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**A PLAY TECHNIQUE PROGRAMME FOR AUTISTIC
CHILDREN
IN MIDDLE CHILDHOOD**

By

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PRETORIA



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This study is dedicated
to my husband, David.
Thank you for everything.



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SUMMARY

A Play Technique Programme for Autistic Children in Middle Childhood

by

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In this study an attempt was firstly made to theoretically conceptualize autism as a phenomenon in Middle Childhood and the impact thereof on the family, as well as play techniques in the context of autism. The characteristics, behaviour and statistics of autism were looked at as well as the expectations of development of a child (with autism) in middle childhood. The impact of the diagnosis of autism, particularly on the family, was also discussed as well as play techniques in the context of autism. Secondly the researcher focused on exploring the nature of existing play technique programmes on a national and international level.

The focus then was placed on developing a play technique programme for autistic children in middle childhood (between the ages of six and 12 years). This programme was then implemented with 12 autistic children in middle childhood at The Key School for Specialized Education in Parktown West, Johannesburg. Each of the 12 respondents were seen for six sessions, with each session lasting 30 minutes.

The empirical results were then given through evaluating the play technique programme to assess the effectiveness of the play technique programme. Finally



the researcher came to conclusions and recommendations, based on the research findings, regarding the effectiveness of the play technique programme for autistic children in order to enhance the impact of the play technique programme.

The broad aim of the study was to develop and evaluate the effectiveness of a play technique programme to enhance the social behaviour of autistic children between the ages of six and 12.

The following hypothesis was developed: if autistic children are involved in the play technique programme, then their social behaviour will improve. Consequently, the following sub hypotheses were developed: (1) If autistic children are involved in the play technique programme then their verbal communication skills will improve; (2) If autistic children are involved in a play technique programme then their non-verbal communication skills will improve; (3) If autistic children are involved in a play technique programme then their social interaction skills will improve; (4) If autistic children are involved in a play technique programme then their challenging behaviours will decrease.

In the context of applied research, intervention research was the most appropriate type of research for this particular study. This is due to the fact that the researcher aimed to conduct an intervention, namely a play technique programme, which was attempting to impact a particular problem within society, namely the lack of support provided for parents and/or professionals dealing with autistic children in middle childhood.

The research approach used in the study was quantitative. The researcher utilized the one-group pretest-posttest design (i.e. quasi-experimental/associative design). In this particular design there is a measurement (pre-test) of a dependent variable (the autistic children's social behaviour) when no independent variable (play technique programme) is present. Subsequently the independent variable is introduced, followed by a repeated measurement (post-test) of the dependent variable. The 12 respondents were selected through



probability sampling, more specifically stratified and systematic sampling. A self-constructed measuring instrument was used, within structured observation, to evaluate the respondents' changes in social behaviour, due to exposure to the various play techniques. The specific behaviours focused on included verbal communication, non-verbal communication, social interaction and challenging behaviours.

The findings confirmed that the play technique programme had a highly significant effect on all four areas measured (verbal communication, non-verbal communication, social interaction and challenging behaviour). The respondents (the autistic children) therefore showed a marked improvement in their social behaviour due to being involved in the play technique programme and the conclusion that can be reached is that the play technique programme can be perceived as having had the impact that was hoped for.

Key terms

Play therapy, gestalt, projection, play techniques, autism, autistic behaviour, middle childhood, social behaviour, children, and research.



SAMEVATTING

‘n Speltegniekprogram vir Outistiese Kinders in hul Middelkinderjare

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Departement Maatskaplike Werk en Kriminologie

Graad: Doctor Philosophiae (D.Phil)

Daar is in hierdie studie ten eerste probeer om ‘n teoretiese konseptualisering te vorm van outisme as ‘n verskynsel in die middelkinderjare, die uitwerking wat outisme op die gesin het, asook van speltegnieke teen die agtergrond van outisme. Die eienskappe, gedrag en statistiek van outisme en verwagtings oor die ontwikkeling van ‘n kind (met outisme) in die middelkinderjare is ondersoek. Afgesien van die gevolge wat die diagnose van outisme by ‘n kind op veral die gesin het, is speltegnieke teen die agtergrond van outisme bespreek. Ten tweede het die navorser bestaande nasionale en internasionale speltegniekprogramme ondersoek.

‘n Speltegniekprogram vir outistiese kinders in hul middelkinderjare (tussen die ouderdom van 6 en 12 jaar) is ontwikkel. Twaalf outistiese kinders in hul middelkinderjare by die Key School for Specialised Education in Parktown-Wes, Johannesburg het hierdie program deurloop. Hulle het elk ses sessies van 30 minute bygewoon.

Die empiriese resultate is verkry deur die speltegniekprogram te evalueer en die doeltreffendheid daarvan te bepaal. Op grond daarvan het die navorser laastens tot ‘n slotsom gekom en aanbevelings vir die verbetering van die speltegniekprogram gemaak.



Die hoofmerk met hierdie studie was om 'n speltegniekprogram vir outistiese kinders tussen 6 tot 12 jaar oud te ontwikkel en die effek van die program op hul sosiale gedrag te evalueer.

Die volgende hipotese is gestel: Indien outistiese kinders die speltegniekprogram deurloop, sal hul sosiale gedrag verbeter. Voortspruitend hieruit is die volgende subhipoteses geformuleer: (1) Indien outistiese kinders die speltegniekprogram deurloop, sal hulle verbale kommunikasie verbeter; (2) Indien outistiese kinders die speltegniekprogram deurloop, sal hulle nie-verbale kommunikasie verbeter; (3) Indien outistiese kinders die speltegniekprogram deurloop, sal hulle sosiale interaksie verbeter; (4) Indien outistiese kinders die speltegniekprogram deurloop, sal probleemgedrag afneem.

Teen die agtergrond van toegepaste navorsing was intervensienavorsing as die mees geskikte soort navorsing geselekteer en toegepas omrede die navorser het met behulp van die ontwikkelde speltegniekprogram (intervensie) aandag gegee aan 'n bepaalde maatskaplike probleem, naamlik die gebrek aan ondersteuning vir ouers en/of professionele persone wat by outistiese kinders in hul middelkinderjare betrokke is.

Die kwantitatiewe benadering is in hierdie studie gevolg. Die een-groep voortoets-natoets ontwerp (kwasi-eksperimentele/assosiatiewe ontwerp) is in die studie benut. Volgens hierdie ontwerp word 'n afhanklike veranderlike (die outistiese kinders se sosiale gedrag) gemeet wanneer geen onafhanklike veranderlike (die speltegniekprogram) teenwoordig is nie (die voortoets). Dan word die onafhanklike veranderlike (die speltegniekprogram) ingevoer en dit word opgevolg deur 'n tweede meting van die afhanklike veranderlike (die natoets). Die 12 respondente is met behulp van waarskynlikheidsteekproeftrekking en in die besonder deur 'n kombinasie van gestratifiseerde en sistematiese steekproeftrekking gekies. 'n Selfontwerpte meetinstrument is binne gestruktureerde waarneming as data-insamelings metode gebruik om die verandering in die respondente se sosiale gedrag na blootstelling aan verskeie



speltegnieke te evalueer. Verbale en nie-verbale kommunikasie, sosiale interaksie en probleemgedrag is geëvalueer.

Daar is bevind dat die speltegniekprogram ten opsigte van al vier genoemde veranderlikes 'n beduidende verandering te weeg gebring het. Die respondente se sosiale gedrag het merkbaar verbeter as gevolg van die speltegniekprogram. Daar kon dus tot die slotsom gekom word dat die speltegniekprogram die gewenste uitwerking gehad het.

Kernbegrippe

Spel terapie, gestalt, projeksie, speltegnieke, outisme, outistiese gedrag, middelkinderjare, sosiale gedrag, kinders en navorsing.



TABLE OF CONTENTS

ACKNOWLEDGEMENTS	i
SUMMARY	ii
OPSOMMING	v
CHAPTER ONE	
GENERAL INTRODUCTION	
1.1. Introduction	1
1.2. Problem Formulation	5
1.3. Purpose, goal and objectives of study	11
1.3.1 Purpose of the study	11
1.3.2 Goal of the study	11
1.3.3 Objectives of the study	12
1.4 Hypothesis	13
1.5 Research Approach	14
1.6 Type of Research	15
1.6.1 Description of intervention research	15
1.6.2 Motivation for the choice of intervention research	16
1.6.3 Facets of intervention research	16
1.6.3.1 Knowledge development	16
1.6.3.2 Knowledge utilization	16
1.6.3.3 Design and Development	17
1.6.4 The process (phases) of intervention research	18
1.6.4.1 Phase 1: Problem analysis and project planning	20
1.6.4.2 Phase 2: Information gathering and synthesis	23
1.6.4.3 Phase 3: Design	25



1.6.4.4 Phase 4: Early development and pilot testing	27
1.6.4.5 Phase 5: Evaluation and advanced development	28
1.7 Research Design and Methodology	29
1.7.1 Data collection	31
1.7.2 Data analysis	34
1.8 Pilot Study	35
1.8.1 Feasibility of study	36
1.8.2 Testing of data collection instrument	36
1.9 Research Population, Sample and Sampling Method	38
1.10 Ethical Aspects	39
1.10.1 Harm to respondents	39
1.10.2 Informed consent	40
1.10.3 Deception of subjects	40
1.10.4 Violation of privacy and anonymity	41
1.10.5 Actions and competence of researcher	41
1.10.6 Release or publications of findings	41
1.10.7 Debriefing of respondents	42
1.11 Limitations of the study	42
1.12 Definitions of the key concepts	44
1.12.1 Play techniques	44
1.12.2 Autism	45
1.12.3 Middle Childhood	46
1.12.4 Social behaviour	46
1.13 Contents of the research report	47



CHAPTER TWO

AUTISM AS A SOCIAL PHENOMENON

2.1	Introduction	48
2.2	Defining Autism	52
2.3	Characteristics of Autism	54
2.4	Prevalence of Autism	70
2.5	Causes of Autism	72
2.5.1	Genetics	73
2.5.2	Pregnancy/birth	74
2.5.3	Parenting	76
2.5.4	Infection/medication conditions	76
2.5.5	Neurological causes	78
2.5.6	The final common pathway model	78
2.6	Treatment of Autism	80
2.7	Social Effect of Autism	83
2.8	Summary	87

