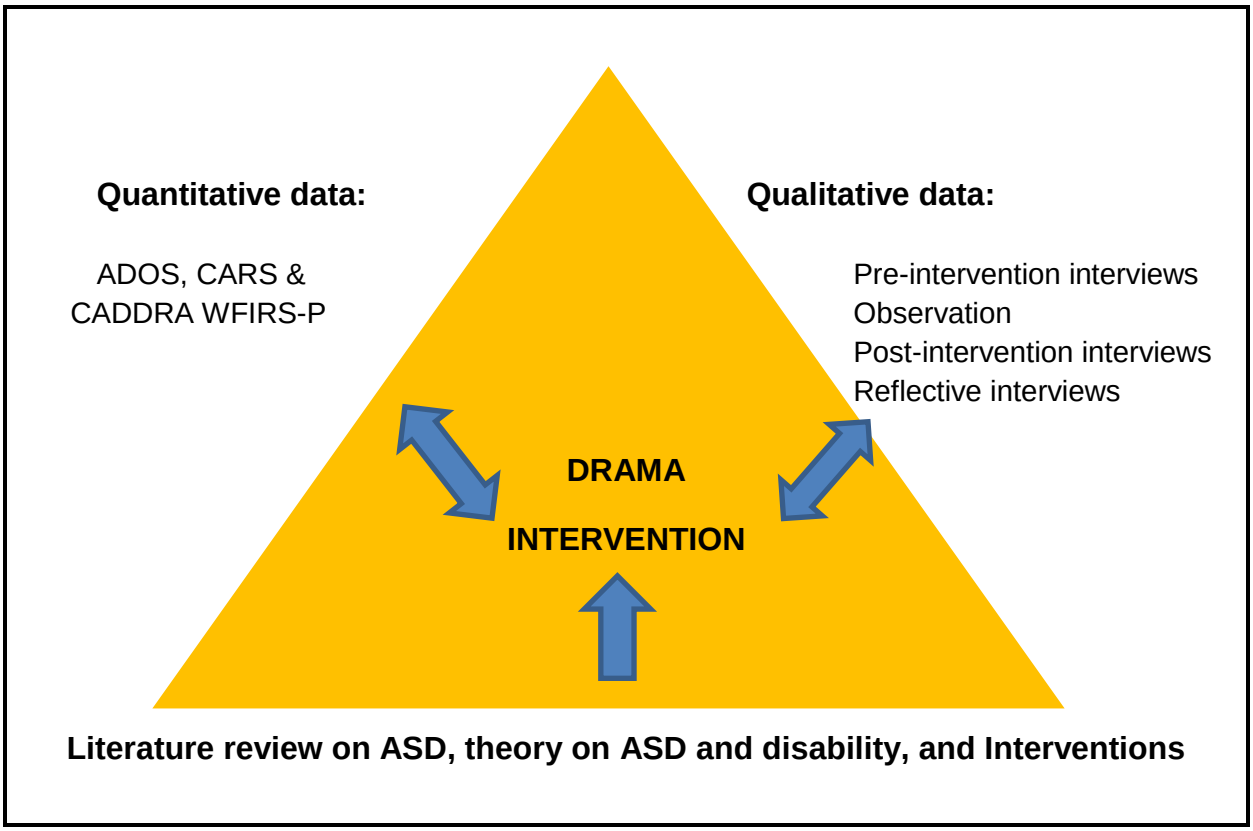

Figure 3.1: Triangulation in the mixed methods design in this study

Source: Zwiegers (2017)

The use of a mixed method design in this study provided opportunities to allow a voice to a small group of children (in this case, children on the autism spectrum), via qualitative and quantitative measures, as mentioned by Mertens (2007:215). The outcomes from a mixed method design, albeit from a small sample of children with ASD, may be more authentic than if only a single method was used (Mertens,

2007:218). This is important, because the findings of the study may lead to change. Mertens (2007:222) argues that the findings of a study should be implementable and reliable.

A broader range of insights and endorsements may be formed by using a mixed method, because it provides a wider range of data for analysis. The problem with focusing on one method (for example, a qualitative methodology) is that it may lead to biased results, since the primary data analyst is the researcher, who is also the person who determines the materialisation of data (Henning *et al., 2*004:6). This implies that the conclusions reached on the basis of the data are not a singular representation of the views of the researcher, but should represent (in the case of this study) the views of the participants, the drama teacher, the specialist educator and the participants' families.

This kind of variety is one of the great strengths of a mixed method. It provides a vehicle for a wider selection of standpoints, beyond the findings of the researcher alone (Mertens, 2007:215). Kumar (2014:28) confirms that a variety of views acts as a core strength in a researcher's data, as such diversity protects a researcher from becoming limited to a single view.

As mentioned, a mixed methods design usually creates diverse data. An awareness of the needs of the participants in this study is covered by the range of quantitative and qualitative data elicited. The needs of the children are uncovered through the mixed methods design (Mertens, 2007:224). The programme compiled for the participants reflects the children's needs, as presented through interviews (qualitative research) with the parents and children. Mertens (2012:908) argues that an appropriate start for such a study would be using qualitative methods (in this case, interviews) to gain exploratory knowledge about the participants before the start of the remainder of the research (in this case, the drama intervention). Kumar (2014:28) argues that using a mixed method design enhances answers to the research questions and is ideal for complex situations, because such a design gives the researcher the freedom and flexibility to conduct the research. The complexity of children with ASD dictated the choice of this design (see Section 3.4), especially given the neurocomplexity of the children on the spectrum (Keown *et al.*, 2013:568). Another important advantage of this design is that it provides valuable data (Kumar,

2014:28), for example, in this study, the quantitative data and the qualitative data enhanced one another. From the outset of this study, I have demonstrated through the information provided for each participant that they all differ from each other and had different milestones to reach. I focused on the richness of the data provided about these specific participants, and got to know them in a way which would be difficult in a larger sample.

The mixed methods design elicited exploratory data on the participants and their narratives, as Kumar (2014:30) recommends, revealing their needs. The drama intervention was adapted to suit their specific needs. Kumar (2014:28) points out that the strength of a mixed methods design lies in the opportunities created to uncover complexities in participants' needs or situations through the data generated.

There are a variety of methods that can be used in a mixed methods design. In the current study, quantitative tests, namely the Canadian ADHD Resource Alliance, Weiss Functional Impairment Rating Scale – Parent report (CADDRA, WFIRS-P) and the Childhood Autism Rating Scale (CARS) were used to collect quantitative data to triangulate with the data gathered by means of qualitative methods (semi-structured interviews, video-based observations and narratives). These two quantitative tests were used as pre- and post-intervention tests.

Most importantly, the mixed methods design was also in line with honouring ethical values at all stages of the research, which is a prerequisite of the transformative paradigm's ethics (Shannon-Baker, 2016:331). The children with ASD in this study were assured of anonymity at all stages of the research process, and protection was provided for them as described in the ethical procedures set out in Section 3.11.

3.5 RESEARCH PROCESS

The research process was organised as indicated in the timeline in Figure 3.2, overleaf. The initial literature review was followed by continued engagement with the literature throughout the study.

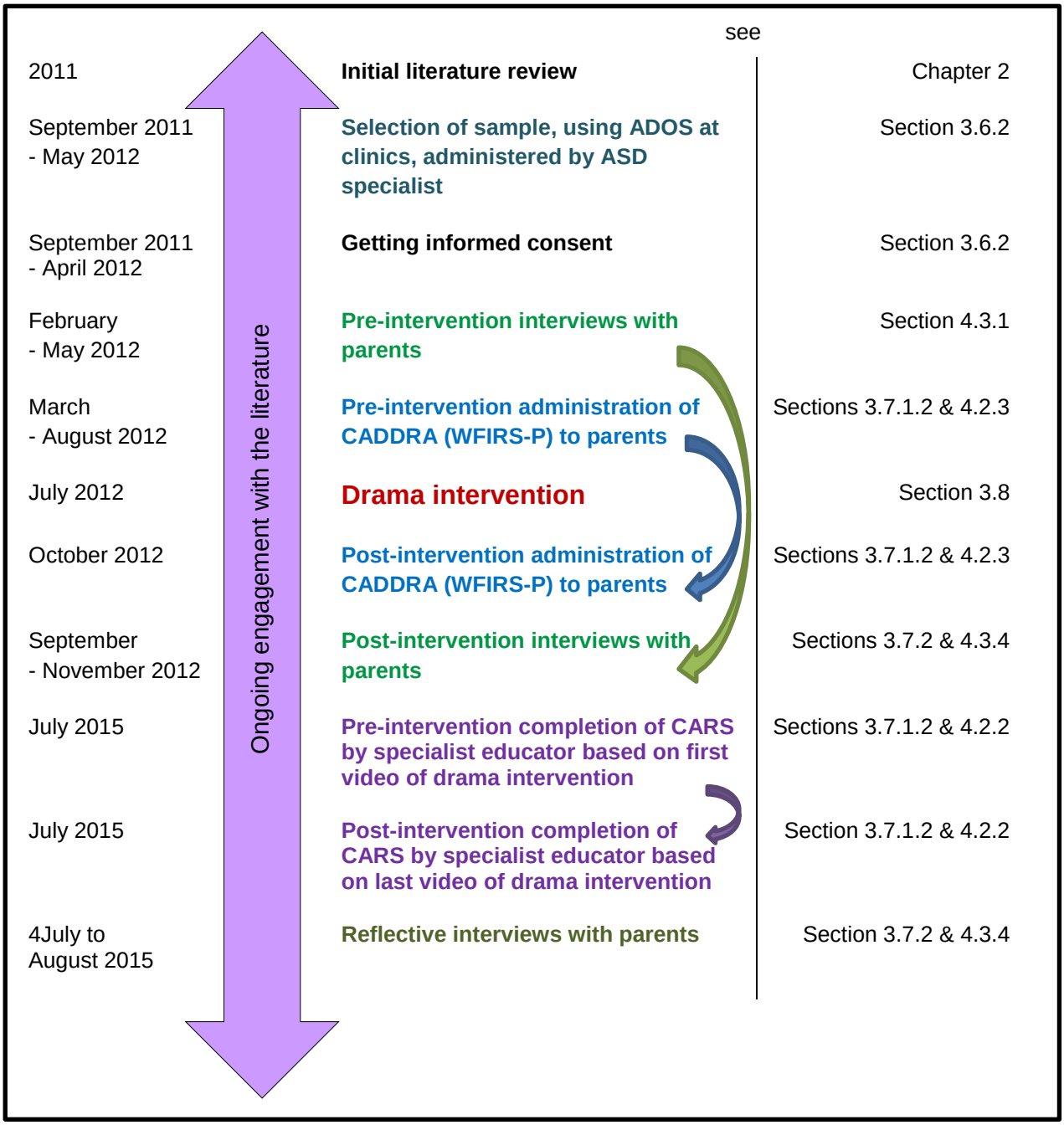

Figure 3.2: The timeline and order of the research process

Source: Zwiegers (2017)

3.6 DESCRIPTION OF THE RESEARCH PARTICIPANTS AND RESEARCH SETTING

Routine sampling can be problematic in a study of special populations, what Bailey (1987, cited in Mouton, 2011:195) calls, somewhat pejoratively, “deviant subcultures”. The main point about such special populations is that they may be generally invisible (Bailey, 1987, cited in Mouton, 2011:195). Bearing in mind this

notion of the “invisibility” of special populations, such as children with ASD, in Section 3.6, the population of participants in this study is explained, and background is given on them. Demographic information is provided. The rationale for the division of the participants into groups is given. The use of a neurotypical peer, the choice of language, and the setting of the research are described in detail.

3.6.1 The population of participants

In 2014, the prevalence of autism in the United States was estimated at about 1 in 45 (Zablotsky *et al.*, 2015:4). This figure, compared to Bateman’s (2013:276) statistics on children with ASD in the South African population in 2013, of 1 in 50 children, indicates an increase. Statistics on the prevalence of ASD, as explained in Section 2.2.1 are based on statistics in the United States (Bateman, 2013:276). If Zablotsky *et al*.’s (2015) figures are correct, this implies that the universe of children with ASD in South Africa is 1 in every 45 children in the country. However, there is a lack of specifically South African statistics on ASD and of unified information on children with ASD in South Africa, which poses a challenge for any researcher investigating ASD and individuals with ASD in South Africa. There is no central database on all children diagnosed with ASD in the country or in specific cities.

In view of the absence of such a database, the population for the purposes of this study was children with ASD in South Africa. A purposive convenience sample of 12 children who were diagnosed with ASD at the autism clinics held in the South African city in the Northern Cape, where I live. This kind of targeted sampling is referred to as *convenience sampling* (Appelt, 2006:59), since “a representative sub-set of the general population” (McLeod, 2003:72, quoted in Appelt, 2006:59) was not an achievable option. Kumar (2014:244) defines *convenience sampling* as making use of “easy accessibility, geographical proximity, known contacts, ready approval for undertaking the study, or being a part of the group”. The size of the sample is in line with the limited samples mentioned in international research on ASD and drama interventions, as cited in Section 2.14.2.

The parents’ consent was sought (see Annexure B), as well as that of the children. The children joined drama classes on a voluntary basis in a private studio over a period of three months in 2012. In line with the value of voluntary participation, every child and his/her parents had the right to withdraw from the drama classes at any

point in the research process without any adverse consequences. All the ethical requirements relating to obtaining consent were adhered to (see Section 3.11) and as approved by my institution (see Annexure A).

The 12 children selected through *convenience sampling* were referred to the study by an autism specialist and a specialist educator. The parents were approached for consent, and those interested in consenting to voluntary participation by their children in this study became part of the research. The eligibility of individuals for this selection was based on several factors aligned with the goals of this study. Before I explain the sampling method, I provide some background on the study's population.

I explain how diagnostic sessions for autism were set up to show how I arrived at a population for the study, and to show the need for more structures to support individuals with ASD and their families in the Northern Cape province (the diagnostic sessions are referred to as clinics). Lord and Bishop (2010:11) emphasise the importance of local clinics:

> This comes back to the need for researchers to work to improve practice, and the need for policies that support the integration of healthcare and education research. As noted previously, families need more effective, less expensive ways to learn about their children's impairments and relative strengths, as well as the best methods for services and treatments. Equitable access for families from different, underserved demographic groups is central to this endeavour.

A parent support group for autism in the researcher's city was coordinated by a specialist educator. The group provides support and information to families with children diagnosed with autism. The parents of children with ASD have pointed out the urgent need for medical and other therapeutic support. Some of the needs expressed by the families include ongoing assessment and support structures for children who may have ASD. After an autism seminar organised by an autism support organisation at School A,[10] under the auspices of Autism South Africa, many parents realised that their children might be on the autism spectrum.

Following on from this endeavour, an autism clinic was organised by the autism support organisation at School A, to support parents with a proper diagnosis for those of their children who experienced difficulties at school. Several children were identified as being on the ASD spectrum. The clinic was provided free of charge. It

[10] Identifying details have been removed to protect the identities of the participants and their parents.

was the first time that such a clinic was held to identify children on the spectrum in the Northern Cape. Previously, parents and their children had to go to the closest city for a diagnosis by an autism specialist. Diagnostic sessions at the autism clinic in the local town were available to families with children with ASD from all income groups and provided ongoing support (until 2016), which was especially valuable to families who struggle financially. The specialist supplied services on behalf of an outreach programme from a nearby larger city.

I was privileged to benefit from the use of a sophisticated diagnostic instrument in the local autism clinics, the Autism Diagnostic Observation Schedule (ADOS) (Lord, Rutter, DiLavore & Risi, 1999). The ADOS, which is now considered the gold standard (Elwin *et al.*, 2013:239) has to be administered by a trained specialist – training takes three years (Elwin *et al*., 2013:239). The ADOS is therefore more accurate than other instruments, but is expensive, as prior researchers (Springer, Van Toorn, Laughton & Kidd, 2013:96) have confirmed. For my own data collection, I also used the Childhood Autism Rating Scale (CARS) (Schopler, Reichler & Rochen Renner, 1988), which is available free of charge (see also Section 3.7.1.2).

3.6.2 The selection of a sample of participants from the population

In consultation with the team at the autism clinics in the local city, a purposeful selection of participants was done. Initially, 14 participants were chosen, based firstly on pre-selection by the specialist educator's screening and then on confirmation of the presence of ASD by means of the ADOS (Lord *et al.*, 1999), as administered by an autism specialist. At the first four clinics, one adult and 30 children (aged 3 to 16) were screened. Of these, the adult and 21 children were diagnosed with ASD. The demographics in Table 3.1, overleaf, demonstrate the dates on which the clinics were held, the ages of the children, their gender distribution and their diagnosis.

These clinics revealed that 14 children with ASD met the exclusion and inclusion criteria established for the study (see Sections 3.6.2.1 and 3.6.2.2). These initially selected children seemed to be in need of social and communication skills support, and were therefore deemed able to benefit from drama classes.

Table 3.1: Autism clinics for children and adults

NUMBER	DATE	CHILDREN/ ADULTS	AGE	Male	Female	DIAGNOSIS
Clinic 1	29/09/2011	7 children	7-13	6	1	7 ASD
Clinic 1	30/09/2011	1 adult	40		1	ASD
Clinic 2	17/11/2011	7 children	3-15	6	1	5 ASD / 2 ADHD
Clinic 3	9/2/2012	10 children	8-15	6	4	4 ASD / 1 ADHD / 5 not ASD
Clinic 4	3/5/2012	6 children	4-16	5	1	4 ASD / 2 not ASD
TOTAL		30 children 1 adult		23	8	21 ASD /10 not ASD

Source: Zwiegers (2017)

The specialist and specialist educator suggested that the parents consider drama classes as therapy for their children. After the parents had indicated willingness to give consent for voluntary participation by their children in the study, the parents were given a letter of information on the classes and a letter of consent to sign. The letter emphasised that participation was voluntary and involved no cost to the parent(s) (see Annexure B).

3.6.2.1 Exclusion criteria

At the initial selection of possible participants, children with ASD were excluded if they were severely mentally challenged, and/or severely and aggressively dysfunctional. The severity of autism was diagnosed by the specialist, who then advised inclusion in or exclusion from the study. In the context of this study, it was not feasible to include children on the autism spectrum with aggressive dysfunction, because other participants' safety had to be ensured. It was considered that those who were excluded would not benefit significantly in the group context of the study.

The children who fitted the above criteria were excluded before the parents were briefed about the research, so as not to raise false hope. This selection was done with the help of the specialist educator and the specialist to safeguard the participating children in a group setting and to enhance the potential for development in that setting. One of my study's aims was to enhance participants' social and communication skills in the drama classes. Children with low functional ASD can create difficulties in group work. This does not imply that a child with this type of

diagnosis cannot learn, but severely mentally challenged and aggressive children can disrupt a group, which could disturb the cohesion needed to create a safe atmosphere in the class (Conn, 2007:xxiii).

3.6.2.2 Inclusion criteria

Initially, 14 participants were identified at four autism clinics held over a period of eight months (from 29 September 2011 to 3 May 2012). One of the girls (aged 16) was diagnosed for the first time as being on the spectrum. Her parents decided not to share the diagnosis with her, and withdrew her from the study. Voluntary participation and openness towards the fact that the participant is on the autism spectrum was part of the ethical requirements for this study. Another child's parents did not agree to voluntary participation in the study, and the child was excluded from the study. That left 12 participants who participated voluntarily.

To narrow my focus for this study, I used the following inclusion criteria:

- the children had to be formally diagnosed with ASD using the ADOS instrument;
- the age of participants with ASD should range between 6 and 16 years;
- the children had to be capable of benefitting from drama techniques as an intervention in terms of social, communication and behaviour skills (this included communication in English and/or Afrikaans (which I can speak);
- the children had to live in the local city to attend classes;
- the parents and children had to agree to voluntary participation;
- the parents had to be prepared to disclose the diagnosis of ASD to their children.

In the end, 12 children met the inclusion criteria and all the parents were contacted to arrange a semi-structured interview to get to know them and their children.

3.6.3 Details of participants

The final 12 participants were two girls and ten boys, selected on a voluntary convenience basis. A neurotypical child was included to provide support as a peer for some participants in the study. Voluntary permission was gained from the parents and the neurotypical peer.

3.6.3.1 Participant demographics

In Table 3.2, below, participants' details are summarised as stipulated by the Ethics Committee of the University of the Free State. The participants were grouped with the help of the specialist educator during a pilot class to determine suitable groupings. In this study, participants are identified by pseudonyms or the first letter of the pseudonym in the data extracts.

Table 3.2: Details of the participants from 2012 to 2015

	Name	Age 2012	Age 2015	Gender	Education level 2012	Education level 2015	Mother tongue	Language preference
1	Pey (P)	6	9	Male	none/ non-verbal	No information	Afr	Eng
2	J-Monday Boy (J)	8	11	Male	Gr 1 School C	Gr 1 School C	Eng	Eng
3	Arrow (A)	8	11	Male	Gr 3 Primary School A	Home school	Afr	Afr
4	Lien (L)	9	13	Female	Gr 3 Primary School A	(BB) Primary School A	Afr	Afr
5	Knight (K)	10	13	Male	Gr 4 Primary School A	Gr 7 Primary School D	Afr	Afr
6	Fern (F)	10	13	Male	Gr 4 Primary School A	Gr 7 Primary School B	Eng	Eng
7	Zen (Z)	11	14	Male	Gr 5 Primary School A	Gr 8 High School A	Eng	Eng
8	Tyrone (T)	11	14	Male	Gr 4 Primary School A	Gr 8 High School A	Eng	Eng
9	Hano (H)	9	13	Male	Gr 5 Primary School A	Gr 8 High School A	Afr	Afr
10	Brother (B)	13	15	Male	Gr 6 Primary School B	Gr 9 High School B	Afr	Eng
11	Artist (A)	16	20	Male	Gr 9 High School A	Gr 12 High School A	Afr	Afr
12	Sierra (S)	16	19	Female	Home school	Home school	Afr	Afr
	*Daniel (D)	5	8	Male	None	Home school	Afr	Afr

*Neurotypical child – Daniel (assisted with Sierra and J-Monday Boy)

Source: Zwiegers (2017)

As can be seen in Table 3.2, the ages of the participants ranged from 6 to 16 years, with the exception of the neurotypical participant, who was 5 years old at the start of the study. The gender of the participants was mostly male (including the peer), but two girls also participated. This is more or less in line with the statistics, which show that three to four times more male individuals are diagnosed with ASD than female individuals (Lord & Bishop, 2010:4).

The education levels in Table 3.2 show that one participant, Pey, had a challenge with verbal communication. Sign language and verbal speech were used to communicate with him. He was not at school, but was kept at home. Sierra was home-schooled, as she could not adapt to the formal school environment. Her diagnosis indicated that she is intellectually challenged. However, her willingness to participate and functionality made her an ideal candidate for this study. This is an attempt to address Lord and Bishop's (2010:11) comment that there is a tendency to exclude children with intellectual disabilities from research on the ASD population. Two children in this study experienced intellectual challenges and other disabilities. It appeared that the intervention would benefit them, and they were included to provide them with an equal opportunity to receive support.

Three participants, Knight, Brother and Sierra, had previously engaged in drama classes with me. With their screening and diagnoses, their parents indicated that they would like them to be part of this study too.

Ten participants were at school at the time of the study, at levels ranging from Grade 1 to Grade 9. Although one of the exclusion criteria was severe aggressive dysfunction, the specialist educator and the specialist doctor believed that J-Monday Boy, who did display some aggressive behaviour, might benefit from this intervention for the development of appropriate social and communication skills. Dysfunctional behaviour displayed by a child with ASD indicates that one-on-one participation with a peer is appropriate to develop social interaction and communication skills (Prendeville, Prelock & Unwin, 2006:43). J-Monday Boy was included because his behaviour was not severely aggressive; however, it was not deemed appropriate to group him with other children with ASD, as defiant behaviour could upset the group. Guli (2004:101) argues that upsetting behaviour by one child in a group can lead to absenteeism or termination of classes by other children in the group.

3.6.3.2 Language

Most participants could speak English and Afrikaans, but some children had a greater preference for English. Since I am bilingual, this posed no problem (language preferences are included in the demographics (see Table 3.2) and are discussed in more detail in Section 4.3.5.5).

3.6.3.3 Medication used by the participants in the study

An important factor to consider is the effect of medication on participants during the time frame of the drama intervention in the study (see Table 3.3). Ten participants' medical files indicated that their use of medication was consistent and was thus not a variable that influenced the results of this study. One participant's medication use was inconsistent, as it was adapted from Ritalin to Concerta. The twelfth participant later withdrew from the study and no information on this participant's medication is provided. The prescriptions for medication are set out in Table 3.3.

Table 3.3: Medication prescribed for the participants in 2012

	Name	Medication in 2012	Notes
1	Sierra	Lamictal 200mg	
2	J-Monday Boy	Ritalin 20mg LA; Concerta, Risperdal and Cylift. Tofranil was changed to Melatonin for sleeping at night.	Risperidoon 0.5mg – 1mg was suggested as it is effective for irritability in ASD (Williamson & Martin, 2012:1249).
3	Brother	Tofranil 10mg	
4	Fern	Strattera 40mg	
5	Lien	Ritalin 10mg	
6	Tyrone	No medication	
7	Knight	No medication	
8	Artist	Imipramine 30mg at night	Generic for Tofranil
9	Hano	Ritalin 20mg	
10	Arrow	Melatonin 3mg at night	
11	Zen	Ritalin 30mg LA	

Source: Zwiegers (2017)

One participant was treated with Lamictal for epilepsy. ADHD (Attention Deficit Hyperactive Disorder) was controlled with medication such as Ritalin, Concerta and

Strattera in six of the 11 participants for whom this information is available. Three participants used Tofranil, or Imipramine (the generic) for depression. Two used melatonin to improve sleeping patterns at night, and two participants used no medication. The table demonstrates consistent use of medication in the period when the drama intervention took place, except in the case of J-Monday Boy.

3.6.4 Group compositon

The specialist educator knew the educational background of all the children and was able to advise me in the first pilot class as to suitable groupings for the children. According to the CARS pre-intervention test, the children's autism rating ranged from severely autistic to mildly moderately autistic. Six of the participants were rated as severely autistic and six were rated as mildly moderately autistic.

The parents were also consulted to accommodate their obligation to bring the children to a drama class after working hours. It was important to accommodate them, because the parents had to agree to take sole responsibility for the travelling arrangements for their children to attend the after-school activities. If the drama class was held during working hours, it would make it difficult for the parents to bring the children to the class. Finally, after careful discussion with the specialist educator, the children were divided into four groups:

- Group 1: J-Monday Boy and the neurotypical peer, Daniel
- Group 2: Sierra, Pey and the neurotypical peer, Daniel
- Group 3: Artist, Lien, Zen and Hano
- Group 4: Knight, Fern, Brother, Arrow and Tyrone

As mentioned before, the group compilation was extremely important, as the safety and development of the children were at risk. Therefore, teamwork with the specialist educator was of great importance in composing the groups.

3.6.4.1 The support of a neurotypical peer

The use of the neurotypical peer was specifically appropriate for the first two groups to develop social and communication skills. As already discussed, J-Monday Boy (Group 1) was deemed a risk for other children in the groups, but still needed social interaction, and therefore he was grouped with the neurotypical peer only.

Pey's verbal ability was limited to a few words, and Sierra did not adapt easily to small children, or too many children. She is extremely noise-sensitive. Therefore, a smaller group consisting of Pey, Sierra and the neurotypical peer, Daniel, in Group 2 seemed appropriate.

3.6.4.2 Groups without a peer

The other groups (Group 3 and 4) combined highly functional children with children with lower functioning ASD. The grouping of the children in these two groups seemed suitable to provide ample social and communication interaction for each other.

3.7 DATA COLLECTION

In line with a mixed method approach, the data collection in this study involved a variety of processes. It began with the broad literature review (presented in Chapter 2), which informed the remainder of the study. The next steps combined qualitative and quantitative research methods. Both methods enabled data to be gathered and analysed. The processes used are discussed in detail below.

Quantitative data were gathered for analysis by means of three instruments (as discussed below). These tests were important for the purposes of triangulation, enabling data to be cross-checked and the validity of the research to be confirmed (see Section 3.10).

The qualitative aspect of the research process relied on observation during the intervention (presented in the form of a narrative), and narrative data gathered from the parents of the participants.

3.7.1 Quantitative data collection instruments

The quantitative data gathered in this study were collected by means of three previously validated instruments:

- the Autism Diagnostic Observation Schedule (ADOS) test (Lord *et al.*, 1999);
- the Canadian ADHD Resource Alliance, Weiss Functional Impairment Rating Scale-Parent report (CADDRA, WFIRS-P) (University of British Columbia, 2011:1-3); and
- the Childhood Autism Rating Scale (CARS) (Schopler *et al.,* 1988).

The ADOS was used in the identification of potential participants for the sample, and to confirm that all participants in this study were on the autism spectrum. The CADDRA (WFIRS-P) and the CARS were used as pre- and post-intervention tests and were completed by the specialist educator (CARS) and the parents (CADDRA, WFIRS-P), to identify changes in participants' functionality from the beginning of the study in 2012 to the end of the study in the same year.

3.7.1.1 Sample identification using the ADOS

As indicated in Section 3.6.2, the ADOS is used by the team at local autism clinics, and formed the basis of the purposeful selection of participants. The ADOS assessment (Lord *et al.*, 1999) was administered by a specialist (a paediatrician) to evaluate the children for ASD. The administering of the ADOS with each child was videotaped (12 children). Where children had already previously been diagnosed by the same specialist (2 children), the ADOS was not administered again. In these cases, the process was not videotaped, but a follow-up was done for these children for additional medical support.

A clinical judgement is important to determine the level of impairment and the interpretation of a diagnosis of autism (Baron-Cohen *et al*., 2009:507). Access to such a clinical judgement was one of the advantages of working with the specialist, because it meant that, for the purposes of this study, there was a clinician to confirm the diagnosis, interpret the diagnosis and determine the level of impairment. This specialist specialises in neuro-developmental diseases and autism. He is specifically trained and qualified to conduct the ADOS test with children.

Only those children found to be on the autism spectrum were selected to be in the group of children that were observed in this study. There were in fact many more children who were diagnosed as being on the spectrum, but two other factors were taken into consideration in selecting participants for the study. The first factor to consider was voluntary participation. The second was that the children had to be likely to benefit from the intervention offered in the study. The specialist assessed this likelihood and explained to the parents of the children identified what the value of such an intervention might be for their child. The parents were then able to make an informed choice about revealing the diagnosis to their child and to decide whether they would give consent for the child to voluntarily become part of the study.

3.7.1.2 Pre-intervention tests and post-intervention tests

Pre- and post-intervention test assessments were administered to all the children with ASD in this study. The two instruments used were the CADDRA (WFIRS-P) (University of British Columbia, 2011:1-3) and the CARS (Schopler *et al.*, 1988). They were used to determine whether there was a significant improvement in the participants. The CARS and CADDRA (WFIRS-P) tests were verified by comparing each assessment's own pre- and post-intervention test. These findings were then compared to the findings from the qualitative data (see Sections 3.4 and 4.2). The scores on CARS and CADDRA (WFIRS-P) indicate the scores at the beginning of the study, and provide information on the development, or the lack thereof, in each participant. High scores in both the CARS and CADDRA (WFIRS-P) instruments are indicative of more severe autism and functional impairment.

I used the CADDRA (WFIRS-P) as a pre- and post-intervention test of the children's functionality rating, as recommended by the University of British Columbia (2011:1-3). It was administered to the participants' parents, who completed a questionnaire to score changes, if any, that they noticed from the beginning of the classes to the end of the research period.

The CADDRA (WFIRS-P) (University of British Columbia, 2011:8.25) uses a Likert scale. On this scale, any item with a rating of 2 or 3 indicates that the child being scored is clinically impaired in respect of the severity of the autism symptoms. There are two ways to score this instrument: the first focuses on the total score; the second creates a mean score for the total items of each domain. The domains marked "not applicable" can be omitted. The internal consistency of the scale (psychometrically validated) is >0.8 for each domain and the scale as a whole. The scale is a highly sensitive instrument to measure change – a total score of 13 is considered a significant improvement. The score for risky behaviour is 0.5 and is known to increase with age.

High CADDRA (WFIRS-P) pre-intervention test scores indicate challenges in seven areas, namely family, school learning and school behaviour, life skills, self-concept, social activities and risky activities. A lower post-intervention test CADDRA (WFIRS-P) score indicates improvement in one or more of these seven areas. In the current study, a discrepancy in the scores was interpreted as indicating that a follow-up

conversation with the parents of the participant and the specialist educator was needed to gain some understanding of the discrepancy, through other voices than my own limited interpretation of the situation. A higher score in the post-intervention test suggests impairment or deterioration in a specific area. Any higher scores were interrogated and reflected upon in the final reflective interviews with parents and the specialist educator. There was no need for a t-test or Mann-Whitney test, as I worked with only one experimental group. Mouton (2011:110) advises such statistical rigour.

I also applied the CARS, designed by Schopler *et al*. (1988), as a pre- and post-intervention test to gain an impartial third-party observation of changes in the participants in the context of the drama intervention. The person I invited to act as an independent rater and to complete the CARS instrument was a specialist educator who has 30 years' experience in specialist remedial teaching at a school for children with physical and other disabilities in the Northern Cape and in Namibia, and has completed a range of courses on autism-directed teaching. She was thus eminently qualified to observe changes in the participants. She was given material video-taped with the consent of the participants' parents, showing the first and the last intervention classes of the children on the spectrum. She was asked to score changes regarding socialization, communication and behaviour from the beginning to the end of the study, if any, as recommended by Schopler *et al.* (1988).