CHAPTER THREE

AUTISM IN MIDDLE CHILDHOOD AND THE IMPACT ON THE FAMILY

3.1	Introduction	89
3.2	Defining Middle Childhood	90
3.3	Development Stages within Middle Childhood: Comparison between Neurotypical and Autistic Children	92
3.3.1	Physical Development	92



3.3.2 Intellectual Development	95
3.3.2.1 Neurotypical children	96
3.3.2.2 Autistic children	97
3.3.3 Social/emotional Development	100
3.3.3.1 Neurotypical children	100
3.3.3.2 Autistic children	102
3.4 The Impact of Autism on the Family	104
3.4.1 Definition of a family	105
3.4.2 Impact on the family	107
3.4.2.1 Financial Impact	110
3.4.2.2 Social Impact	111
3.4.2.3 Emotional Impact	112
3.4.3.4 Impact on the siblings	115
3.5 Summary	117

CHAPTER FOUR

PLAY TECHNIQUES WITHIN THE FRAMEWORK OF PLAY THERAPY

4.1 Introduction	120
4.2 The Nature and Content of Play Therapy	122
4.3 Gestalt Approach to Play Therapy	130
4.4 Projection in Play Therapy	134
4.5 Play Techniques within Play Therapy	137
4.6 Autistic Children and Play Techniques	142
4.6.1 Fantasy	143
4.6.2 Relaxation play	144



4.6.3	Drawing	144
4.6.4	Biblio-play	145
4.6.5	Making things	146
4.6.6	Sensory experiences	146
4.7	Summary	147

CHAPTER FIVE

PLAY TECHNIQUE PROGRAMME

5.1	Introduction	148
5.2	Phase one (Introduction)	149
5.2.1	Goal of the phase	149
5.2.2	Objectives of the phase	149
5.2.3	Content of the phase	150
5.2.4	Comments on the phase	151
5.3	Phase two	152
5.3.1	Goal of the phase	152
5.3.2	Objectives of the phase	152
5.3.3	Content of the phase	152
5.3.4	Comments on the phase	153
5.4	Phase three	154
5.4.1	Goal of the phase	154
5.4.2	Objectives of the phase	154
5.4.3	Content of the phase	154
5.4.4	Comments on the phase	155
5.5	Phase four	156
5.5.1	Goal of the phase	156



5.5.2	Objectives of the phase	156
5.5.3	Content of the phase	157
5.5.4	Comments on the phase	158
5.6	Phase five	158
5.6.1	Goal of the phase	158
5.6.2	Objectives of the phase	159
5.6.3	Content of the phase	159
5.6.4	Comments on the phase	160
5.7	Phase six (Termination)	161
5.7.1	Goal of the phase	161
5.7.2	Objectives of the phase	161
5.7.3	Content of the phase	161
5.7.4	Comments on the phase	162
5.8	Summary	162

CHAPTER SIX

EMPIRICAL RESEARCH FINDINGS

6.1	Introduction	164
6.2	Research Methodology	167
6.2.1	Research Design	167
6.2.2	Sample and sampling technique	168
6.2.3	Data collection method	169
6.3	Research Findings	173
6.3.1	Biographical details of respondents	173
6.3.1.1	The respondents' age group	174
6.3.1.2	The respondents' gender	176



6.3.1.3 The respondents' race	177
6.3.1.4 The respondents' home language	179
6.4 Empirical results: Social Behaviour of Autistic Children	182
6.4.1 Verbal Communication	185
6.4.1.1 Level of spontaneous speech regarding respondents' needs	188
6.4.1.2 Level of spontaneous speech regarding respondents' feelings	190
6.4.1.3 Comprehensive speech regarding general social interaction	191
6.4.1.4 Comprehensive speech regarding present events	192
6.4.1.5 Appropriate speech within the phases	194
6.4.1.6 The ability to express comprehension	195
6.4.1.7 Speech when required	196
6.4.1.8 Appropriate use of vocabulary	197
6.4.1.9 Appropriate sentence structure	199
6.4.1.10 Clarity of speech	200
6.4.1.11 Use of tone when speaking	201
6.4.2 Non-verbal communication	208
6.4.2.1 Facial expression for the purpose of communication	212
6.4.2.2 Gestures	213
6.4.2.3 Appropriate use of personal space	215
6.4.2.4 Eye contact	216
6.4.2.5 Interest in listening	217
6.4.2.6 Appropriate use of silence	218



6.4.2.7	Level of appropriate response to listening	220
6.4.2.8	Ability to focus	221
6.4.2.9	Concentration span	222
6.4.2.10	Attentiveness	223
6.4.2.11	Openness to researcher	225
6.4.3	Social Interaction	230
6.4.3.1	Level of interest in appropriate social interaction	234
6.4.3.2	Desire for physical contact	235
6.4.3.3	Desire for emotional contact	236
6.4.3.4	Participation in the play phase	238
6.4.3.5	Ability to reach out emotionally	239
6.4.3.6	Ability to show obedience to instructions	240
6.4.3.7	Reaction to social interaction	241
6.4.3.8	Interactional cues	242
6.4.3.9	Invitational cues	244
6.4.3.10	Awareness of the researcher	245
6.4.3.11	Level of motivation	246
6.4.3.12	Appropriate response to social interaction	247
6.4.4	Challenging Behaviour	252
6.4.4.1	Repetitive behaviour	255
6.4.4.2	Inappropriate behaviour	256
6.4.4.3	Self-injurious behaviour	257
6.4.4.4	Aggressive behaviour	259
6.4.4.5	Agitation	260
6.4.4.6	Anxiety	261



6.4.4.7 Avoidance	262
6.4.4.8 Distractibility	263
6.4.5 Collective Summary of Social Behavioural Changes	268
6.5 Summary	270

CHAPTER SEVEN

GENERAL SUMMARY, CONCLUSIONS AND RECOMMENDATIONS

7.1 Introduction	272
7.2 Literature Study	275
7.2.1. General Introduction to the study	275
7.2.1.1 Summary	275
7.2.1.2 Conclusions	276
7.2.1.3 Recommendations	277
7.2.2 Autism as a social phenomenon	278
7.2.2.1 Summary	278
7.2.2.2 Conclusions	280
7.2.2.3 Recommendations	281
7.2.3 Autism in Middle Childhood and the Impact on the Family	282
7.2.3.1 Summary	282
7.2.3.2 Conclusions	284
7.2.3.3 Recommendations	285
7.2.4 Play Techniques	286
7.2.4.1 Summary	286
7.2.4.2 Conclusions	289
7.2.4.3 Recommendations	289



7.2.5	Development of a Play Technique Programme	290
7.2.5.1	Summary	290
7.2.5.2	Conclusions	291
7.2.5.3	Recommendations	292
7.3	Empirical Research Findings	293
7.3.1	Quantitative Findings	293
7.3.1.1	Summary	293
7.3.1.2	Conclusions	294
7.3.1.3	Recommendations	298
7.4	Aim and Objectives of the study	299
7.4.1	Aim of the Study	299
7.4.2	Research Objective Achievement	299
7.5	Concluding Statement	300
LIST OF REFERENCES		
	References	302



ADDENDUMS

- Addendum A: Letter of Permission
- Addendum B: Research Scale
- Addendum C: Informed consent
- Addendum D: Letter of Ethical Clearance



LIST OF DIAGRAMS

Diagram 1:	The final common pathway to Autism	79
Diagram 2:	Feelings of family members associated with the diagnosis of Autism	114
Diagram 3:	Five Neurotic Layers	132
Diagram 4:	A pie chart of the age of respondents participating in the study	175
Diagram 5:	A bar graph of the gender representation of the respondents	177
Diagram 6:	Graphical presentation of the race of the respondents included in the study	179
Diagram 7:	Home language of respondents	181
Diagram 8:	Pre- and post-test scores for verbal communication for all the respondents individually	188
Diagram 9:	Pre- and post-test scores for level of spontaneous speech regarding respondents' needs	189
Diagram 10:	Pre- and post-test scores for level of spontaneous speech regarding respondents' feelings	190
Diagram 11:	Pre- and post-test scores for comprehensive speech regarding general social interaction	192
Diagram 12:	Pre- and post-test scores for comprehensive speech regarding present events	193
Diagram 13:	Pre- and post-test scores for appropriate speech within the play technique session	194
Diagram 14:	Pre- and post-test scores for ability to express comprehension	195



Diagram 15: Pre- and post-test scores achieved for speech when required	197
Diagram 16: Pre- and post-test scores for appropriate use of vocabulary	198
Diagram 17: Pre- and post-test scores for appropriate sentence structure	199
Diagram 18: Pre- and post-test scores for clarity of speech	200
Diagram 19: Pre- and post-test scores for use of tone when speaking	202
Diagram 20: Pre- and post-test scores for non- verbal communication of all the respondents	211
Diagram 21: Pre- and post-test scores for facial expression for the purpose of communication	212
Diagram 22: Pre- and post-test scores for gestures	214
Diagram 23: Pre- and post-test scores for appropriate use of personal space	215
Diagram 24: Pre- and post-test scores for eye contact	216
Diagram 25: Pre- and post-test scores for interest in listening	218
Diagram 26: Pre- and post-test scores for appropriate use of silence	219
Diagram 27: Pre-and post-test scores for level of appropriate response to listening	220
Diagram 28: Pre- and post-test scores for ability to focus	221
Diagram 29: Pre- and post-test scores for concentration span	222
Diagram 30: Pre- and post-test scores for attentiveness	224
Diagram 31: Pre- and post-test scores for openness to researcher	225
Diagram 32: Combined pre- and post-test scores for social interaction of each respondent	233
Diagram 33: Pre- and post-test scores for level of interest in appropriate social interaction	234
Diagram 34: Pre- and post-test scores for desire for physical contact	236



Diagram 35: Pre- and post-test scores for desire for emotional contact	237
Diagram 36: Pre- and post-test scores for participation in the play session	238
Diagram 37: Pre- and post-test scores for ability to reach out emotionally	239
Diagram 38: Pre- and post-test scores for ability to show obedience to instructions	240
Diagram 39: Pre- and post-test scores for reaction to social interaction	242
Diagram 40: Pre- and post-test scores for interactional cues	243
Diagram 41: Pre- and post-test scores for invitational cues	244
Diagram 42: Pre- and post-test scores for awareness of researcher	245
Diagram 43: Pre- and post-test scores for level of motivation	246
Diagram 44: Pre- and post-test scores for appropriate response to social interaction	248
Diagram 45: Pre- and post-test scores for challenging behaviour	254
Diagram 46: Pre- and post-test scores for repetitive behaviour	256
Diagram 47: Pre- and post-test scores for inappropriate behaviour	257
Diagram 48: Pre- and post-test scores for self-injurious behaviour	258
Diagram 49: Pre- and post-test scores for aggressive behaviour	259
Diagram 50: Pre- and post-test scores for agitation	260
Diagram 51: Pre- and post-test scores for anxiety	261
Diagram 52: Pre- and post-test scores for avoidance	263
Diagram 53: Pre- and post-test scores for distractibility	264
Diagram 54: Combination of ratings for social behavioural skills	270
Diagram 55: Pre- and post-test scores for impact of play techniques	297



LIST OF TABLES

Table 1:	Phases of intervention research	18
Table 2:	Characteristics of Autistic Spectrum Disorders	57
Table 3:	Criteria for diagnosis of autism	61
Table 4:	Do's and don'ts of early detection	65
Table 5:	Age composition of respondents participating in the study	174
Table 6:	Gender of respondents participating in the study	176
Table 7:	Race of respondents included in the study	178
Table 8:	Home language of respondents	180
Table 9:	Frequency distribution of the respondents' verbal communication ratings	204
Table 10:	Verbal communication ratings	205
Table 11:	Median scores of respondents' ratings with regard to verbal communication	207
Table 12:	Frequency distribution of respondents non-verbal communication ratings	227
Table 13:	Median scores of respondents' ratings with regard to non- verbal communication	229
Table 14:	Frequency distribution of respondent's social interaction ratings	249
Table 15:	Median scores of respondent's ratings with regard to social interaction	250
Table 16:	Frequency distribution of respondents' ratings regarding challenging behaviour	265
Table 17:	Median scores of respondent's ratings with regard to challenging behaviour	266



Table 18:	Combination of ratings for social behavioural skills	268
Table 19:	Comparing pre-test and post-test scores	269
Table 20:	Accomplishment of the study objectives	299



CHAPTER ONE

GENERAL INTRODUCTION

1.1 INTRODUCTION

The aim of this study was to develop and evaluate a play technique programme for autistic children in middle childhood. The play technique programme aimed to impact and improve the quality of life of autistic children. Autism is not considered a disease, but is defined as:

A developmental disorder of brain functioning, with three main symptoms: impaired social interaction, problems with verbal and non-verbal communication and imagination, and unusual or severely limited activities and interests (What is Autism? 2002).

Autism leads to lack in development in all areas of an individual's life. It normally appears during the first three years of childhood and continues throughout his/her life. It is considered treatable, but not curable.

According to Indystar.com (2005) autism is a "disorder that prevents children from interacting normally with other people and affects almost every aspect of their social and psychological development". The Autism Primer (2002) comments further that "individuals with autism have to painstakingly learn normal patterns of speech and communication and appropriate ways to relate to people, objects, and events, in a similar manner to those who have had a stroke".

According to the DSM-IV (in Exhorn, 2005: 10) autistic individuals show restricted repetitive and stereotyped patterns of behaviour, interests and activities. This will have an impact on the child's willingness or ability to learn, owing to his/her restricted behaviours and interests. According to Puterakembara (2005), outside of the triad of impairment, namely limited communication, limited social



interaction and repetitive behaviours, autistic individuals may show the following additional features:

- Little or no eye contact;
- No real fear of dangers;
- Abnormalities in the development of cognitive skills;
- Odd responses to sensory input;
- Self-injurious behaviour; and/or
- Crying or laughing for no apparent reason.

Autistic individuals therefore have a great deal of difficulty in developing and maintaining contact with both themselves and those around them. Building relationships and managing emotions are considered to be challenging and an aspect that an autistic individual battles with throughout his/her life.

Play therapy can be used to “address specific problems and to facilitate positive developmental progress” (Why Play Therapy? 2003). Schoeman and Van der Merwe (1996: 3-5) consider play therapy to be the use of play to assist children in dealing with their particular problem/s. This involves the use of various play materials and techniques.

Axline (in What is Play Therapy? 2003a) defines play therapy as follows:

Play therapy is based upon the fact that play is the child’s natural medium of self-expression. It is an opportunity that is given to the child to “play out” his feelings and problems just as in certain types of adult therapy an individual “talks out” his difficulties.

Alfred Adler in What is Play Therapy (2003b) states that “Play is a child’s work and this is not a trivial pursuit”. This brings to one’s attention the importance of play for a child, and the great benefits of play therapy. Play presents an adult, and more specifically a therapist, with the opportunity to reach the child’s inner



world and bring about the necessary changes in order for the child to have a better quality of life. Carroll (Research Autism – Play Therapy, 2008) comments that “play therapy develops children’s natural ability to express themselves through play”. Lowery (Research Autism – Play Therapy, 2008) claims that “these children’s (autistic children) capacity to form relationships exists and develops in play therapy”.

Play techniques refer to the specific tools and medium of play that are used in play therapy.

This study aimed to explore the various play techniques that can be used with autistic children, in order to improve their social behaviour. How to use play therapy to treat autism (2008) stated that “play therapy can draw autistic children out and give them a way to express themselves, while learning important life skills”. The researcher attempted to draw conclusions and make recommendations that will assist all professionals and individuals involved with autistic children, in helping them to make contact with themselves and develop relationships with others. In this study the researcher adapted the identified play techniques so that they can be used by or involve parents or professionals who are not trained in play therapy.

The researcher is of the opinion that the rationale for a study such as this one can easily be explained. The field of autism, as can be seen in the above definitions and explanations, is a broad one that had received relatively little attention, particularly within a South African context, as Botha (2005) states.

On a professional level, a study of this nature will have a profound effect on both the social work and play therapy fields. Within a social work context, given the fact that autism appears to be sharply on the rise, as Gous (2005) comments, social workers are going to be exposed to autistic children and their families on a much larger scale. The Autism Primer (2002) notes: “Autism knows no



boundaries, no nations, and no race". This highlights the fact that social workers will come into contact with autistic children and adults, on an individual, group and community level. Autism is generally not a field that is covered during studies towards a social work degree and therefore can be considered a relatively new field for most social workers. Through a study like this, social workers will gain a better understanding of what autism is and have some guidelines on how to treat the disorder.

The same can be said for the play therapy field. This study will give insight into the use of play techniques with autistic children. The field of play therapy is also starting to deal with autistic children on a much larger scale, owing to the fact that autism is on the increase, as Botha (2005) notes. At this stage, information on how autistic children respond to the specific play techniques is limited. Through the research the various play techniques will be implemented and evaluated in order to make a researched, scientific analysis of the play techniques that can be used with autistic children.

This study will also have an effect on autistic children and their families, both within their own lives and on a national level. As Stacey (2002) states "...living with an autistic child is exceptionally hard". This study aimed to give practical, everyday guidelines on how to assist in coping with the disorder. This was done through adapting the play techniques in order to allow for their use by the parents and/or teacher, who do not, in most cases, have the necessary training in play therapy. This, it is hoped, will give at least some support to parents and teachers of autistic children who live with and deal with the children as this support is not being given on a national level at this stage.

This chapter will therefore focus on problem formulation; the purpose, goals and objectives of the study; the hypothesis for the study; the research approach and procedure as well as the type of research, the research design and strategies; a



discussion on the pilot study and the sampling method; ethical issues; definitions of the key concepts; and the contents of the research report.

1.2 PROBLEM FORMULATION

Autism is a challenging and ever increasing disorder. “Autism knows no boundaries, no nations, no race. It seems to be as much a part of us as love, and the common cold, as genius, as art” (Autism Primer, 2002). The researcher is in agreement with the above statement, believing that those affected by autism are becoming a larger part of the population and that society is now beginning to acknowledge this.

Wetherby and Prizant (2000: 1) state that autism has three core features, namely “impairments in social interaction, impairments in verbal and nonverbal communication, and restricted and repetitive patterns of behaviour”. This quotation highlights the great implications that the disorder has for the individual. In society individuals are constantly in contact with other people, having to be able to communicate effectively to succeed in getting what they want, and being pressured to fit into a typical mould or type of behaviour to be accepted. These everyday challenges for a person not battling with autism are great to overcome, but for an autistic individual they can be considered almost impossible.

Autism is a neurological disorder that is normally evident by the age of three, and affects a child’s “ability to communicate, understand language, play, and relate to others” (Autism and Pervasive Developmental Disorder Fact Sheet, 2002). However, according to Botha (2005) children above the age of three years are now being diagnosed with autism, with her son being one of the first in South Africa. Owing to this fact and various others, the number of individuals being diagnosed with autism appears to be increasing. This was verified by Gous (2005), who states that the occurrence of autism in South Africa at present is 1:158.



The researcher understands autism as being a dysfunction of the brain, which leads to the inability to interact on a social level, both through verbal and non-verbal communication. Again, social interaction is a behaviour that drives the human race, but this is not known to an autistic individual.

Williams (1996: 1) describes autism as “one bucket with several different jigsaws in it, all jumbled together and all missing a few pieces each but with a few extra pieces that didn’t belong to any of these jigsaws”. This statement shows the complexity and confusion of the disorder and the serious implications it has for the individual’s ability to cope with everyday life.