The CARS assessment consists of 15 items (Schopler, Reichler, DeVellis & Daly, 1980:94-95), as demonstrated in Table 3.4, overleaf.

Table 3.4: CARS assessment items and explanations

Item	Explanation
1	Impairment in human relationships.
2	Imitation: Children with severe language challenges demonstrated problems with imitation regarding verbal and movement elements.
3	Inappropriate affect is a primary characteristic.
4	Bizarre use of body movement and persistence of stereotypes.
5	Peculiarities in relating to non-human objects: Toys and other materials.
6	Resistance to environmental change.
7	Peculiarities of visual responsiveness: This includes avoidance of eye contact with people, as well as visual avoidance of toys and educational materials.
8	Peculiarities of auditory responsiveness: Avoidance of auditory stimuli or extreme reaction to specific sounds – these reactions are inconsistent and impacts communications skills.
9	Near receptor responsiveness: Includes tactual exploration, mouthing, licking, smelling, and rubbing of objects.
10	Anxiety reaction: To measure the intensity of the child's aversion response to any aspect of the observed interaction.
11	Verbal communication: Echolalia, pronoun reversal, and peculiar language use to autism.
12	Non-verbal communication: Use or response to gestures and non-verbal communication.
13	Activity level: Apathy or hyperactivity assessment impacts a child's placement in education.
14	Intellectual functioning: Rating of the uneven cognitive skills, including splinter skills.
15	General impressions: Rating of the degree of autism observed in the child during the observation period.

Source: Schopler *et al*. (1980:94-95)

The scoring of CARS is from normal to severely abnormal behaviour and is explained by the following (Schopler *et al.*, 1980:95):

- a score of 1 is normal for the child's age;
- a score of 2 is mildly abnormal;
- a score of 3 is moderately abnormal; and
- a score of 4 is severely abnormal.

Schopler *et al.* (1980:96) confirm the reliability of the CARS as an instrument, its internal consistency and interrater scores. In terms of the CARS's cut-off scores a child with a total score of 15 to 27 is regarded as non-autistic; one with a score of of

30 to 45 as mildly-moderately autistic, and with a score of 48 to 60 as severely autistic. Lower post-intervention test CARS scores indicate development across 15 areas (relating to people, imitation, emotional response, body use, object use, adaptation to change, visual response, listening response, sensory response, fear/nervousness, non-verbal communication, activity level, level of consistency of intellectual response and general impression).

3.7.2 Qualitative data collection instruments

The qualitative aspect of the research process relied on narrative data gathered from interviews with the parents of the participants and on observation during the intervention. This research methodology was ideal for the small groups I worked with. I did not impose control over the group, but opted for in-depth research, as suggested by Henning *et al.* (*2*004:3-4), into the phenomenon of ASD in children.

3.7.2.1 Interviews with the parents

A qualitative research approach required the narrative of each participant. The qualitative research methodology produced rich data in the form of the stories of the participants, elicited by means of semi-structured interviews conducted prior to and after the drama intervention in 2012, as well as a final reflective interview in 2015, three years after the intervention (also see Figure 3.2). This time range provided interesting and useful information, as discussed more fully in Section 4.3.

Narrative research methods were applied in the quantitative data collection process. The first phase of my study involved experiencing the story of each participant as it emerged in semi-structured interviews. I listened to the stories and audio- or video-recorded these stories about the children's journey with ASD, mostly from the parents' perspectives. Henning *et al.* (2004:77) argue that video-recorded interviews are more accurate as a form of data collection than audio-recording. Fine distinctions can be picked up which may be missed with an audio-recording. This engagement started my journey with the participants to understand them and learn from them. Although I have knowledge of drama, I was only able to develop an individual drama plan for the children with ASD's individual needs once I had embarked on this journey with them. If the need arose to do so, I adapted the drama syllabus to suit a participant's need (see Section 3.8.2.2).

Interviews were scheduled with each set of parents (once they had given informed written consent) to uncover their life journey with their child with ASD. The data obtained in the interviews were transcribed from the video- and audio-tapes. At the conclusion of the research, three years later, I completed reflective interviews with the participants and their families to evaluate whether the story of each child with ASD had changed. The purpose of these interviews was to conclude findings and reflect with the parents and children (where possible) on the results of the study, in line with the narrative analysis prescriptions for reflection (Bold, 2012:74-75). The final interviews with the parents provided information about the development of the child, if any, and were compared to the first interview with the parents. Photos and videos of these interviews were kept for transcription purposes, coding and analysis in line with ethical guidelines as discussed in Section 3.11.

Some parents and children indicated a need to schedule a visit with the ASD specialist and educator (see Section 4.3.5.6). I relayed this information to the specialist educator, who organised ASD outreach clinics every term to assist the children with their challenges experienced in education.

3.7.2.2 Observation of the participants during the intervention

Data were also transcribed from the videotapes of the 12-week drama class cycle. A video was made of every class to provide an accurate record for a narrative journal. The videos of the drama classes and the interviews provided ample scope for reflection on the collected data for me as a researcher. They also constituted a solid database for the specialist educator to review to complete the CARS, as already discussed in Section 3.7.1.2 and to authenticate change that had occurred, if any. The audio-tapes and videos were transcribed and, if necessary, also translated. They provided rich detail about the functioning level of each child and about the dynamics of each child's social interaction and communicative abilities. The transcribed videos are a valuable record of the functionality and behaviour of the participants. The videos and transcriptions were kept on secure premises to which only the researcher had access, in line with ethical guidelines (see Section 3.11).

The final narrative composed of all the collected data was discussed with the parents to ensure that all the information gathered was correct and that specific themes in the data could be discussed.

3.8 THE DRAMA INTERVENTION

3.8.1 The setting

The drama classes were presented in my private drama studio. The venue has a stage, chairs, lighting equipment, tables, sound equipment, bookshelves, props, costumes to play dress-up in for the characters, and a refrigerator to supply cold drinking water for participants. A separate area is marked with a large carpet, to designate an area for the greeting session. The studio provided a space for the children to play, engage with each other and be creative (see Figures 3.3 and 3.4).

Figure 3.3: The studio where the intervention took place (Source: Zwiegers, 2017)

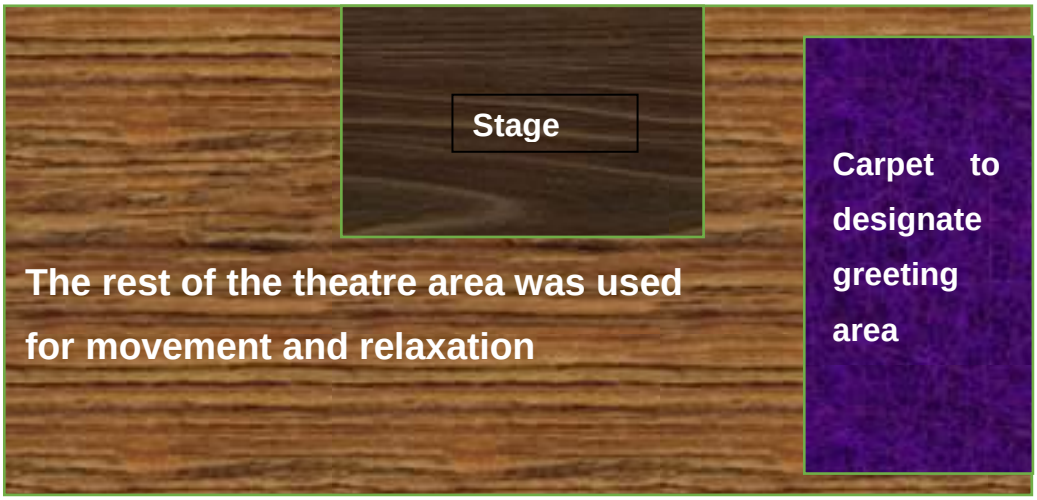

Figure 3.4: Floor plan of the studio (Source: Zwiegers, 2017)

3.8.2 The process and the rationale for using the chosen techniques

The drama techniques I used and the rationale for their use with children with ASD are discussed below. Each class followed the pattern indicated in Figure 3.5.

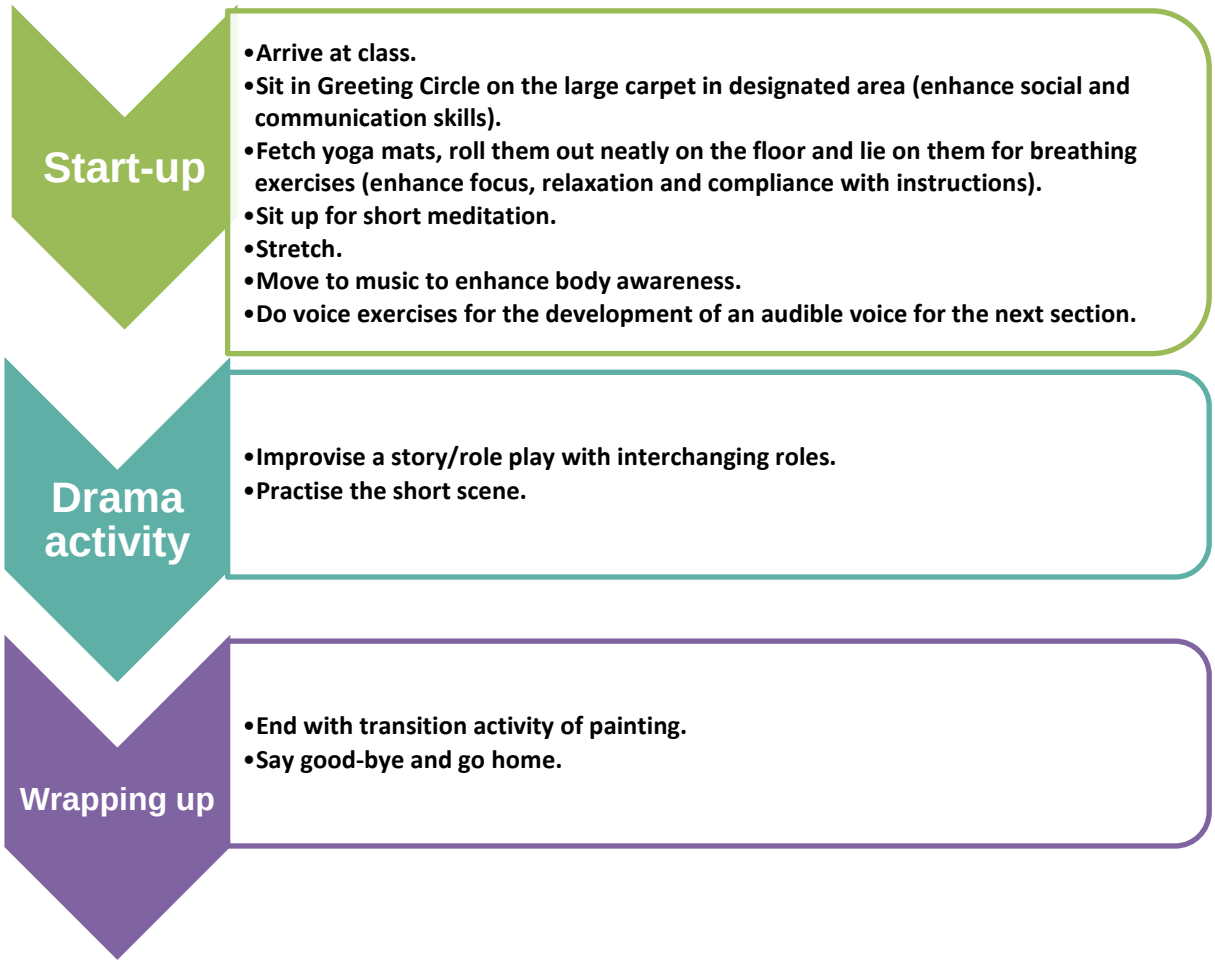

Figure 3.5: The structure of the drama intervention classes

(Source: Zwiegers, 2017)

The main elements of breathing and relaxation, movement, voice development, improvisation, short scenes, and transition activities are explored below. The emphasis was to address the specific needs of children with ASD in this study.

3.8.2.1 Start-up

After arriving, the children were asked to sit in what we called a “Greeting Circle” on a large carpet that designated the group setting for the greeting. After that, the participants did breathing exercises, a short meditation, stretches, a movement exercise to music and basic voice exercises. These exercises prepared the children

to be relaxed and focused for the drama activities following the Start-up sequence. As mentioned before, anxiety can be a barrier to learning in children with ASD (Batson 2010:8) and the Start-up acted as a foundation to establish relaxation in participants. The Start-up sequence (relaxation activities) was an important element to prepare the participants for optimal learning (British Columbia Ministry of Education, 2000:18) with the later drama activities.

I instituted a **Greeting Circle** to encourage the participants to greet each other and develop their social communication skills. The Greeting Circle allowed the participants to practise social communication skills that enhanced connections among the participants. This activity aimed to encourage the participants to share interests, develop their self-expression, listening and communication skills. D'Amico *et al.* (2015:30) point out that such social communication skills establish cooperation and cohesion among children with ASD, skills much needed by children on the autism spectrum in the educational setting (D'Amico *et al.,* 2015:30).

The next activity was to **fetch the yoga mat, roll it out neatly on the floor and lie on it for breathing exercises.** The objective was enhancing functionality in the drama class with focus, relaxation and compliance with instructions. The aim was not to turn them into actors, but to equip them with skills to harness certain areas of challenge in the domains of social communication and behaviour. Anxiety is causal to some of the behavioural challenges faced by children with ASD. The benefit from relaxation through breathing exercises (Maskey *et al*., 2014:10) is lowered anxiety and increased body awareness. Correct breathing has the added benefit of training the body and mind to integrate more effectively (McAllister-Viel, 2009:165, 174).

Various breathing techniques, such as gentle and deep breathing, were practised during the breathing session on the mat. Gentle breathing quiets the mind and supports the nervous system to be efficient (Iyengar, 2001:34). Deep breathing techniques calm an overloaded sensory system, such as that of children with ASD (See, 2012:1103-1114). Scientific studies indicate that slowed breathing reduces anxiety and heart palpitations (Terai, Shimo & Umezawa, 2014:229; Ravindra & Pavithran, 2006:124). Therefore, it was important to use breathing techniques as a means of relaxation for the participants, which also contributed to their sense of empowerment. Cotugno (2009:1273) confirms the usefulness of these techniques for

relaxation, and Maskey *et al.* (2014:10) affirm empowerment for the children with ASD when they realise that they can control their own anxiety.

The breathing section was followed by a short **meditation** in an upright position with crossed legs. The participants were asked to continue the relaxation by closing their eyes, breathing slowly and verbalising gratitude about their day, for example, appreciation of the warmth of the sun or attending the drama class. Recognising that children with ASD need support in self-expression (D'Amico *et al.*, 2015:30), the short gratitude-meditation was intended as a support for the development of self-expression in an elementary fashion. The children participated voluntarily and were encouraged to express their own thoughts in the meditation. Moreover, this activity also indicated the transition to or priming[11] for stretching exercises, as suggested by (Gutknecht, 2015:14) to prepare these children on the ASD spectrum for a transition.

Stretching exercises were then done with the group on their yoga mats. Researchers have studied the effect of yoga **stretching** exercises, on children with ADHD, and found that stretching techniques stimulate circulation in the body (Peck, Kehle, Bray & Theodore, 2005:416), which in turn influences the nervous system to release tension more effectively (Lalvani, 1999, cited in Peck *et al., 2*005:416). Peck *et al*.'s (2005:422) results concur with the findings of previous studies in this area and indicate that yoga (stretching) is an effective alternative intervention to improve concentration, enhance positive attitudes and behaviour, as well as an effective measure to reduce anxiety and stress, particularly in children with ADHD, which is diagnosed as a comorbidity in 85% of children with ASD (University of British Columbia, 2011:2.12).

Yoga-based stretching affects the body and nerves. Some postures and stretching improve blood flow to all the body's cells, revitalizing nerve cells to combat stress effectively (Iyengar, 2001:20). Hence, I decided to include some yoga stretching in the start-up sequence for participants. The medical files of the participants confirmed that five of the 11 participants were diagnosed with ADHD, which suggested that stretching would be valuable.

[11] Effective Educational Strategies for children with ASD differ and require appropriate learning styles for children with ASD. Transition activities or priming helps to prepare children with ASD with additional information, reducing anxiety when a change of activities is imminent (Gutknecht, 2015:14).

The stretching activity prepared the body for the subsequent free **movement to music.** Specific music was compiled for each session of group movement. The focus was on listening and using the body as a tool of expression. This technique also supported body awareness and the development of specific senses for physical expression. It has been established that children with ASD experience difficulty with body awareness and posture (Loyd, 2013:11; See, 2012:1107; Park, 2008:240, 246) (see Section 2.3.3.2).

Expressivity is one of the goals of movement in the body, and therefore actors need to mobilise their body as a tool to give a balanced and controlled expression to their abilities and skills (Cox, 1990:12-13). This sense of expressivity through movement was an area that could benefit the participants in this study. Music and movement have been confirmed to be a suitable intervention for children with ASD to develop body awareness, which in turn improves movement (See, 2012:1107). The importance and relevance of movement (as an intervention) for children with ASD are confirmed by movement therapists too. Dance Movement Psychotherapy (DMP) is a movement therapy that establishes a relationship between clients with ASD through movement and dance (Devereaux, 2012, cited in Edwards, 2015:8).

McCaslin's (2006:69) argument on the value of movement underpinned the application of these techniques in the class and the outcome envisioned. She claims that movement involves the whole body to be stretched and relaxed. In time, posture and coordination improve with regular practice in such movement. It is specifically in this area of creative drama that movement becomes a tool which reveals the inner life of a child with special needs. Movement then becomes useful for therapeutic purposes as well (McCaslin, 2006:69). The therapeutic value of movement in creative drama lies in its being experienced as fun, a space of belonging, safety, discipline and freedom for children. A shared experience of fun also creates a sense of belonging, which communicates to children that they are inhabiting a place of safety (McCaslin, 2005:15).

Children with ASD can be coached to use techniques otherwise associated with acting to develop areas of challenge, as mentioned. The following is an apt description of the value and importance of the integration of these techniques for performers and children with ASD:

> What might seem to be isolated areas of training, for example, voice lessons, movement classes, acting technique classes, should ideally be integrated lessons which reflect the indivisibility of the communicating whole. The ultimate aim of actor training [training for children with ASD] is the development of the individual as a creative, sensitive and responsive actor [child with ASD] (Cox, 1990:62).

Thus, unlocking the bodies and voices of children with ASD may unlock their creativity, sensitivity and responsiveness too, since they experience difficulty in conveying and understanding meaning concerning verbal and non-verbal communication (Guli, 2004:84-85). The use of movement had to provide a place of safety which prepared the participants with ASD to share emotional experiences, as suggested by Edwards (2015:16). However, Edwards (2015:15) reports that some participants may avoid movement, if they fear losing control and/or experience weak vestibular sensations. This may be a participant's means of keeping control of emotion (Edwards, 2015:15). This insight cautioned me to view the avoidance of movement in some participants in the drama class as a form of non-verbal communication of specific challenges, rather than as a sign of unwillingness to cooperate. If Edwards's (2015) theory is correct, then one can understand why movement is such an important supportive intervention for children with ASD in a drama intervention. This is in line with Park's (2008) argument: she found that movement and imagination create a sense of belonging for children with ASD. The magic of imagination, combined with movement, is a means to overcome the obstacle of "can't" and exchange it for the victorious "I can" in children with ASD (Park, 2008:246).

Following the movement section, **voice exercises** were included to prepare the children for the drama section, where body and voice were integrated in improvisation and short scenes. Therefore, as a researcher and drama teacher, my intention was to create body awareness by applying selected stretching exercises, movement to music and very basic Alexander techniques (discussed in more detail below), before I started effective voice development for the participants.

I employed **voice development**, as Cox (1990:21) suggests, in conjunction with movement. He states that movement and voice exercises help children to focus, release tension and redirect excessive energy (Cox, 1990:19). Although it seems repetitious, it is important to integrate all the previous exercises, and focus on the use

of breath with voice development too. The voice, energised by breath, is produced by the outgoing breath and movement is supported by the spine (Cox, 1990:23). When the spine is misaligned, it influences a person's voice.

A holistic approach is advocated by Alexander. The Alexander Technique[12] as described by Brennan (2002:1-5) improves posture. Moreover, the Alexander Technique not only teaches effective posture, but also teaches holistic use of the body. Murdock (1988, cited in Cox, 1990:60) also links the voice to "sensory awareness, and care of the body balance and co-ordination". If the body is thus used efficiently and correctly, the voice is perfect for effective use (McCallion, 1989, cited in Cox, 1990:60).

Voice development is thus not only about developing good voice quality in terms of audibility or articulation. It is rather about the holistic development of the whole person or child. Usually a lack of voice quality and challenges with the voice are indications that there is a root problem, pointing to the body, as Alexander demonstrated. Usually, shallow breathing is the consequence of flawed sitting and standing postures, as well as tightened and shortened muscles (Brennan, 2002:96). The teaching of correct efficient breathing (for voice production) must include postural alignment too. Asking children to stand against a wall is ideal to teach children to experience alignment in their body (Iyengar, 2001:165), as discussed briefly in relation to my application of the Alexander technique. Breath and voice development are closely linked and cannot be separated from one another. Therefore, it was important to integrate the teaching of breathing, stretching, movement and voice production for children with ASD, before the section of drama intervention commenced.

3.8.2.2 The drama intervention: Improvisation and short scenes

In the drama intervention, the main focus was improvisation and short scenes, as discussed here. These activities were used as building blocks to prepare participants to develop gradually.

[12] As a child, Frederick Matthias Alexander (1869-1955) struggled with respiratory illnesses. When as an adult he trained as an actor, his respiratory illnesses returned. The moment he performed, his voice was distressed and hoarse. He discovered the root of the problem in his body posture, and developed the Alexander Technique to overcome the problem (Brennan, 2002:1-5). In seeking a cure for his ailing voice, he realised that misuse of his body caused his ineffective voice (Cox, 1990:51, 53).

I used **improvisation** as it is used in psychotherapy[13] to provide a safe place for children to experience emotions as a form of play which contains elements of transformation and healing, especially when these emotions are integrated through bodily action (Winnicott, 1971, cited in Dunn Grayer, 2005:35). Children with ASD are known to be challenged in experiencing affect or expressing emotion (Fukunaga, 2008:2). They often appear to lack emotion and sometimes struggle to feel emotionally connected to their selves or to others. Unfortunately, emotion is necessary for the formation of self-control and insight into oneself (Thompson, 1999, cited in Fukunaga, 2008:33).

Therefore, I deemed it important to use improvisation as a drama technique for children with ASD to connect to their emotions via play (improvisation), develop some areas of socialization and for therapeutic reasons too. It was feasible to enhance the development of emotion in children with ASD by means of improvisation as suggested by Fukunaga (2008:84), since it was instrumental in releasing emotions through improvisation or role play. The Latin meaning of the word emotion[14] needs to be taken into consideration to understand its implication.

McCaslin (2006:89) postulates that improvisation in a drama activity is ideal for developing dialogue (without text) for daily situations, and Brian Way (1998:184) suggests that it offers an opportunity to focus on unique needs. Improvisation is a valuable drama technique in which ordinary situations are enacted to develop dialogue, instead of using an existing text. This was an ideal way for me to support participants' personal development and encourage group cooperation, and enhance participants' social communication abilities. This is consistent with McCaslin's (2006:107) claim that improvisation strengthens personal growth and group cohesion.

Likewise, improvisation was intended to establish a place of independence where adults did not prescribe to the participants, but instead the participants were given

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[13] Improvisation is sometimes used in psychotherapy, where patients enact their personal stories to relive traumatic experiences in order to release repressed emotions which keep them imprisoned in the area of trauma (Dunn Grayer, 2005:21, 25). Body, mind, spirit and action are used to relive emotional trauma. A person who does not experience certain blocked emotions is not able to integrate these traumatic experiences (Krystal, 1988, cited in Dunn Grayer, 2005:24-25).

[14] The Latin verb relating to emotion, *emovere*, means "to move out, away or shatter *muros*" [wall] (Marchant & Charles, 1946:192-193), which is a useful description of the process of healthy integration by people or children of their (sometimes traumatic) experiences (Strayer, 2002, cited in Fukunaga, 2008:33).

freedom of choice and responsibility to accept the consequences for their choices. The rationale is that improvisation fosters personal growth in participants and leads to improved drama scenes (Spolin, 1986:3). The focus was not on the improved drama scenes, but rather on supporting participants' development in scenes.

Nonetheless, Spolin (1986:3) cautions against the lack of end goals in improvisation scenes, since the group may become bored and lose interest in the stories. Adhering to this, I was cautious in the improvisation sessions to work with specific goals in mind. I accepted Spolin's (1986:3) caution, and reminded participants that an improvisation story has a beginning, middle and an end. This served as a reminder to focus on structure. However, every improvisation presented by the group was evaluated for focus. In line with Spolin's (1986:5-8) advice, the group was side-coached[15] to stay on track.

The advantage of this creative process is wholehearted involvement by the children. Improvisation requires participants to be intellectually, physically and intuitively involved. Spolin (1986:4) maintains that this is the heart of improvisation, because transformation takes place in children with this wholehearted focus. This is where mere objects and situations are transformed to something magical. Munro and Coetzee (2007:106) explain that improvisation is deep structured learning through drama, which integrates body, mind and emotion. This holistic integration was deemed essential for the participants in the study, since children with ASD experience challenges with the integration of emotions, body and mind (Munro & Coetzee, 2007:104). Guli (2004:4-5, 99) summarises the use of improvisation as an activity which enhances social cognition, emotional understanding and reciprocity in children with ASD. This view is in line with some of the goals of this study and highlights the important role of improvisation in a drama intervention.

The improvisation was followed by **short scenes**, to provide a short play for the group to enact. Short scenes (Schneider, 2007) are an activity specifically developed for children on the autism spectrum. These scenes are short plays or skits, written specifically for children with ASD. They are meant to develop social communication

[15] Side-coaching can consist of one word/a short sentence to help the group to recreate proper focus in the story. For example, the drama teacher can use words such as "interact" or "focus" to indicate that children are not acting sufficiently as a group, or have lost concentration. This teaches the group to listen to the teacher's voice, and continue playing. Drama teachers should evaluate improvisation non-critically and non-judgementally – criticism should deal only with problems in the work presented.

and behaviour skills (Schneider, 2007:19-20). At first glance, short scenes may appear to be the same as social stories, but there is a difference. Both address social issues, but they use a different technique. A social story is an individualised story which can be read to a child or by a child. A short scene, in the sense that Schneider (2007) has in mind, is an acting activity for a few participants, played according to specific actors' rules. The actors' rules and other reminders in the drama intervention class in this study were the following:

- Never hurt an actor.
- Listen to the director.
- Vocal tone.
- Body language and facial expression.
- Cheat out.[16]
- Project.

These basic reminders were meant to protect participants, guide them to listen to my instructions, use their voices, bodies and faces for expression, face the imaginary audience and project their voice. The rules were visually displayed on the wall as suggested by Schneider (2007:118-121) – see Figure 3.6, overleaf.

[16] "Cheat out" (face the front) coaches children with ASD to be aware of the importance of facing the imaginary audience, by turning their body at a specific angle when speaking to another child on stage (Schneider 2007:34).

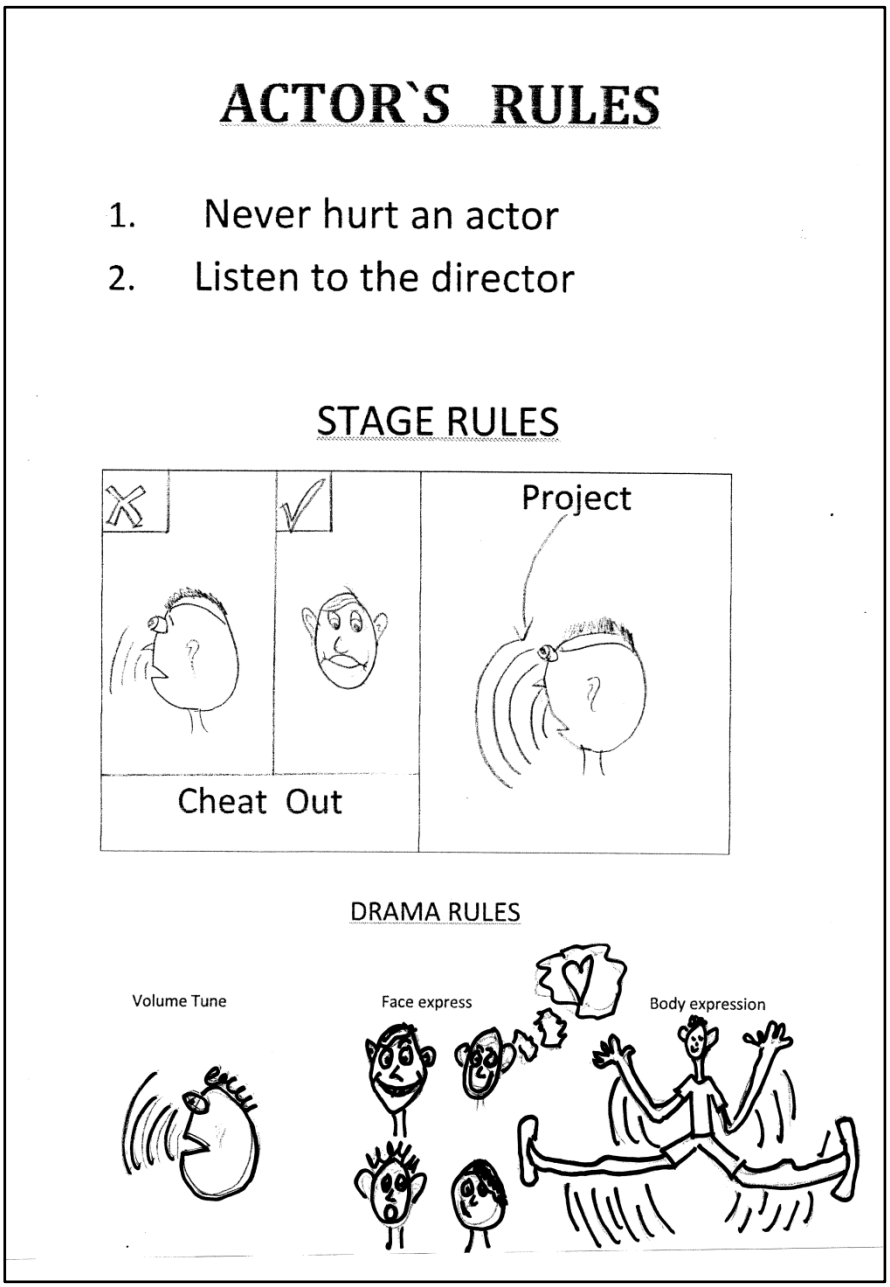

Figure 3.6: Class rules poster

Source: Zwiegers & participants (2017)

I chose Schneider's (2007) short scenes because I believed they would be useful to address key aspects of social communication development for children with ASD. These scenes were also elementary[17] to enhance a sense of success for the participants. As an example, I mention only two short scenes practised with the last five classes of one group: *The King's Royal Papers* (which focuses on respect for

[17] Shirley (1984:30) mentions that her stories were too complex for the participants in her study to perform and argues that she should have used more elementary stories (see Section 2.14.1.2).

royalty, humour, cooperation, executive function – sequencing, organising props) and *Grub's On!* (supporting humour, cooperation, sequencing and body language) (Schneider, 2007:163, 165).

The use of social stories[18] and short scenes specifically created for children on the autism spectrum is integral to effective teaching. For this drama intervention, Schneider's (2007) short scenes were more appropriate for the drama activity. The social story technique of Gray (2010) and Baker (2006) was employed partially in a Powerpoint letter that all the participants received to prepare and instruct them regarding the upcoming drama intervention (Annexure E). Although I did not use the social story in this section of the drama activity, I provide a brief explanation to clarify the difference between the two. A social story is adapted to a child's specific needs. Gray (2010:xvii) suggests that such a story can enhance positive characteristics in children with ASD to build their self-esteem. Baker (2006)[19] and Mastrangelo (2009:41) also advocate the use of social stories for children on the spectrum to support appropriate social behaviour. Gray's (2010:112-130) work on social issues was used as guidance in the choice of short scenes to coach the participants. More information about social stories falls beyond the scope of this section.

I employed a variety of short scenes for each group, suited to the participants' needs. These scenes were rehearsed during the last few classes of the intervention and presented to the parents as an audience at the end of the drama intervention cycle. The short scenes had the added benefit of requiring minimum memorisation from the participants. I focused on participants' cooperation, personal development, their understanding of a social issue in the scene, their enjoyment of it, and not on performance. However, as mentioned, certain stage elements such as an audible voice and body expression were emphasised in rehearsing the scenes. The enactment of short scenes was achieved by building first on the knowledge and self-confidence of participants to do improvisation, and finally acting out a short scene.

[18] The Social Story approach was initiated by Gray (2010:7) to guide children with ASD to learn about feelings, family, people's perceptions, sharing, winning or losing, and accepting change.
[19] Baker (2006:3-20) shows step-by-step visual socialization skills through stories and pictures that children with ASD can learn to acquire knowledge about body language, conversation skills (Baker, 2006:21-70), friendships (Baker, 2006:77-124) and challenges at school (Baker, 2006:133-166).