Stacey (2002) writes that:

Living with an autistic child is exceptionally hard. It does put a damper on your life. We are always tense as such when Michael (the autistic child) is around. Even when he is being good. You are tense because you don’t know what is going to happen next. Everything you do has to be planned, and thought through carefully, as to accommodate Michael.

Botha (2005) states that through living with an autistic child the whole family learns how to “live on the raw edge of fear”.

According to the Mind Institute (2005) the hallmark of autism is the “inability to interact socially”. A parent in this article stated:

I’ll never forget the day we went to see him at pre-school. You see all these kids playing together, doing all this social swinging and playing in the sandbox together, and there’s Chas (their autistic child) over in the corner spinning the wheels on his fire truck turned upside down. And it was at that point in time that it hit us...we’ve got a problem here.

The researcher is of the opinion that these statements, from parents of autistic children, show the great impact that autism has on the families who are living



with an autistic child. There is continuous stress owing to the fact that life is uncertain and ever changing. The challenges can be considered overwhelming and the support given to these families, namely the autistic child, his/her siblings and his/her parents, in South Africa, is limited.

Autistic children engage in unusual behaviour. Encyclopaedia article from Encarta (2002) explains that:

Autistic children often engage in repetitious activities, such as arranging objects in meaningless patterns, flipping a light switch on and off, or staring at rotating objects. Some engage in repetitious body movements, such as spinning, flapping their arms, swaying, rocking, snapping their fingers, and clapping or flapping their hands. In some cases these movements may be harmful, involving repeated biting of their wrists or banging their heads.

Autism Western Cape (2005) considers the following behaviour to be signs and symptoms of autism:

Displays indifference; resistance to change in routine; no fear of real danger; inappropriate laughing or giggling; lack of eye contact; inappropriate attachment to objects; destructive and aggressive at times; aloof; and difficulty with social relationships, verbal communication and non-verbal communication.

As noted, one of the most challenging aspects of autism is the inability to develop contact with self and with others, in forming meaningful relationships. Science News (2005) states that “families with a child with autism find themselves isolated from others, either because the parents are overwhelmed and too tired to do anything, or because they are worried or embarrassed by what their child may potentially do (or not do) in a social situation”. Angelfire (2002) explains that autistic children experience an “inability to relate themselves in an ordinary way to people and situations from the beginning of life, whenever possible



disregarding, ignoring and shutting out anything that comes to the child from outside”.

The researcher is of the opinion that the above quotations highlight the difficulties that parents, teachers and other professionals experience in dealing with autistic children face everyday. They are unable to interact with the child, and the child often does not even recognize them. They are also limited in the amount of help they can give the child, owing to a lack of understanding and support.

Kimmel (2005) states that one of the most challenging aspects of autism is the fact that the children are unable to communicate, on both a verbal or non-verbal level. This leads to a great deal of frustration for the child. Dancer (2005) agrees with this by stating that many of the children need different methods as a means of communication in order to reduce their frustration level and then the children, when exposed to the methods/techniques, become more involved and happier in their environment, communicate (nonverbally) more appropriately and become more expressive.

The autistic child is therefore almost an island, battling to interact or communicate with anyone around him/her. He/she is unable to get his/her feelings or needs across to anyone, particularly his/her parents or teachers, who are dealing with him/her everyday. Although there might be ways to assist in dealing with the autistic child, there is definitely a lack of support and information.

According to BambooWeb Dictionary (2005) there are various major comorbid disorders associated with autism. These may include:

Post-traumatic stress disorder, sensory integration disorder, anxiety disorder, panic disorder, social anxiety disorder, attention deficit hyperactivity disorder, obsessive-compulsive disorder, seizures, Tourette’s syndrome, and depression.



Through the above information and through personal contact with autistic children, the researcher reached the following conclusions. Autistic children and their families are constantly faced with many challenges. The autistic child is often placed in a situation where he/she is required to interact with other people, while it is an activity for which he/she is not equipped. Autistic children are unable to make contact within themselves and this inability to have internal contact only compounds the difficulty of an autistic child in developing and maintaining social relationships with people around him/her. This leads to a great deal of difficulty for the parents, in trying to care for their autistic children. Autistic children are also faced with various other problems that could be seen in the above quotes, which adds a further challenge to coping with everyday life, for them as individuals and within their families.

The statistics on autism were varied, depending on the particular author or research that has been done. The researcher noticed the change in statistics over the past three years. On an international level, according to Encyclopaedia article in Encarta (2002), "autism affected two to five out of every 10,000 children". In an article in The International Child and Youth Care Network (2002) it was noted that autism ranges from around 40 to 90 per 10 000 births, although the true figures are still being investigated. In South Africa the statistics are limited, but Stacey (2002) mentioned that the "national body knows of approximately 1,000 people with autism, but statistically there must be over 25 thousand people affected".

The statistics have changed dramatically. According to Autism Western Cape (2005) "autism affects 1 in 158 South African children under the age of six years, with it being four times more prevalent in boys than in girls". According to the Autism Society of America (2005) "autism is the most common of the Pervasive Developmental Disorders, affecting an estimated 1 in 166 births". Science News (2005) agrees, stating that "1 in every 166 people is affected with autism.... the



rate of people being diagnosed with autism has increased substantially over the past two decades”.

Stacey (2002) states that the most difficult thing to deal with was “accepting the fact that Michael will never get better, that this is a lifelong problem and worry”. Botha (2005) further comments on this, stating that “it is hard to believe that life is never going to just be normal”. According to Autism FAQ (2005):

The amount of supervision that autistic children require varies, but in general there is an extra burden on the parents which in many cases is severe. Providing the care and supervision can possibly require as much effort as would an additional full time job.

These three quotations, two from parents who have lived and are living with an autistic child, again highlights the extreme pressure and difficulties associated with raising and working with autistic children.

Gous (2005) states that there is limited support for both teachers and parents, and the parents are often unable to afford the limited support that is offered. The parents also often show a high level of denial, owing to a lack of understanding, and are therefore not interested in receiving the required support or education.

The researcher is of the opinion that this is a serious problem that is being faced by all individuals living with or affected by autism. There are a limited number of schools that cater specifically for autistic children and these schools are privately run and are therefore often under-funded. Then once the children reach 18 years of age there are very few aftercare facilities available to them and their families.

The focus of this study was therefore on developing and evaluating a play technique programme for autistic children in middle childhood, aiming to improve their social skills, in order to support parents and/or professionals who are dealing with autistic children. Through using such a programme the parents and/or professionals will hopefully be able to help the autistic child to become



more aware and make contact with his/her environment and to stimulate the child in reaching some of his/her developmental tasks. The programme will be adapted in order to allow parents and/or professionals to use it, without prior play therapy training. It will be practical and hopefully useful in managing the stresses of everyday life, through improving their child's social behaviour. Play, according to Axline (1974: 9), is a "child's natural medium of self-expression" and therefore the researcher considers play to be an appropriate medium in working with a child.

1.3 PURPOSE, GOAL AND OBJECTIVES OF STUDY

1.3.1 Purpose of the study

This study is exploratory in nature. According to Bless and Higson-Smith (in Fouché, 2002a: 109), exploratory research is "conducted to gain insight into a situation, phenomenon, community or individual". Rubin and Babbie (2001: 247) define the aim of an exploratory study as being "to explore a new area about which little is known – in the hope of generating new insights and hypotheses that will be studied more".

This study can be considered exploratory because it intends to gain insight into a relatively new area namely the use of play techniques with autistic children.

1.3.2 Goal of the study

According to Fouché, (2002a: 107) a goal is "... the end towards which effort or ambition is directed". Rothman and Thomas (1994: 31) state that a goal refers to "the broad conditions or outcomes that are desired by the community of interest".

The goal of this study was **to develop and evaluate the effectiveness of a play technique programme to enhance the social behaviour of autistic children between the ages of six and 12 years.**



1.3.3 Objectives of the study

Rubin and Babbie (2001: 111) comment that the objectives of a study should answer questions such as “What exactly do you want to study? Why is it worth studying? In what ways does the proposed study have significance for practice and policy? Does it contribute to our general understanding of a thing?”

Rothman and Thomas (1994: 31) state that objectives “refer to those more specific changes in programs, policies, or practices that are believed to contribute to the broader goal”.

According to the Oxford School Dictionary (2004: 306) an objective is “what you are trying to reach or do; an aim”.

In this study the objectives were the following:

- 1.3.3.1 To theoretically conceptualize autism as a phenomenon in middle childhood and the impact thereof on the family, as well as play techniques in the context of autism.
- 1.3.3.2 To explore the nature, on a national and international level, of existing play technique programmes for autistic children.
- 1.3.3.3 To develop a play technique programme for autistic children.
- 1.3.3.4 To implement the play technique programme.
- 1.3.3.5 To evaluate the effectiveness of the play technique programme.
- 1.3.3.6 To come to conclusions and make recommendations to enhance the effectiveness of the play technique programme for autistic children.



1.4 HYPOTHESIS

Given the fact that the researcher intended to investigate what the effect of a play technique programme (independent variable) is on the social behaviour of autistic children (dependent variable) a hypothesis was the most appropriate.

Monette, Sullivan and DeJong (2002: 31) state that a hypothesis is a “testable statement of presumed relationships between two or more concepts”. Gravetter and Forzano (2003: 16) define a hypothesis as a “tentative answer that is intended to be tested and critically evaluated”. Babbie (2004: 44) considers a hypothesis to be “a specified testable expectation about empirical reality that follows from a more general proposition”. Grinnell (1997: 91) describes a hypothesis as “a statement that can be proved or disproved by comparison with objective facts”. Bless and Higson-Smith (1995: 38) acknowledge that a hypothesis should be conceptually clear, have empirical referents, be specific and must be testable with available techniques.

Based on the above definitions the following hypothesis and sub-hypotheses were formulated for this study:

If autistic children are involved in the play technique programme, then their social behaviour will improve.