3.8.2.3 Wrapping up: Art activity as a transition

Although the drama classes for this study were presented in my private studio, and not in an educational setting, I had to make some allowance for the anxiety that can accompany the transition at the end of the drama class for the participants. Transitions are a challenge for children with ASD in education, because transitions constitute change, which fills these children with anxiety. When such anxiety is demonstrated by means of verbal and non-verbal aggressive behaviour, self-injurious behaviour and non-compliance (Schreibman, Whalen & Stahmer, 2000, cited in Banda, Grimmett & Hart, 2009:17), it disrupts education. Therefore, a transition activity, in the form of painting, was built in as a final activity to remind the children that the class was nearing its end.

Prior studies have shown that visual activity schedules using photos, pictures or drawings to show the day's activities can help children with ASD to transition either from activity to activity or from class to class, with less anxiety. This type of intervention increases independence for children with ASD (Pierce *et al*., 2013:267; Carnahan *et al*., 2009:13).

3.9 DATA ANALYSIS AND INTERPRETATION

All related data (quantitative and qualitative) were analysed and interpreted. In this process, data were divided into manageable chunks to search for related themes, patterns and relationships. The aim was to discover identifiable patterns or trends, as described by Mouton (2011:108). He defines *interpretation* as the compilation of fractured pieces (divided data) into a meaningful entity, which also indicates that the results and findings are linked to the theoretical literature. The results may affirm or contradict the literature and must be reported on to reflect this (Mouton, 2011:109). Mouton (2011:110) reminds researchers to

- employ appropriate statistical techniques when they do quantitative analysis;
- provide evidence for all conclusions in the form of data; and
- present an honest report on the interpretation of data, even if data disprove the initial theory or hypothesis.

The data of this research consisted of quantitative and qualitative data. The quantitative tests, the CARS and CADDRA (WFIRS-P), were scored to enable

analysis and a straightforward comparison of the scores of the pre- and post-intervention tests. If there was a difference between a participant's scores on the post-intervention test, compared to those on the pre-intervention test, it was considered ample evidence of change. This procedure adhered to the statistical rigour requirement posited by Mouton (2011:110).

The qualitative data, consisting of transcribed interviews, letters of parents and video-recordings of classes, were analysed to identify related themes, codes and relationships, as suggested by Mouton (2011:108). The conclusions are based on specific data. Where the data were inconclusive, this problem is mentioned and discussed. The data reveal three deviations, where children with ASD did not develop as anticipated, and this finding was reported.

In the data analysis, I evaluated the changes in the children from the time when the drama intervention began and compared their functioning at the beginning to their functioning at the end of the study. These changes were evaluated to ascertain whether this change, if any, influenced their functioning in terms of their social interaction, communication and behaviour in the drama class. These findings were cross-checked with the data from the quantitative data instruments. This checking served as a measure of validity against the qualitative data findings and is explained in detail in Chapter 4.

Narrative inquiry and a disability theory approach informed the identification of the themes which emerged in the text, for example, feelings of invisibility, and as behaviour that suggested exclusion (to name one example). The text of the interviews and the videos of the classes were examined to see where these themes, supporting invisibility or other themes, occurred. These different theories of and approaches to inquiry do not function separately, but actually overlap. However, for the purpose of analysis, I explain the function of each inquiry separately.

3.9.1 Narrative inquiry

Narrative inquiry is firstly seen as an approach where the experience of participants' lives is shared with the researcher along a certain time frame within assigned experiences or social exchanges (Clandinin & Connelly, 2000:20). Secondly, a landscape of understanding and insight is created when these stories of participants

are written, analysed, and applied in practice (Estefan, Caine & Clandinin, 2016:16*).* This is in line with my chosen transformative paradigm. I therefore approached the data analysis bearing in mind these two principles of narrative inquiry.

Henning *et al.* (2004:138) suggest using narrative analysis to analyse interviews and video-recordings. Henning *et al.* (2004:138) argue that it is important to organise data to expose whether the narrative data strengthened or undermined the aims of the study. In the current study, narrative analysis was supported by using Atlas.ti7 (see below). The objective was to ensure that each participant's story could be told as it developed from the beginning to the end, by means of narrative. The most important aspect of narrative inquiry is using a methodology that does not distance the researcher from the participants and the data. Narrative inquiry involves a researcher in all areas of the research. This helps (indeed forces) the researcher to become self-reflective, to attempt to understand personal experience in relation to the data (Pohl, 2009:104-105).

Narrative inquiry is the tool whereby the stories of the participants in this study were analysed and interpreted, hopefully with a heart of compassion. In this study, I applied the critical lens of narrative inquiry to investigate whether drama techniques influence the socialization, communication and impaired imagination, as well as the behaviour of children with ASD.

3.9.2 Critical Disability Theory approach

The social environment of children on the autism spectrum was constructed and deconstructed partly by means of Critical Disability Theory. This was done by researching the narratives of the children in the study, as well as their experiences of their involvement in the study.

The narratives and the participants' experiences were scrutinized with a specific approach to disability. Two models of disability are described by Loyd (2011:22), namely a medical model and an interactive model of disability. I aligned this study's approach in part with the interactive model, because it focuses on difference rather than deficit, and acknowledged the biological or behavioural basis of a disability. Moreover, people have the ability to develop despite disability (Loyd, 2011:22). I agree with Loyd's (2011:22) view on potential development. We want to develop and

not repair. This specific view of development is aptly described by a person on the spectrum as the follows:

> To fix autism would first presuppose that I was broken, then that I needed to be made NT (neuro-typical). I don't need to be made NT. I do need to learn how to deal with the world, and to a large extent the world also needs to learn to deal with a much broader range of people than it does. (Amanda) (Nadesan, 2005, cited in Loyd, 2011:22).

It is also important to acknowledge where support empowered the participants with ASD (or a lack of support disempowered them). Therefore, I deemed it important to view other angles of disability theory to understand the experience of children with ASD in the framework of this theory.

Disability theory claims that disability is socially constructed by the environment (Linton, 1998:121-122, 137-138). I used parts of this theory to emphasise the influence of the environment (education) on the participants. However, I only accept part of this viewpoint: even if ramps for the disabled were built in all buildings, and everyone's attitude towards persons with challenges changed positively, we would still have people in wheelchairs. This implies that the challenges of children with ASD will not miraculously disappear even if the education system were more understanding. I therefore concur with Morris's (1991) critique on this theory – he argues that environmental factors are indeed important, but that to deny the existence of neurological or physical challenges is to ignore half the problem that each person with a learning challenge experiences (Morris, 1991:10). Goodley (2001:210-211) holds a similar view to Morris (1991), but points out that the incapacitation of people with challenges is in part created by the community (the education system) and that the morbid perceptions of that community do not strengthen the personhood of a person who faces challenges. Change concerning these factors and acknowledgement of a medical phenomenon can only be achieved if all the parties work hand in hand – the disabled and those who are not disabled.

Critical Disability Theory cuts to the heart of the phenomenon of discriminating against people with disabilities. In the current social environment (in the case of the participants, the education system) it is the norm to discriminate against people with challenges, so that few notice when this discrimination occurs (Pohl, 2009:7). Critical Disability Theory helped me to recognise where indifference to the children on the

autism spectrum who participated in this study has sidelined (marginalised) them and their problems in the education system. Critical Disability Theory is helpful in this regard, as it can expose some of the many challenges that children with ASD face in the educational environment. However, more important is the potential of mitigation (interactive model of disability), which is the focus in this study. Thus, a narrative approach and Critical Disability Theory approach may complement each other by creating a richer picture of the lives of the children in this study.

3.9.3 Interpretive analysis

The definition of interpretative data analysis is a "back-and-forth movement between the strange and the familiar" (Terre Blanche, Durrheim & Kelly, 2006:322). The steps suggested for the interpretive analysis are the following (Terre Blanche *et al., 2*006:322-326):

- Step 1: Familiarise yourself with and immerse yourself in the data;
- Step 2: Determine themes;
- Step 3: Code;
- Step 4: Elaborate; and
- Step 5: Interpret and control (recheck).

I read and re-read all the data gathered by means of the semi-structured interviews and transcriptions of classes many times to familiarise myself with the data. Secondly, as Terre Blanche *et al*. (2006:323) suggest, the data were summarised and studied closely to determine emerging themes. Thirdly, I compiled codes aligned with the themes. Fourthly, I engaged in the elaboration process, which is defined as a form of revision of codes and themes. Finally, the interpretative process became a place of reflection on the strong and weak points of the interpreted data, as advocated by Terre Blanche *et al.* (2006:325-326). The qualitative analysis software program, Atlas.ti, which is described as a powerful tool in interpretative research (Terre Blanche *et al.*, 2006:324) was used in this process and its use is discussed in the next section.

3.9.4 Atlas.ti

Atlas.ti was developed by the Technical University in Berlin to perform direct audio and video coding (Paulus & Lester, 2015:5). Sart (2014:80) advocates the use of the

Atlas.ti7 software kit in data analysis. These researchers' applications of Atlas.ti are very different, which is indicative of the versatility of this software program. The patterns of analysis used by Sart (2014) and by Paulus and Lester (2015) are summarised to demonstrate the different uses of the program. Sart (2014:80) suggested the use of Atlas.ti7 for coding, descriptive information, transcriptions, comparisons of audio-recordings to the transcribed interviews, the creation of categories for participants' responses, in-depth analysis of transcripts, themes, the links between quotations, and the translation of the analysis to a narrative account.

However, the applications of Atlas.ti are wider than only data analysis. Paulus and Lester (2015:6) explain the practical application of these features by showing how they systematically stored their study results and documents with Atlas.ti. For the purposes of the current study, most of the theoretical literature was imported into the Atlas.ti program to ensure systematic reading and analysis of this literature.

Thus, in this mixed method approach, data analysis and interpretation involved the help of narrative inquiry, Critical Disability Theory approach, and thematic coding of the data. The interpretative analysis focused my immersion in the data using the software tool Atlas.ti to enable added interpretation. However, the validity of the data analysis and interpretation must be determined and is discussed in the next section.

3.10 THE VALIDITY OF THE STUDY

An important aspect of empirical research is the *validity* of research in empirical fieldwork (Babbie, 2014:154-155). Theorists and practitioners hold a variety of views on the question of validity in quantitative and qualitative research (Kumar, 2014:220). The research instruments in quantitative research need to be assessed to determine whether they measure what they are supposed to measure in order to confirm validity, whereas qualitative research is better described in terms of its *credibility*, rather than its *validity. Credibility* is confirmed when research findings are taken to the participants for the purposes of confirmation and approval. High *validity* in qualitative data is achieved where there is a high level of agreement from participants on the results presented (Kumar, 2014:219-220). The perspective framework for the validity of quantitative results of the study corresponds with the *validity* definition of Kumar (2014) discussed below.

3.10.1 The perspective framework for quantitative results

Kumar (2014:212) suggests that the establishment of validity in a quantitative study should begin with a consideration of two perspectives. The first is whether the research provides answers to the questions which it set out to answer. The second is whether, if it does provide those answers, it does so by using appropriate methods and procedures.

The two quantitative instruments used in this study, the CARS and the CADDRA (WFIRS-P), were suggested by the autism specialist, who knew the importance of reliable instruments for the study. He also knew the extent and intention of the study, and therefore gave informed advice as a clinician. These two instruments are discussed in detail in Section 3.7.1. Tried and tested instruments, such as the CARS and CADDRA (WFIRS-P), eliminated the need to determine reliability as posited by Kumar (2014), because the reliability of these instruments has already been established by prior research (University of British Columbia, 2011:8.25; Matson, 2007:215; Rellini, Tortolani & Trillo, 2004, cited in Chlebowski, Green, Barton & Fein, 2010:788). The reliability of instruments in quantitative research are determined either by external or internal consistency procedures (Kumar, 2014:217-218), which had already been established in the mentioned instruments.

The validity of CARS has been confirmed in a study where CARS demonstrated a "strong agreement with DSM-IV criteria for autistic disorder" (Rellini *et al., 2*004, cited in Chlebowski *et al., 2*010:788)[20]. Consequently, the CARS (Schopler *et al*., 1988) was used to assess the change (if any) in the participants in this study. There were some children with challenging behaviour in this study, which indicated that their rate of development was lower. This concurs with the findings of CARS, which measures challenging behaviour, and prior evidence that this type of behaviour usually indicates lower development scores (Matson, 2007:215).

[20] The "Internal Consistency Cronbach's alpha was computed as a measure of internal consistency reliability for the CARS. Cronbach's alpha was 0.91 for the entire sample (N = 606)" (Chlebowski *et al*., 2010:791-792). Chlebowski *et al*. (2010:797) confirm that the internal consistency and inter-reliability agree with the findings of the instrument's authors (see also Schopler *et al*., 1980:96) and confirm the use of "CARS with young children" as well "as a reliable measure of autism severity, which does not vary by age" (Chlebowski *et al*., 2010:797).

For the CADDRA (WFIRS-P) test (University of British Columbia, 2011:8.25),[21] validity was psychometrically validated and tried in many tests, with an internal consistency of more than 0.8 for each domain and the scale as a whole.

To summarise, both quantitative tests, the CARS and the CADDRA (WFIRS-P), provided answers to the question regarding the investigation of the impact of drama techniques on the social skills, communication and behaviour skills of the children in the study. These tests provided a variety of answers to this question. A richer description of the participants' data was achieved when the quantitative data were combined with the qualitative results, discussed below.

3.10.2 The perspective framework for qualitative results

Butler-Kisber (2010:14) defines the validity of qualitative inquiry in terms of a process of reflexivity. She warns that assumptions and biases should be accounted for during the whole study. Trustworthiness in a study is confirmed when a researcher proves that appropriate time has been allocated to fieldwork, and provides proof of ample field texts to support assumptions. Finally, there should be evidence of different perspectives from others to illuminate and extend the researcher's view of the participants (Butler-Kisber, 2010:15, 69).

3.10.2.1 Reflexivity

Reflecting on the rules for validation in qualitative research, I employed interviews with the families of the participants and the transcribed classes to compile a narrative about each participant. The transcribed classes were based on the videos of the classes, which were used in the observation of the participants in the study. This process also provided proof of data to enhance validation and trustworthiness. Ambiguities that emerged from this data were presented to the participants and their families, or if necessary, to the specialist educator, to ensure *credibility.*

[21] The convergent validity of 0.6 is moderate, with a discriminating validity of 0.4 from pre-treated symptoms. Although this test was developed for ADHD, this test has proved appropriate for ASD, as 85% of the children diagnosed with ASD tend to meet full criteria for ADHD too (University of British Columbia, 2011:2.12).

3.10.2.2 Time

The reliability of the data was enhanced by verification for the fact that an appropriate amount of time was spent with the participants and regarding other areas of concern, as suggested by Butler-Kisber (2010:14). The time frame started with the interviews, followed by the drama intervention, interviews at the end of the cycle and then final reflective interviews, with verification of the data, with the parents.

3.10.2.3 Different perspectives

Following the recommendation of Henning *et al*. (2004:147, 154), the validity of the data was checked, questioned, and compared to findings reported in the literature by other researchers, and discussed with the relevant role players in the study. Authenticity of the qualitative data was also ensured by giving a voice to the participants in the field texts, in this case, not only by revealing data that agreed with my prejudgements, but also by being reflexive in the revelation of multiple truths: mine and the participants, as advocated by Clandinin and Connelly (2000:85).

Kumar (2014:30) points out that the most important aspect of a search for validation of research findings with the mixed/multiple methods approach is to enrich the findings. The use of different methods enhanced analysis, ensured validity and trustworthiness in the representation of the quantitative and qualitative results and their interpretation of the data on and from participants. As discussed, various elements provided the necessary authentication of the data of a vulnerable group of participants. This section on validity is followed by a discussion of the ethical considerations. Ethics surrounding the children I worked with were an important consideration concerning their protection. Hence, the ethical considerations are examined below, discussing areas of concern with children with ASD.

3.11 ETHICAL CONSIDERATIONS

Kumar (2014:370) summarises ethics as “moral values of professional conduct that are considered desirable for good professional practice”. Researchers generally agree on the basic considerations of ethics, although their emphasis may differ.

Mouton (2011:238-239) discusses codes of conduct developed by scientists to guide researchers’ behaviour and enforced by professional bodies, such as universities.

The rights of *vulnerable* populations such as children are protected in the behavioural disciplines through codes of ethics (Mouton, 2011:239). Scientists' search for truth may never be at the expense of the participants. Therefore, data collected through interviews may not violate interviewees' right to privacy (Mouton, 2011:239). All social researchers should be mindful of proper and improper conduct in the social research process (Babbie, 2014:63-64). Proper conduct includes voluntary participation, no harm to participants, safeguarding anonymity and confidentiality, quality analysis and reporting, as well as adherence to the requirements of institutional review boards and professional codes of ethics (Babbie, 2014:65-75). Hennink *et al*. (2011:78) specifically remind qualitative researchers that they may have to focus on sensitive issues and come into close contact with participants. To protect participants, researchers need to take appropriate measures (Hennink *et al., 2*011:78).

Based on the suggestions of Babbie (2014), Mouton (2011), Hennink *et al.* (2011:78) and Kumar (2014), I got informed consent from the participants and their families, ensured anonymity and confidentiality, safe-guarded the participants; applied the necessary ethics to the data analysis and interpretation; and translated the results to the benefit of participants. The ethical procedures discussed below were put in place to protect the participants and ensure that proper scientific ethics were practised.

Ethical clearance for the study was obtained from the Ethics Committee of the University of the Free State (see Annexure A), which ascertained that the study would not be harmful in any way to the children participating in it (Ethical clearance number: UFS-EDU-2012-0074).

The following steps were applied to ensure **informed consent,** as suggested by Mouton (2011:24):

- parents were given a letter of consent specifying the institution I represented;
- participants and their parents were informed of the nature of the research and its benefits;
- parents were assured that participants would be protected from harm;
- informed written consent to proceed was obtained from the parents, and the participants were asked whether they wanted to participate; and
- participants' parents were reminded that participation was voluntary (they were under no obligation to complete the study).

The above steps were followed as suggested by Mouton (2011:244) and are explained in the protocol followed in the research. Annexure B provides sample information and consent letters. In particular, I made a specific effort to acknowledge the participants in this study with respect. They were given the opportunity to decide whether they wanted to be a voluntary part of this study. Therefore, I obtained their consent as well. The parents explained to their children what the requirements of their participation in this study were, using a visual consent form (see Annexure B) when applicable (Butler-Kisber, 2010:18).

Hennink *et al.* (2011:275) remind researchers that the anonymity of the children in a study should always be ensured in the process of journaling, making video- and audio-recordings, and transcriptions. Video and audio material and photographs were used as a record to reflect on and keep as evidence. Parents and participants were assured of the confidentiality of the data and the right to anonymity of their children at all stages of the study and in the data collected. The use of pseudonyms in the transcribed data ensures protection of participants' identity. All information is considered confidential. The necessary security measures on information were applied.

3.12 SUMMARY

Chapter 3 presented the research design, starting from the transformative paradigm which informed the study, and considering its ontology, axiology and epistemology. The choice of a mixed methods research design was discussed. The research population, sample and selection of the participants were described, and details of the participants were provided. The processes applied to gather the data were indicated and the data analysis and interpretation were explained. The drama intervention which was central to the outcomes of the study was discussed in detail. Issues surrounding the validity of this study were carefully considered in relation to the ethics surrounding this study, to ensure that the research is valid, and protected the children who participated in the study. Chapter 4 provides a detailed description and analysis of the quantitative and qualitative results.

CHAPTER 4:
PRESENTATION, ANALYSIS AND DISCUSSION OF THE RESEARCH FINDINGS

4.1 INTRODUCTION

This chapter starts by presenting the results of the mixed methods research discussed in detail in Chapter 3. The quantitative results are presented first. Next, the qualitative results relating to the data that were collected are discussed, followed by the observations of the interventions, and finally the post-intervention results are presented.

The history and norms of participants were vividly demonstrated in the interviews (the pre-intervention interviews before the start of the study in 2012 and the post-intervention interviews in 2012), as well as the final reflective interviews in 2015, when the data were shared with the participants and their families as a means of reflection, as suggested by Butler-Kisber (2010:14), as part of the data validation process.

Because the mixed method approach followed in the study involved data-gathering to obtain a more holistic perspective of the participants and any changes that occurred due to the intervention, it would be artificial to separate the results into air-tight compartments. Some grouping has been done, but, where necessary, some linking between the quantitative and qualitative results is included.

4.2 QUANTITATIVE RESULTS

The quantitative results are presented according to the three instruments used, and the results are interpreted and discussed in the context of the bigger picture permitted by the mixed method approach.

4.2.1 Participants' assessment with the ADOS

The ADOS (Lord *et al.,* 2000:151) was used to confirm that all participants in this study were on the autism spectrum (see Section 3.7.1.1). The ADOS assessment (Lord *et al.*, 2000:151) was administered by the specialist and considered confidential

(hence, no information is given regarding these scores). These assessments were video-taped, except for the assessments of children whom he had previously diagnosed. See Section 3.7.1.1 for the importance of a clinical judgement (Baron-Cohen *et al.,* 2009:507) and the background of the specialist.

4.2.2 Participants' scores on the CARS

The CARS (Schopler *et al*., 1988) test was completed by the specialist educator as a pre- and post-intervention test (see Section 3.7.1.2). The specialist educator scored the first video and last video of each participant to indicate social, communication and behavioural changes, if any, on the CARS assessment, as recommended by Schopler *et al.* (1988). Table 4.1, below, shows the CARS scores. The table demonstrates the development in each participant with a specific scoring, indicating whether the development was an improvement or not.

Table 4.1: Pre- and post-intervention test scores for CARS

	Name	Pre-intervention test	Post-intervention test
1	J-Monday Boy	48.5	33.5
2	Sierra	49.5	45.5
3	*Pey	*51.5	-*
4	Arrow	43	36
5	Lien	47	47.5
6	Artist	37.5	32.5
7	Hano	26	19.5
8	Knight	37.5	25.5
9	Fern	38	38.5
10	Brother	44.5	27.5
11	Tyrone	39.5	31
12	Zen	42	35.5
	TOTAL	453	372.5

*There are no post-intervention test scores for Pey, as he only attended one class and did not complete the cycle of drama classes. His score is excluded from the total for the pre-intervention test.

Note that a CARS score of 30 and higher is regarded as indicative of *mildly moderate* autism, a score of 48 to 60 of *severe* autism (see Section 3.7.1.2 and Table 3.4). A lower score in the post-intervention test than in the pre-intervention test suggests improvement in the described areas. A higher score in the post-intervention test

suggests impairment or deterioration in a specific area. All higher scores were interrogated in the final reflective interviews with the specialist educator.

In interpreting such results, one must remember that the CADDRA (WFIRS-P) and the CARS are not identical, and were used as a control measure to elicit different parties' views. The scoring by the specialist educator was done on the basis on the first and the last video (CARS), compared to the scoring by the parents (CADDRA (WFIRS-P), who could see the children's development over the duration of the study.

4.2.2.1 Higher (deteriorating) scores in CARS

There were two higher CARS scores that are discussed below. Lien and Fern's CARS test results were higher and indicated deterioration. To understand these higher scores, it is important to look at the individual items scored on the pre- and post-intervention tests. Table 4.2 shows Lien's CARS results and Table 4.3 shows Fern's results.

Table 4.2: CARS pre- and post-intervention scores for Lien (2012)

	Items	**Pre-intervention test**	**Post-intervention test**
1	Relating to people	4	3.5
2	Imitation	3.5	3.5
3	Emotional response	3	3
4	Body use	4	4
5	Object use	3	3.5
6	Adaptation to change	2.5	2.5
7	Visual response	2.5	3
8	Listening response	3	3
9	Taste, smell and touch response and use	2.5	3
10	Fear or nervousness	4	3.5
11	Verbal Communication	2.5	2.5
12	Nonverbal communication	3.5	3
13	Activity level	2	3
14	Level of consistency of intellectual response	3.5	3
15	General impression	3.5	3.5
Total	Rated as Severely Autistic	47	47.5

When these scores were discussed with Lien's mother in the Reflective Interview in 2015, the mother reported that Lien struggled academically in Primary School A. According to her mother, it explained the deteriorating development in the overall score, albeit minimal (Reflective Interview, Lien, 2015).

Fern's score was the other higher (deteriorating) score in CARS. Again, if it were not for the Reflective Interview three years later, I would not have been able to understand the possible reason for the higher score, albeit minimal. The only person that could shed light on this score, as in the case of Lien, was the child's parent.

Table 4.3: CARS pre- and post-intervention scores for Fern (2012)

	Items	**Pre-intervention test**	**Post-intervention test**
1	Relating to people	3	3
2	Imitation	3	2
3	Emotional response	2.5	2
4	Body use	3	3
5	Object use	2	2
6	Adaptation to change	3	3.5
7	Visual response	1.5	1
8	Listening response	2	2.5
9	Taste, smell and touch response and use	3	3
10	Fear or nervousness	3	3.5
11	Verbal Communication	3	4
12	Nonverbal communication	2.5	2
13	Activity level	2	2.5
14	Level of consistency of intellectual response	1.5	1
15	General impression	3	3.5
Total	Rated as Moderately Autistic	38	38.5

Fern's score is composed of 15 items, of which five scores are lower, six are higher and four are unchanged. The deteriorating scores were predominant. The overall deteriorating score of 38.5 was explained by Fern's mother during the Reflective

Interview (Reflective Interview, Fern, 2015). She said:[22] "*The 38.5 score was reflective of a bad day. Fern was younger. The older he gets, the better he handles himself."* Fern's mother's explanation of the deteriorating score reveals a challenge typical of working with children with ASD. If they experience a difficult day, all their sensory systems are overloaded easily, and scoring may reflect a deteriorating rating.

4.2.2.2 Lower (improved) scores in CARS

Conclusive scores were finalised on the 11 participants who completed the full study. Nine of the 11 participants showed improved development in terms of their CARS scores. According to the CARS rating, there was significant development in two of the 11 participants, namely J-Monday Boy and Brother. The reader is reminded that a few children were part of my drama classes before the study, one of whom was Brother. However, Brother's improved post-intervention test score of 27.5 cannot be related to the fact that he was part of these drama classes, as the CARS scoring is based purely on the first and last video of the drama class cycle in the main study. The specialist educator assessed these videos and she scored the participants on the videos of the first and the last drama classes.

J-Monday Boy's CARS test scores (see Table 4.4, overleaf) indicate an improved development of 15 points (according to the specialist educator). He was rated initially in the pre-intervention test as Severely Autistic. Given his improved development in the areas of Relation to people, Imitation, Emotional response, Object use, Adaptation to change, Visual and listening response, Taste, Smell and touch response, Fear or nervousness, Nonverbal communication, Activity level as well as Intellectual response, he was rated Moderately Autistic in the post-intervention test.

J-Monday Boy thus had lowered scores in 12 of the 15 CARS items, but in three items (Body use, Verbal communication and General impression), no change was recorded. The specialist educator's CARS scores for J-Monday Boy were meaningful, with a change of 15 in the rating. The areas where the specialist educator indicated an improved change in the post-intervention test are indicated in the CARS pre- and post-intervention scores.

[22] Where the participants or parents are quoted, their verbatim (or translated) comments are printed in italics to distinguish these comments from quotations from the literature.

Table 4.4: CARS Pre- and post-intervention scores for J-Monday Boy (2012)

	Items	Pre-intervention test	Post-intervention test
1	Relating to people	4	3
2	Imitation	3	1.5
3	Emotional response	3.5	2
4	Body use	1.5	1.5
5	Object use	3	2
6	Adaptation to change	4	3
7	Visual response	3	2
8	Listening response	3	2
9	Taste, smell and touch response and use	3.5	2
10	Fear or nervousness	3	1.5
11	Verbal Communication	3	3
12	Nonverbal communication	3	2
13	Activity level	3.5	2
14	Level of consistency of intellectual response	3.5	2
15	General impression	4	4
Total	Rated as Severely Autistic	48.5	
Total	Rated as Mildly Moderately Autistic		33.5

In Table 4.5, overleaf, Brother's CARS rating demonstrates the elevated development in certain areas which led to an overall meaningful development of 17 points. There was no deteriorating (higher) rating.

Table 4.5: CARS Pre- and post-intervention test scores for Brother (2012)

	Items	Pre-intervention test	Post-intervention test
1	Relating to people	2.5	1.5
2	Imitation	1	1
3	Emotional response	4	2.5
4	Body use	4	2.5
5	Object use	2.5	1.5
6	Adaptation to change	4	3
7	Visual response	2	1.5
8	Listening response	3	1.5
9	Taste, smell and touch response and use	4	1
10	Fear or nervousness	3	2.5
11	Verbal Communication	3	1.5
12	Nonverbal communication	3	1.5
13	Activity level	3.5	2
14	Level of consistency of intellectual response	1.5	1
15	General impression	3.5	3
Total	Rated as Severely Autistic	44.5	
Total	Rated as Mildly Autistic		27.5

According to the rating of the specialist educator, based on the first video of the drama class and the last video of the drama class, there was development in 14 of the 15 items. Only on the item of Imitation no development was noted.

4.2.3 Participants' scores on the CADDRA, WFIRS-P

The Canadian ADHD Resource Alliance, Weiss Functional Impairment Rating Scale – Parent report (CADDRA, WFIRS-P) (University of British Columbia, 2011:1-3) was completed by the parents (CADDRA, WFIRS-P) prior to the intervention and after it at the last class to identify changes in participants' functionality (see Section 3.7.1.2) from the beginning of the study in 2012 to the end of the study in the same year. As with the CARS, if the score in the post-intervention test is lower than the score in the pre-intervention test, it is an indication of an improvement in the described areas. A higher score in the post-intervention test suggests impairment or deterioration in a

specific area. Any higher scores were interrogated and reflected upon in the final reflective interviews with parents. Table 4.6 shows the scores.

Table 4.6: Pre- and post-intervention test scores for CADDRA (WFIRS-P)

	Name	Pre-intervention test	Post-intervention test
1	J-Monday Boy	80	72
2	Sierra	36	29
3	*Pey	*25	-*
4	Arrow	46	48
5	Lien	72	57
6	Artist	52	34
7	Hano	51	34
8	Knight	26	22
9	Fern	50	37
10	Brother	50	26
11	Tyrone	29	31**
12	Zen	51	40
	TOTAL	543	430

*There are no post-intervention test scores for Pey, as he only attended one class and did not complete the cycle of drama classes. His pre-intervention test score is excluded from the total.
** Tyrone's mother initially completed only the first page of the post-intervention test assessment.

One participant's mother did not complete all of the post-intervention test assessment (Tyrone). When the scoring on the first page was compared to that on the pre-intervention test's first page, there was a change in the score from 18 to 13. The second page of the post-intervention test was completed a year later, when the incomplete post-intervention test was discovered. When the two last pages of the pre-intervention test (14) are compared to the corresponding pages of the post-intervention test (23), it indicated a score difference of 9. When the total post-intervention test score (31) was compared to the pre-intervention test score (29), there was a relapse. These scores are dissimilar to those in the specialist educator's rating. According to the specialist educator, there was some development in Tyrone. However, the parents' score seems to indicate a relapse.

Babbie (2014:174) mentions that researchers frequently face the problem of missing data. If there are only a few cases with incomplete data, these cases may be excluded if the number of remaining cases is still adequate for analysis (Babbie,

2014:174). This was not an option in this case, as the sample of participants was already small. Babbie's (2014:174) second suggestion is to compare other related variables. This option was more applicable to this study. As explained above, it was possible to compare the score provided with the parent (using the CADDRA) to the score provided by the specialist educator (using the CARS). Finally, in the narrative inquiry, a follow-up interview with the parents to find an explanation for the discrepancies shed some light on the inconsistency of the scores (see Section 4.2.3.1). Babbie (2014:176) admits that there is no single best method to handle missing data. Therefore, each researcher should observe suitable methods to finalise the interpretation of the data in considering missing data (Babbie, 2014:176).

4.2.3.1 Higher (deteriorating) scores in the CADDRA (WFIRS-P)

Two higher (deteriorating) scores were noted in Arrow and Tyrone's CADDRA (WFIRS-P) results. The scores were discussed in the reflective interviews (2015) with the participants' parents, who provided credible reasons for the higher scoring.

Arrow's CADDRA (WFIRS-P) indicated a score of 46 in the pre-intervention test, scored by his mother. His post-intervention test score (48) was higher, indicating deterioration in functionality impairment in family relations, school learning and behaviour, as well as life skills. An explanation of the deteriorating scoring of Arrow's CADDRA (WFIRS-P) tests, as scored by his mother, is offered after Table 4.7, below, which shows the different areas measured, which are not only applicable to the drama classes, but directly relate to his functionality at home and at school.

Table 4.7: CADDRA (WFIRS-P) pre- and post-intervention scores for Arrow (2012)

	CADDRA items	Pre-intervention test	Post-intervention test
A	Family	6	11
B	School learning School behaviour	3 0	6 1
C	Life skills	14	19
D	Child's self-concept	5	2
E	Social activities	16	7
F	Risky activities	2	2
	TOTAL MEAN SCORE	46	48

Arrow's mother wrote the following during the Reflective Interview in 2015 (Reflective Interview, Arrow, 2015), which shed some light on the higher CADDRA (WFIRS-P) results in the post-intervention test:

> *His [school] marks dropped at that time [in 2012] and he cried almost every day when I took him to school – I think it might have been bullies or stress in class when he did not understand. It all depends on his day. It depends on how he is when he gets up in the morning – with home schooling I leave him to calm down by himself. If we nag him, things are worse.*

Arrow's mother explained that the higher (deteriorating) score was possibly caused by bullies who taunted Arrow at school. At the time when the post-intervention test was rated, he also experienced academic challenges in class. According to Arrow's mother, the combination of confrontations with bullies and academic pressure affected his functionality adversely, as a whole, not only at school, but at home too. The following year, he was taken out of Primary School A and his mother started home schooling him, which seemed to benefit him. In 2015, he was still being home schooled. She also indicated that the noise levels at school caused a sensory overload, which became too much too bear, since he is extremely noise (auditory) sensitive. The quiet at home benefits him, allowing him to function positively. Interestingly, silence is a core need for Arrow (Reflective Interview, Arrow, 2015).