- **If autistic children are involved in the play technique programme then their verbal communication skills will improve.**
- **If autistic children are involved in a play technique programme then their non-verbal communication skills will improve.**
- **If autistic children are involved in a play technique programme then their social interaction skills will improve.**



- **If autistic children are involved in a play technique programme then their challenging behaviours will decrease.**

1.5 RESEARCH APPROACH

For the purposes of this study the researcher utilized the quantitative approach. Creswell (in Fouché & Delpont, 2002: 79), defines quantitative research as:

A paradigm based on positivism, which takes scientific explanation to be nomothetic (i.e. based on universal law). Its main aims are to measure the social world objectively, to test hypotheses and to predict and control human behaviour.

Rubin and Babbie (2001: 44) state that quantitative research emphasizes “the production of precise and generalizable statistical findings...it verifies whether a cause produces an effect in general”.

According to Reid and Smith (in Fouché, 2002: 105) quantitative research is focused on relatively specific questions or hypotheses; the researcher’s role is that of an objective observer; and statistical methods are used to determine the associations between variables.

Babbie (2004: 396) defines quantitative research as “the numerical representation and manipulation of observations for the purpose of describing and explaining the phenomena that those observations reflect”.

In this study the approach was quantitative, focusing on the development and evaluation of the effectiveness of a play technique programme in enhancing the social behaviour of autistic children. This study aimed to “measure the social world objectively” (Fouché & Delpont, 2002: 79), specifically social behaviour in autistic children; “verify whether a cause produces an effect in general” (Rubin & Babbie, 2001: 44), namely a play technique programme on the social behaviour of autistic children; and impact/control human behaviour, particularly the social



behaviour of autistic children in middle childhood. This therefore verified the fact that the study was quantitative in nature.

1.6 TYPE OF RESEARCH

Within this study the type of research to be conducted was applied research, more specifically intervention research.

Monette, Sullivan and DeJong (2002: 5) comment that applied research is “designed with a practical outcome in mind and with the assumption that some group or society as a whole will gain specific benefits from it”. Babbie (2004: 28) states that the outcomes of applied research are put into practice.

Owing to the fact that this study aimed to impact and benefit the treatment of autism, particularly providing a practical outcome to impact the social behaviour of autistic children, it falls into the category of applied research.

1.6.1 Description of intervention research

Rothman and Thomas (1994: 4) state that intervention research is “an integrative perspective for human service research”. It is important to note that Rothman and Thomas (1994) can be considered an older source, but it has been used due to the fact that it can be considered the original source when referring to intervention research.

Intervention research can therefore be described as focusing on practical issues and concerns in an attempt to come up with relevant and realistic interventions which will benefit the population and/or community.



1.6.2 Motivation for the choice of intervention research

The researcher is of the opinion that intervention research was the most appropriate type of research for this particular study. This is due to the fact that the researcher aimed to conduct an intervention, namely a play technique programme, which was attempting to impact a particular problem within society, namely the lack of support provided for parents and/or professionals dealing with autistic children in middle childhood.

1.6.3 Facets of intervention research

Within intervention research there are three facets as well as six phases. With regard to the facets, the following three facets are present: knowledge development; knowledge utilization; and design and development.

1.6.3.1 Knowledge development

The facet of knowledge development aims to “create findings that will apply to the understanding and/or solutions of practical problems” (Rothman & Thomas, 1994: 4).

Within this facet the objective is to contribute knowledge of human behaviour (Rothman & Thomas, 1994: 7). This is achieved through conventional social and behavioural science research methods. The outcome that is aimed at is to gather information about human behaviour in the form of a concept, hypothesis, theory and empirical generalizations.



1.6.3.2 Knowledge utilisation

Knowledge utilization, according to Rothman and Thomas (1994: 6), consists of “converting knowledge from the theory and empirical research of social and behavioural science to knowledge and having an application thrust”.

The method used within this facet is to transform available knowledge into theories and applications that are relevant to a given target, population problems and/or intervention method.

1.6.3.3 Design and Development

This facet aims to evolve new human service technology, such as treatment methods, programmes, service systems or policies. This is achieved through several approaches, such as developmental research, social research and development, experimental social innovation, and model development research (Rothman & Thomas, 1994: 8).

This facet of intervention research can be carried out independently, according to Rothman and Thomas (1994: 8), although knowledge utilization is generally included.

Design and development aims to develop technical means of achieving human service objectives like assessment and intervention methods as well as service programmes, systems and policies.

In the light of the study’s focus, it is clear that the facet of intervention research relevant for this study is Design and Development (D & D). The proposed type of research is relevant for this particular study because it is a problem-solving process seeking the development of an effective intervention programme for autistic children.



1.6.4 The process (phases) of intervention research

Intervention research involves six phases. Within each of these phases there are specific steps or operations that must be considered and completed in order to reach the aim of the particular phase. These phases have been portrayed in the following Table 1 and will then be discussed in more detail.

Phase six of intervention research, namely dissemination, is not applicable to this study and therefore will not be included or further described.

Table 1: Phases of intervention research

Phases of Intervention Research	Selected stages of the phases applicable to this study	Application of intervention research in this study	Chapter relevance
<p>Problem analysis and project planning</p>	<p>Identifying and involving clients</p> <p>Gaining entry and cooperation from settings</p> <p>Identifying concerns of the population</p> <p>Analyzing identified concerns</p> <p>Setting goals and objectives</p>	<ul style="list-style-type: none"> • <u>Key Partners</u> included: (a) The Key School for Specialized Education, (b) autistic children in middle childhood, (c) parents and (d) principal and teachers. • The Key School for Specialized Education has been supportive and has accommodated the study. • A written letter of approval was obtained from the principal, Jenny Gous, of The Key School for Specialized Education. • The parents of the respondents were briefed about the research and provided the opportunity to refuse or allow their children to participate in the study. • The study was scheduled at the 	<p>Chapter 1</p>



		<p>convenience of the school and participants.</p> <ul style="list-style-type: none">• Concerns of the population: The nature and prevalence of autism was determined through an in-depth literature study and interviews with experts.• The study's goal and objectives were established.	
Information gathering and synthesis	<p>Using existing information sources; Studying natural examples</p> <p>Identifying functional elements of successful models</p>	<ul style="list-style-type: none">• Literature was studied in-depth in order to gather information.• The researcher has contacted various experts in the field, such as teachers and parents, in order to gather information.• Previous programmes/studies were looked at in order to identify their successful traits.	Chapters 2, 3 & 4
Design	<p>Designing an observational system</p> <p>Specifying procedural elements of the intervention</p>	<ul style="list-style-type: none">• The observational system that was used in this study was structured observation, using a self-constructed scale as the measuring instrument.• The procedures of the intervention were clearly defined.	Chapter 5
Early development and pilot testing	<p>Developing a prototype or preliminary intervention</p> <p>Conducting a pilot test</p>	<p>Early development and pilot testing within this study included:</p> <ul style="list-style-type: none">• The development of a play technique programme,• A literature study,	Chapters 2, 3, 4 & 5



	Applying design criteria to the preliminary intervention.	<ul style="list-style-type: none"> • Consultation with experts in the field, such as teachers, therapists and parents, • Exploration of the feasibility of the study, and • Pilot test of the measuring instrument (i.e. self-constructed scale). 	
Evaluation and advanced development	<p>Selecting an experimental design</p> <p>Collecting and analyzing data</p>	<ul style="list-style-type: none"> • The designs used in this study were a combination of (1) exploratory design, and (2) the one-group pre-test–post-test design, which is a quasi-experimental design. • Data collection was done by means of structured observation, using a self-constructed scale in the pre-test i.e. before introducing the play techniques, and post-test with 12 autistic children in middle childhood. Data was statistically analyzed and displayed by means of graphical presentations. 	Chapter 6
Dissemination	This phase is not applicable to this study.		

1.6.4.1 Phase 1: Problem analysis and project planning

Within this phase it is vital that there is collaboration between the researcher and the clients. This will help to gain the necessary support and cooperation for conducting the research. This stage of the process was achieved through completing chapter 1 of this study.



De Vos (2002: 397) mentions that in this phase it is important to differentiate between a private problem and a social problem. A social problem is something that affects many people rather than just an individual. Hastings (in De Vos, 2002: 397) defines a social problem as a “condition of society that has a negative effect on a large number of people”. In the context of this study autism can be categorised as a social problem that has a negative effect on a large number of people.

a. Identifying and involving clients

The researcher should identify the particular goals and targets of the intervention, with the involvement and support of the clients. Through identifying relevant issues and compiling agreed upon goals, the intervention is more likely to be of benefit to those involved: “The researcher should select a population whose issues and problems are of current or emerging interest to clients themselves, researchers and society” (Fawcett, Soares-Balcazar, Balcazar, White, Paine, Blanchard & Embree, in Rothman & Thomas, 1994: 27).

In this study it was important for the researcher to involve the various client systems, such as the autistic children, teachers and/or parents, throughout the whole process. The researcher had a great deal of contact with various members at The Key School for Specialized Education as well as experts in the field, such as parents and professionals in the field of social work and play therapy.

b. Gaining entry and cooperation from settings

It is important for the researcher to identify key individuals who can assist in gaining entry into the specific population and environment as well as get the necessary cooperation from those involved.



In order to achieve this, the researcher, according to Fawcett et al. (in Rothman & Thomas, 1994: 29), must have a good understanding of what they have to offer and how to articulate the benefits.

The researcher developed a relationship with the headmistress at The Key School for Specialized Education as well as the teachers, in order to be allowed the necessary entry as well as the cooperation from the children. The researcher developed a relationship with these individuals, through spending time at The Key School for Specialized Education.

c. Identifying concerns of the population

Within this stage it is vital that the researcher does not impose his/her external views of what the problem is and how to solve the particular problem. Fawcett et al. (in Rothman & Thomas, 1994: 29) state that “once they (the researchers) have access to the setting they should attempt to understand the issues of importance to the population”.