Tyrone also had an overall higher rating of two points (see Table 4.8, overleaf), which made me question the impact of the drama classes. Unfortunately, as already mentioned, his mother did not complete both sides of the test. She completed the post-intervention test on the front page, but omitted the second page of the post-intervention test on the reverse side of the page. It was only at the Reflective Interview with the parents that I had an opportunity to ask about the reason for this higher rating in the areas of Social and Risky activities.

I need to refer to the two questions (see Section 4.2.3) to assess the answer provided by Tyrone's mother for his higher CADDRA rating. Initially, I speculated that his mother rated Tyrone on what she remembered from the previous year, or that perhaps she scored him on the state of his life at the time she did the scoring of the post-intervention test a year later.

Table 4.8: CADDRA (WFIRS-P) pre- and post-intervention scores for Tyrone (2012)

	Items	Pre-intervention test	Post-intervention test
A	Family	6	4
B	School learning School behaviour	8 1	4 0
C	Life skills	8	11
D	Child's self-concept	1	0
E	Social activities	5	11
F	Risky activities	0	1
	TOTAL MEAN SCORE	29	31

The question then remains whether this score is valid. Babbie (2014:174, 176) makes a few suggestions (see Section 4.2.3) on how to handle this type of possible source of error and concludes that each researcher must make the final judgement in the light of the study about how to handle this challenge. In view of this discretion, I reconsidered the CADDRA (WFIRS-P) ratings in light of the interview with the parents, as well as a letter from Tyrone's mother in 2012, relating it to the explanation of the mother in the Reflective Interview (2015), where the parents revealed their thoughts on this matter. The first two *verbatim* quotes are from the post-intervention interview and letter (Data Summary File, Tyrone, 2012):

> *Mother: Tyrone has been a loner all his life. So it was very nice for me to hear him talk about friends, and he singled out some of them – it is him and Knight and Fern. Their own adventures. At one stage, the three of them invented their own language – don't know if you know about that – they called it the Wakka language […] They have English words and Wakka words. I said: "Boeta, you guys invent this language so you must come teach the language to us. It is only you that can speak this language."*
> *He really opened up more – as you know, in the beginning he was very negative. So later [when he was positive about coming to Drama] I wondered whether it was the Drama or the friends he saw there. […]*

It seems that socialization played a positive role in motivating Tyrone to attend drama. His father noted that he was more patient and not so quick to fly into a rage, which suggested that his functionality in terms of behaviour had improved. Tyrone was also sharing more:

Mother: *I think he has learnt to share more. We had to buy meringues at the Fruit and Veg because he wanted to give them to the class. This was noticeable, that he has learnt to … his sister tends to be more generous, but not him. […] He also made a sword for Fern.*

M: *He brought it to class, yes.*

Father: *[laughing] He said he has orders. He said they are asking him at school.* (Data Summary File, Tyrone, 2012.)

It seemed as if Tyrone's social skills were positively influenced in terms of making friends in the drama class, sharing favourite eats and creating swords from cardboard to play with. The following letter written by Tyrone's mother after the study shed more light on the development seen in Tyrone during the study (Data Summary File, Tyrone, 2012):

> *At the beginning, Tyrone was very reluctant to come to the Drama group, because it was new to him. Later things got better, so much so that he reminded me when it was time to go to the class. Tyrone's social skills were one of our worries. For example, he struggled to make friends or just in general to remember to greet people. After the Drama classes, he was much more aware that he had to greet and that it is even OK to give someone a hug.*

In her letter after the study, Tyrone's mother wrote that Tyrone started to enjoy the classes; he became more social at home and started to greet and hug his family, which he had not done before. The parents' feedback in 2012 is consistent with the feedback in 2015 during the Reflective Interview (Reflective Interview, Tyrone, 2015), where the parents reported that the effect of drama classes was still visible three years after the intervention cycle – Tyrone became more sociable, his social skills are better, and he greets and interacts with people.

The qualitative feedback provides information on development and not regression at the time of the study. During the Reflective Interview, I presented the parents with the CADDRA ratings, and asked them if they could shed some light on whether the test was scored on what they remembered, or scored as Tyrone's mother perceived her child a year later, when the rating was done (Reflective Interview, Tyrone, 2015). His mother reported on the CADDRA post-intervention score that the scoring was done about one year after the pre-intervention scoring. She indicated that around that time Tyrone was being bullied at school and that this weighed on his mind.

The Reflective Interview in 2015 revealed a much greater challenge related to the bullying in his life. What seemed like budding entrepreneurship, creativity and the

ability to share toys with friends in 2012 (as reflected in the creation of the swords during the drama class), changed in 2015 to something more dangerous. In 2012, Tyrone created swords from cardboard and paper. According to his parents, he started to make swords from steel in 2015. He took these steel swords to school. In order to understand the frame of mind of parents and children with ASD who suffer from bullying, I quote Tyrone's mother's comment on this matter:

> *It happens almost on a daily basis at school. He is being kicked, pushed and [sworn] at. Incidents have been reported. According to teachers they addressed the incidents by talking to the bully. Tyrone however feels that he experienced the physical pain whereas the bully just gets a "talk"* (Reflective Interview, Tyrone, 2015).

Tyrone's interpretation of the unfairness of the situation was communicated vividly by his mother. His mounting frustration with the situation was perfectly worded – Tyrone gets hurt, and the bullies get a "talk". If I look at his ability to create paper swords as a toy to play with friends in 2012 in the drama class, and the creation of similar swords, but this time in steel in 2015, it is something to take note of. I am forced to wonder why the material of the swords has changed.

For me, as the outsider, it seems as if the education system, educators and friends did not provide the necessary protection for Tyrone. It is therefore understandable that he then started to provide his own means to protect himself. However, there is a risk that if Tyrone is taunted again, he may decide to put a stop to the bullying that no one else seems to stop. If he uses his steel sword to protect himself, the consequences can be disastrous. I contacted the specialist educator regarding this matter and she revealed the following:

> The challenge seems to be to work together as a team to support the child and his family who encounters a situation with bullies. The real problem is that the education system does not provide sufficient effective support and appropriate therapy to enable educators to handle this situation in everyone's best interests (Telephonic conversation, 16 October 2015).

In the Reflective Interview, Tyrone's mother was asked to write a note if she wanted to add anything extra. According to the mother, his main challenge was being bullied at school, which was suppressing his personhood (Reflective Interview, Tyrone, 2015).

Once again, the mixed methodology seemed valuable, since the qualitative methodology provided richer answers than the quantitative CADDRA ratings on their own. It also highlighted a problem which is prevalent for children with ASD, who are prone to victimisation (Little, 2002:49). They are more prone to victimisation than their neurotypical peers, because bullying is often related to their social, communication and behavioural challenges, which affect their peer relationships (Cappadocia *et al.,* 2012:267). Unfortunately, bullies are found everywhere, and this affects everyone who suffers from abuse in this area.

4.2.3.2 Lower (improved) scores in the CADDRA (WFIRS-P)

Brother's scores (see Table 4.9) suggest significant development. This is reflected in his CADDRA (WFIRS-P) test scores, as scored by his mother. His score developed from 50 to 26. The CADDRA (WFIRS-P) scoring rationale (University of British Columbia, 2011:8.25) indicates that a scoring change of 13 and more is a meaningful development, making his 24-point change encouraging.

Table 4.9: CADDRA (WFIRS-P) pre- and post-intervention scores for Brother (2012)

	Items	Pre-intervention test	Post-intervention test
A	Family	11	3
B	School learning School behaviour	8 11	8 0
C	Life skills	7	10
D	Child's self-concept	2	1
E	Social activities	9	4
F	Risky activities	2	0
	TOTAL MEAN SCORE	50	26

Again, the benefits of a narrative inquiry in qualitative methodology were visible. The narrative explained the significant development in Brother. The reflective interview in 2015 was particularly valuable, as it gave me an opportunity to reflect with Brother's parents on the results in the study. I was also able to authenticate the data, and rectify mistakes if any were picked up in the transcripts of the interviews.

Although this was not indicated specifically, Brother's mother explained the score difference on the basis of the fact that she had scored him on his functionality before he started the drama classes before the formal study. When he took part in the study, his functionality improved tremendously. Unfortunately, the change cannot be attributed to the drama classes only, as the different items indicate. His functionality also improved because of the change of his education environment. The previous year, his parents took him out of Primary School A, due to challenges with bullies, and he was home schooled for two years. This decision is in line with providing for children's fundamental right to be protected against bullying and being dehumanised (Kotze, 2015:66). Brother's mother wrote the following in the Reflective Interview to relate the details of the marginalisation and isolation experienced in education (Primary School A) that reflected adversely on her son (Reflective interview, Brother, 2015):

> *In [Primary] School A he showed no progress and his personhood was adversely affected. Traumatic incidents at school caused him to arrive at home traumatised – hitting his head against the wall repetitively. [This was directly related to bullies who taunted him at school].*

At the time of the study (2012), his self-worth was boosted in the drama class and at home. His mother attributed it to the drama techniques which developed his social and communicative skills, as well as his behaviour (Reflective Interview, Brother, 2015). Regarding the impact of drama techniques on the different areas of challenge, she noted an improvement in his socialization, and a dramatic improvement in this communication skills. She was pleased with his improved ability to adapt in a normal environment. Regarding his imagination, she said: "*He always had a vivid imagination. This provided the framework to the novel he is writing.*"

Other participants, such as Sierra, Lien, Artist, Hano and Fern, also had meaningful shifts in the scoring in the CADDRA post-intervention test. J-Monday Boy, Knight and Zen had a less than meaningful score (below 13), and their results are not discussed in detail in this section, but can be reviewed in Annexure D. Arrow's and Tyrone's scores reflected deterioration in the post-intervention test's higher score. Sierra's CADDRA (WFIRS-P) post-intervention scores showed an improvement with a significant change of 13 points. Table 4.10, overleaf, shows the areas of development for Sierra.

Table 4.10: CADDRA (WFIRS-P) pre- and post-intervention scores for Sierra (2012)

	Items	Pre-intervention test	Post-intervention test
A	Family	8	5
B	School learning School behaviour	3 0	3 0
C	Life skills	16	10
D	Child's self-concept	0	1
E	Social activities	9	10
F	Risky activities	0	0
	TOTAL MEAN SCORE	36	29

Sierra's lowered score of seven points was not remarkable, but it is meaningful that there was development in the areas of Family relations and Life Skills. There was no development in the areas of formal schooling, as her parents opted to home school her, to protect her from the environment at Primary School A, which upset her (Data Summary File, Sierra, 2012). Her parents' comments demonstrate the desperation of parents faced with a diagnosis of ASD:

> *Mother: When we went out, he [the specialist doctor] said we had to realise that he was already testing the reflexes and how she was going to react and that day he was the very first one to tell us that there were signs of autism, but because it is such an unknown field… who in [city] would help us? [This points to the lack of support structures in South Africa]. What would we do? […] she had a very low IQ, in his opinion, […] you walk out of there … ok, my child is once again… another piece of bad news… so where to now? We carried on and did what we could. We tried the Washington Development programme [for children with Down's Syndrome] but it did not work out, really. Not with S. But with too many children in the class with different diagnoses [at a kindergarten for handicapped children, where there was no focus on ASD interventions]….And I think she was seven when we went to [Autism School] in Pretoria. […] When we went the first time, she was small. Then I saw a psychologist in [city] and I told her fear and anxiety ruled this child's life – she had separation anxiety – I could not get out of the car – she clung to me. It was terrible. We went to Natal on holiday. At Clarence, I wanted to get out, but she screamed blue murder. She had to go everywhere with me. And it is not just that she has to be where she can see me – she has to be with me. […] it was an awful holiday from that point of view, and when we came back I went to the psychologist and said something is wrong with this child – then she said – she also saw autism and […] we went to [Autism School in Pretoria] and then the*

answers came [clicks fingers]. That was ten years ago – she was thirteen when we went to [Autism Centre in the Cape]. Not a good experience.

Sierra's parents could not place her in Pretoria, as they live in the Northern Cape. The system did not allow for enough support for this child. They were at various schools, but Sierra was unhappy. The psychologist, who continued to provide advice which the parents valued deeply, suggested that the parents consider whether she was being overstimulated in school by the noise made by the other children:

Mother: … she was 15…then she told us we should put her in the school for the last three years in the boarding school [Pretoria] and then she said we should put her in an institution like A [...] she gave us a long list of places…

Sierra's parents were shocked at the thought that their child would have to go to an institution, and commented sarcastically on their frustration at people who lightly give instructions to parents to institutionalise a child. They continued to look for a solution – there are still not enough schools and options for children with ASD.

The quantitative rating of the CADDRA (WFIRS-P) does not reveal the challenges faced by Sierra and her parents on their journey to discovering the name of the challenges experienced by Sierra or the answers to support her. However, the pre-intervention interview with the parents revealed much more of their journey with ASD from therapists and professionals to several schools and, later, suggested institutions. These events led her parents to the decision to give her a worthy education by home schooling her themselves. They never considered institutionalisation as an option for their daughter.

From Lien's CADDRA scores (see Table 4.11, overleaf), it is evident that she developed positively in the rating of functionality in the family and school areas. Risky activities were less evident and there was positive development of her self-concept. Lien's mother said that she believed the improved self-concept rating was related to Lien's development of her self-confidence in the drama classes (Reflective Interview, Lien, 2015).

Table 4.11: CADDRA (WFIRS-P) pre- and post-intervention scores for Lien (2012)

	Items	Pre-intervention test	Post-intervention test
A	Family	20	13
B	School learning School behaviour	12 6	10 0
C	Life skills	17	18
D	Child's self-concept	3	1
E	Social activities	7	10
F	Risky activities	7	5
	TOTAL MEAN SCORE	72	57

Lien displayed deterioration in the higher scores in the areas of Life skills and functionality in Social activities. Note that the CADDRA (WFIRS-P) was scored by her mother at the beginning of the study, and after the completion of the cycle of drama classes. Lien's score displays a meaningful difference between the two scores, adding up to 15 points to indicate overall improvement in the lowered score.

Artist displayed development in the items marked Family, School learning and School behaviour, Life skills, Self-concept and Social activities. The only item that got a higher rating was Risky activities. His scores are reflected in Table 4.12, below.

Table 4.12: CADDRA (WFIRS-P) pre- and post-intervention scores for Artist (2012)

	Items	Pre-intervention test	Post-intervention test
A	Family	7	6
B	School learning School behaviour	12 3	8 0
C	Life skills	8	7
D	Child's self-concept	3	1
E	Social activities	14	6
F	Risky activities	5	6
	TOTAL MEAN SCORE	52	34

During the Reflective Interview, Artist's mother indicated that the drama classes had a positive effect on her son's socialization, communication, behaviour and

imagination skills, and added value to his life. The Reflective Interview showed her view of Artist's development through drama techniques, which seemed to affect his CADDRA rating (Reflective Interview, Artist, 2015). She reported that his socialization skills and self-confidence had increased. His communication had improved. In terms of his behaviour, she said: "*There are times when he is silent and withdrawn, but not so much anymore."* His imagination was stronger – she commented that he "*daydreams a lot and imagines interesting things".* She reported that he continued the drama classes after the intervention and enjoyed the drama classes. She believed it added value because it helped him to socialize.

As part of the study's service towards the participants in the study, parents were given the option for their children to participate in further drama classes. Parents who experienced financial difficulty were also given the option to apply for a bursary, where their child would be able to continue with drama classes without any financial obligation. Artist continued after the drama intervention in 2012. He matriculated in 2015 and he continued to remain committed regarding his drama class attendance. It has been a privilege to see him develop after the study into a young man who achieved top marks in his class for his Matric Oral in 2015.

Hano was strengthened during this time in the study in the areas of Family, School learning, Life skills, his Self-concept and Social activities. Risky activities were minimised. There was one area where no change was evident, namely his School behaviour. There was no higher rating (deterioration) in his CADDRA scores, as set out in Table 4.13, below.

Table 4.13: CADDRA (WFIRS-P) pre- and post-intervention scores for Hano (2012)

	Items	**Pre-intervention test**	**Post-intervention test**
A	Family	6	3
B	School learning	6	5
	School behaviour	1	1
C	Life skills	16	11
D	Child's self-concept	5	2
E	Social activities	12	9
F	Risky activities	5	3
	TOTAL MEAN SCORE	51	34

The total improvement in his score from 51 to 34 in the post-intervention test scored by his parents is quite significant, and shows the impact of the drama classes, not only in the drama class, but also at home and at school. I have said it before, and want to emphasise again, that it is never one intervention from one therapy that makes a difference; it is teamwork, working together as a team with parents, friends, children with ASD, therapists and educators. The reports of the parents in the post-intervention Interview (2012), as well as the Reflective Interview (2015) were revealing regarding the effect of the drama classes. In the letter written by the parents after the last class in 2012 (Data Summary File, Hano, 2012), they commented that Hano enjoyed the drama classes very much. In terms of differences they saw in Hano after the drama intervention, they observed that he played with his brother more, was more social and showed more emotion regarding anger or sadness.

The parents reported the drama classes' encouraging effect on developing Hano's social behaviour at home. Drama also supported him to express his emotions. The last video-taped interview after the last drama intervention class was transcribed and corresponded with the letter written by the parents (Data Summary File, Hano, 2012):

M: Was there anything different in Hano's behaviour at home after the drama intervention? Could you perhaps give an example, if there was?

Parents: I think patience with his brother, mainly. Yes, patience with his brother. He does not become so angry anymore, and does not hit things anymore. He tells us now if he is frustrated and…

M: So he verbalises it?

Parents: Yes.

M: Didn't he do it before?

Parents: No, he did not do it easily.

M: The main question is, did the drama intervention make a positive difference for your child?

Parents: Yes.

M: Something else you would like to add?

Parents: Yes. He was excited that we allowed him to attend the drama classes.

M: Was he ever negative about attending the drama intervention classes?

Parents: No. Now that I have seen the plays, I understand what he practised. I heard him talking at home on his own, and now I understand it comes from these stories. […] Even when he listens to music, he moves so strangely. Now I see it is normal [the parents saw the movement section in the drama class and realised that the movement he made to music at home, was the same as the movement in the drama class].

Hano's emotional regulation, his body awareness and social skills were enhanced, according to the parents' observation, during the time of Hano's participation in the drama classes in the study. The excerpt above also indicates that Hano integrated the techniques in the drama class by practising at home.

Fern's mother also indicated in her scoring of the pre- and post-intervention CADDRA (WFIRS-P) tests that there was improved development in the areas of Family, School learning and School behaviour, as well as Life skills. The Risky activities noticed previously in Fern were less evident too, as is shown in Table 4.14.

Table 4.14: CADDRA (WFIRS-P) pre- and post-intervention scores for Fern (2012)

	Items	**Pre-intervention test**	**Post-intervention test**
A	Family	15	12
B	School learning School behaviour	6 3	3 2
C	Life skills	7	4
D	Child's self-concept	3	3
E	Social activities	11	11
F	Risky activities	5	2
	TOTAL MEAN SCORE	50	37

The difference in the mean score suggests that the change is noteworthy in terms of the criterion that a change of 13 points is important. It corresponds with the letter Fern's mother wrote, as well as the interview with both parents, after the last class of the study. However, there was no change in the rating of Fern's Self-concept or his Social activities, although his parents indicated in the interview and letter that the development they saw in their child was in his socialization. The first excerpt is from the *verbatim* transcript of the video interview with Fern's father and mother and the second from the letter written by Fern's mother to indicate the development she saw in Fern (Data Summary File, Fern 2012):

> *Father: [He] socializes more. […..] more open, more talkative, social skills. Can be the extra therapy or the drama classes…it can be your input, could be the fact they are a group of children playing together, it could be that they are getting older – it will get better. […] It has got better.*
> *Mother: […] I think his social skills are better. I have mentioned that in the letter. He likes to communicate with his friends in the drama class. That is*

> *good, because he is inclined to withdraw socially. […] Sometimes you need to force them to get out of their comfort zone, to try and do something new. […] That is the way they can realise that they actually enjoy it. Fern is also not inclined to attend sport, but if I say he has to, then he will go. Even if it is only once. I believe the children can regress, therefore I pressure him, although it is not easy.*

The interview with Fern's mother suggests that Fern developed socially through the combination of drama classes and other factors (unknown). Fern initially did not like the idea of drama classes, but his mother's pressure to try it forced him to do something new. It does seem important to support the children with ASD to move beyond their comfort zone, to experience new things which may help them develop socially. I need to mention that Fern was the participant who missed most of the classes. There was a total of 13 drama classes of which he attended eight and missed five (Register of attendance, 2012). The report from Fern's mother suggests that it was not the drama as technique that helped as such, but rather the group work that developed his socialization skills.

Note that the purpose of this study was to use drama techniques as a structured intervention in order to support children with ASD to develop in the areas of socialization and communication, as well as behaviour and imagination. The aim was to develop their functionality in these areas to aid them to cope in the areas of education and life in general. The following post-intervention letter from Fern's mother enriched the data found in the CADDRA ratings (Data Summary File, Fern, 2012):

> *Fern is a child who does not like to mix with other children. He does not like to take part in other activities. He will do it for a short while, and then withdraw. I could actually see that he was excited about the drama intervention classes. He liked to socialize with the other children in the drama intervention class. He even reminded me on a Thursday that it is drama. I feel that the drama intervention classes developed his social skills and that it actually did him good. We would like him to proceed with the drama classes.*

It seems that Fern's greatest challenge was in the area of socialization, and if the drama classes supported some development in this area, it is a positive outcome to celebrate. The previous examples highlighted the ratings of the CADDRA (WFIRS-P) and CARS tests. Instead of providing a rating with no explanation as to discrepancies, the qualitative methods enriched the data and explained the ratings. The interviews, letters (2012) and Reflective Interviews in 2015 created

understanding for the challenging journey of these participants with ASD. The mixed method methodology proved to be a wise choice of data management.

The fourth research question specifically addresses the impact of these techniques on the schooling of the participants. A sub-inquiry provided scoring on School learning and School behaviour in the CADDRA (WFIRS-P) test results (see Table 4.15, below). These sub-sections (School learning and School behaviour) provided insight on the change after the intervention in the area of education.

A post-intervention test score of 63 for School learning for 11 participants (this excludes Pey, who dropped out of the intervention), compared to the pre-intervention test score of 78 for 11 participants (again Pey is excluded from the score) indicated development in School learning. The School behaviour section provided a post-intervention test score of 11, compared to the pre-intervention test score of 33, which indicated development in School behaviour too. Although there was an overall development in the scoring of both areas (learning and behaviour) in school for all participants, the individual scoring of participants also provided information. The participants whose scores were worse experienced bullying incidents, academic pressure, and sensory overload (noise). Their deterioration was investigated quantitatively and qualitatively by considering the interviews and parent reports, which provided detail and possible explanations on the participants' relapse or lack of development (see Section 4.2.3.1).

Table 4.15: CADDRA (WFIRS-P) pre- and post-intervention scores for all participants

	CADDRA items	Pre-intervention test	Post-intervention test
A	Family	111	78
B	School learning	78	63
	School behaviour	33	11
C	Life skills	128	123
D	Child's self-concept	34	19
E	Social activities	115	101
F	Risky activities	44	35
	TOTAL MEAN SCORE	543	430

The total mean score for all participants (see Table 4.15, above) of 430, compared to the previous score of 543, indicates an overall development in all areas after the drama intervention.

4.3 QUALITATIVE RESULTS

The discussion of the qualitative results focuses first on the pre-intervention interviews with the parents of the participants from February to May 2012. Next, the post-intervention interviews from September to November 2012 (the intervention itself was from July to September 2012) are presented. Finally, the reflective interviews almost three years later, in July and August 2015, are considered. These interviews constitute the narrative inquiry of the study.

The pre- and post-intervention interviews, as well as the transcriptions of the videos of the drama intervention classes, and letters from the parents after the study, provided narrative information on the participants' existing and evolving social, communication and behaviour proficiency, as well as the development of their imagination, through drama techniques in the study. The Reflective Interviews in 2015 with the parents revealed the impact of ASD on their children's education and some changes, where there were any, that the parents associated with the drama intervention.

4.3.1 The pre-intervention interviews – narratives of the impact of ASD on the functionality of children with ASD in education

In this section, I combine the medical information and specialist's recommendations with the information narrated to me by the participants' parents. The majority of participants' parents explained the impact of ASD on their children's education, and some added information on the condition's impact on the children's daily living. The detailed explanations provided essential information which enabled me to trace their arduous route, adding it to the information from the medical files (supplied to me by the Autism clinic after the application of the ADOS (see Section 4.2.1) to reveal and make understandable the condition and its impact. I include the fuller details from the medical files to create a context for understanding of the participants' limitations and the challenges that they face, and which the intervention was intended to help to alleviate. These details also show the limitations that specific medical conditions

associated with the participants' ASD imposed on the potential effects of an intervention. The discussion combines the narrative data with the medical data. I relate the individual stories below.

4.3.1.1 Participant 1: Sierra

Sierra (now 21 years) was 16 at the time of the drama intervention. When she was diagnosed with ASD at the age of three years, she and her parents had already travelled a long road of misunderstanding her crying, as nobody understood that she was touch defensive. Her family's narrative revealed how few people and even experts there were who could explain the apparently inexplicable.

Her medical file revealed several factors beyond ASD and other co-morbidities which created challenges to her coping with formal schooling (Data Summary File, Sierra, 2012):

- Sierra had an 11th duplication of the short arm chromosome which attached to the 12th chromosome's side. This implied mental challenges. Moreover, she was diagnosed with astigmatism – distorted vision caused by an imperfectly shaped cornea (Kozarsky, 2014:1) – and low muscle tone. Her weaknesses are motor and visual planning, found in her ability to draw pictures on the level of a four-year-old.
- When she was two and a half years old, professionals indicated that she would never talk, but by the time she was 16, the specialist found that she had developed language abilities at the level of a six- to seven-year-old child, which is a strength that nobody thought she could develop.
- She is sensory sensitive, which affects her ability to tolerate noise and touch. Brush therapy over an extended period enhanced Sierra's tolerance to accommodate touch.
- Her general profile revealed a chronological age of 16 (in 2012), but emotionally she was diagnosed at an age level of six to seven years.
- The specialist reminded her parents to focus on the development of Sierra's functionality, instead of hoping for formal schooling. The development of Sierra's understanding of education would not mean much to her. Her hands are not equipped to be functional. To equip her for her long-term future, it was more

important to focus on the development of her functionality, which will aid the development of her independence.

When Sierra was accepted at Primary School A, the school's educators had only recently become aware of autism as a condition. Sierra was accepted and accommodated at the school, as much as the system permitted. Her mother could assist her at school daily, but the sensory overload she experienced from being in school upset her enormously. This caused behavioural problems at home. Given these circumstances, her parents decided on home schooling, where she was not exposed to sensory overload. An explanation of the extent of her challenges does not reveal the full magnitude of the effects of her sensitive sensory system on her education. Her parents reported that Primary School A was not equipped to deal with ASD at the time when she attended the school.

Formal schooling in Sierra's circumstances did not educate her to become functional and independent. Instead, her sensory system, mental challenges and physical disabilities made it difficult to accommodate her at Primary School A. The fact that the education system at that time did not accommodate ASD-type of teaching strategies was detrimental to her ability to receive formal schooling. Her psychological well-being was affected too and her parents opted for home schooling in an environment where she was more comfortable and content.

4.3.1.2 Participant 2: J-Monday Boy

The pre-intervention medical file (Data Summary File, J-Monday Boy, 2012) compiled by professionals prior to the study revealed the following reasons for J-Monday Boy's struggles in education:

- He was unable to concentrate (ADD). When J-Monday Boy was eight (in 2010), the specialist saw him concerning issues of attention deficiency and concentration. His ADD and perceptual challenges aligned with the fact that he was born prematurely.
- He struggled with fine motor skills and his coordination was weak. The neuromaturation of his right dominant hand indicated challenges in drawing – at the age of eight, he displayed the drawing skills of a four-year-old.

- He is extremely sensitive to noise, touch and smell, and displays strange behaviour by smelling and tasting everything.
- He displayed echolalia (repeating other people's words) (Gutknecht 2015:13), but his language development was on par and he was more exposed to English. He also developed his own language with his own unique vocabulary.
- Co-morbidities such as anxiety and defiant behavioural disorder were identified. At school, he experienced difficulty in working independently. He displayed a need for a fixed routine, anxiety, a fear of being alone and away from his parents. He displayed high aggression levels in Primary School A, which caused his behaviour and functionality to regress.
- His early development showed atypical play with animals and toys. His emotional development regarding friendships revealed a preference for his own world where he played with sticks, and for climbing up on high places when he was unsettled.

The specialist indicated that this child needed autism-type intervention and recommended that he be accommodated at Primary School A for formal schooling. However, no visual schedules were used at Primary School A to support J-Monday Boy with ASD strategies.

J-Monday Boy's family reported traumatic experiences of bullying and improper handling of their child – they used the word "devastation" to describe the impact of ASD on their child's education. J-Monday Boy experienced tremendous challenges due to ASD, which rendered him dysfunctional in the educational environment. Several deficiencies, in the areas of concentration (ADHD), communication, social relationships, atypical play, irregular sleep patterns and coordination were mentioned in his data file. Faecal soiling, anxiety, echolalia, defiant aggressive behaviour, rigid adherence to routine, and perceptual challenges were regarded as evidence that he could not cope at school. A lack of ASD-type intervention strategies in the school imposed a severe strain on him. Unfortunately, as other researchers in the South African context have found, it is partly a lack of appropriate support that hampers children with ASD from staying in a school (Spies 2013, cited in Kotze, 2015:48).

4.3.1.3 Participant 3: Brother

The specialist's medical file highlighted several educational and ASD-related challenges that influenced Brother's education (Data Summary File, Brother, 2012):

- He attended Grade 1 and 2 in a school in another city, and only began to attend Primary School A in Grade 3.
- His parents changed formal schooling for home schooling in 2012 – he could not tolerate the social challenges he experienced at School A. His mother also changed his language of instruction from Afrikaans to English.
- His neuromaturation indicated a reading level of Grade 3 to 4.
- There were signs of defiant disorder, but he has reasonable insight into relationships.

The specialist emphasised that the strengths of Brother's life were based on the support he experienced in his family structure. Although his early development indicated all the classic signs of autism, there were some signs that were less obvious as he got older. However, uneven scholastic achievements, specific interests and problems with social interaction were obvious ASD markers. He had co-morbidities of ADD and a specific language disability. He needed support with autism-specific interventions.

Brother's mother revealed various challenges that affected the education of her son severely. These challenges were language difficulties, reading and concentration problems, and the lack of a sufficiently structured environment in school. He also found it difficult to concentrate on subjects in school which he found uninteresting. His main learning problem was the language itself. However, when he was interested in something, he had the means to overcome the language difficulty, because it attracted his interest. He also experienced challenges with controlling aggression. He started to control this aggression by talking and rationally analysing his feelings. His mother also had to remind him of self-care issues such as brushing his teeth and using deodorant.

His mother decided to change the language of instruction from Afrikaans to English, and found that this change benefitted Brother's academic performance. The specialist also suggested that the school needed to support Brother with full amanuensis, where exam questions are read to him. In addition, he needed permission to work on a computer to accommodate his challenges with writing. Brother's mother commented during the Reflective Interview (2015) that she had still not managed to persuade High School B that her son needed full amanuensis

(Reflective Interview, Brother, 2015). Her comment denoted a challenge in 2012 which was continuing in Brother's schooling in 2015.

The ADOS indicated that Brother's communication and social interaction skills were both on the autism spectrum. Although he demonstrated reasonable interaction and insight, the challenges surrounding language and social skills affected his education adversely.

4.3.1.4 Participant 4: Fern

The medical file revealed many challenges experienced by Fern in the realm of education (Data Summary File, Fern, 2012):

- He was isolated at pre-primary school, since he refused to mingle with the other children.
- His school readiness evaluation revealed sensory challenges with signs of autism, and he struggled with the schoolwork.
- His inability to function in School D was influenced by the large classes (30 children). Moving to Primary School A with the smaller classes (eight children) enabled him to function better.

Education for Fern, since pre-primary school, told a narrative of isolation, loneliness, sensory issues and an inability to cope with schoolwork and large classes in School D. After the move to Primary School A, where he was accommodated with placement in a class with eight children, he seemed to function more effectively. Fern's parents indicated that to counter the impact of autism on their son's education, they had to accumulate techniques to handle ASD, such as giving him time-outs to assist him to calm down, and helping him to learn to study.

4.3.1.5 Participant 5: Lien

Lien's medical file (Data Summary File, Lien, 2012) created a picture of Lien's challenges experienced in education. She attended a mainstream school, where she was unable to cope. Then she was moved to Primary School A, where her challenges were supported. Unfortunately, certain factors at home complicated the impact of ASD on Lien's education considerably:

- Lien was exposed to different languages at home, which affected her speech ability at school adversely.
- Her home atmosphere was marked with instability and the absence of unified disciplinary structures.
- Lien demonstrated atypical play and stereotyped movements with her hands, which was congruent with ASD.
- Her eye contact was limited, and she displayed an inability to tolerate transitions or change.
- Her co-morbidities were anxiety and unreasonable fears. She especially feared to be alone in a room. Other co-morbidities were anger, tantrums and defiant behaviour.