The manner in which to do this would be to talk to key informants within the population who can give the researcher a good understanding of the circumstances. In this study the concerns of the population were identified through conversations with experts in the field, such as teachers, professionals and parents. The purpose of these discussions was to gain a better understanding of circumstances within South Africa, with regard to autism. The concerns of the population were identified further through an in-depth literature study.

d. Analyzing identified concerns

In this phase the researcher can ask various questions, such as: “What is the nature of the discrepancy between ‘ideal’ and ‘actual’ conditions that define the problem? For whom is the situation a problem? What are the negative



consequences of the problem for affected individuals? Who should share the responsibility of ‘solving’ the problem? What is the acceptable level of change?” (Fawcett et al., in Rothman & Thomas, 1994: 30).

Through answering these questions the researcher was able to clearly identify and gain a good understanding of the concerns. She gathered these answers through experts in the field as well as through the literature study.

e. Setting goals and objectives

This is considered the final operation in this phase. In this stage a “careful problem analysis yields potential targets for change and possible elements of the intervention. Stating broad goals and more specific objectives clarifies the proposed ends and means of the intervention research project” (Fawcett et al., in Rothman & Thomas, 1994: 31).

The goals and the objectives of this study have been stated in section 1.3.

Through developing and establishing the goals and objectives, the researcher was assisted in structuring the next phase, namely information gathering and synthesis.

1.6.4.2 Phase 2: Information gathering and synthesis

Fawcett et al. (in Rothman & Thomas, 1994: 31) state that this phase could be subtitled “Not Reinventing the Wheel”. In other words this phase should aim at looking at what has already been done in order to develop a new intervention. This was done through studying existing information sources and natural examples as well as identifying functional elements of previous successful models. This stage of the process was achieved through completing chapter 2, 3 and 4 of this study.



a. Using existing information sources

Fawcett et al. (in Rothman & Thomas, 1994: 32) comments that “a literature review usually consists of an examination of selected empirical research, reported practice, and identified innovations relevant to the social or health concern”.

In this stage it is important to look further than an individual profession, as a social problem is not simply confined to one discipline.

Within this study the existing information sources included literature as well as information from experts in the field, such as various professionals, teachers and parents of autistic children.

b. Studying natural examples

Through studying natural examples the researcher can get an understanding of how individuals or the community have attempted to address the problem. This can be done through personal interviews as well as observing previously successful/unsuccessful programmes and practices.

In this study the researcher gathered this information through contact with experts in the field as well as looking at the previous studies done with autistic children.

c. Identifying functional elements of successful models

In this stage the focus is specifically on previous programmes and practices. Questions that can be asked include: Is there a model program, policy, or practice that has been successful in changing targeted behaviour and outcomes? What made it effective? What caused it to fail? Which events appeared critical?



What conditions were critical? What specific procedures were used? (Fawcett et al., in Rothman & Thomas, 1994: 33).

In this study the researcher looked at previous programmes and research in order to gather knowledge which helped to guide the design and development of the intervention.

1.6.4.3 Phase 3: Design

The stages of design and early development can be considered interrelated. According to Fawcett et al. (in Rothman & Thomas, 1994: 33) there are two types of products that result from intervention research, namely the research data that may demonstrate relationships between the intervention and the behaviour or outcome that define the problem of interest; and the intervention – which may include a strategy, technique or programme; informational or training material; environmental design variables; a motivational system; a new or modified policy; or other procedures (Fawcett et al., in Rothman & Thomas, 1994: 34).

This phase includes designing the observational system and specifying procedural elements of the intervention. This stage of the process was achieved through completing chapter 5 of this study.

a. Designing an observational system

It is necessary for the researcher to design a way of observing events related to the specific phenomenon, in this case autism, in a natural manner. This observational system is closely linked to the process of designing the particular intervention. If possible, the clients should be involved in the specification of the behaviour and environmental conditions that need to be observed.



The observational system should consist of three working parts. Fawcett et al. (in Rothman & Thomas, 1994: 34) explain that this includes firstly, “definitions of the behaviours associated with the problem are defined in operational terms; secondly examples and non-examples of the behaviour are provided to help discriminate occurrences of the behaviour; and finally scoring instructions are prepared to guide recording of desired behaviours”.

De Vos (2002: 408) states that “relevant behaviours and outcomes may be measured, using direct observation by independent observers or self-monitoring or self-reporting for events that may be difficult to observe directly”.

Fawcett et al. (in Rothman & Thomas, 1994: 35) comment that the “type of measurement to be chosen depends on many factors, including how many individuals and behaviours must be observed, the length of the observation phase, the duration of intervals within the phase, and the availability of trained observers”.

The method of observation in this study was structured observation through the use of a self-constructed measuring instrument, focusing on the social behaviour of autistic children in middle childhood.

b. Specifying procedural elements of the intervention

Through studying naturally occurring innovations and observing the problem, the researcher can identify procedural elements for use in the intervention. According to Fawcett et al. (in Rothman & Thomas, 1994: 35) “these procedural elements should be specified in enough detail so that they can be replicated by other typically-trained change agents”.

In this study the researcher observed the social behaviour of autistic children in the school environment, noting how they are managed by the teachers involved.



The researcher also gathered information from parents of autistic children, in order to gain an understanding for their coping methods. The researcher then took this understanding and integrated it into the study.

1.6.4.4 Phase 4: Early development and pilot testing

During this phase a primitive design is evolved to a form that can be evaluated under field conditions. This stage of the process was achieved through completing chapter 1, 2, 3, 4 and 5 of this study.

a. Developing a prototype or preliminary intervention

At this particular stage preliminary intervention procedures are selected and specified. Barnes-September (in De Vos, 2002: 410) comments “that the draft protocol developed by the protocol development team includes a functional flow chart describing the proposed process of intervention (sequence of events), detailed description and motivation for each step, structural mechanisms and suggested time-lines for the completion of intervention tasks”.

In this study the researcher developed a draft protocol based on the phases and stages intervention. These are all mentioned in section 1.6.

b. Conducting a pilot test

According to De Vos (2002: 410) a pilot study is “designed to determine whether the intervention will work.” The pilot study should be done in an environment convenient for the researcher and that is similar to the one in which the intervention will take place. Fawcett et al. (in Rothman & Thomas, 1994: 37) comment that the “observational system that was devised is instrumental here...pilot test helps to determine the effectiveness of the intervention and identify which elements of the prototype may need to be revised”.



In this study the researcher identified two autistic children, who were not part of the main study, to participate in pilot testing the play technique programme and the observational system. The pilot test in this study is referred to in more detail in paragraph 1.8.

c. Applying design criteria to the preliminary intervention concept

Fawcett et al. (in Rothman & Thomas, 1994: 37) highlight the importance of the “design process [being] informed by common guidelines and values for intervention research”. Relevant questions include: Is the intervention effective? Is it simple to use? Is it practical?

These criteria cannot suggest how to optimize the standards but they do help to guide the design or interventions that are subjected to pilot testing and formal evaluation.

The design process in this study was guided by the process of intervention research as well as the researcher’s common knowledge and understanding.

1.6.4.5 Phase 5: Evaluation and advanced development

Although this is not the final phase of intervention research, in this study it is considered the final phase because Phase 6, namely dissemination, is not applicable. This stage of the process was achieved through completing chapter 6 of this study.

a. Selecting an experimental design

Fawcett et al. (in Rothman & Thomas, 1994: 37 – 38) state that “experimental designs help demonstrate causal relationships between the intervention and the behaviours and related conditions targeted for change”.



Factors that may affect the researcher's choice include:

- The goals and magnitude of change sought by clients;
- The types of behaviours and the desired immediacy of the changes;
- The stability of the setting or context; and
- The goals of the research.

In this study the design was divided into two phases: firstly, the exploratory design and secondly, the quasi-experimental design, more specifically the one-group pre-test–post-test design. This is discussed further in paragraph 1.7.

b. Collecting and analyzing data

The final stage of this study, within the parameters of intervention research, is to collect the necessary data using the observational system selected and then analyze this data through specified procedures.

Fawcett et al. (in Rothman & Thomas, 1994: 38) describe this process in the following way: “during a pilot test and more formal evaluations of an intervention, data are collected and analyzed continuously”.

The researcher collected the data through structured observation using a self-constructed measuring instrument. The data was analysed through statistical procedures and displayed by using graphical presentations. This is discussed further in paragraph 1.7.

1.7 RESEARCH DESIGN AND METHODOLOGY

Fouché and De Vos (2002: 137) state that a research design “focuses on the end product, formulates a research problem as a point of departure and focuses on the logic of the research”.



Babbie and Mouton (2001: 72) comment that research design “addresses the planning of scientific inquiry – designing a strategy for finding out something”.

The type of research to be focused on in this study is intervention research. Rothman and Thomas (1994: 4) state that intervention research is “an integrative perspective for human service research”.

The researcher utilized the exploratory design to achieve the following two objectives:

- To theoretically conceptualize autism as a phenomenon in middle childhood and the impact thereof on the family, as well as play techniques in the context of autism.
- To explore the nature of existing play technique programmes on a national and international level.

The exploratory design was selected because it assisted the researcher in exploring the phenomenon of autism as well as the nature of existing play technique programmes. Exploratory studies, however, are on the lowest level of the continuum of knowledge that can be derived from research. According to Strydom (in De Vos, 2002: 214) an exploratory study is a “very valuable manner in which practical knowledge of, and insight into, a certain research area can be gained”. The purpose is to uncover generalizations and develop hypotheses which will be investigated and tested at a later stage. An exploratory study goes no further, and therefore will be utilized as a preliminary investigation prior to the more structured study.

The researcher then applied the one-group pre-test–post-test design (i.e. quasi-experimental/associative design) with the respondents to achieve the next four objectives, namely:



- To develop a play technique programme for autistic children.
- To implement the play technique programme.
- To evaluate the effectiveness of the play technique programme.
- To come to conclusions and make recommendations to enhance the effectiveness of the play technique programme for autistic children.

The one-group pre-test–post-test design, according to Fouché and De Vos (2002: 144), has a built-in strategy for comparing pre-test with post-test. In this particular design there is a measurement of a dependent variable (the autistic children’s social behaviour) when no independent variable (play technique programme) is present (pre-test). Subsequently the independent variable is introduced, followed by a repeated measurement of the dependent variable (post-test).