The ADOS indicated that Lien was on the autism spectrum. Lien's journey with ASD and its impact on her educational history also show that a child's home and school can never be separated. The specialist suggested that Lien receive ASD-type of education interventions at school. According to the specialist, dysfunctionality at home affected her functionality at school too. He also suggested that she needed a stable home and school structure with consistent discipline. She also needed ASD-type support regarding change and specifically visual schedules to help her with transitions and the organisation of her school work. Medication might give her the necessary support to control maladjusted behaviour.

The family nucleus that supported Lien consisted of Lien's mother and her grandmother. Her mother indicated that the impact of ASD on Lien's education forced the school to use ASD-type interventions for effective teaching. Lien's grandmother mentioned that ASD led to a slow working pace and a lack of concentration. As a result, there was a gap in the schoolwork, and Lien needed to catch up. Her slow work pace had an impact on her ability to complete exam papers in the time allocated. She completed her work long after the other children and needed a substantial amount of assistance to finish a test/exam.

Her mother mentioned that one of Lien's challenges with ASD at school was inappropriate communication or tactlessness, as she would discuss private issues. Lien also expressed anger by screaming if she did not get her way. Her inability to concentrate was also mentioned (Data Summary File, Lien, 2012).

Her strengths lay in her means of communication, but her challenges lay in a lack of social insight, creative play and self-care, which complicated her schooling. The specialist suggested specific interventions such as drama-based therapy focusing on Lien's challenges to provide the development needed in these areas. Support regarding these challenges could be provided in the drama class, via role play, improvisation and greeting sessions, where children had to practise social communication skills (inquiring about and care for each other).

4.3.1.6 Participant 6: Tyrone

The specialist's evaluation mentioned the following challenges which affected Tyrone's education and were in line with a diagnosis of Tyrone's being on the ASD spectrum, known as a child with Asperger Syndrome (Data Summary File, Tyrone, 2012):

- During writing tasks, he inverted letters, but he had reasonable reading skills.
- He thinks in pictures.
- He experiences difficulty in generalising.
- He struggles with transitions and changes at school.
- His development is varied and irregular.
- He speaks in a monotone voice which aggravates marginalisation.
- He had no friends and did not show insight into typical social relationships.

Although he has a variety of strengths, he also has several weaknesses. His strong points are his language abilities (in line with the diagnosis of Asperger Syndrome), maths skills and drawing abilities. His weak points are a lack of social skills and imagination. Tyrone also experienced challenges regarding non-verbal communication, where he experienced difficulty reading other children's facial expressions in a group setting. He did have the ability to pick up signs of jealousy and competition in their expression, but these types of emotions were confusing him (Data Summary File, Tyrone, 2012).

It was important to work on his strong areas, to offset the weak areas. The specialist agreed that the ideal support for him would be the development of an autism-specific class at Primary School A where ASD-specific interventions could be provided. He

would benefit from autism-specific education, as well as social skills building and teaching to enlarge his imagination via special stories/drama therapy.

Tyrone's parents defined the impact of ASD on their son's education as follows: "*It is not Autism that limits his possibility to learn, it is the fact that the system does not cater/provide in his needs*" (Data Summary File, Tyrone, 2012). His social development was complicated by his being isolated and it seemed as if he was unable to develop friendships. The development of social relations was hampered by his incessantly talking about his special interests (dolphins and dinosaurs). This unsocial behaviour left no room for reciprocal communication. He struggled academically and repeated Grade R. He continued to experience difficulties with spelling in particular.

4.3.1.7 Participant 7: Knight

The specialist's file on Knight provided information on the impact of ASD on Knight's education (Data Summary File, Knight, 2012):

- He cooperated fairly well during his ADOS evaluation, demonstrating good eye contact and interaction.
- He demonstrated autistic characteristics such as echolalia and atypical interaction.
- Knight is a loner who tends to befriend younger children.

Knight's parents described him as a day-dreamer who suffers from ADHD. This triggered a lack of concentration at school and at home, especially when he had to complete homework.

The drama classes seemed to be suitable for Knight, as they could provide a social group of friends on the spectrum in a safe space where they could enjoy each other's company, playing together through the use of improvisation and teamwork to rehearse a play, which enhanced social cohesion. This interaction aimed to develop social behaviour as well.

4.3.1.8 Participant 8: Hano

Hano's medical file revealed that he was diagnosed as Asperger with the ADOS and he demonstrated good verbal abilities. Other background information in his file confirmed the following (Data Summary File, Hano, 2012):

- The family history revealed learning challenges in other family members.
- His communication abilities are intact, but he displayed atypical eye contact and he has a monotone voice and accent.
- Hano inclined to be isolated, with a tendency to atypical play and an interest in objects that spin.

The specialist confirmed his strengths in language and technical skills and advised autism-type of intervention in school, as well as drama therapy to enhance his social abilitiities.

Hano and his mother described the impact of ASD on Hano's education as marginalising. His auditory sensitivity triggered a sensory overload, which made him feel alienated at school. This auditory sensitivity complicated schooling for him in numerous ways. High noise levels in class caused a sensory overload, which made it difficult for him to control his emotions. The following excerpt from the pre-intervention interview revealed the impact of this overload on his education (Data Summary File, Hano, 2012):

> *M: How does the children's noise in the class affect you?*
> *Hano: It makes me angry. It makes me so angry that I can't remember my work.*
> *M: How do you react?*
> *Hano: I tell the teacher. It takes me two and half periods to calm down. Only after that I am able to concentrate again.*

His mother reported that he struggled at school, because he was teased and isolated in his own world. When he was younger he also demonstrated difficulty with speech. He was only diagnosed with ASD in 2011. Typical ASD behaviour made him the "policeman" of the class, which did not add to his popularity with other children in his class, as he reported naughty classmates. However, he succeeded in making a friend in Grade 5 and he became quite excited to attend school (Data Summary File, Hano, 2012).

4.3.1.9 Participant 9: Artist

Artist's medical file revealed the following relevant data:

- Artist attended a mainstream school in Grade 7. His parents received complaints from the educators that Artist was hyperactive (ADHD) and emotionally immature. He repeated Grade 7 (mainstream school). It seemed as if he would benefit, but then his parents received complaints from the school regarding a lack of concentration and disruptive behaviour in class. The Grade 7 educator suggested an evaluation for ASD. The Grade 3 educator in the same school admitted that she suspected autism, but felt uncomfortable discussing this with his parents.
- Artist became extremely despondent about attending the mainstream school.
- At the recommendation of the psychologist, Artist was moved to High School A in Grade 8. This was a positive change, as he willingly attended High School A (Data Summary File, Artist, 2012).

Artist's parents did not comment on the impact of ASD on their son's education, but the history of his life with ASD and its impact on his education revealed struggles at school related to a lack of support. This seemed to lead to complaints about Artist's being hyperactive (ADHD) and disruptive in class. The lack of support culminated in Artist's negativity about attending school. Fortunately, in Grade 7, he was evaluated for ASD and this led to his placement in High School A, which he attended willingly. It seemed that High School A's educators supported him to become a functional child at school, where learning took place.

4.3.1.10 Participant 10: Arrow

Arrow's medical file (2011), at the age of 8 years, revealed the following impact of ASD on his education (Data Summary File, Arrow, 2012):

- He had reasonable concentration, in Primary School A, but displayed a lack of focus at times. He also showed a lack of interest in anything beyond his own special interests.
- The co-morbidity of anxiety was noted, and he had a fear of heights and snakes.
- Arrow experienced tactile sensitivities and continually washed his hands, but he needed support with self-care.

- He had problems sleeping, which affected his schooling adversely.
- He was routine-bound, preferred predictability and packed toys in rows.
- He had no friends.

The ADOS indicated that Arrow was on the autism spectrum regarding his social interaction and communication. However, he displayed good eye contact and facial expressions. The lack was evident in the areas of social insight and his own role in relationships. The specialist suggested autism-type intervention in the school environment and the necessary adaptations to support his schooling development. His social insight needed to be developed too, through the use of social stories, drama therapy and ToM activities.

Arrow's parents indicated that ASD as a condition was dismissed when Arrow was in Primary School A. Hence, Arrow experienced failure at school, because he experienced extreme anxiety at Primary School A, which affected his functionality and obstructed academic learning. According to Arrow's mother, several ASD traits made schooling difficult for her son. Arrow's tactile sensitivities, problematic sleeping patterns at home, a lack of self-care and concentration, rigidity in his routine, isolation (no friends), as well as special interests, made the school environment a place where it was difficult for him to function. However, home schooling accommodated ASD and enabled him to excel academically. His mother defined his disposition with home schooling as follows: *"When he shifted to home school, he became a different child. He is much more content."*

4.3.1.11 Participant 11: Zen

Zen's medical file (2011) revealed that he was diagnosed at the age of 11 years. He attended a mainstream school from Grade 1 to Grade 3. He repeated Grade 3 and started Grade 4 in Primary School A. The following factors related to ASD, according to the specialist, affected his schooling (Data Summary File, Zen, 2012):

- He was hyperactive and fitted the diagnosis of ADHD
- Zen's neuromaturation showed difficulty with visuomotor integration and planning, and and he made poor eye contact. He also spelled words phonetically.
- He was resistant to change and transition from one activity to another.
- He demonstrated fearlessness.

- He showed atypical play through a fascination with wheels and things that spin.
- He also played alone and showed problems with social interaction.

Various traits (some associated with ASD) of Zen's behaviour had an impact on his schooling. Hyperactivity (ADHD), a lack of eye contact, transition challenges, a lack of appropriate fear, atypical play, isolation from friends, a lack of executive function and planning, as well as certain learning problems regarding spelling and underachievement, indicated that he needed a specific ASD-related support structure. The specialist emphasised Zen's strong points, which were his (spoken) language ability and his supportive parents. Zen's diagnosis indicated ASD based on the DSM IV criteria, as well as ADHD, and that he would benefit from autism-specific schooling (Data Summary File, Zen, 2012).

Zen's mother described the impact of ASD on her son's education as detrimental because

> *…the curriculum is not structured to accommodate learners in the class who are more visual with visual learning styles to understand the content of his subjects. Educators should let learners' role play and use data projectors in the classes to support them with visual learning in class* (Data Summary File, Zen, 2012).

Since Zen's mother, as a remedial teacher at a special needs school, is knowledgeable about autism type interventions, she suggested visual learning styles such as the use of multi-media and drama techniques.

4.3.2 Some themes that emerged from the pre-intervention data

Themes and trends in the data, along with the related data, were divided into manageable chunks to analyse, as suggested by Mouton (2011:108). The themes that emerged were linked to the main objectives and questions of the study, to stay focused.

Themes and trends are relevant to the second and fourth research objectives, namely to determine the impact of autism on the functionality of children with ASD in education; and to conduct empirical research to determine whether selected drama techniques may have a positive impact on the socialization, communication and behavioural proficiencies of children with ASD in education (see Section 1.3). Hence, the impact of ASD on the functionality of children with ASD in education was

researched with the participants of this study. Other themes covered were the positive impact of drama techniques in terms of the socialization, communication and the behavioural proficiency of the participants in this study (see Section 1.3).

As mentioned in Section 3.7, the changes in the children were evaluated from the start of the study to the end. These changes were cross-checked with the results in the quantitative data instruments, the CARS and the CADDRA (WFIRS-P). This ensured validity in both the quantitative and qualitative results. Not all the results indicated positive development in the targeted areas. The discrepancies between the quantitative CARS and CADDRA (WFIRS-P) data have already been discussed in Section 4.2, relating these data to the data obtained from the qualitative methods. This mixed methodology provided useful answers to the questions.

A few examples of the impact of ASD on a child's functionality in education are quoted below from several participants in this study from their Reflective interviews in 2015. One example is a comment by Fern's mother:

> *He is mostly misunderstood, and it frustrates him. Teachers and children are uneducated about the condition and it seems autism is on the rise* (Reflective Interview, Fern, 2015).

Brother's mother said the impact of ASD on her child's education was visible in the "*language, reading*" and "*concentration difficulties*" that he experienced. These challenges were aggravated by the unstructured environment in the school that he visited (Reflective Interview, Brother, 2015). Zen's mother indicated that the impact of ASD on her child's education was an obstacle to his learning in class (Reflective Interview, Zen, 2015). The distraught parents of J-Monday Boy described the impact of ASD on their child's education as

> *…the impact of devastation. There is no support structure nor education system in place to accommodate these children* (Reflective Interview, J-Monday Boy, 2015).

The above examples are the voices of the participants' parents in this study which authenticate the voice of families and children travelling the challenging road with ASD in education. One of my aims in this study was to reflect the voices of the children and their parents to reveal some of the challenges on the road of marginalisation (in education) and thus their need for justice, as recommended by MacLeod *et al*. (2014:407).

4.3.3 Observation – the intervention

Mertens's (2012:805) questions, described in Section 3.2, regarding the ability of drama techniques to induce social change are now answered as follows:

- The guidelines for research that were followed were aligned with the transformative paradigm in order to induce change, which proved to be possible for some participants in the study.
- Respect was shown for the children in the study who are marginalised, by acknowledging their narratives and those of their families in 2012, and this position was re-affirmed in 2015.
- The incorporation of the voices of children with ASD to be heard in education resonated in the transcriptions of the data gathered from the transcriptions of the drama classes (2012), the interviews prior to and after the drama intervention (2012), and finally the reflective interviews in 2015. Their responses authenticated the description of their views and how they experienced various aspects of drama, and education after the drama intervention.

4.3.3.1 Individualised programme to suit the needs of participants

Although three of the participants (Knight, Brother and Sierra) had previously been involved in drama classes, they still had to adapt to the new children in their drama class. They were familiar with the drama classes at my studio, but the format of the class used in the main study was new to them. The format was adapted to suit all the children with ASD in the study, as well as to be supportive to each participant's individual needs as far as possible.

4.3.3.2 The support of a neurotypical peer

The support of a neurotypical peer, Daniel, is described in Section 3.6.4.1. His presence proved to be a positive factor which supported Sierra (Group 2) and J-Monday Boy (Group 1), as suggested by Prendeville *et al.* (2006:43), for the development of social and communication skills.

However, I realised that there is an important obligation to ensure that a neurotypical peer is protected too. This was particularly evident in Group 1. An example from one

of the transcribed videos shows the importance of protecting the neurotypical peer in the story of the king and his friends:

> *[J-Monday-Boy gives the cloak to me and he wants to give it to Daniel. He speaks with a nasty tone to the King [played by Daniel]. I tell him he is not allowed to speak in such a nasty tone to the King. Then J-Monday-Boy screams. He pinches Daniel before I can stop him.]*
>
> *M:* *You are not allowed to do that and you must say you are sorry [I keep my voice low and calm.]*
>
> *J-Monday Boy:* *I tickle him.*
>
> *M:* *Does it hurt? [I ask Daniel. Daniel nods his head to confirm that it hurts. J-Monday Boy rejects my request to say he is sorry.]*
>
> *M:* *I am very sorry that you have been hurt, Daniel. [I ask J-Monday Boy to sit nearer to us.]*
>
> *J-Monday Boy:* *No.*
>
> *M:* *What do we do when friends visit?*
>
> *Daniel:* *We make coffee. [To J-Monday Boy] Are you still the prince?*
>
> *J-Monday Boy:* *I am a soldier!*
>
> *M:* *Soldiers do not visit. […]*
>
> *[J-Monday Boy wants Daniel's crown, I decline. I give J-Monday Boy a coat to wear. He keeps on trying to grab the crown from Daniel. He keeps on talking in an aggressive tone. He refuses to cooperate with the story. He hurts Daniel again. I remind him of the rules: Do not hurt another actor. He just swings his legs. I realise that I must keep within the time structure of the class and have to stop the story and adapt to something new. I suggest that they play Hide and Seek]* (Data Summary File, J-Monday Boy, 2012).

A flawed vestibular and proprioceptive system that gives inaccurate information to the brain results in behaviour where children with ASD are unable to discern whether the touch or force applied is appropriate (Myles et al., 2005:11). J-Monday Boy calls his pinching "tickling" (whether he knows the difference is uncertain). When such problems with perceptions of pain (their own or other people's) are combined with defiant behaviour, for example, when J-Monday Boy does not want to comply with the rules and keeps on fixating on his own story, this can pose a risk to other children involved in a shared activity. I had to be consistent in reminding J-Monday Boy of the rules to provide safety, structure and social functionality for children with ASD (Elias & Berk, 2002:218). Vygotsky (1933, 1966:19) stipulates that rules in play situations teach children to exercise self-control. In this case, reminding the child with ASD of

the rules of the drama class was initially unsuccessful, and I had to adapt by changing the activity.

At the following class, J-Monday Boy was absent, which allowed me to prepare Daniel to protect himself with specific boundaries. I had to teach him with role play to demonstrate to J-Monday Boy what behaviour Daniel will tolerate or reject. The following conversation took place between us, and I asked Daniel to draw a picture to remind J-Monday Boy that he is not allowed to hurt Daniel. I felt guilty about this unfortunate event, as I felt that I should have prevented it. But it happened, and all I could do in response was to teach Daniel to protect himself in future. I also realised that I have to stand closer to both of them to protect Daniel. According to the literature, some children with ASD do not realise that they hurt others and they are unaware of the pressure applied (Howley & Arnold, 2005:115-119). Although this may be true, it is still unacceptable behaviour and J-Monday Boy needed to be taught appropriate social behaviour.

The following transcription from Class 4 shows what transpired:

> *[I ask Daniel how he thinks we can handle this problem.]*
> *Daniel: Wait let me think. We can tell J that he hurts me and that he must not do it. Three things [he only mentions two]:*
> *1. We can talk to him.*
> *2. We can read him a Bible story.*
> *[Daniel draws a picture of a figure who conveys his feelings of being hurt: – see Figure 4.1 below]*
> (Data Summary File, J-Monday Boy, 2012)

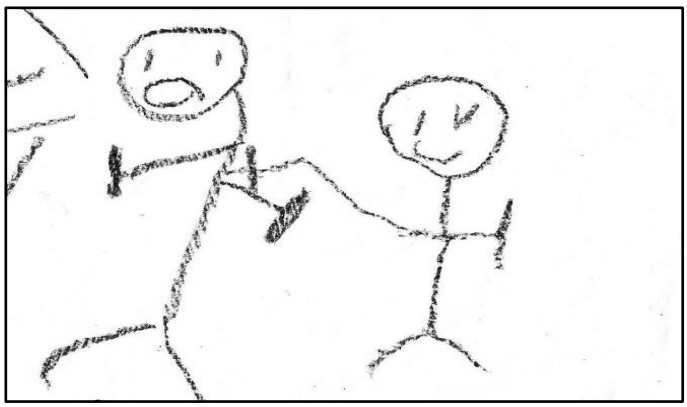

Figure 4.1: Daniel's illustration of someone experiencing pain

I explained to Daniel that children with ASD do not always understand the impact of their own behaviour; the picture that he drew could make it visible for J-Monday Boy to understand. I played with Daniel and we practised this situation with role play, in order to strengthen him to discourage this behaviour from J-Monday Boy. By strengthening his behaviour through role play, I tried to teach him to draw boundaries of protection. We switched roles. In this case, it was good that J-Monday Boy missed this class. The behaviour of J-Monday Boy could be seen as the behaviour of a bully. I also realised that it was not his intention. He tried to communicate something, and I just needed to teach him alternative communication.

The next class provided Daniel and me with the opportunity to practise the role play with J-Monday Boy. The picture proved to be a helpful visual reminder. As planned, I stood nearer to the two children and was then able to physically step in between the two of them, when I sensed that J-Monday Boy wanted to touch (hurt) Daniel. Unexpected help came from Daniel's parents. Sometimes it happened that J-Monday Boy's parents were late to pick him up after class. J-Monday Boy then started to ask if he may play at Daniel's house. Daniel answered to this request by saying that his mom said that J-Monday Boy was allowed to play at his house, on one condition – he may not hurt Daniel. That seemed to bring understanding to J-Monday Boy and it also served as a reward for good behaviour.

This example demonstrates the possibility of misinterpretation of behaviour that can hurt other children and the importance of teaching and clearly laying down rules that make it clear that hurtful behaviour will not be tolerated. It is undesirable to be angry – it is important to stay calm, visually show the rules, and use any unfortunate incident to teach acceptable behaviour (Data Summary File, J-Monday Boy, 2012). The following is an example transcribed from the greeting session in the drama class:

> *[Daniel shows J-Monday Boy where he was hurt by J-Monday Boy when J-Monday Boy carried Daniel. I remind J-Monday Boy to say he is sorry. I know and realise it was not intentional. J-Monday Boy mumbles a "sorry". I praise him for that. Daniel takes the picture that he drew the previous week where J-Monday Boy can see he is not allowed to hurt him and Daniel shows it to J-Monday Boy. J-Monday Boy walks away. I call him back.]*

I did not prompt Daniel to do this, he did it naturally – again the strength of the peer friendship boundaries is shown, which is so important for J-Monday Boy to experience.

M: *We start the class with a greeting. This is the format of the class.*
J-Monday Boy: *I am not doing greeting. I hate greeting. [Refusal]*
M: *(In a calm voice). We greet each other. [I greet Daniel.]*

The interaction demonstrates one of the helpful functions of a peer. The class could continue, and J-Monday Boy could observe the appropriate behaviour, without my needing to make a fuss about it.

J-Monday Boy moved to the side and sat on his own, making various sounds. Later, he wanted to play Hide and Seek, and I realised I had a trade-off. I then told him that if we did the story, we could play Hide and Seek afterwards. But that meant he had to obey all the instructions in the class first, adhering to taking part in the class activities. For the first time, J-Monday Boy joined us for the stretching. He even helped Daniel to stretch. This suggests that trade-off can be effective. I was vigilant, watching, that J-Monday Boy did not hurt Daniel.

[J-Monday Boy experiences difficulty with the aeroplane movements, but he tries. I demonstrate the stretched arms with Daniel and then stand in front of J-Monday Boy – I hold out my arms to ask if I can show him too. He does not tolerate touch, therefore I need to ask permission from him and wait for him to indicate that I may touch him. He extends his arms towards me and accepts my touch to stretch his arms and body to full length (this is wonderful). He takes my hand to show me something. He takes my thumb and twists it to the back, which hurts me.] […]
M: *[In a calm voice, without making a fuss.] You hurt me.*
[I just take my hand away. I demonstrate a back stretch on Daniel first. J-Monday Boy lets me help him with it, but he experiences difficulty with doing it. I can see it frustrates him as he shakes his body to indicate that. I show him once more. He struggles.]
J-Monday Boy: *Hide and Seek.*
M: *When we have done everything.*

When J-Monday Boy did not want to participate anymore, probably because he was struggling to do the exercises, I reminded him that there would be no Hide and Seek if he did not try everything and work with us. I said that in a calm playful voice, not a strict voice. We started breathing with movement, and voice exercises. To create a form of a game, which is a playful exercise for the children, I asked Daniel to demonstrate to J-Monday Boy. I adapted the breathing exercise to a game where

they breathed in while showing their hands, and breathed out with the sound of MMMM AH!!, turning their hands as if to give the breath to the other person as a present. I adapted the breathing to a playful exercise, so that the younger children can reciprocate the breathing to each other. It also seems to help them with releasing their voice. Even Daniel reminds J-Monday Boy that he had to do everything to play Hide and Seek. We did it again, with the sound – he covered his ears and said: "*Don't shout. It hurts my ears.*" Daniel did it more softly and again we presented our hands and breathed in our arm and hand movement to him in the hope that he would do the same, with his hands and voice. This time he joined in with his voice only (no use of the hands and arms). He shouted quite loudly.

M: *Show the movement of the sound with your hands.*
J-Monday Boy: *No. [Defiant and opposing behaviour.]*
M: *No Hide and Seek.*
J-Monday Boy: Yes, there is.
M: *You must do everything or no Hide and Seek. [I am resolute and move to the mat.]*
J-Monday Boy: Yes.
M: *No [I don't argue further.]*
[He takes the mat and places it on the floor. I realise that I must not ask him, I must tell him in a resolute voice. J-Monday Boy takes a while to lie down, but he does eventually do so as he observes Daniel is following my instructions. Both lie on the mat and I challenge them to do a three-minute breathing with the timer. J-Monday Boy rolls over. I take a piece of material and place it over his eyes.
J-Monday Boy: Don't put your hands on me, then I can't breathe.
[He takes the material away, but then he observes that I do exactly the same for Daniel. He takes the material and places it on his eyes. He lifts the material to peep. I touch both of them, to remind them gently of the process of in- and out-breath. J-Monday Boy fiddles with his fingers next to his body. He lies still for a moment and starts to fiddle again. Then he starts to make noises, hand movements and soft sounds. I touch him to help him to stay still and focused. This is really much better compared to previous classes. He really tries to cooperate. I praise both of them. He takes material off, observes that Daniel is still lying with the material over his eyes. Then he places material on his own eyes again. The important thing is that he is lying on the ground, with a straight body and trying to cooperate. After a while, he takes material off again:
J-Monday Boy: This smells like candles [I just go on with the breathing].
M: *You've done it! Well done!*

> *[J-Monday Boy smiles. Both examine the egg timer. I show it to them, and Daniel takes it from me to look closer. J-Monday Boy takes it from Daniel to examine too. He does it in a gentle way, which is much better than the grabbing motion in the previous classes, when he wanted something.]*

This extract demonstrates the power of the example of a peer as a positive influence for a child with ASD to join class activities, in this case, J-Monday Boy. Children in groups naturally influence each other to join activities, which helps a child on the spectrum to understand and specifically see what the expected and correct behaviour is (Hajidiacos, 2011:34-35). Trade-offs were effective. The challenge in this kind of situation is that trade-offs change after a while, and as a drama teacher one needs to adapt to the change indicated by the child with ASD. The other important factors demonstrated were the use of the minimum amount of words needed, and the need to stay calm and collected when as a drama teacher one is opposed with defiant behaviour. I found that direct commands, using as few words as possible, were more effective than polite requests. A request may come across as something which you may refuse if you want to, and this is a confusing message for a child with ASD.

J-Monday Boy showed some improvement in his behaviour, social and communication skills, and the drama classes supported his development in these areas. However, the most important factor in his development was the pairing with a neurotypical peer. He needed a friend to show him appropriate social and communication skills. As a drama teacher, I would not have achieved such success with his development without the assistance of his neurotypical peer, who was able to model appropriate skills.

4.3.3.3 Groups without a neurotypical peer

Groups 3 and 4 functioned without the support of a peer. After much consideration and contemplation, I came to the conclusion in this study that children with ASD who demonstrate dysfunctional behaviour are better off with a larger group of neurotypical peers.

A group of children with ASD are adversely affected when some demonstrate defiant behaviour. Although challenging behaviour can be handled, and turned into positive learning experiences for all, I believe that the development of the children with ASD

who experience difficulties may be more favourable if these children are combined with a larger group of neurotypical peers. The following extract from Class 7 (Data Summary File, Brother, 2012), demonstrates the frustration of one of the functional children with ASD when faced with defiant behaviour from one of the other participants in the group. Although the retaliation was mild in this case, the group cohesion was broken with defiance.

Fern experienced it as challenging to keep a conversation flowing. Difficulty in participating in reciprocal communication is one of the challenges faced by children with ASD (Mundy, 2003:798). I believe that a larger group with neurotypical children with Fern could have been a positive help to develop his reciprocal communication and social skills as well as more appropriate behaviour. The following extract is from the same drama class. In this class we spoke about the improvisation of a story about the experience of change and how they would adapt to change to make them aware of the concept of CHANGE THAT WE DON'T LIKE. The frustration of Brother with the challenging behaviour of some children in the group is evident (Data Summary File, Brother, 2012):

M: *What change in your life will make you feel sad? For example, you go to school every day, and come to Drama every Thursday. Suddenly you can't go to school or to Drama. Will that upset you?*

Brother: *Not the school part, but the Drama part, yes.*

Fern: *I don't want to go to school, I want to go to Drama but I hate school.[…]*

M: *Say you like to play a game. Suddenly you can't, would you be angry?*

Tyrone: *Uh (silence) [Fern is tearing up newspaper and making noises.]*

M: *Fern?*

Fern: *School…. uh no drama classes.*

M: *So would you be upset if you cannot come?*

Fern: *Yes.*

M: *Knight?*

Knight: *If I can't come to Drama.*

M: *Fern, LISTEN TO THE DIRECTOR [He carries on with his own activity – Brother becomes annoyed and repeats my words, more loudly. Tyrone and Fern throw pieces of paper at each other.]*

Brother: *I can raise my voice even more. You know that. [I ask Brother to repeat the rules. I draw their attention to the rules. They say they do not see them. I point to the words on the poster. Brother is annoyed. He picks up the pieces of paper that they are throwing around.]*

M: *Tyrone and Fern, you are making him [Brother] angry because you are not LISTENING TO THE DIRECTOR.*

The above extract showed a section of the class where the non-compliant behaviour of Fern and Tyrone upset Brother, who was used to following my directions.

4.3.3.4 Discussion on drama techniques as intervention

The record on video and their transcriptions provided interesting examples of behaviour that sometimes refuted the theory on children with ASD. For example, one of the incidents revealed emotional regulation, which is unexpected in children with ASD, given that an inability to regulate emotion (also known as emotional regulation impairment) is often held to be typical in children with ASD (see Section 2.3.3.1; Thomson *et al.*, 2015:1).

Each participant and his/her family were visited to obtain information about the child's and the family's journey with ASD. Participants were also asked to complete a drama task on a form provided, for me to see what their likes, dislikes and interests were. This information was used in the programme of drama classes for each group to address the needs of the participants in that specific group. The focus was mainly on social, communicative and behavioural skills.

Various situations arose in drama class which showed me some needs that could be addressed at a subsequent class. Although there was a wide spread of ages among the participants with ASD, it did not matter. The children with ASD, although they differed in age, were tolerant towards each other and the age difference did not prove to be a challenge. Challenges in the process, as already mentioned, arose from the grouping of children with ASD who experienced challenges in school. Their frustration was mainly expressed in the drama class in the form of unacceptable behaviour towards fellow participants with ASD. In future research, I would rather recommend surrounding children with ASD who experience a lot of behavioural challenges with a larger group of neurotypical children as support for them, instead of other participants with ASD, who are upset by unacceptable behaviour.

4.3.3.5 Shared control and trust

I have established that I shared control with a specialist educator, an autism specialist, parents and participants, by inviting their input to be part of the research data and results. Trust was established by the *verbatim* inclusion of participants' words and those of their families (without revealing their identities), as suggested by

Shannon-Baker (2016:327). The next quote refers to trust between the participant concerned and me, as well as shared control of data. Brother, one of the participants who usually chose English instead of his mother language (Afrikaans), commented as follows:

> *You always tried to support us in any way you could and you would go to the end of the world to find a way to make us better* (Data Summary File, Brother, 2012).

The acknowledgement of the participants and their families' stories and views of the integration of theory around ASD and the drama classes developed my understanding of and for their journey, which added to the development of trust between us, as suggested by Galligan (2009:42).

4.3.4 Post-intervention interviews and reflective follow-up – narratives on the effect of the drama intervention on the participants

The parents reported on the effects (if any) of the drama intervention cycle in 2012, regarding the participant's socialization, communication, behaviour and imagination skills. This section includes relevant comments made during the reflective interviews in 2015. I discuss the results per participant who completed the intervention cycle in 2012.

4.3.4.1 Participant 1: Sierra

Sierra did not continue with the drama classes after the drama intervention, but her parents reported evidence of the effect of the drama classes three years after the intervention. Regarding her socialization, her mother and her father noted that she had developed a sense of humour (Data Summary File, Sierra, 2012). Her father said: "*Drama taught her to cope socially and not to withdraw as usual in company of other people. It also seemed as if she accepted other people more easily and understood them better than in the past"* (Reflective Interview, Sierra, 2015).

In terms of her communication skills, it was evident that she was more sociable and communicative in the company of people she knew. Her mother noted another change in her behaviour: "*I experience specifically that Sierra is much more helpful (functional)*" (Data Summary File, Sierra, 2012). Her mother confirmed that Sierra was more content with herself (Reflective Interview, Sierra, 2015).

Her mother explained in the Reflective Interview that Sierra "*now thinks in 'colour pictures'*" (Reflective Interview, Sierra, 2015). Her imagination had also improved:

> *She is definitely more playful [after the drama intervention]. It is as if she plays in her imagination. Look, she did it in the past, but now she definitely does it more. She has this imaginary friend, and it is as if she found this friend again* (Data Summary File, Sierra, 2012).

Sierra seemed to display progression in the area of her imagination and social development, with the most important effect of discovering humour and self-acceptance. However, her communication skills remained limited to improved communication with people who were familiar to her.

4.3.4.2 Participant 2: J-Monday Boy

In the Reflective Interview, J-Monday Boy's mother indicated that she was not convinced that the drama classes had had any positive effect (Reflective Interview, J-Monday Boy, 2015). However, this feedback differs from her opinion in a letter that she wrote immediately after the drama intervention. At that time, she stated the following:

> *I just want to tell you that J is more comfortable with people and his body. It is only occasionally with people that he sees more, and there is a great change. He started to share his imagination when he is asked…he does not get angry so easily. He starts to explain things in his own way. He speaks with more respect to other people. I realise that the things he sometimes does, and the way he reacts, is not right. It could be the combination of therapy between you and the psychologist, but overall there is a great improvement and he wants to be part of things [drama] despite his argument [not to come to drama] before we get there. But once he is there, he is there, he loves it!* (Data Summary File, J-Monday Boy, 2012).

The drama intervention follow-up occurred immediately after the intervention and the mother's letter noted a positive change in J-Monday Boy's social, communication and behavioural patterns towards others. It seemed as if he was willing to share his imaginative play with others. She also wrote that the change could be related to the drama intervention and psychological therapy. She recorded it as a "*great improvement*".

However, she does admit that it was a struggle to get him to attend the drama intervention sessions. The Reflective Interviews occurred three years after the study

as a means to determine whether the data were reflected correctly in the data summary files of each participant. It was also the ideal time to follow up on the sustainability of the drama intervention classes. J-Monday Boy's mother reported that he still struggled with socialization, communication and behaviour:

> *He socializes with difficulty. He takes time to get to know and trust. Socializes easier with younger children (there is no judgement). J battles with socialization. He needs intensive therapy with his own self-effort* (Reflective Interview, J-Monday Boy, 2015).

In his communication, according to his mother, J-Monday Boy was very verbal, but did not regard other people's feelings. His father said his son just said hallo and goodbye. His behaviour remained erratic at times, and his mother believed he still needed a lot of training in terms of respectful behaviour towards others. His father said that his behaviour was *"up and down; depends on his mood"*. On the positive side, his mother noted that he had *"a wild busy vivid imagination which keeps him very busy"*, and his father said that he lived in his own world.

According to his parents, the effects of the intervention were not sustained in the areas of his socialization, communication and behaviour. During the Reflective Interview, his parents related that respectful behaviour towards others, socialization, moodiness and appropriate communication were still challenges to him. While his mother felt that his imagination was well developed, his father felt that his imagination isolated him in a world of his own. Unfortunately, in J-Monday Boy's case, it seemed that the progression he showed after the drama intervention was no longer evident. Instead, it seemed that he regressed in the three areas of communication, socialization and behaviour, which, as the discussion in Section 4.3.3.2 showed, were a challenge throughout the intervention itself.

4.3.4.3 Participant 3: Brother

Brother's parents were pleased with the effect of the drama intervention classes (2012), as was evident in 2015 in the Reflective Interview. In the post-intervention letter after the classes, his mother wrote:

> *Brother has been taking drama lessons for quite a while. Since he started the classes, there has been a noticeable improvement in his ability to communicate, as well as his self-confidence in speaking in front of people and expressing his opinion on a given topic. At school he has unfortunately experienced a lot of*

> *rejection from other children because he is 'different'. But here he found a space where he is accepted and where his differentness can even be positive. He realised that it is not wrong to be different and has developed a philosophy about it – at the moment he believes that normal can be 'very boring'* (Data Summary File, Brother, 2012).

His mother also mentioned that relaxation and other drama techniques enabled Brother to function proficiently in some of the challenging situations he experienced daily. He enjoyed contact with the children in the drama intervention class and felt very protective towards his friends there. She realised that he cared to such an extent for their well-being that he was visibly upset when he felt that one of the children in the group was not coping. The drama intervention added value to his life by developing skills that empowered him to function better among neurotypical peers, regarding socialization, communication and behaviour.

Drama classes seem to have supported the development of Brother's socialization and communication skills and his self-confidence. He was more confident in his socialization and communication and had more self-confidence in speaking in front of others. Brother has had to face severe challenges, but as his mother commented regarding his socialization and behaviour, he has applied the drama techniques (relaxation) from the drama classes to support his coping skills.

His coping skills extended beyond the usual challenges with emotional regulation impairment. Emotional regulation is the ability to externalise and internalise the evaluation and modification of emotional reactions to achieve certain goals (see Section 2.3.3.1). Thomson *et al.* (2015:1) confirm that children on the autism spectrum usually find it challenging to contain emotions. However, Brother displayed extraordinary *emotional regulation* under circumstances where he himself was already emotionally upset – he handled rude behaviour towards him during a drama class in a sensible and mature fashion. The following extract demonstrates an example of his emotional regulation during the intervention when one of the other participants tactlessly referred to the fact that Brother had a real problem with foot odour. The situation was exacerbated by the children's hypersensitivity to odours (Data Summary File, Brother, 2012):

> *Knight: How's your day?*
> *Tyrone: Stinking.*
> *Knight: Why?*

Tyrone: His shoes stink [refers to Brother].
M: We do not hurt each other with words. [I point to the poster with the words: Do not hurt.]
Brother: No offense.
[Tyrone waves his hand in front of his nose.] […]
M: That's not nice.
Brother: Not nice to call someone that.
[I point to the rules of the drama class. Now Fern and Tyrone both cover their noses. Brother's mother has warned me that Brother had a difficult day and is angry – he was in an argument. However, up to this point, he is handling this situation very well. Brother sees what they are doing.]
Brother: Now, that is very offensive. (x3)
Tyrone: Doing what?
Brother: Covering your nose. It means something stinks.
[Nothing I say convinces them to stop covering their noses.]
Brother: Do you see these two complaining?
Tyrone: Yes, they are thinking about it.
Knight: Focus.
Tyrone: How are you Fern?
Fern: It is not fresh [Now they fixate on this story and cannot move on.]
M: Let me remind you that we do not hurt each other in the circle.
Brother: I know that my feet stink, but it is kind of rude how you keep bringing it up. [Tyrone goes on passing comments.]

This excerpt shows an example of emotional regulation by Brother. He did not accept the comments, but expressed his feelings honestly. Brother stayed calm, displaying very mature emotional regulation.

In order to understand the importance of emotional regulation, descriptions thereof in the context of ASD are provided. The data drawn from the video of this particular class and its transcription is a valuable example of emotional regulation and maladaptive behaviour. To elaborate on these terms, I discuss definitions of these concepts to explain the behaviour seen in this extract above. Theory suggests that people with ASD experience challenges in regulating their emotions (Samson, Hardan, Lee, Phillips & Gross, 2015:3430). In the above incident, Fern and Tyrone experienced this challenge, as they cannot regulate their undesirable emotions during this incident. However, Brother demonstrated emotional regulation by staying calm and collected, even though the behaviour towards him was maladaptive. It is important to understand that maladaptive behaviour is very common in ASD (Samson *et al*., 2015:3424). Temper tantrums, aggression, sleeping problems and disobedience are often seen as maladaptive behaviour (Konst, Matson & Turygin, 2013, cited in Samson *et al*., 2015:3424). Gross, Sheppes and Urry (2011, cited in

Samson *et al*., 2015:3424) define emotional regulation as the effect of behaviour on emotional expression. This can be demonstrated as adaptive or maladaptive behaviour in emotional regulation (Aldao & Hoeksema, 2012, cited in Samson *et al*., 2015:3424). There seem to be two effective strategies that are practised in adaptive behaviour, namely cognitive reappraisal and expressive suppression. Cognitive reappraisal is a cognitive technique which involves change and is seen as adaptive behaviour (Samson *et al*., 2015:3425). Expressive suppression is viewed as maladaptive behaviour if it is used on a "typical basis" (Samson *et al*., 2015:3425).

It seems as if Brother used cognitive reappraisal to stay controlled in his behaviour, although he communicated very clearly that this type of behaviour from the other participants was unacceptable to him. He did not suppress his feelings, but displayed the communicative and social skills required to express those feelings in a most appropriate way. In a follow-up interview with his mother (3 October 2015), she explained that she herself used both strategies and had taught them to Brother as well. Cognitively, he was taught to distance himself from unacceptable and rude behaviour in a calm collected manner, and not to attach any emotional reaction to it. According to Samson *et al.* (2015:3425), expressive suppression or emotional suppression is maladaptive behaviour only if it is the main reaction. However, Brother used both techniques effectively to manage the situation, and in the process, he triumphed over rude behaviour. This is an example of strength and self-discipline, as well as of effective emotional regulation.

4.3.4.4 Participant 4: Fern

The post-intervention interview and the post-intervention letter revealed a number of changes in Fern's socialization, communication and imaginative skills (Data Summary File, Fern, 2012). Regarding Fern's socialization with other children, his mother said that she felt the classes helped, as she saw an increase in his communication skills towards his friends. She also noticed that he enjoyed the drama classes, although he was initially reluctant to attend. She noted that Fern enjoyed the social aspect of the drama classes and that it supported him not to withdraw socially, but rather to interact with the other participants. Fern's mother confirmed this in the Reflective Interview, indicating that there was increased socialization with peers (Reflective Interview, Fern, 2015).

His father noted during the Reflective Interview (2015) that Fern was "*very open"* and regarding Fern's communication that he *"is slowly learning, interesting and speaking freely on it"*. In his behaviour, his father felt he was *"becoming all rounded"*. Both parents remarked on his *"huge imagination"*, and that he *"loves free thinking"*.

4.3.4.5 Participant 5: Lien

Lien's mother noted the ongoing effect of the drama classes, indicating that she was more self-confident in her socialization. She communicated clearly. Her behaviour was calmer and her imagination was more extensive – she said that *"her imagination developed*" (Reflective interview, Lien, 2015).

4.3.4.6 Participant 6: Tyrone

Tyrone's parents noted the ongoing effect of the drama classes in 2015. In terms of his socialization, his parents commented that Tyrone had become more sociable and that his social skills had improved. He greeted and interacted with people, which he had not done in the past. He now allowed family and close friends into his personal space and even gave hugs to family and close friends.

In his verbal and non-verbal communication, he was more aware of the need to greet people. He was also willing to shake hands with family and friends. According to his parents they did not experience any behavioural problems. They observed that Tyrone was less impatient, and his mother noted that he was more willing to share. His parents did not think he had any problems with his imagination, and reported that he has a good imagination (Reflective Interview, Tyrone, 2015).

4.3.4.7 Participant 7: Knight

Knight's parents noted the ongoing effect of the drama classes (Reflective Interview, Knight, 2015). He was more comfortable with social contact, and had begun to enjoy it. Before, he was more of a loner. In terms of his communication, he spoke more clearly, audibly and directly to people. In his behaviour, he had more self-confidence in general. His imagination had been stimulated by the storytelling of drama – his parents said: *"I think he always had some imagination, but it was definitely increased by the drama."*

4.3.4.8 Participant 8: Hano

Hano's parents noted the effect of the drama classes in 2012 and in 2015. His father believed that in his socialization, Hano found it easier to be among people after his drama classes. His communication had improved, as he tried to talk to people more. His behaviour had changed, as he did not lose his temper as much as he used to. His parents believed that Hano always had a good imagination (Reflective Interview, Hano, 2015).

4.3.4.9 Participant 9: Artist

Artist's parents commented positively on the effects of the drama classes in both 2012 and 2015 (Reflective Interview, Artist, 2015). His father thought Artist communicated more and that his social life was better. His mother felt that communication had improved his self-confidence a lot. According to his father, Artist was speaking more to people than before, and his mother agreed that his communication had improved. His behaviour had improved in terms of his communication and social behaviour. His mother indicated that he still had quiet days, but not as many as before. His father noted that he had a rich imagination and daydreamed a lot. His mother agreed, and indicated that he sometimes came up with interesting ideas.

4.3.4.10 Participant 10: Arrow

Arrow's parents reported positively on the effects of the drama classes in 2012 and in 2015. Regarding his socialization, they said that his communication was much more open towards other people and that he was less shy: *"He talked much more, and more openly, with people, more at ease – not so shy anymore."* His communicative ability and behaviour improved in terms of how he could express himself towards others. As a family, they had adopted the use of the sock puppet, as used in the greeting circle in the drama class (see Section 3.8.2.1), to support him at home when he had difficulty in expressing himself. He would use the sock to talk to, which provided a release for unexpressed emotion. Role play taught him to express himself more with others:

> *Using the sock puppet in the greeting circle helped him a lot. If he did not want to talk, we used the sock puppet. It was very noticeable – it helped me a lot with*

> *him. …I think it has a good effect. He sat down and did the breathing and the meditation* (Reflective Interview, Arrow, 2015).

He also applied the meditation and breathing techniques from the drama classes when he experienced anxiety at home. His parents felt that he always had a good imagination. Arrow demonstrated the ability to apply the techniques in the drama class to his daily life. He found a way to express himself when he experienced anxiety and drew on the relaxation techniques he had learned to become calm. His socialization, communication and behaviour skills improved due to the drama intervention (Reflective Interview, Arrow, 2015).

4.3.4.11 Participant 11: Zen

Zen's parents reported that he still applied his breathing exercises and that he enjoyed participating in drama at High School A. The post-intervention interview with his parents in 2012 is transcribed in part to explain his parents' evaluation of changes after the drama intervention regarding Zen's behaviour, social and communication skills:

> *Yes, I noticed that he was far less tactile defensive. He allowed anyone in the house to touch him, especially me. I felt that because before, he always – when I touched him, he did this – he would half brush me off. And I always felt sad because I like to hug my children. But since he attended the drama classes, I noticed that he very seldom withdrew when we touched him or hugged him. He rather hugged us back and in fact he gave me many wonderful hugs! And then the other thing is, he enjoys drama and if he was sick on the day then he was upset and very sad. He wanted to come. The other thing that I also want to make mention of is communication. He – How can I say, he's very – He communicates, he's more confident, very much so. He's a bit more disciplined as well now. He does not play deaf so often anymore. He is also at a place, nearly there, where he reacts positively towards instructions given to him* (Data Summary File, Zen, 2012).

The parents also commented that Zen's voice was changing with adolescence and it seemed that the voice exercises supported him to speak audibly. His social skills developed as well and although he was reluctant to converse about his school day in the past, he now talked almost excessively about it, when asked. The impact of the drama on his social skills was also evident in his interaction with his family members and friends.

> *And often if you ask him, "Zen how was your day at school today?" You know, he would always say something before, but you know, at the end you would have to question him all the time. Now he will tell you everything from A-Z, you've got to stop him now – 'Zen, we've reached home. I think we can continue this conversation when we first enter the house.' And also something I noticed, we had this religious day last week and then all of us had to go and extend good wishes to all our relatives and friends. And for the first time, I think in three years, six to eight years, he quite confidently went up to them and took their hand, shook it, and allowed them to hug him which he never, never – I always felt very embarrassed at family functions when he totally withdrew. Even my father's 90th birthday, he sat outside of the…venue and refused to come inside when he saw all these people and then he just withdrew completely. I can also say that we noticed when he comes home he can actually study a little more on his own. He can even complete homework. If I give him the instructions, 'Zen, I want you to write up all the – Like today, he had to learn Afrikaans words, and I said to him if you write out your words, you'll remember it better. Yes, because you can visually then see.' And then I showed him, 'let's take out the books together, let's begin' and then I went away. When I came back everything was done. So that I've also been noticing, that with studies and homework he's more responsible – It's much easier for me also. Because for the first year I can go away and sit with my younger child. And give some attention to him, which before 90% was on Zen and 10% on the younger one* (Data Summary File, Zen, 2012).

Zen's parents reported more effective social communication and affective behaviour, as he showed tenderness towards his family. However, he was still impulsive and spoke to others without considering the meaning, effect and consequences of his words. In spite of this, his behaviour on the whole had improved. He could distinguish between right and wrong, and was not prepared to take the blame for others, as he used to in the past. Most importantly, he followed instructions and functioned more independently, which created space and time for other family members too.

Since the two main questions have been focused upon, the narrative inquiry and related theme of reflection can now be scrutinised for a wider perception of the lives of the participants in this study.

4.3.5 Some themes that emerged from the post-intervention data

In this section, I also cover the Disability approach in terms of disempowerment and empowerment in the emerging themes discussed below, to avoid duplication of information.

4.3.5.1 Changing schools

As Table 3.2 shows, ten participants were in a school at the time of the study (2012), and one were home schooled (excluding Pey who received no home or formal schooling in 2012). In 2015, another participant (Arrow) left School A to be home schooled by his parents. Lien stayed in Primary School A, but the academic pressure in the mainstream Primary School A forced her parents to opt for a much-needed transfer to the Special Needs Class. Due to several factors, another two participants, Fern and Knight, left Primary School A and continued schooling at Primary Schools B and D. In the reflective interviews in 2015, the parents of two other participants indicated that they also felt an increased need for ASD-type interventions for their children. According to these parents, their children did not receive the appropriate ASD-type intervention in High School A, although they had received such intervention in Primary School A. Other factors that complicated schooling for these children were incidents of bullying and an unstructured environment in High School A.

The parents of Zen, Tyrone and Knight indicated that the children experienced marginalisation, an unstructured school environment, bullying at school and a lack of intellectual stimulation. These issues created situations where the children became frustrated and their parents did too. Zen's mother indicated that she had to remove him from the primary school he attended and to move him to Primary School A. Unfortunately, at High School A, they also experienced challenges with unstructured systems. However, she did not feel that she needed to move him to another school at this point. Tyrone's parents were contemplating moving him from High School A to High School B, and Knight's parents moved him from Primary School A to Primary School D. Several examples summarised (below) from the Reflective Interviews with the parents of these participants demonstrate their feelings and frustration vividly.

4.3.5.2 Challenges that complicate schooling

The first support structure needed is to treat a child with ASD using ASD-type intervention methods (Eldar *et al.*, 2010:98). Where such support is lacking, it becomes evident in the behaviour of the children (Vanegas & Davidson, 2015:88; Koegel *et al.*, 2010:1065). To those who are untrained concerning ASD, it may seem

as if the child is displaying rebellious behaviour, but the child is rather misunderstood and treated inappropriately.

The following data from the follow-up Reflective Interview at the end of the research revealed a different picture from the one after the pre-intervention interview. The Reflective Interview revealed the growing concern of Hano's parents. It seemed that Hano struggled at High School A and became so despondent that he actually did not want to attend school any more. His mother wanted to know why her son was taught with ASD-type interventions in Primary School A, but not in High School A. At the time of the follow-up interview, she said that the absence of ASD-type interventions at High School A caused him to fail tests. The parents intervened on behalf of their son by communicating with the principal and relevant staff about these issues. However, it seemed to them as if there was no change in the situation. Although the school staff listened, they remained passive, as no active steps were taken from their side to improve the situation. Hano's mother found it difficult to understand why specialist educators (in ASD-intervention strategies) were not employed at High School A (Reflective Interview, Hano, 2015).

A second challenge is the inability of some children with ASD to copy from a whiteboard (or blackboard). Neurotypical children are expected to be able to write down tasks, dates and test programmes from the whiteboard (or blackboard) in class, but this can be a severe challenge for a child with ASD, who struggles with concentration, poor motor coordination and organizational skills (British Columbia Ministry of Education, 2000:75). It should be part of the school's support structure to provide a newsletter to parents with the term's programme, indicating important dates such as examinations and tests.

Zen's mother commented:

> *He was at a primary school in the city for 6 months. He became very aggressive. They called me in and said he [Zen] is very aggressive and they cannot handle him. Zen hated school. He just wanted to be at home. I felt that Zen was broken and not moulded [at school]. In Grade 2 it was a nightmare – he could not adapt to change. The teacher could not bond with him. Zen was on medication (Risperdal for aggression and Strattera). [There was] aggression towards the teacher and [the] teacher towards Zen. [He was] not coping with work. [They] pushed him through.* (Reflective Interview, Zen, 2015).

In the Reflective Interview, Zen's mother was asked what complicated the effect of ASD on the education of a child with ASD and the impact of schooling where autism-type intervention is not applied (see Annexure E for the interview schedule used). His mother explained that in the mainstream school, class sizes were a problem, overloading his sensory system (Reflective Interview, Zen, 2015). She also lamented the fact that Zen could not copy exam information from the board, leaving her unable to support him, as she did not know when he was writing exams. The situation was rectified when she complained.

It is obvious that Zen was not accommodated as a child with ASD in the mainstream school before attending High School A. The ideal mainstream school environment for children with ASD is small classes (Roberts, 2007:45). This was one of the first complications that forced Zen's parents to remove him from the mainstream school to School A, where Zen received better support in a smaller class of ten children. However, Robertson, Chamberlain and Kasari (2003, cited in Roberts, 2007:14) also suggest that paraprofessionals should provide individual support for children with ASD in each class. Such support could have pre-empted or eliminated some of the problems Zen experienced with the class environment in School A. It is imperative that children with ASD are taught with autism-specific methods (Pierce *et al*., 2013:267; Carnahan *et al*., 2009:13), some of which are explained in Section 2.8.2.

A third challenge for children with ASD is being targeted by bullies (Cappadocia *et al.*, 2012:267).

4.3.5.3 Bullying incidents

I have already mentioned the vulnerability of the participants with ASD. I specifically asked the participants' parents about bullying incidents experienced by the participants. Bullying was one of the recurring themes that emerged in the Reflective Interviews. Incidents of bullying at school were reported for almost all of the participants – it affected all the boys who participated. I discuss only the children affected most by these incidents in this section, presenting their parents' and two participants' views in this regard.

- ***J-Monday Boy***

  J-Monday Boy was physically and emotionally bullied, which caused a tremendous amount of frustration that he found increasingly difficult to communicate. His parents reported that he was repeatedly hit, teased, and made to look a fool in front of others at school (Reflective Interview, J-Monday Boy, 2015).

- ***Brother***

  I discuss the bullying experienced by Brother in detail in this section. Brother's mother spoke about a level of bullying which caused Brother to arrive home after school so frustrated that he harmed himself by violently hitting his head against the wall. Brother already experienced bullying in primary school. He was physically attacked by other children, leaving visible marks as evidence of these attacks. Brother retaliated with equal aggression, throwing school objects at the educator. In time, Brother's anger against himself caused by the taunting at school led to increasing self-harm. To break this cycle, his mother opted for home schooling instead of formal schooling to protect her son. It took her and the tutoring teacher two years just to rebuild his self-worth and esteem. His mother described this as follows:

  > *He was bitten by other children, he had bruises. There were 15 children in his class and they bullied him. They were problem children. He regressed from typical ASD behaviour to pathological behaviour. He hit his head against the wall, tore his hair out (Data Summary File, Brother, 2012).*

  Bullying rendered Brother helpless. The traits he displayed relating to ASD regarding difficulties with socialization, communication and behaviour compounded his inability to handle such experiences. The extent of the bullying he was subjected to forced his parents to protect their son the only way they could. Their only option in this case was to remove him from the formal school system to stop the cycle of self-harm and harm from the bullies.

- ***Fern***

  Fern's father related that Fern was subjected to bullying at school by other children at school who had disabilities too (Reflective Interview, Fern, 2015).

- ***Tyrone***

Bullying affects the participants, but it also has an impact on their families. Families felt helpless – Tyrone's parents tried to address the incidents through the channels open to them, via the relevant staff. However, the fact that Tyrone continued to be subjected to daily abuse shows that the staff intervention (if any) regarding the bullies' behaviour was not effective at all.

The following extract demonstrates the effect of bullying on a child. Tyrone's parents considered taking their son away from High School A, to start home schooling, or to move to another school where they felt he might be protected against bullying (Reflective Interview, Tyrone, 2015). Tyrone's mother reported the situation as follows:

> *He is being kicked, pushed and [sworn] at. Incidents have been reported…. According to teachers they addressed the incidents by talking to the bully. Tyrone, however, feels that he experienced the physical pain, whereas the bully just gets a 'talk'!*

Tyrone has phrased his frustration in no uncertain terms. It seemed if the situation was inappropriately handled at High School A. It only added to Tyrone's mounting frustration, which was not conducive to cultivating his sense of self and self-worth. Tyrone's mother described the feelings and frustration of the parents when the education system fails children with ASD (Reflective Interview, Tyrone, 2015) – she said that it was not the autism that limited his possibility to learn, but the fact that the education system failed to cater for his needs.

The experience of Tyrone's mother goes against the grain of the intention of *White Paper 6*, which specifically states that there must be support for children with special needs. As mentioned in Section 1.4, *White Paper 6* acknowledges the ineffective support in schools for children with special learning needs, which inevitably leeds to exclusion of these children (RSA DoE, 2001:7). Koudstaal (2011:343-344,353) also confirms the exclusion of children whose learning needs are not supported in the South African education context.

Tyrone's mother clearly voiced the exclusion of their son's experience in school:

> *Education does not totally cater for his needs. He has to share a class with learners with various learning disabilities. These circumstances make it difficult for him to cope in school environment. Curriculum is not being adapted to cater for his needs (*Reflective interview, Tyrone, 2015).

Despite *White Paper 6*'s view on inclusive education in 2001, it is still evident that there are children who experience marginalisation regarding their educational needs. It is worth considering the support needed for a child with ASD's rightful educational development.

- ***Knight***

Knight's parents described incidents of bullying and their effect on Knight – these disturbing events drove him to tears after school (Reflective Interview, Knight, 2015). Knight and his mother revealed that the bullying ranged from derogatory name-calling to physical abuse:

> *Mother: Two kids bullied him, especially one of them. They were known bullies in the school/his grade and also bullied other kids. Can't remember specific incidents, but it did disturb him quite a bit. Would be teary or cry when I fetched him at School A.*
> *Knight: Z called me all kinds of names. He called me a nerd and he shoved me.*

The issue of bullying was a recurrent theme in the narratives of the participants, which could not be dismissed in this study. Bullying is part of the sense of disempowerment in the children with ASD, especially in the education system. Knight's mother's comment (above) raises cause for concern: she mentioned that the bullies were *known* to be bullies, and implied that they also bullied other children, which suggests that these bullies' ongoing behaviour was tolerated by the school. This situation is similar to the experience of Tyrone, who suffered at the hands of bullies daily.

- ***Artist***

Artist's mother mentioned derogatory name-calling as an example of bullying which undermined her son's self-worth (Reflective Interview, Artist, 2015). When Artist became nervous, he behaved in a certain way which played into the hands of bullies, and the children gave him an upsetting nickname to tease him. Artist himself commented on the bullying he experienced. His words demonstrate the challenges he experienced with self-expression, communication and his frustration in respect of handling bullies:

> *One person bullied me. My friends told me that he wanted to do something to me. I just said to him that when I get hold of him, I will sort him out. He sounds like some kind of coward to me. My friend phoned this guy… and told this guy what I said. When I spoke to him he threatened me. I can't remember his words,*

> *because he spoke too fast. Usually when one feels threatened, you feel extremely strong and at the same time scared. At that moment I could not think clearly. I did not know how to react. I did not know what to say. At times like that, it feels as if I could do something to him, but then there is another side of me that warns me that it is not as easy as it seems* (Personal conversation with Artist, 6 November 2015).

The derogatory name-calling that Artist experienced reminds us of the difficult road travelled by children who are marginalised for being different and who cannot control anxiety appropriately. Artist experienced difficulty with sensory issues, a challenge exacerbated by anxiety, especially regarding comprehending verbal communication. It is interesting to note that Artist was aware of the effect of his anger, and that he seemed to exercise emotional control to contain this anger. The "*other side"* protected him from uncontrollable violent behaviour. It is sad that the bullies who hurt him did not demonstrate the same restraint.

- ***Arrow***

Arrow's mother mentioned an incident where Arrow was strangled by another child at his school. A child who was brave enough to report this incident saved Arrow's life by calling an educator to stop this incident in the change room. Arrow's mother was not notified of this incident by the school staff. She only found out about this when her son complained of a sore throat, and told her about the incident:

> *Someone tried to strangle him at school in the change room in the gym. If another child had not walked in on this incident, my child would have been dead. And then they told a teacher, and the teacher spoke to the child who tried to kill him. We were not notified of this incident. That evening, my son complained that his throat hurt. Then I questioned him about it, and he told me about the whole incident. The next day I went to the school (this was in October 2012, after the completion of the drama intervention), and I spoke to the principal and decided to take him out of the school and home school him. Just before that incident I invited the parents of that bully and instead of finding out why their child was showing bullying behaviour, they rather took him to the clinic to give him more medication. That is why I took Arrow out of the school and continued home schooling. He is doing well, and I have no regrets. I am at home full-time, and I home school him myself* (Reflective Interview, Arrow, 2015).

This incident was followed up with communication between the school staff and the parents and brought the parents to a point where they decided to protect their child and remove him from the formal schooling system. They also tried to communicate with the parents of the bully, but realised that the bully's parents

believed that medication and not behavioural modification was the most effective way to treat their son's unacceptable behaviour. Arrow's parents are satisfied that they followed the appropriate channels to resolve the situation, and that their decision to home school Arrow was the best for his functional development as a person.

- ***Zen***

The detrimental effect of bullying was worsened by the traits of ASD in Zen. His mother reported that, due to Zen's inability to communicate properly, he took the blame for bullying incidents which were not his doing (Reflective Interview, Zen, 2015).

Zen's mother reported that Zen was bullied and teased by other children at the mainstream school because of his poor speech. He took the blame for many incidents because of his inability to communicate clearly (Reflective Interview, Zen, 2015). The following excerpt from the transcribed class video also revealed a bullying incident, as reported by Zen himself:

Zen: *The children tease me in class.*
M: *Why do they tease you?*
Zen: *I am big.*
M: *What do you do?*
Zen: *Nothing.*
M: *Does it make you angry? [He nods.] Very angry?*
Zen: *Yes.*
M: *If you are angry, how does it make you feel?*
Zen: *I feel bad in my heart.*
M: *If you are angry, do you show it?*
Zen: *No.*
M: *Where do you hide the anger?*
Zen: *Here, in my heart. I don't feel good.*
M: *Do you want to hit them?*
Zen: *Yes.*
M: *Do you sometimes hit them?*
Zen: *No… uh…a little bit.* (Data Summary File, Zen, 2012).

Zen aptly described his experience of being bullied at School A and the desire for retaliation it provoked in him. Zen's honesty, which is characteristic of children with ASD, is also prominent in this extract.

- ***Conclusions on bullying***

  It was disturbing to observe the impact of bullying on Brother, Tyrone and Arrow. In Brother's case, the effects manifested in self-harm and pathological behaviour. Tyrone's mounting frustration about the bullying he was continually subjected to seemed to change the nature of his interests. In 2012, he created paper swords for fun play in the drama class, but by 2015 he had started to create steel swords and "bullet-proof" vests. Tyrone's words in the Reflective Interview (Tyrone, 2015) at the age of 14 years are alarming: "*I am strong and powerful. … At the moment I am making a bulletproof vest."* Arrow's experiences are extreme, as he was nearly strangled. In all three cases, it seemed that the parents tried to communicate their concern about these incidents at Primary School A, without any visible effective intervention from staff proceeding from these complaints. In consequence, Brother and Arrow were removed from Primary School A for home schooling. It is noteworthy that bullying was noted only in the narratives of the boys, and not in the narratives of the two girls in the study.

4.3.5.4 A lack of cognitive stimulation

Some children with ASD, known as children with Asperger Syndrome, are extremely intelligent and need to be challenged by their syllabus. Unfortunately, School A has to cater for a variety of children with special needs, and the lack of stimulation seemed to influence Knight's enthusiasm for School A so badly that his parents decided to move him to mainstream School D (Data Summary File, Knight, 2012). Knight's father's comments reflect the fact that some children on the spectrum need extra cognitive stimulation in the syllabus. The father said that Knight finds school *"boring"* and that it discouraged him, because Knight *"experiences it as an inappropriate environment and he cannot tolerate the noise"* (Data Summary File, Knight, 2012).

Knight and Tyrone were both at Primary School A. In 2015, Tyrone was still in Primary School A, but Knight moved to Primary School D. There is a vast difference between their experiences at the same school, as can be seen in the Reflective Interview with Knight's mother (Reflective Interview, Knight, 2015). She felt that her son was empowered by education because the educators went the extra mile to break through communication barriers; they showed understanding for ASD and

persisted in insisting on eye contact; they continued their efforts to include him in class discussions and most importantly, educators showed him respect. She said:

> *Teachers made extra effort to reach him/get through to him in class. When he was in Primary School A they made extra effort and even now that he is in a primary mainstream School D, the teachers understand his condition and make effort to get reaction from him, get him to make eye contact and to smile. He also gets the chance to answer questions; for example, teachers make a point of talking to him in class. They never embarrass him* (Reflective Interview, Knight, 2015).

There are more examples of participants' struggles in school, but these examples focus on the reasons for moving the children to other schools, as highlighted in Table 3.2. Other examples concerning bullying and marginalisation are dealt with in the relevant sections of this chapter. Another interesting aspect about the participants, highlighted in Table 3.2, is their choice to switch from their mother tongue to another language of instruction at school. In the case of Brother, he started to excel once he changed from his mother tongue (Afrikaans) at Primary School A to English as the language of instruction.

4.3.5.5 Participants' language preference

Two of the original 12 participants (Brother and Pey) preferred English to their home language (Afrikaans). In the case of Pey, who is mainly non-verbal, the few words he spoke were English.

Brother's mother reported that he chose to switch from Afrikaans to English as a medium of instruction in Primary School A. His parents allowed him to switch, and he coped better academically after changing his language of instruction from Afrikaans to English (Data Summary File, Brother, 2012). During the Reflective Interview in 2015, I presented his Data Summary File, and his mother again mentioned the positive change in his academic results after the switch from Afrikaans to English.

4.3.5.6 Participants' school grades

The participants' school grades show the impact of autism on their scholastic achievements, in line with the second aim of this study. In 2012, the school levels of the participants ranged from Grade 1 to Grade 9. In 2015, their school levels ranged from Grade 1 to Grade 12. J-Monday Boy stayed behind in Grade 1 at School C. As

mentioned in Section 3.6.3.3, his use of medication was inconsistent and the parents were concerned about their son's education. According to J-Monday Boy's parents, there was no development in his schooling. They attributed their son's educational challenges to the school's teaching methods, which did not accommodate ASD-type intervention strategies. The only teacher who had some knowledge of autism-type teaching methods left the school, and J-Monday Boy was allocated to a group of severely dysfunctional children in School C. This seemed to affect his schooling in such a way that he was unable to progress to higher grades.