A sample of 12 autistic children in middle childhood was selected through probability sampling, specifically stratified and systematic sampling, at The Key School for Specialized Education. The respondents’ social behaviour was then measured individually at the beginning of the study, i.e. before implementation of the play technique programme (pre-test), through the use of a self-constructed measuring instrument within structured observation. Thereafter each respondent was involved in six individual phases using various play techniques. Following this the respondents were measured again (post-test). This enabled the researcher to measure the effectiveness of the intervention by comparing the pre- and post-test measurements.

1.7.1 Data collection

Data was collected through structured observation, using a self-constructed measuring instrument in the form of a scale. Structured observation, according to Bailey (1994: 24) involves “counting the frequency with which certain



behaviours occur or certain things are said". As mentioned by Fawcett et al. (in Rothman & Thomas, 1994: 34), it is necessary for the researcher to design a way of observing events related to the specific phenomenon, in this case autism, in a natural manner.

When conducting structured observation the steps that were followed included:

- Defining the behaviour and listing the indicators of behaviour to be studied, particularly social behaviour of autistic children.
- Identifying a time frame during which the behaviour will be observed for the pre- and post-test observation.
- Developing a data collection instrument, namely the self-constructed measuring instrument.
- Selecting an observer role, within structured observation.
- Conducting the structured observation.
- Verifying the data.

The particular behaviour that was observed was the social behaviour of the autistic child. Social behaviour refers to the behaviour of individuals within a group of two or more people, such as within the family unit or in the classroom (Google, 2005).

The data collection instrument used in the structured observation was a self-constructed measuring instrument in the form of a scale. A self-constructed measuring instrument was used in this study because no applicable measuring instrument had yet been developed to measure the social behaviour of autistic children.

The self-constructed measuring instrument was administered within the pre-test and post-test phase in order to gather data on the autistic childrens social



behaviour. This was done within the school environment. The intervention, specifically the play technique programme, was implemented between the pre- and post-test data collection. This took place on an individual basis within the framework of a play therapy phase. One play therapy phase, using the various play techniques, was held on a weekly basis with a total of 12 children. A total of six phases with each child were completed.

It is important to note that each individual session held with the respondents' is referred to as a phase, due to the fact that the researcher did not want to place a time limit on the specific phase. Although there is a time limit within the actual research study (half an hour), for future reference, when the play technique programme will be implemented outside of the study, the time allocated for each phase will depend on the particular child involved in the programme.

On the measuring instrument there were various behavioural aspects that are considered typical to autistic children, particularly linked to their social behaviour (See Addendum B).

The following indicators of social behaviour were operationalized and included on the measuring instrument:

- Verbal communication.
- Non-verbal communication.
- Social interaction.
- Challenging behaviour.

It is important that the measuring instrument is considered valid and therefore can be deemed to have validity. A valid instrument, according to Bostwick and Kyte (in Delport, 2002: 166), has been "described as doing what it is intended to do, as measuring what it is suppose to measure, and as yielding scores whose differences reflect the true differences of the variable being measured rather than



random or constant errors". In order to validate the theory behind the measuring instrument developed, the researcher made use of content, face and construct validity.

Content validity involves asking two questions, namely "is the instrument really measuring the concept we assume it is and does the instrument provide an adequate sample of items that represent that concept?" (Delport, 2002: 167). Face validity, according to Delport (2002: 167) can be understood as the "appearance of what is being measured" in order to ensure that "it appears to be a relevant measure of the attributes". Construct validity "is concerned with the meaning of the instruments, i.e. what it is measuring and how and why it operates the way it does. It involves not only validation of the instrument itself, but also of the theory underlying it" (Delport, 2002: 168).

Through the in-depth literature study the researcher ensured that the instrument was measuring the concept focused on, namely social behaviour, and that there were adequate samples of items to represent the concept, namely verbal communication, non-verbal communication, social interaction and challenging behaviours. When looking at the instrument (Refer to Addendum B) it give an adequate appearance of what it is measuring and one can clearly see what is being measure, how it is being measure and why it was used in the particular manner that it was.

Through completing this phase of data collection, the final four objectives of the study were achieved.

1.7.2 Data analysis

Quantitative data can either be analyzed manually or by computer (De Vos et al., (2002: 222). Rubin and Babbie (2001: 44) state that quantitative research



emphasizes “the production of precise and generalizable statistical findings ... it verifies whether a cause produces an effect in general”.

In this study the researcher analyzed the data through the use of the computer, particularly MS Word, and with assistance from the Department of Statistics at the University of Pretoria, using two programmes, namely BMP Statistical Software and SAS (version 8.2).

The results of the quantitative research were then presented by using graphical presentations. Graphical presentations, according to De Vos, Fouché and Venter (2002: 230) are “pictorial devices to illustrate data” and the six principal types are “bar graphs, doughnut graphs, histograms, frequency polygons, pie charts and pictograms”.

The researcher is of the opinion that the most appropriate forms of graphical presentation would be the bar graph, pie chart, donut graph and frequency table, as they depict the data gathered in a straightforward and understandable manner.

Once the structured observation (using the self-constructed measuring instrument) was completed, the researcher reached conclusions regarding the use of play techniques to improve the social behaviour of autistic children in middle childhood. This led to achieving the specific aim of intervention research, as stated by Schilling (in De Vos, 2002: 396): to “enhance the functioning and well-being of an individual, family, group, community or population”.

1.8 PILOT STUDY

When conducting a study of this nature it is necessary to consider and verify the feasibility of such a study as well as the reliability of the testing instrument through conducting a pilot study. Fawcett et al. (in Rothman & Thomas, 1994: 37)



comments that the “pilot test helps to determine the effectiveness of the intervention and identify which elements of the prototype may need to be revised”.

Within intervention research the pilot study takes place within phase four, namely early development and pilot study. As previously mentioned, a pilot study was conducted with two autistic children at The Key School for Specialized Education, who were not included in the study.

1.8.1 Feasibility of study

When considering the feasibility of the study, the following aspects were taken into consideration, namely: the time necessary for the study; the money needed for the research; the venue to be used for the research and the availability of respondents.

The researcher aimed to complete this study within a two-year time frame and did not face problems in achieving this goal.

Owing to the fact that the measuring instrument was self-constructed and that the structured observation as well as the play therapy phases were done by the researcher, the cost of the study was minimal. The researcher experienced no problems with the financial aspect of the study.

The study was conducted at The Key School for Specialized Education, in Parktown West, Johannesburg. Permission was granted by Jenny Gous, the principal of The Key School for Specialized Education, for the study to be conducted. She agreed that the children who attend The Key School for Specialized Education were available for the study and would benefit from the study. Permission was also obtained from the parents of each child who was involved in the study prior to conducting the study, through a consent form.



Therefore the researcher could not foresee and did not experience any problems with the venue or the availability of respondents.

1.8.2 Testing of data collection instrument

Strydom (2002a: 210) defines a pilot test as “a way in which the prospective researcher can orientate himself to the project he has in mind”.

The researcher conducted a pilot study before conducting the main study, which involved the researcher following the research procedure with two autistic children who were not included in the main research. This involved structured observation, using the measuring instrument, to ascertain that it measured the relevant behaviour. The two children selected for the pilot study were not a part of the research group, but were also scholars at The Key School for Specialized Education, and they went through procedures identical to those used in the actual study. No problems were experienced with any of the procedures or the measuring instrument.

1.9 RESEARCH POPULATION, SAMPLE AND SAMPLING METHOD

When defining the population in a study one needs to look at two separate issues, namely universe and population. Lane (in Strydom & Venter, 2002: 198) defined a universe as “all potential subjects who possess the attributes in which the researcher is interested” while population is defined as “individuals in the universe who possess specific characteristics”.

In this particular study the universe was all the autistic children within middle childhood, within a school environment. The population was the autistic children in middle childhood within the specific school chosen, namely The Key School for Specialized Education.



Arkava and Lane (in Strydom and Venter, 2002: 199) define a sample as being “the element of the population considered for actual inclusion in the study”. In this study the sample was a group of 12 children within the chosen school, between the ages of six and 12 years.

In this study the sampling method used was probability sampling, more specifically a combination of stratified and systematic sampling. Probability sampling is, according to Babbie (2004: 186), “the general term for samples selected in accord with probability theory, typically involving some random-selection mechanism”.

Stratified sampling “consists of the universe being divided into a number of strata that are mutually exclusive and the members of which are homogeneous” (Mitchell & Jolley, Singleton et al., in Strydom & Venter, 2002: 205). This procedure, which may be used in conjunction with simple random, systematic, or cluster sampling, improves the representativeness of a sample, at least in terms of the stratification variables”.

Systematic sampling involves selecting the first case randomly, preferably from a random table, and then all subsequent cases are selected according to a particular interval (Strydom & Venter, 2002: 205).

In this particular study four classes, which had already been divided at the school according to level of functioning, were considered the strata. From each stratum the researcher selected three participants through systematic sampling. The systematic sampling was conducted by randomly selecting the first participant from the class list and then selecting every third child in order to gather a group of twelve children. Within this study the gender of the participants was considered irrelevant.



The researcher is of the opinion that this combination of stratified and systematic sampling was the best method to be used in order to ensure that rich information was collected.

1.10 ETHICAL ASPECTS

When doing research, there are various ethical issues that have to be taken into consideration. Babbie (2004: 30) states that “ethics is a key consideration in the design of social research”. The following ethical issues were considered.

1.10.1 Harm to respondents

Subjects can be harmed in a physical and emotional manner. According to Babbie (2004: 29) it is the “fundamental rule of social research that the researcher should bring no harm to the subjects”.

The researcher was well aware of the possibility that the children involved in the study could be harmed either in a physical or emotional way. In order to prevent this, the researcher aimed to create a safe environment within the play therapy setting and considered the children’s well-being and rights of foremost importance.

If it had become a concern that one of the children had been harmed the researcher would have removed the child from the group immediately and referred him/her to the acting psychologist at The Key School for Specialized Education. This was not required, however.



1.10.2 Informed consent

Denzin and Lincoln (2000:138) state that the “research subjects have the right to be informed about the nature and consequences of experiments in which they are involved”.