The Reflective Interview in 2015 illuminated the situation further. In 2015, he got a new teacher, who seemed to understand and support him appropriately. His father indicated that J-Monday Boy needed one-on-one interaction in education to become functional (Reflective Interview, J-Monday Boy, 2015). This argument is in line with the thinking of Koudstaal (2011:343-344, 353), who claims that the education system needs to adapt to the needs of children with ASD, and that some children on the spectrum need individual attention from educators.

It seems that as some of the participants grew older, and especially when they entered adolescence or encountered a lack of intervention suited to ASD in high school, they had experiences which caused a barrier to learning, resulting in limited academic achievement. Research confirms that adolescence brings about changes in physical development and a bid for independence that is difficult for children with mental and social developmental challenges to negotiate (Tylenda, Barrett & Sachs 2014:2-3).

One of the participants, Hano, was nine years old at the start of the drama intervention. At the time of the follow-up reflective-interview he was 13 and had entered adolescence. During the drama intervention, he seemed to manage at school, but the follow-up reflective interview when he was 13 revealed that he was not coping at school. Thus, adolescence and its challenges coincided with his struggles in education, as his mother reported (Reflective Interview, Hano, 2015). She was in despair, because Hano did not fare well at school. She attributed his challenges to the fact that his teachers did not use intervention strategies aimed at ASD. He failed his tests and appeared discouraged by school. His parents tried to intervene by speaking to his teachers and principal, but felt that the problems were

not resolved. Although it appeared that the staff listened to them as parents, Hano's mother felt that no action was taken to bring about a positive change. She could not understand why the school and education department does not employ people trained to work with children with ASD. According to Hano's parents, their child was unsupported due to a lack of knowledgeable staff on the issue of ASD. I suggested contact with the specialist educator and a follow-up visit with the specialist to give Hano appropriate support for the challenges he experienced as an adolescent.

One of the main questions of the study was to discern the impact of autism on a child's education. The change from a young child to an adolescent sometimes necessitates extra support, as in the case of Hano. According to Lord and Bishop (2010:14), some children with ASD need extra support as they become adolescents, while others may require less intervention. Therefore, we need to be alert to provide extra support as children grow older, if necessary.

However, empowerment themes noticed in the narratives of participants (see Sections 4.3.4 and 4.3.5) must be mentioned briefly too. Participants and their families were empowered when they adopted strategies such as home schooling, where it was attainable and necessary, therapeutic support, understanding and compassion for ASD, building communication bridges to break through the isolation seen in children with ASD, effective guidance from professionals, and coordinated efforts of the whole team working with these children with ASD and their families.

More detailed information (see Section 4.3.5.3) is provided on bullying and in the following section on sensory issues, since these are areas that rendered some of the participants in this study very vulnerable. Bullying is also related to the vulnerability of those with autism and it indicated the importance of using role play or improvisation to enable participants to handle bullies constructively. Sensory issues on the other hand are involuntary reactions related to neurological differences and need to be discussed briefly too.

4.3.5.7 Sensory issues that complicated schooling for children with ASD

Children with ASD experience several sensory challenges concerning their auditory, tactile, gustatory (taste), visual and olfactory (smell) senses. These senses can be hyper- or hypo-responsive (over- or under-responsive). It is important to understand

the impact of sensory hypo- or hyper-responsiveness, as it greatly affects the functionality of children with ASD in education, especially if they experience sensory overload (British Columbia Ministry of Education, 2000:18).

It is also vital to accommodate children with ASD's tendency to experience sensory overload (Elwin *et al.,* 2013:239). Sensory overload can also be described as a *common hyper-reactivity*, where "children with ASD are becoming distressed by sounds that do not affect others, and having unusually acute hearing or negative reactions to gentle touch" (Elwin *et al.,* 2013:233). The overpowering need of children with ASD for a place to calm their sensory overload is explained by Bogdashina (2003, cited in Elwin *et al*., 2013:239) "as receiving sensory information in infinite detail and holistically at the same time, and being unable to filter sensory input in foreground and background stimuli". Autism-related practice has shown that children with ASD need a cooldown room when they experience sensory overload (Ozonoff *et al.*, 2002:96). It is evident that High School A does not accommodate Zen with a cooldown place, unlike Primary School A. The sensory responsiveness levels of the participants are summarised in Table 4.16, overleaf.

Tactile defensiveness was displayed by the majority of the participants, and it implies intolerance to touch. Only few of the participants were neither hypo- nor hyper-reactive to touch. The auditory sense of most participants was hyper-sensitive. Noise caused a sensory overload and they found it difficult to focus in school when their auditory sense was overloaded. The olfactory sense (smell) was overly sensitive in the majority of the participants, but a minority had an underdeveloped sense of smell. The remaining few participants had no problem with their olfactory senses. The visual sense was the least affected in the participants, as only a minority of participants showed extreme sensitivity in this area. The last sensory area, the gustatory sense (taste) was hyper-sensitive in a few participants.

Table 4.16: Sensory responsiveness levels of the participants

No	Name	Tactile	Auditory	Smell	Visual	Taste
1	Sierra	Hyper	Hyper	Hypo	n/a	Hyper
2	J-Monday Boy	Hyper	Hyper	Hyper	n/a	Hyper
3	Brother	Hyper	Hyper	Hyper	n/a	Hyper
4	Fern	Hyper	Hyper	Hyper	Hyper	Hyper
5	Lien	Hyper	Hyper	n/a	Hyper	n/a
6	Tyrone	n/a	n/a	n/a	n/a	n/a
7	Knight	Hyper	Hyper	Hyper	n/a	n/a
8	Artist	Hyper	Hyper	Hyper	n/a	n/a
9	Hano	n/a	Hyper	Hyper	n/a	n/a
10	Arrow	Hyper	Hyper	Hyper	n/a	Hyper
11	Zen	Hyper	Hyper	n/a	n/a	n/a
	Totals:	9 hyper 2 n/a	10 hyper 1 n/a	hyper (7) hypo (1) n/a (3)	hyper (2) n/a (9)	hyper (5) n/a (6)

Note: The participants displayed several sensory challenges which impacted their daily living.

Critical Disability Theory approach guided me to be sensitive to the challenges experienced by participants. The parents' views on the disempowerment /empowerment of their children in education revealed their children's negative and positive experiences. The narratives told by these parents created a storyline which cannot be ignored by the education system. These families are in dire need of ASD-specific support for their children to enable optimal development in all areas of their lives, as suggested by Baker (2006:xii-xiv).

4.3.5.8 Results from the reflective interviews

It seems that as some of the participants grew older, especially when they entered adolescence or encountered a lack of intervention suited to ASD in high school, they had experiences which caused a barrier to learning, resulting in limited academic achievement. Research confirms that adolescence brings about changes in physical development and a bid for independence that is difficult for children with mental and social developmental challenges to negotiate (Tylenda, Barrett & Sachs 2014:2-3).

As anticipated, the data elicited by the mixed methodology was rich and plentiful. The focus was considering the impact of ASD on the functionality of children with ASD in

education and determining whether a drama intervention may have had positive impact on the socialization, communication and behavioural proficiencies of these children with ASD in this study. If the data of the participants are acknowledged, it seems that the narrative data gathered in the study provided answers to the experience of the participants and the effect of the drama intervention (see Section 4.3.4), just as Henning *et al*. (2004:138) proposed. The narrative of each participant's story from birth to 2015 brought me as researcher much closer to the participants, as it revealed heart-rending narratives of marginalisation, hurt, isolation and injustice. Henning *et al.* (2004:138) mention that a narrative inquiry should bring the researcher nearer to the participants and not distance the researcher from the participants.

As I mentioned in Section 3.9.1, Narrative Inquiry was the tool I chose to interpret and analyse the stories of participants with a heart of compassion. Clandinin and Connelly (2002:21) suggest that the narratives told should lead to understanding of how stories form lives. Hence, the narratives themselves are central.

4.4 SUMMARY

Chapter 4 provided a detailed description of the results from the quantitative and qualitative methods applied in this study. The quantitative tests, the CARS and CADDRA (WFIRS-P), confirmed an improvement in several areas, including School learning and School behaviour after the drama intervention in most of the participants, whether in formal or home schooling. The transformation was small in some of the participants, but more profound in others. The participants' and their families' experiences, as reported by the parents in the post-intervention interviews, confirmed that most participants benefited from the drama intervention, since it strengthened and transformed some areas of the participants social, communication and imaginative functioning, and their behaviour. The parents stressed a need for transformation in education's views and attitudes. These results will hopefully add to the body of knowledge, and compassionate understanding in the field of drama and ASD. Chapter 5 summarises the key findings and recommendations emanating from them. The chapter also reflects on the process, the strengths and the limitations of the study, and recommendations for further study.

CHAPTER 5:
CONCLUSIONS AND RECOMMENDATIONS

5.1 INTRODUCTION

This final chapter presents a discussion on key findings and recommendations, reflects on the strengths and limitations of the study, and offers suggestions for future research.

In this chapter, I reflect on the main aims of the study, and on whether these aims have been achieved. The main aim was to conduct research to determine whether drama techniques as an intervention for children with ASD may have a positive impact on the functionality of such children, in terms of the triad of their challenges regarding their socialization, communication and behavioural proficiencies, especially in an education setting. To reach this aim, the theoretical perspectives on children with ASD were reviewed to determine the impact of autism on the functionality of children with ASD in an education setting, and to investigate the grounding perspective that underpins the use of selected drama techniques as a form of intervention to address their triad of challenges.

5.2 SYNTHESIS OF THE FINDINGS

This summary is organised according to the research questions and the main findings on each. The theoretical background that informed the diagnosis and research on children with ASD provided an extensive view in Chapter 2 on the first question, pertaining to the theories that surround children with ASD. The second question on the impact of ASD on children with ASD's education was elaborated on in Chapter 2 (in the literature review) and Chapter 4, where the narrative files on each participant revealing the extent of the effect of this condition on their lives are discussed. The third question regarding the drama techniques that support children on the spectrum is addressed in Chapter 2. Finally, the fourth question, which inquires into the impact of drama techniques on the participants' triad of impairments, is answered in Chapter 4.

5.2.1 Question 1: What theoretical perspectives inform the diagnosis and research on children with ASD?

As the literature review shows, the theories on the ASD population vary, and some are controversial. These theories highlight the impact of ASD on the lives of children on the spectrum. According to the Theory of Mind (ToM) and Systemising theory, ASD affects some of the children's social and behavioural skills. A lack of ToM in children with ASD is a good reason for an appropriate application of specific drama techniques that may support the development of ToM. Empathy is a social skill, associated with ToM, that can be developed in children with ASD through the practice of various drama techniques (see Sections 2.7.1 and 4.3.1.10).

The literature suggests that the lack of Executive Function in children with ASD can be supported in terms of planning skills through improvised stories (see Section 2.7.1.2). The pre-intervention narrative file of one participant confirmed a lack of Executive Function (see Section 4.3.1.11), which emphasised the application of drama techniques in the study. A lack of Central Coherence, which is related to Executive Function, is a weakness and a strength that can benefit from improvisation. Furthermore, improvised stories support children with ASD to develop a complete picture (*Gestalt*) (see Section 2.7.1.3) and teach them to plan and execute what they planned (see Section 2.7.1.2). The theories on the challenging areas in the lives of children with ASD considered in this study emphasise the development of the children's functionality with various drama techniques (see Sections 2.11 to 2.15). Dabrowski's theory encourages the support of children to develop from a chaotic space to a haven where functionality is supported through interventions that enable their self-sufficiency (see Section 2.7.2). The development of functionality is envisioned as a holistic intervention or whole child development in the realm of drama techniques in this study.

5.2.2 Question 2: How does autism impact the functionality of children with ASD in education?

Various traits in children with ASD affect their ability to become and remain functional in a formal school environment. Understanding for their challenges can be enhanced by considering these factors and their impact on the education of children with ASD in the literature, but also in this empirical study. Physical challenges, the effect of

learning barriers, sensory issues, social and communication challenges, vulnerability to bullies and educational support are some of the factors that affect children with ASD that have been recognised in the education literature and this study.

The effects of **physical challenges** in autism are related to the diagnosis of participants on a spectrum with different physical disabilities and comorbidities, their marginalisation in education or inability to cope as efficiently as their neurotypical peers (see Sections 2.3 and 2.5). Physical disabilities, a lack of fine motor skills, coordination and perception challenges are physical realities of some children with ASD's lives. It exacerbates their difficulties in coping in education, for example, when they struggle to walk, use scissors, or move freely. Their visual ability can also be a problem. These challenges make them dependent on a family member for support, as noticed with one of the participants (see Section 4.3.1.1). The impact of these challenges in children with ASD are aggravated when the children have irregular sleep patterns, leading to sleep deprivation. Sleeping difficulties in the population of children with ASD has been confirmed by other researchers and was found to be a challenge for a few participants in the study (see Sections 2.5 and 3.6.3).

Learning barriers in children with ASD related to intellectual impairment sometimes have a genetic origin. Genetics are implicated in several specific mental challenges that may underlie several learning difficulties in education (see Section 2.4). Some children with ASD are diagnosed with concentration challenges (ADHD), which affect their schooling to such an extent that educators find it difficult to handle them in class. Researchers have reported that ADHD traits such as hyperactivity, impulsivity and inattentiveness in children with ASD are problematic in the school environment (see Section 2.5.1), especially when children cannot inhibit or control their behaviour. ADHD was reported amongst most participants (see Sections 3.6.3 and 4.3.1[23]), which concurs with the findings of prior research.

Prior research and the parents of the participants in my study confirm that the achievement of academic goals is compromised further by barriers such as disruptive behaviour, especially aggressive behaviour (see Sections 2.3.3.3 and 4.3.1.9), specific learning disabilities related to language, difficulties in reading (see Sections

[23] Subsections 4.3.1.2, 4.3.1.7 and 4.3.1.9 to 4.3.1.11.

2.4 and 4.3.1[24]), and limited special interests/special skills (see Sections 2.6 and 4.3.1.10). Their conceptual learning disability affects the children's ability to generalize and originates from a lack of connectivity in the temporal lobes of children with ASD (see Section 2.4.2).

Children with ASD are often unable to function effectively in large classes. The inability of children on the spectrum to function well in large classes has been noted by other studies in the South African context. At present, children with special needs (including those with ASD) are not provided with an ideal learner:educator ratio in South African schools. A national school for autism suggests a one-to-one ratio, but acknowledges the lack of funding for such a ratio for children with ASD in the country (see Section 2.8.1).

A number of the participants in this study experienced some support in smaller classes that is not necessarily found in mainstream schooling (see Section 4.3.1[25]). However, incidents were noted where support even in smaller classes was inadequate (see Section 4.3.1[26]). Adequate support appeared to be effective where ASD-type of intervention was provided (see Section 4.3.5). A minority of the parents resorted to home schooling to provide one-to-one support for their child (see Sections 4.3.1.1 and 4.3.1.10).

Another negative effect of ASD on participants in this study is that some need more time to complete tasks or exams. If educators can allocate more time for the children on the spectrum to complete tasks (see Section 4.3.1.5), it is seen as an ASD-type of intervention to support these challenges.

The lack of visuo-motor skills found in some children with ASD has an impact on their ability to walk down stairs and to draw pictures. This lack is emphasised in studies that have related challenges in depth perception to visuo-motor skills (see Sections 2.3.3.2 and 4.3.1.11). This challenge was also noted in one of this study's participants.

The effect of **sensory challenges** is related to an overly sensitive sensory system (hypersensitivity), or undersensitivity (hyposensitivity). Children with ASD may be

[24] Subsections 4.3.1.1 and 4.3.1.3.
[25] Subsections 4.3.1.4, 4.3.1.5, 4.3.1.9 and 4.3.1.11.
[26] Subsections 4.3.1.1, 4.3.1.2, 4.3.1.3, 4.3.1.9 and 4.3.1.10.

overwhelmed by visual stimuli, including light, noise (auditory), touch (tactile) and smell (olfactory). The sensitivity of the sensory systems of children with ASD differs from child to child. Their gustatory, vestibular and proprioceptive systems may also be affected (see Section 2.3.3.2). These sensory challenges complicate life at school at various levels for children with ASD.

An auditory overload in a class filled with noisy children reduces concentration in children with ASD, as mentioned in autism-related research. This trait corresponded with the auditory challenge of one of the participants in the study (see Section 4.3.1.8). Sensory challenges such as hypersensitivity to touch (tactile) and smell (olfactory) added to the children' difficulty to concentrate in class and undermined their ability to learn (see Section 2.3.3.2).

Self-care is one of the self-adaptive skill deficits found in children with ASD. The lack of self-care abilities in some of the participants lead to their isolation and to humiliation at school (see Section 4.3.1[27]). A refusal to wash or brush their teeth may be related, not to a lack of cleanliness, but to sensory hyper-sensitivity, especially to touch. Prior research suggests that self-care should be included in a social curriculum for children with ASD to support them in the development of these skills (see Section 2.3.3.2).

The isolation of children with ASD at school is further aggravated by strange behaviour (see Section 2.3.3.1) or atypical play, which usually excludes peers. Atypical play differs from the play of neurotypical children, who play pretend games with cars (with peers), for example, in comparison to children with ASD, who prefer to pack toys in neat rows or focus on spinning the wheels of a car (see Sections 2.3.2.2 and 2.3.3.1). Atypical play was confirmed in various participants in the study and related to the marginalisation they experienced in education (see Section 4.3.1[28]).

The effect of **social challenges** is related to atypical social interactions and social isolation, and a lack of eye contact, creative play and social insight (see Section 2.3.1). These challenges are discussed below in relation to information found in the pre-intervention narrative files of participants (see Section 4.3.1) and related autism research.

[27] Subsections 4.3.1.2, 4.3.1.3, 4.3.1.5 and 4.3.1.10.
[28] Subsections 4.3.1.2, 4.3.1.5, 4.3.1.8 and 4.3.1.11.

The lack of social skills in children with ASD manifests at an early age since they usually lack pretend play and therefore preverbal social skills (see Section 2.3.1). Atypical social interaction was confirmed in the narratives of a few participants (see Section 4.3.1[29]). Moreover, they do not make eye contact, which is an important aspect of the formation of anti-social behaviour (see Section 2.3.1.4) and was noticed in participants' narratives too (see Section 4.3.1[30]). However, it must be mentioned that a few participants' narratives revealed that there were some who overcame the challenge with eye contact when they were given some coaching (see Sections 4.3.1.7 and 4.3.1.10). A lack of social insight was mentioned in some participants, contributing to their isolation (see Sections 4.3.1.5 and 4.3.1.11). Unfortunately, these social skills are the foundation for social development and acceptance. The mutual lack of understanding (by the children and their peers) of these challenges typical of children with ASD adds to the confusion of children with ASD when they cannot seem to grasp the concept of friendship.

As part of the triad challenges, **communication challenges** are a known impairment in children with ASD. Lengthy verbal instructions from educators exacerbate children with ASD's potential to execute instructions accurately. The effect of communication challenges is related to difficulty with self-expression, speaking in a monotone voice, a lack of reciprocal communication (monologues), and echolalia (nonsensical repetitive use of other people's words, or words from a movie, unrelated to the conversation). The consequences of these challenges are worsened when educators and peers are not prepared to adapt their communication methods to the needs of children with ASD (see Section 2.3.2). These communication challenges and a lack of ASD-types of intervention were confirmed in the pre-intervention narratives of most participants in the study (see Section 4.3.1[31]).

The above-mentioned lack of **imagination** (one the communication challenges) must also be understood in a wider perspective. One of the first markers of the presumed lack of imagination is children with ASD's behaviour. They tend to pack toys in neat rows instead of playing with them (see Sections 2.3.2.2 and 4.3.1[32]). However, this does not mean that there is no possibility of their developing their imaginative

[29] Subsections 4.3.1.3, 4.3.1.10 and 4.3.1.11.
[30] Subsections 4.3.1.5, 4.3.1.8 and 4.3.1.11.
[31] Subsections 4.3.1.1 to 4.3.1.3, 4.3.1.6, 4.3.1.8, 4.3.1.10 and 4.3.1.11.
[32] Subsections 4.3.1.2, 4.3.1.5, 4.3.1.8 and 4.3.1.11.

potential. It was interesting to note that some parents of the participants commented that their children's imagination was intact and well developed (see Section 4.3.4[33]). One parent who confirmed imagination commented, however, that he felt that the imagination of the child increased the isolation of this child (see Section 4.3.4.2).

The effects of **behaviour challenges** are related to anxiety, anger outbursts, becoming the policeman of the class (tale-bearing), disruptiveness in class, and a lack of fear. Children on the spectrum should not be judged on their behaviour. Their behaviour should rather be seen as a means to communicate their needs. Children with ASD engage in the above-mentioned conduct to communicate their anxiety, frustration, honesty, incapacity to control themselves, and an inability to grasp that some forms of conduct are dangerous. Unfortunately, the children with ASD's conduct is often misread and it increases their isolation in school, as was confirmed by the narratives of participants in the study (see Sections 2.3.3 and 4.3.1).

Anxiety is a known comorbidity in children with ASD (see Section 2.5.3), which may in some cases be related to a lack of behavioural management, which manifests in anger outbursts in these children. The narratives of children with ASD provide enough data to look for the markers of ASD mentioned in the Critical Disability Theory approach. These markers provided revealed feelings of invisibility and marginalisation caused by bullying. It is crucial to take note of the impact of bullies on the children' lives, to emphasise the need for safety measures for vulnerable groups of children. The effect of **vulnerability to bullies** is related to physical and emotional violation (children are sometimes hit, teased, scorned, bitten, attacked and, in the case of one of the participants, even strangled), derogatory name-calling, resulting in lowered self-esteem and feelings of helplessness, mounting frustration, victim retaliation, self-hurt and pathological behaviour, and taking wrongful blame for bullies' behaviour. Ineffective staff intervention exacerbates the situation (see Section 4.3.5.3).

The literature reviewed in this study confirms that the impact of ASD on children's education can be divided into two categories. Those who experienced a lack of support indicated disempowerment, rather than empowerment, regarding their reaching their potential in formal schooling. (They differed from those who received

[33] Subsections 4.3.4.2, 4.3.4.4, and 4.3.4.6 to 4.3.4.10.

adequate educational support.) Not surprisingly, the participants' parents reported that a lack of ASD-type intervention strategies, especially regarding visual support for learning and transition, weakened the children with ASD's ability to transition effectively from one activity to another. This confirms prior research (see Section 2.4.5) about **barriers to learning**.

Inadequate educational support is found where there are big classes and there is a lack of individual attention, a lack of understanding from educators, para-professionals and peers, a lack of extra time for task completion and support for unexpected changes (see Section 4.3.5.2). The absence of effective strategies regarding bullies remains a problem for the participants in the study too (see Section 4.3.5.3).

The literature reviewed concludes that the impact of autism on children with ASD's education often contributes to their inability to develop effectively in formal schooling. The impact of ASD is exacerbated when educators, para-professionals and peers display a lack of understanding of these children and their challenges. Often, inappropriate support (if any) is given to children with ASD (see Section 2.8).

Challenges such as a lack of ToM and an inability to deal with time and anxiety are factors that affect the functionality of these children in education. It needs to be recognized that a lack of ToM makes it difficult for children with ASD to understand and interpret others' perspectives (see Sections 2.7.1.1 and 4.3.10). Their inability to complete tasks in school on time is related to a rise of anxiety in these children (see Sections 2.7.1.2 and 4.3.1.5). Anxiety may result in inappropriate behaviour or a refusal to transition to the next activity (see Sections 2.3.3.3, 2.4.5 and 4.3.1.11). Rigid behavioural patterns including conduct that is unacceptable in school are displayed when the children encounter unexpected changes in their school day (see Section 2.3.3.1).

Genetic dispositions have a negative impact on several learning areas, such as language and perception, as well as emotive understanding in children with ASD (see Section 2.4). It is obvious that when these challenges are added to the triad of challenges (social, communication and behavioural challenges), learning disabilities and certain comorbidities, it adds to the complex and difficult reality of children with ASD who must cope in an education setting (see Sections 2.3 to 2.5).

The effect of ASD on participants' functionality in education is vast (see Section 4.3.1), so without ASD-types of educational support, as well as the cooperation of the parents, the participants are vulnerable and sometimes excluded from formal schooling. Therefore, the aim is to enable the children on the spectrum to arrive at a place where they are strengthened in their potential and functionality, instead of leaving them vulnerable in a system that is mostly overwhelming to their sensitive nature.

5.2.3 Question 3: What grounding perspective underpins selected drama techniques which could be employed to address the triad of challenges in children with ASD?

The grounding perspectives on relevant drama techniques were presented in Chapter 2, where the importance of drama as play in the development of social, communicative and behavioural skills was emphasised. These drama techniques were linked to research on children with ASD. Chapter 2 explored drama as a holistic intervention to support the underdeveloped areas found in children with ASD.

Drama techniques were found to be an appropriate intervention for the children on the spectrum, due to the versatility of drama therapy and the element of play that models social, communicative and behavioural skills in the drama class (see Sections 2.12 and 2.14). The literature indicated that the fact that drama is experienced as a form of play can be empowering. Thus, structured group work and creative drama, theatre games, psychodrama and drama therapy, role play, movement, and drama for children with disabilities (including ASD) are advocated in the literature (see Sections 2.11 to 2.15). The empirical research in this study (see Section 3.8.2) focused specifically on drama techniques and ASD-types of intervention, such as a greeting circle, breathing, relaxation, movement, improvisation, role play and short scenes, in a structured drama environment.

Researchers and practitioners of drama have confirmed the usefulness of a variety of drama techniques to access the lives of children with and without ASD. Drama techniques support children with ASD to engage in totality and not in part. Drama techniques access the whole child, via the use of body, mind and emotions (see Section 2.13). These drama techniques (in various forms) develop improved functionality in the social, communicative and behavioural domains of the lives of

participants with ASD (see Section 2.14.3). The process described is important because the development of functionality in children with ASD is one of the keys to unlocking their learning barriers (see Section 2.6). The value of drama techniques (in the development of functionality) is related to the formation of children's identity, the development of problem-solving skills, relaxation skills, social understanding, and different perspectives (see Section 2.12).

Creative drama is related to a sense of enjoyment in the establishment of a safe and structured environment, supportive therapy in the development of challenges, teamwork with other therapists in specific skill development (see Section 2.12). Theatre games develop social understanding (see Sections 2.12.2), body awareness, listening and observational skills, social skills and non-verbal skills. Psychodrama and drama therapy support the development of creativity and spontaneity (see Section 2.13), social, communicative, imaginative and behavioural skills, the development of self-confidence, empathy and more functional behaviour. It also reduces social isolation.

Role play can improve social communication, play, emotional interaction and understanding of self-identity in children with ASD (see Section 2.13). The value of movement is related with increased social and emotional behaviour (see Section 3.8.2.1), compassion, eye contact, understanding of body language, listening skills, imaginative play, self-expression, turn-taking, relaxation, self-worth and well-being.

Specific drama techniques for children with disabilities (ASD) are related to the enhanced cooperation in group work and can assist in the development of self-confidence, independence, communication skills, play activities (see Section 2.12), empathy, social understanding, and social integration in education.

The empirical part of this study indicated that the participants had specific needs. These needs were addressed by choosing drama techniques such as breathing, relaxation, voice development, movement, improvisation, short scenes, role play and a transition activity (see Section 3.8.2) as means of support. Findings from the literature, as described in Chapter 2 and the empirical research highlighted the importance of these drama techniques for participants in this study. The techniques were selected on the basis of the conclusions in prior research and the needs of the participants in this study.

5.2.4 Question 4: What is the impact of selected drama techniques on the socialization, communication and behavioural proficiencies of children with ASD in education?

The selected drama techniques (greeting, breathing and relaxation, meditation, stretching, movement, voice development, improvisation, role play, short scenes and art (as a transition activity) were employed to support the children with ASD in the study (see Section 3.8.2). The impact of these techniques is described using the quantitative and qualitative measures, to enrich the description of the impact on the challenges (social, communication and behaviour) experienced by participants in this study. As described in Chapter 3, I adopted a mixed method approach (combining quantitative and qualitative methods) to provide a comprehensive view on the results of the use of a drama intervention on participants in this study. In Chapter 4, the quantitative results of the tests, CARS and CADDRA (WFIRS-P), were discussed first. Thereafter, the qualitative results were considered with reference to the reflective narratives of the parents on the effect of drama techniques on their children with ASD.

The CARS post-intervention test scores (see Section 4.2.2) demonstrated that there was development in all respects. A mean score (372.5) was calculated in the post-intervention test score, which indicated that the participants' development in all the affected areas were effectively supported, compared to the pre-intervention test score of 453. This result shows that the children's development improved significantly, as is evident from the post-intervention test scores (a lower ASD-related score indicates improvement). Important areas that indicated increased development were **socialization** (relating to people, emotional response and listening response), **communication** (visual response, verbal and non-verbal communication) and **behaviour** (body and object use, adaptation to change, intellectual response, and general impression).

The CADDRA (WFIRS-P) (see Section 4.2.3) provided a mean post-intervention test score of 430, compared to the pre-intervention test mean score of 543 (in this instrument, a lower score indicates development). The important areas for the study where development was noted were the impact on **social, communication** and **behavioural** patterns in family life and education.

These two quantitative tests' results confirmed that drama techniques were an effective intervention strategy for most of the participants, increasing their functionality in their **social, communication** and **behavioural** proficiencies. It also appeared to have a constructive impact on their education. However, it was evident that the drama intervention was unable to override specific challenges that fell beyond the controlled environment of the drama class. The impact of the drama intervention was compromised in a few participants, who faced challenges such as victimisation, academic pressure without adequate support and sensory issues, as well as an unstable home environment.

The qualitative method employed reflection narratives, mostly by the participants' families, as well as pre- and post-intervention interviews with the parents. The drama techniques chosen for this study on the participants were found to affect their socialization and communication skills and imagination, as well as their behaviour, as discussed below. Key findings are summarised in more detail below in terms of socialization, communication and imagination, behavioural proficiency, and the sustainability of the effects of the drama intervention.

The impact on **socialization** via the chosen drama techniques varied. Findings from the empirical research revealed that the parents observed changes in their children (after the intervention cycle) in terms of increased socialization, a better sense of humour, compassion and the demonstration of affective behaviour (see Section 4.3.4). The chosen drama techniques thus had various positive effects on the development of various social skills of children with ASD as reported by the participants' parents.

Increased socialization was evident. The social contact with other peers in the drama class broke the children's social isolation and parents' reports revealed that social contact in the drama classes incidentally also assisted their children to socially accept and understand others, whereas previously, these skills posed a challenge (see Section 4.3.4)

Humour and sociability were fostered. An unanticipated consequence in terms of social skills development was that the activities increased a sense of humour in one participant, who also appeared more comfortable with other people after the drama intervention (see Section 4.3.4.1).

Compassionate and affective behaviour emerged. One participant, who had been bullied in formal schooling, displayed protective behaviour, demonstrating compassion and empathy when one of his friends in the class appeared upset (see Section 4.3.4.3). Therefore, an improvement in this participant was evident, based on development reported in his narrative file. Initially, he was rendered helpless by bullying incidents. However, the helplessness was replaced with social awareness or empathy with the possible integration of the bullying incident. Helplessness manifested as pathological behaviour (self-harm) taking place in isolation (at home). His behaviour changed during the drama intervention. He showed compassion (instead of isolation), by demonstrating social contact to help a friend in the class (see Section 4.3.4.3).

Social enjoyment increased. The parents of one participant reported that he seemed to enjoy the social aspect of the drama class more than the drama techniques in themselves (see Section 4.3.4.4). This result concurred with prior researchers' (see Section 2.11.2) views on drama (considered as play) as a beneficial social activity between participants during a drama intervention.

Social skills improved. One participant showed an increase in social skills, with development regarding his greeting others, reciprocal communication, sharing and allowing touch (hugging) in the family context at home (see Section 4.3.4.11). The described conduct was contrary to the anti-social behaviour he demonstrated at home (prior to the drama intervention). One family reported that their child increasingly enjoyed social contact (see Section 4.3.4.4). One of the participants was extremely isolated, but the drama class intervention cycle seemed to enable him to be more sociable (see Section 4.3.4.7). One participant, in contrast to behaviour before the start of the drama intervention, became comfortable enough to socialize with family members at social meetings. The mother reported that this participant's usual behaviour prior to the drama cycle was to isolate himself from other family members (see Section 4.3.4.11). These findings confirm the development of variety of social skills after the use of drama techniques as reported in the prior literature (see Section 2.13.3). These findings of social development corresponded with the quantitative results (see Section 4.2) which confirmed an increase in the social development of participants too.

Communication and imagination skills were developed through a variety of drama techniques, such as role play, improvisation and the socializing aspects of the drama class. The parents reported communication and imagination development in the participants after the drama intervention. There was an improvement in terms of increased communication (verbal and non-verbal) with peers, family and familiar people, more respect towards others, and concern for fellow drama students. The participants' parents reported that the children's imagination was further developed and enriched through drama, even in cases where their imagination was fairly well developed before drama intervention. As anticipated, drama techniques had a variety of positive effects on the participants in the study. This confirms that the imagination of children with ASD needs to be accessed as an empowerment tool for children with ASD (see Section 4.3.4).

Communication and imagination were enhanced. The specialist educator and I observed the participants to research their growth in the communication domain prior to and after the drama intervention cycle. One participant initially demonstrated minimal communication, even with people familiar to the child. The parents reported increased communication with people familiar to the child after the completion of the drama cycle. Although this participant still did not communicate with unfamiliar people, there was a positive development in communication skills. The imagination of this participant, although it was not as limited as the literature on children with ASD suggests (see Section 2.3.2.2), was reported to be increasingly accessed after the drama intervention (see Section 4.3.4.1).

Self-expression and reciprocal communication were increased. Improved communication regarding verbal self-expression and communication marked by respect towards others were reported by parents. These areas are some of those where children with ASD experience difficulty. They do not intend to be rude, but some communication of the children on the spectrum may be perceived as obnoxious communication. The effectiveness of role play (see Section 4.3.4.10) and other drama techniques in support of the necessary communication skills is also described by some participants' parents (see Section 4.3.4[34]).

[34] Subsections 4.3.4.3, 4.3.4.8, 4.3.4.9 and 4.3.4.11.

Compassionate communication improved. Communication is more than verbal expression. It is also a means to express compassion. One of the parents reported that the child communicated concern for a drama student in the class when he arrived at home. This is behaviour that was absent before the drama intervention (see Section 4.3.4.3). This was indicative of the positive effect of the socializing aspect (exposure to friends) in the class. The class became a safe place where the participants interacted voluntarily with each other, through several drama techniques, playful activities and the greeting circle.

There was a noticeable increase in the development of communication in various facets, according to the parents' reports on the participants. Some participants' parents reported communication development in various areas, as mentioned previously. Positive words to describe the development in the majority of participants after the drama cycle included '*increased communication', 'audible', 'improved', 'more open'* and *'prepared to share communication about the detail of the day' (*see Section 4.3.4[35]).

The parents' narratives revealed that the majority participants showed imaginative skills, which in a few participants showed a stronger development after the drama cycle (see Section 4.3.4).

Behavioural proficiencies are an integral part of the functionality of children in education. As mentioned before, dysfunctional behaviour caused by the triad of challenges is displayed by children with ASD in formal schooling (see Section 2.3.3.3). Dysfunctional conduct led to a lack of academic growth in participants (see Sections 4.3.1.2, 4.3.1.5 and 4.3.1.10). Development of certain behavioural skills in the drama cycle supported some children on the spectrum to develop and attain protective skills. Parents' reports after the intervention on the functional development of participants in the area of behavioural skills (demonstrated at home) mentioned the following progress in their children: more functional behaviour at home (helpful with tasks, patience, willingness to share, adhere to instructions, allow time for other siblings' needs, independent work habits), emotional regulation, self-acceptance and affectionate behaviour (see Section 4.3.4[36]).

[35] Subsections 4.3.4.4, and 4.3.4.7 to 4.3.4.11.
[36] Subsections 4.3.4.1, 4.3.4.3, 4.3.4.6 and 4.3.4.11.

Functional behaviour improved. The drama intervention cycle created an awareness of others, which was noted in the behaviour of one of the participants' conduct at home. She demonstrated helpful and functional behaviour at home after the intervention (see Section 4.3.4.1). One of the challenges in children with ASD is to integrate the knowledge they gain into their daily lives for holistic functionality. Hodermarska describes this as a challenge observed in her work with participants with ASD too (see Section 2.13.3). However, the parent's report exhibited integration by the participant. Although there was no specific task to teach the child to become more functional or aware of others in the drama class, it seemed to happen naturally after being in contact with other peers and through the process of play (see Section 4.3.4.1).

Emotional regulation in behaviour was increasingly evident in some participants. Emotional regulation is another aspect of functional behaviour that poses a challenge for children with ASD (see Section 2.3.3.1) and was demonstrated by a few participants (see Sections 4.3.4.2 to 4.3.4.2 and 4.3.4.8). The parents' post-intervention report indicated a growing ability in their children to contain anger. They attributed this development to the drama intervention cycle or psychology therapy (see Section 4.3.4.2). One participant reported that the relaxation techniques in the drama classes enabled him to access skills that controlled negative emotion. This related to his ability to regulate his negative emotions effectively after the drama cycle (see Section 4.3.4.3).

Other positive behavioural developments after the intervention reported by parents were comments of balanced behaviour and self-confidence (see Section 4.3.4[37]). It was noteworthy that one of the participants specifically stated that he experienced the drama class as a safe place where he felt accepted. Acceptance seemed to be a precursor that led to the development of self-confidence, as noted in research (see Section 2.12.1) and by one participant (see Section 4.3.4.3).

Functional behaviour at school assists children to follow and adhere to instructions. One of the parents reported that her son was increasingly able to follow instructions and even succeeded in working independently at home. He took responsibility for completing his homework after the drama intervention. This was an important

[37] Subsections 4.3.4.4, 4.3.4.7 and 4.3.4.9.

development for this family, as it gave them added time to focus their attention on his sibling too (see Section 4.3.4.11).

Increased affectivity was observed in one of the participants after the intervention. Another parent noted that the participant displayed less tactile defensiveness, as he was prepared to display reciprocal affection in the form of a hug (see Section 4.3.4.11). One participant's mother reported that there was no change in her son's behaviour after the intervention. However, this report was disputed by the participant's father, who mentioned that his son displayed more balanced behaviour after the intervention (see Section 4.3.4.4). Most of the parents of the participants in this study gave positive feedback on the development regarding the triad of challenges (see Section 4.3.4), after the drama intervention.

The impact of the drama intervention on the participants' education was varied. The qualitative method (interviews) supplied additional information to supplement the CADDRA (WFIRS-P) test results regarding the impact of the drama intervention on participants' education (see Section 4.2.3). There seems to be an overall stronger functionality in all three areas in most of the participants. However, there were a few participants who seemed to regress. The parents explained that factors such as bullying, and a lack of ASD-types of support in education were related to these participants' regression.

However, more importantly, it would be helpful to ascertain the **sustainability of drama interventions**, especially considering that some participants discontinued drama classes.

Results from the quantitative and qualitative methods indicated a positive development in most of the participants in the social, communication and imagination, and behavioural domains after the drama intervention. However, it is important to discern the sustainability of drama intervention as an effective ASD type of intervention. A closer consideration of the participants' sustained development (post-intervention) led to a division of the participants into three groups. The first group (four participants) were those who continued with drama classes and showed a positive development in the triad of challenges (see Section 4.3.4[38]). This

[38] Subsections 4.3.4.3, 4.3.4.7, 4.3.4.9 and 4.3.4.11.

correlated with ongoing drama therapy in class and the fact that these skills were practised at home.

The second group (five participants) discontinued drama classes, but showed ongoing development and that the drama intervention had a sustainable impact on the triad of impariments. Those participants who proceeded to practise the skills learnt in the drama class at home also demonstrated ongoing positive behaviour related to the drama techniques (see Section 4.3.4[39]). However, there was one participant who showed partial sustainability and also growing negative social conduct, related to victimization at school (see Section 4.3.4.6).

A third group (two participants) discontinued drama classes. Three years after the intervention, in the reflective feedback, their parents reported that these participants showed regression regarding the triad of challenges (social, communication and behavioural skills) and a lack of sustainability in the results of the drama techniques. These participants also experienced victimization or a lack of ASD type of intervention at school (see Sections 4.3.4.2 and 4.3.4.4).

The findings discussed above emphasised a few elements to consider. Participants and their families had to take ownership of their responsibility by practising the skills they learned at home, or if possible, to continue drama interventions. These findings also confirmed the importance of a stable home environment. A stable home is an important precursor for effective support and is an integral part of the whole team working with the child with ASD. Likewise, it also emphasised serious consequences when vulnerable children with ASD were left unprotected against victimization and unsupported in their specific needs in formal schooling. Victimization and unsupported needs seem to have such an adverse effect on some participants that the effect of the intervention's results was minimal improvement or was negated when compared to that of other participants who benefited from the intervention.

5.3 CONCLUSIONS

Children with ASD need support, and drama techniques are an appropriate intervention and support for their various needs in the triad of challenges. Drama techniques are part of a holistic therapy, which affects their development in various

[39] Subsections 4.3.4.1, 4.3.4.5, 4.3.4.6, 4.3.4.8 and 4.3.4.10.

respects. Most importantly, the intervention supported increased functionality in the domains of social, communication and imagination, as well as behaviour skills. These outcomes were confirmed by the quantitative and qualitative results. It would be unethical to presume that developed skills in the challenged domains necessarily integrated into developed behaviour and skills in education, since it was not specifically measured in the educational sphere.

The quantitative results of CADDRA (WFIRS-P) focused specifically on two areas in education (learning and behaviour), which were indicative of the effect of the drama intervention on the participants' schooling. The results signified an overall development in school (see Section 4.2.3). Furthermore, the individual quantitative test results of CADDRA (WFIRS-P), paired with qualitative feedback, confirmed that certain aggravating factors, such as bullying, academic pressure and sensory issues, had a negative impact on the integration of drama techniques as an effective intervention. It may be concluded that these aggravating factors reduced the effect of drama techniques as an intervention and would require more specific and focused work when such areas (victimisation, academic pressure and sensory issues) pose a risk. However, the presence of a stable home environment also played an important role in the development of participants on the spectrum. As mentioned before, drama techniques are not a miracle cure. A holistic approach, where the education system, family and drama interventions interact and complement each other, ensured a higher level of integration of effective development in most of the participants.

All four questions of the study have been answered. The next section provides a reflection on the research and limitations of the study. Recommendations are also presented and followed by suggestions for future research.

5.4 REFLECTING ON THE RESEARCH PROCESS

The research process was a valuable journey for me and the participants. The mixed methods approach produced a large amount of data for analysis, and it was worthwhile to employ a triangulation process. This method worked as a valuable and reliable method to collect various answers from different angles and perspectives. The quantitative results provided valuable answers which were enriched by the data produced by the qualitative methods. Instead of being limited to elementary conclusions, I have found many answers to explain a participant's development or

regression. The transcribed videos of the classes provided a valuable record of the functionality and behaviour of the participants, which proved to be a valuable tool for reflection on each participant. The data from the classes were transcribed from the videos and provided rich detail about the functioning level of each child, as well as about the dynamics of each child's social interaction and communicative abilities. As Henning *et al.* (2004:3-4) suggest, a qualitative methodology provides in-depth data, which I found most valuable in understanding ASD and its effect on the lives of the participants in this study. The stories and experience of the participants were elicited by means of semi-structured interviews, before and after the drama intervention, as well as by means of a reflective interview three years later. The time range of the study also provided interesting and useful information to understand the struggles of children on the spectrum as they matured to adolescence.

I would suggest that researchers employ a mixed methods approach to ensure validity and triangulation of results which not only validate the research, but specifically enhance knowledge of the participants' experience in a study.

However, I would suggest the use of more neurotypical peers to support specifically those participants that have difficulty with functionality. Participants who struggle in a group with other children on the spectrum most probably cope better with a group of neurotypical peers. A dysfunctional child on the spectrum needs the socializing aspect of a group, but it is counterproductive to have to deal with the dysfunction of other children on the spectrum. Although I paired some participants with a neurotypical peer, I realise that there were other participants in the study who might have benefited more from the drama interventions if they had been grouped differently.

5.5 LIMITATIONS OF THE STUDY

The limitations and strengths of the study are important factors to consider. Where possible, I strove to counter the limitations and to enhance the strengths. The study has six limitations.

The first limitation is the fact that initially only 12 children and finally only 11 children on the autism spectrum, participated in the study. Such a small selection of participants makes it problematic to generalise the results of this study to a broader

audience, as Mouton (2011:150) warns. Nevertheless, according to MacLeod *et al*. (2014:419), “even small-scale studies such as this one can inform and influence larger projects. In this way, disability research in general, and autism research in particular, can engage more fully with participatory methodologies, to the benefit of all.”

I considered this limitation to be important, so I attempted to mitigate the limitation by triangulating the outcomes of the three quantitative tests against the literature and the data from the pre-and post-intervention qualitative narrative enquiries, as well as observation during the drama intervention itself. Despite his *caveats*, Mouton (2011:148) mentions two benefits of a small sample study: the smaller construction of the study tends to heighten validity; and it lends itself to deeper insights afforded by the connection that can be established between a researcher and the participants.

The second limitation is the large amount of time that the data-gathering and analysis consumed. Mouton (2011:150) cautions that this can be a problem. There is a positive side to this limitation, however: the time spent working through the data and analysing them allowed time for reflection and growth in understanding the participants.

A third potential limitation is the fact that, as Mouton (2011:149) argues, a researcher may have to face the challenge of partiality. This risk should be taken seriously, so I chose to work with quantitative and qualitative measures to confirm the results. I also worked closely with the parents and the specialist educator to form a team to safeguard me from possible interference arising from my own preferences.

A fourth limitation was organising a limited number of classes in a specific venue. From a personal perspective, I considered having only 12 classes over a period of three months a challenge. I had to weigh 12 classes against a cycle of 24 classes or more. I considered the risk that parents might not be able to keep their commitment to bring the children to the studio on a regular basis, and judged the risk to be smaller if there were only 12 classes. Thus, I chose to lessen the risk of absenteeism. The fact that the classes were not presented at a school also presented a risk and a benefit. The risk was that parents needed to be more committed to bring the children to my studio. The benefit was that the venue became a place in which the children with ASD associated the drama with relaxation and play, and not with schoolwork.

The fifth limitation was a lack of direct feedback from the education system (whether in the form of schools or on the home schooling given to some participants) in the study. The feedback was mainly from parents and a specialist educator. It may be perceived as biased, since the feedback was not related to the various educational structures to confirm a balanced approach.

The last limitation to consider was the fact that this was not a closed study in a *rigidly* controlled environment. I made this decision with good reason. For me, it was about the narratives of the children in the study. Therefore, it was not a rigid scientific experiment, but rather a description of the narrative journey of children on the autism spectrum with drama techniques as an intervention.

5.6 RECOMMENDATIONS AND SUGGESTIONS FOR FURTHER RESEARCH

Arising from the limitations, I recommend a similar study with a bigger sample, which may provide more information, although this may not necessarily be the case, given the uniqueness of the individual experiences and manifestations of autism by children on the spectrum. A longer study with more lessons over a longer period would also provide longitudinal data, which could provide evidence on the long-term effects of drama as an intervention.

The study has shown that educators have a complicated role to play in developing constant functionality in a class situation within a child with ASD. Therefore, it is suggested that a drama therapist/teacher be employed as an integral part of a team of therapists to support educators, parents and children on the spectrum. Drama techniques can clearly function as an intervention experienced as play, which enables children with ASD to access their imagination, develop increased skills in socialization, communication and behaviour. Drama techniques enables them to access heightened functionality in school which adds to an increased feeling of success in the children. This is an important ingredient for effective learning.

Further research could also investigate the efficacy of a trans-disciplinary approach, with a team consisting of the educator, para-professionals and therapists, a drama teacher, parents and a coordinator, as a wholesome approach for effective support for children with ASD. Such teams should also be provided with an Individual

Education Program (IEP), followed by everyone in this team. The coordinated efforts of everyone on the team can ensure maximal development for children with ASD.

Ways for the Department of Education to create policies and support structures to respond to the needs of children with ASD should be investigated. ASD-specific interventions such as visual methods, the use of pictures, transition activities, social stories and drama techniques might be provided as support for their needs. Further study could explore avenues to train educators with a sound knowledge of ASD to understand and work effectively with children with ASD. *White Paper 6* (RSA DoE), various policies and a draft policy indicate the needs of children with disabilities in education (see Section 1.4). It would be feasible to implement a study to research the practical application of these policies and assessments in schools and the effectivity thereof for children with disabilities, including those with ASD.

Research could be undertaken to revisit the efficacy of policies regarding victimization, so that such policies can be revised or re-structured to be more effective in their practical application.

Research is needed on tertiary training structures for educators and drama students, as well as other related para-professional students who may join a team working with children with ASD to increase ASD awareness to provide effective ASD-types of support. For example, studies could explore how Drama Departments at universities and technicons could engage in community projects with a practical drama therapy project where the students (medical, occupational therapy, physiotherapy, education students, etc.) are trained specifically to work with children with ASD, or making films and presenting plays to create awareness of the needs and strengths of children with ASD and to develop knowledge that can be employed practically to work effectively in different therapeutic and educational areas. Ways to disseminate such information to professionals in other disciplines, such as law, should also be investigated, as those who work in justice departments or the police in South Africa should be made aware of the characteristics of children with ASD to ensure that adequate support is provided if children with ASD are dealt with in the course of law enforcement or in court (as complainants, as the accused or as witnesses).

An area that needs investigation is how best to gather South African statistics regarding ASD in schools (learners) and the country (adults and children at home).

Suitable methods of recording accurate statistics might be helpful for a variety of disabilities, for which there are currently no accurate up-to-date local statistics.

5.7 VALUE OF THE STUDY

The study assisted a few children with ASD and their parents in the Northern Cape province in South Africa. Drama techniques as an intervention were shown to provide effective support for children with ASD, assisting the parents of the participating children with ASD and the children themselves. Moreover, the study aimed to inform educators in South Africa about a holistic technique to overcome some of the learning barriers in the lives of children with ASD.

It was important for me as a researcher to add value to the lives of children with ASD. Teaching the participants in this study to relax and contain their anxiety appears to have added to their skills in overcoming learning barriers. I have not specifically tested the aspect of relaxation and its effect on children with ASD, but assume, on the basis of the findings reported by Batson (2010:8) and the British Columbia Ministry of Education (2000:18) that when children with autism can relax, they find it easier to learn in school.

This study will also hold value for children with ASD and their educators if drama techniques as an intervention could achieve one or more of the following:

- improve dysfunctional behaviour in children with ASD;
- provide knowledge of techniques to gain access to the world of children with ASD; and
- enhance understanding the triad of challenges.

Dysfunctional behaviour, such as tantrums caused by sensory overload, contributes to the barriers faced by children with ASD to learning in education systems that may not cater for their needs (Koudstaal, 2011:343-344, 353). If drama techniques can support them to display functional behaviour, it may increase their ability to control their sensory challenges. If educators become more knowledgeable about the nature of children with ASD, educators may feel confident to employ drama techniques to access children with ASD effectively. As mentioned before, the triad of challenges for children with ASD (socialization, communication and limited behavioural skills) has a severe impact on the lives of children with ASD. A minute change in any of these

areas may have an impact on the lives of children with ASD by decreasing their marginalisation and isolation.

5.8 CONCLUDING REMARKS

> And the tragedy is that even in this day and age, the kid who has Autism is often forgotten about. The feeling is that he's almost a waste of time, which says a lot more about society than it does the child. It's heart breaking (Els, 2012:1).

The statistics (see Section 2.2.1) suggest that ASD is a growing challenge worldwide, including South Africa, but all children deserve an opportunity to develop. This study emphasised the needs of children with ASD and their right to appropriate additional support to enable development. The study has demonstrated that drama techniques such as breathing, relaxation exercises, voice development, movement, improvisation, short scenes, role play and art activities as a transition can support the development of social skills, communication and imagination, and behavioural areas in children with ASD – improvements were noted in the functionality of most of the participants of this study, contributing to their education. However, drama skills have to be ongoing and be practised at home for the effects to be sustainable. The participants' unique abilities can be celebrated by means of appropriately tailored drama techniques, which are experienced as play. This is much needed for all children in a life of daily pressure to succeed. In such circumstances, as Barcellona (2015:8) aptly describes regarding her experience of autism, growth and development are possible for these unique individuals:

> Everyone has a mountain to climb and autism has not been my mountain, it has been my opportunity for victory.

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ANNEXURE A: ETHICS FORM

UFS·UV

Faculty of Education

09-May-2017

Dear **Mrs Marlene Zwiegers**

Ethics Clearance: **A narrative journey of children with Autism Spectrum Disorder: the effect of structured drama intervention on functionality in education.**

Principal Investigator: **Mrs Marlene Zwiegers**

Department: **School of Education Studies (Bloemfontein Campus)**

APPLICATION APPROVED

With reference to you application for ethical clearance with the Faculty of Education, I am pleased to inform you on behalf of the Ethics Board of the faculty that you have been granted ethical clearance for your research.

Your ethical clearance number, to be used in all correspondence is: **UFS-EDU-2012-0074**

This ethical clearance number is valid for research conducted for one year from issuance. Should you require more time to complete this research, please apply for an extension.

We request that any changes that may take place during the course of your research project be submitted to the ethics office to ensure we are kept up to date with your progress and any ethical implications that may arise.

Thank you for submitting this proposal for ethical clearance and we wish you every success with your research.

Yours faithfully

Dr. MM Nkoane
Chairperson: Ethics Committee

Education Ethics Committee
Office of the Dean: Education
T: +27 (0)51 401 9683| F: +27 (0)86 546 1113 | E: NkoaneMM@ufs.ac.za
Winkie Direko Building | P.O. Box/Posbus 339 | Bloemfontein 9300 | South Africa
www.ufs.ac.za

ANNEXURE B: SAMPLE INFORMED CONSENT REQUESTS

AUTISM RESEARCH PROJECT

Letter of Information

Dear parents

DOCTORAL RESEARCH: To investigate if drama may enable the child with ASD to function more effectively in school and the community in terms of communication, less fears and socially acceptable behaviour.

For the past years I worked with children with ASD. The drama classes seemed to help the children to relax, enjoy and grow in themselves. I have seen children to develop in numerous ways. The most important of all, is that the children came to a place of acceptance, in themselves and specifically from neurotypicals as well.

I am going to work for a minimum period of 6 months with your child. What is expected from you?

1. You must be prepared to give me written consent by the completion of this form, to work with your child.
2. Your child must be prepared to be voluntary part of this study and must give consent as well.
3. There are no costs involved.
4. It is important that your child should not miss a class. A process of development is started which should be completed, if possible, for the sake of reliable results and development of your child.
5. However, participation is voluntary, and it is within your right to withdraw your child anytime, without explanation, from the study.
6. Information obtained from you and your child is confidential and your child's identity is ensured with a pseudonym.
7. Evaluation will be done by Dr…. and a speech therapist, and others (if needed) to aid me in the compilation of an exact drama program that will benefit you and your child.
8. Drama classes will be presented at my private studio at [omitted for security pupose].
9. The diagnosis of Autism Spectrum Disorder needs to be shared with your child.
10. In my Doctoral research, I have three study leaders (Dr. S. Brynard, Prof. N. Luwes and Dr. A. Van Staden) at the Education Department, University of Free State.

The most important aim of this study is to enable and support your child. Let's work together and bring a structure in place which could be of great importance for you as parents as well as your child. Please phone me if you have any questions. We will get together on the …….at the Autism Clinic, where you will have the opportunity to ask questions.

CONTACT RESEARCHER: M. Zwiegers, Phone [omitted for security purposes]

Please complete and sign the following:

I……., undersigned, give permission to Marlene Zwiegers to write about my child's participation in the drama sessions for inclusion in her Ph.D. research at the School of Education at the University of the Free State. I understand that both my child and the setting where his/her participation in the drama group take place will be kept strictly confidential and that no identifying information will be given in the research paper. I also understand that I may withdraw my consent at any time before the research is completed, without explanation, simply by contacting Marlene Zwiegers or her supervisor. This decision will have no effect whatsoever on my child's participation in the drama sessions or any other aspect of his or her treatment. I have read and understood the contents of this form and I give my consent as described above.

Name of child: …….Age: …….Grade…….

Parents name and surname: …….

Address: ……Landline:……

Cell:……Email:…….

Signature of parents:……. ……..

Signature of child:……

Date:…….

Tannie Marlene moet

skoolwerk doen vir die universiteit in Bloemfontein.

Met die
Dramaklasse doen

Tannie Marlene navorsing met Kinders met ASD.

help met die klasse om 'n
maatjie te wees vir die kinders met outisme.

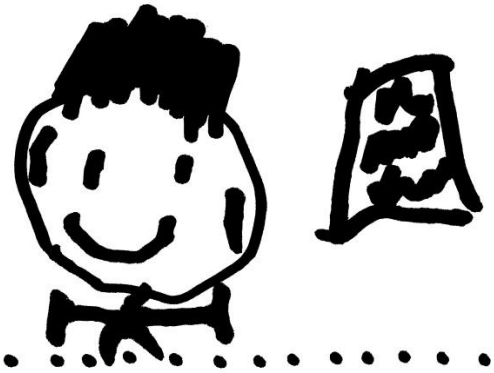
Dis net tannie Marlene se onderwysers wat die videos sal sien.

help vir

D

. . . . . .

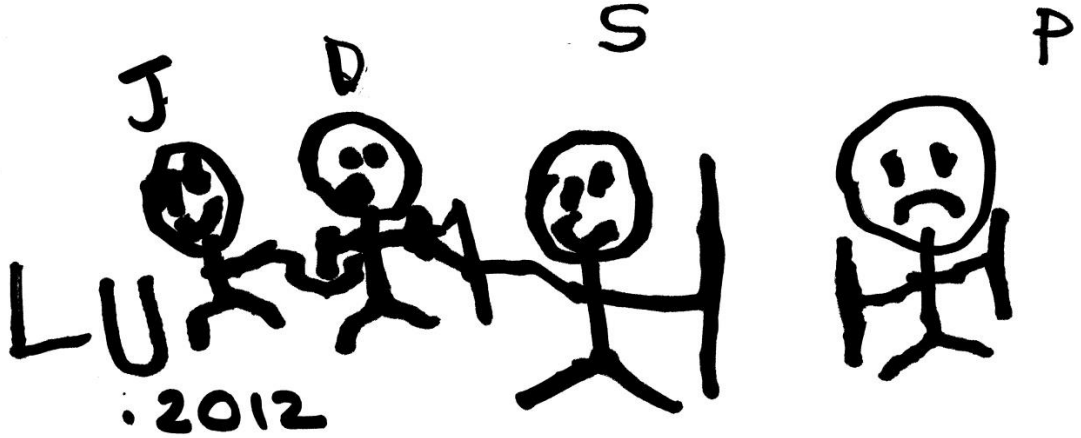
tannie marlene met haar skoolwerk



. . . . . .

D gaan 'n maatjie wees wat
en J help.

S P



. . . . . .

ANNEXURE C:
LETTER FROM EDITOR

[Address omitted for security purposes]

5 November 2017

TO WHOM IT MAY CONCERN

I confirm that I have edited the language in the thesis entitled *A narrative journey of children with Autism Spectrum Disorder: The effect of structured drama intervention on functionality in education* by Marlene Zwiegers.

The editing was done electronically, using Track Changes, to enable the candidate to accept or reject the suggested changes, thus retaining her authorial discretion and right to assert authorship. The editing included checking the format of the referencing and general formatting.

I assert that I am qualified to do such editing, as I have a DLitt in English, have lectured English at the University of Pretoria at the undergraduate and postgraduate levels since 1985, and have been a freelance editor since 1990. I have also designed and offered courses in Editing: Principles and Practice at the undergraduate and graduate levels for 20 years.

I declare that I undertake editing in my private capacity, with permission from my employer (I apply for such permission annually). My employer takes no responsibility whatsoever for the editorial suggestions made in the course of this work.

Yours faithfully

[Signature omitted here for security purposes]
Idette Noome (Dr)
Lecturer: Department of English

ANNEXURE D: PRE-INTERVENTION AND POST-INTERVENTION CARS AND CADDRA SCORES

CARS PRE-INTERVENTION TEST																
NAME	**Section 1: Relating to people**	**Section 2: Imitation**	**Section 3: Emotional response**	**Section 4: Body use**	**Section 5: Object use**	**Section 6: Adaptation to change**	**Section 7: Visual response**	**Section 8: Listening response**	**Section 9: Taste, smell and touch response and use**	**Section 10: Fear or nervousness**	**Section 11: Verbal communication**	**Section 12: Nonverbal communication**	**Section 13: Activity level**	**Section 14: Level of consistency of intellectual response**	**Section 15: General impression**	**Total**
NAME																
Sierra	3	3	3	4	3.5	3.5	4	2.5	3.5	3.5	2	3.5	3	4	3.5	49.5
J-Monday Boy	4	3	3.5	1.5	3	4	3	3	3.5	3	3	3	3.5	3.5	4	48.5
Brother	2.5	1	4	4	2.5	4	2	3	4	3	3	3	3.5	1.5	3.5	44.5
Fern	3	3	2.5	3	2	3	1.5	2	3	3	3	2.5	2	1.5	3	38
Lien	4	3.5	3	4	3	2.5	2.5	3	2.5	4	2.5	3.5	2	3.5	3.5	47
Tyrone	2	4	4	2	3	2.5	2	2.5	1.5	3	1.5	2.5	3.5	2.5	3	39.5
Knight	3	3	2.5	2	1.5	2	2.5	2	2	3	2.5	3.5	3.5	1.5	3	37.5
Artist	3.5	4	3	2.5	2.5	2.5	1.5	2.5	1.5	3	2.5	2	2	2	2.5	37.5
Hano	1.5	1.5	2	1.5	1.5	1.5	1.5	1.5	1.5	3	1.5	2	2	1.5	2	26
Arrow	1.5	3	2	3	3	3	2.5	1.5	3.5	4	3	4	2.5	4	2.5	43
Zen	3	3	3.5	3	3	2.5	3	3.5	1	3.5	2.5	3	2	3	2.5	42
TOTAL PRE-INTERVENTION SCORE CARS	***31***	***32***	***33***	***30.5***	***28.5***	***31***	***26***	***27***	***27.5***	***36***	***27***	***32.5***	***29.5***	***28.5***	***33***	***453***
TOTAL POST-INTERVENTION SCORE CARS	**23**	**25.5**	**25.5**	**29**	**24**	**27.5**	**23**	**21**	**21**	**27**	**23.5**	**26**	**22.5**	**23**	**31**	**372.5**

CARS POST-INTERVENTION TEST																
NAME	**Section 1: Relating to people**	**Section 2: Imitation**	**Section 3: Emotional response**	**Section 4: Body use**	**Section 5: Object use**	**Section 6: Adaptation to change**	**Section 7: Visual response**	**Section 8: Listening response**	**Section 9: Taste, smell and touch response and use**	**Section 10: Fear or nervousness**	**Section 11: Verbal communication**	**Section 12: Nonverbal communication**	**Section 13: Activity level**	**Section 14: Level of consistency of intellectual response**	**Section 15: General impression**	**Total**
NAME																
Sierra	2.5	3	2.5	4	3	3	4	2	3	3.5	2	3	2.5	4	3.5	45.5
J-Monday Boy	3	1.5	2	1.5	2	3	2	2	2	1.5	3	2	2	2	4	33.5
Brother	1.5	1	2.5	2.5	1.5	3	1.5	1.5	1	2.5	1.5	1.5	2	1	3	27.5
Fern	3	2	2	3	2	3.5	1	2.5	3	3.5	4	2	2.5	1	3.5	38.5
Lien	3.5	3.5	3	4	3.5	2.5	3	3	3	3.5	2.5	3	3	3	3.5	47.5
Tyrone	1.5	4	3.5	3.5	1.5	2	2.5	1.5	1	1.5	1	1.5	2	1.5	2.5	31
Knight	1.5	2	1.5	1.5	1.5	2	1	1	1.5	2.5	1.5	3	1.5	1	2.5	25.5
Artist	2	2.5	2	2	2.5	2.5	1.5	2	1.5	2.5	2.5	2.5	2	2	2.5	32.5
Hano	1	1.5	1.5	1	1.5	1	1.5	1	1.5	1	1	1.5	1.5	1.5	1.5	19.5
Arrow	1.5	2.5	2.5	3	2.5	2.5	2.5	1.5	2.5	2.5	2.5	3	1.5	3.5	2	36
Zen	2	2	2.5	3	2.5	2.5	2.5	3	1	2.5	2	3	2	2.5	2.5	35.5
TOTAL POST-INTERVENTON SCORE CARS	***23***	***25.5***	***25.5***	***29***	***24***	***27.5***	***23***	***21***	***21***	***27***	***23.5***	***26***	***22.5***	***23***	***31***	***372.5***

	CADDRA PRE-INTERVENTION TEST								CADDRA POST-INTERVENTION TEST								
	Family	School learning	School behaviour	Life skills	Child's self-concept	Social activities	Risky activities	Total		Family	School learning	School behaviour	Life skills	Child's self-concept	Social activities	Risky activities	Total
NAME	**A**	**B**	**B**	**C**	**D**	**E**	**F**			**A**	**B**	**B**	**C**	**D**	**E**	**F**	
Sierra	8	3	0	16	0	9	0	36		5	3	0	10	1	10	0	29
J-Monday Boy	18	12	1	15	8	16	10	80		13	11	2	14	5	17	10	72
Brother	11	8	11	7	2	9	2	50		3	8	0	10	1	4	0	26
Fern	15	6	3	7	3	11	5	50		12	3	2	4	3	11	2	37
Lien	20	12	6	17	3	7	7	72		13	10	0	18	1	10	5	57
Tyrone	6	8	1	8	1	5	0	29		4	4	0	11	0	11	1	31
Knight	2	1	0	12	2	6	3	26		1	0	0	9	2	7	3	22
Artist	7	12	3	8	3	14	5	52		6	8	0	7	1	6	6	34
Hano	6	6	1	16	5	12	5	51		3	5	1	11	2	9	3	34
Arrow	6	3	0	14	5	16	2	46		11	6	1	19	2	7	2	48
Zen	12	7	7	8	2	10	5	51		7	5	5	10	1	9	3	40
TOTAL PRE-INTERVENTION SCORE CADDRA	**111**	**78**	**33**	**128**	**34**	**115**	**44**	**543**	**TOTAL POST-INTERVENTION SCORE CADDRA**	**78**	**63**	**11**	**123**	**19**	**101**	**35**	**430**