The researcher was aware of the fact that the children themselves were not able to give consent, owing to their disability. However, the researcher ensured, through the use of consent forms, that all the parents of the children involved gave written informed consent for the study to be done, prior to conducting the study. In the consent form it was clearly stated that the parent had the right to withdraw his/her child from the study at any stage, for any reason that the parent felt was legitimate (See Addendum C).

1.10.3 Deception of subjects

Judd (in Strydom, 2002b: 66) states that there are three reasons why subjects may be deceived: to disguise the real goal of the study; to hide the real function or the actions of the subjects; and to hide the experiences through which the subjects will go.

Loewenberg and Dolgoff (in Strydom, 2002b: 66) mention that “deception of subjects is deliberately misrepresenting facts in order to make another person believe what is not true, violating the respect to which every person is entitled”. This deception can be either deliberate or it can be a deception of which the researcher was not aware.

The researcher ensured that at all times the relevant parties were aware of how the study was developing and exactly what was taking place. The researcher aimed to avoid any kind of deception in the study and is of the opinion that this was achieved.



1.10.4 Violation of privacy and anonymity

In research the privacy of the individuals should be of the utmost importance. Denzin & Lincoln, (2000:139) state that “codes of ethics insist on safeguards to protect peoples’ identities....confidentiality must be assured to the primary safeguard of unwanted exposure”.

In this study the researcher aimed to safeguard the privacy of the individuals at all times, ensuring that their rights were upheld. In order to protect their privacy, the names of the children are not included in the research report at any stage, but were replaced by pseudonyms.

1.10.5 Actions and competence of researcher

Strydom (2002b: 69) states that “researchers are ethically obliged to ensure that they are competent and adequately skilled to undertake the proposed investigation”. He further states that when sensitive investigations are involved, these requirements are even more important and no value judgments are to be made under any circumstances whatsoever on the cultural aspect of communities.

The researcher has graduated with a master’s degree in Play Therapy, having completed a research module in this course at the University of Pretoria. A qualified professional also guided and supervised the researcher at all times throughout the study.

1.10.6 Release or publications of the findings

Strydom (2002b: 71) comments that “the findings of the study must be introduced to the reading public in written form, otherwise even a highly scientific investigation will mean very little and not be viewed as research”.



The researcher held a seminar at the University of Pretoria, sharing the results of the study with other professionals. The researcher has completed a publication for the University of Pretoria, in the form of a thesis, in order to allow all the relevant professionals access to the research. An article for possible publication in a scientific journal has also been prepared.

1.10.7 Debriefing of respondents

Strydom (2002b: 73) explains that it might be necessary to include “debriefing sessions during which subjects get the opportunity, after the study, to work through their experiences and its aftermath”.

The researcher was aware of this and was prepared to deal with the situation if the need arose. This was to ensure that all subjects were satisfied and were on a normal level of functioning, once the study was completed. If the need had arisen the researcher would have referred the children to the acting psychologist at The Key School for Specialized Education. This, however, was not necessary.

1.11 LIMITATIONS OF THE STUDY

There are limitations in a study of any nature, but the researcher aimed to reduce these as much as possible in the present study.

In this particular study the limitations could include the large continuum of autistic features, number of respondents included in the study, the fact that only six sessions were held as well as the method of observation and measurement, namely structured observation by the researcher and completion of the measuring instrument by the researcher.

The Autism and Pervasive Developmental Disorder Fact Sheet (2006) states that autism is “not just one disorder with a well defined set of symptoms; autism is a



broad spectrum of disorders that ranges from mild to severe”. This highlights the enormity of dealing with such a disorder, particularly 12 children within this spectrum. The researcher attempted to manage this limitation by approaching each child as a unique individual on the spectrum of autism, thereby dealing with the child within his/her own specific characteristics and behaviours.

As regards the number of respondents involved in the study, the researcher arrived at the number of 12 respondents for various reasons. Firstly, as the respondents were required to be diagnosed on the autism spectrum, dealing with autistic children can be considered a challenging endeavour and therefore the researcher was not willing to deal with more than 12 respondents at a particular time. If more respondents had been involved in the study the researcher is of the opinion that the study would have been impacted negatively because of the difficulties associated with working with autistic children.

Secondly, although the statistics on autism are showing a drastic increase, as seen in the previous sections, a lot of the children have not formally been diagnosed on the autism spectrum. This had an impact on the sample size.

Thirdly, the researcher aimed to test the benefits of specific techniques within a specific programme with children on all levels of the autism spectrum. Although the sample size can be considered small, this was achieved.

In terms of the fact that only six phases were held, which can be considered a limited number of phases particularly with regard to phases with autistic children, the researcher is of the opinion that this was sufficient number of phases in order to observe and comment on the effectiveness of the techniques used.

When focusing on the limitation of objectivity, linked to the method of scoring, the researcher aimed to reduce subjectivity through very specific methods. Firstly, the researcher included, based on a thorough in-depth literature review, very



specific assessment areas for measurement within the four areas measured, namely verbal communication, non-verbal communication, social interaction and challenging behaviour (refer to Addendum B). It was decided that a video recorder would not be used to record the phases because this would have had an impact on the respondents' behaviour as it would have been in the room and the respondents would have been aware of it.

Secondly, the frequency of the behaviour measured was done in a very specific way: it was linked to the number of times that the behaviour was observed, thereby reaching a score of between 1 (very poor/did not appear) and 5 (very good/completely). This is explained in more detail in Chapter 6 (refer to page 168).

Thirdly, the researcher also obtained verbal feedback from the teachers on the social behaviour of the specific respondents, and they also confirmed positive changes that had taken place regarding the social behaviour of the respondents.

1.12 DEFINITIONS OF KEY CONCEPTS

1.12.1 Play techniques

Play, according to Axline (1974: 9), is a "child's natural medium of self-expression". Play techniques refer to the specific tools and medium of play that will be used within play therapy with the autistic child.

According to Thompson and Rudolph (2000: 386) play techniques should:

Facilitate the relationship between therapist and child;
encourage the child's expression of thoughts and feelings;
help the therapist gain insight into the child's world; provide
the child with an opportunity to test reality; and provide the
child with an acceptable means for expressing unacceptable
thoughts and feelings.



The play material should be selected carefully, not just accumulated, and the categories of play media can include the following: real-life toys, acting out and aggressive-release toys and creative expression and emotional-release toys (Thomas & Rudolph, 2000: 386).

The researcher is of the understanding that play techniques refer to all the techniques that may be used, within the context of play therapy, to assist a child in improving his/her behaviour. In this study the researcher adapted the techniques in order to allow parents and/or professionals to use them without requiring prior training in play therapy.

1.12.2 Autism

Autism is a neurological disorder that is normally evident by the age of three, and affects a child's "ability to communicate, understand language, play, and relate to others" (Autism and Pervasive Developmental Disorder Fact Sheet, 2002).

Autism is also defined as:

A developmental disorder of brain functioning, with three main symptoms: impaired social interaction, problems with verbal and non-verbal communication and imagination, and unusual or severely limited activities and interests (What is Autism?, 2002).

The researcher gained the understanding from the above definitions that autism is a dysfunction of the brain that affects individuals in completing simple, necessary tasks on an everyday basis. The focal task within this study will be the social behaviour of the autistic child.



1.12.3 Middle childhood

Child and Family Canada (2005) commented that “middle childhood is a time when children are beginning to assume a larger share of responsibility for their own behaviour in relationship to their parents, peers and others”.

According to DeBord (2005):

“Between the ages of six to 12, the child’s world expands outward from the family as relationships are formed with friends, teachers, coaches, caregivers, and others. Because their experiences are expanding, many factors can alter children’s actions and impact how they learn to get along. Some situations can create stress and affect self-esteem.”

Craig (1996: 332) states that middle childhood refers to “the period from six to 12 years”. The Oxford School Dictionary (2004: 283) defines middle as “placed or happening in the middle” and childhood as “the time when a person is a child”.

The researcher is therefore of the understanding that middle childhood refers to children who are experiencing or living the middle period of their childhood, specifically between the ages of six and 12 years.

1.12.4 Social behaviour

Social behaviour is defined by Answers.com (2005) as “behaviour directed at other people...it is more advanced than behaviour or an action”.

Google (2005) states that social behaviour is “how the person interacts with others (e.g. habituated body signals; general voice characteristics; style of speech; visible handicaps)”.



The researcher understands social behaviour as behaviour arising in the interaction of two or more individuals, which can either be positive or negative depending on the purpose of the behaviour.

1.13 CONTENTS OF THE RESEARCH REPORT

Chapter 1: General introduction: this chapter focused on giving an overview of the study, introducing the issues of concern as well as the research methodology.

Chapter 2: Literature review: this chapter focuses on autism as a social phenomenon.

Chapter 3: Literature review: this chapter focuses on autism in middle childhood, as well as the impact of autism on the family system.

Chapter 4: Literature review: this chapter focuses on play techniques within the context of play therapy.

Chapter 5: Literature review: this chapter gives an outline of the play technique programme that was used in this study.

Chapter 6: Empirical study: this chapter focuses on the research and empirical findings.

Chapter 7: Conclusions and recommendations: this chapter presents the conclusions of the study as well as the recommendations issuing from it



CHAPTER TWO

AUTISM AS A SOCIAL PHENOMENON

2.1 INTRODUCTION

As the goal of the study is to develop and evaluate a play technique programme for autistic children in middle childhood, this chapter aims to offer an overall understanding of autism, looking at the causes, characteristics, behaviour, as well as the effect of autism on society.

Autism is defined by the Autism Society of South Africa (2006) as “a lifelong, extremely complex and often devastating disability, which appears to stem from a multi-factorial origin with a genetic base that interacts with environmental triggers, resulting in disordered brain development and biochemical function”. Baron-Cohen and Bolton (2002: 1) define autism accordingly:

Autism is a condition that affects some children from either birth or infancy, and leaves them unable to form normal social relationships, or to develop normal communication. As a result, the child may become isolated from human contact and absorbed in a world of repetitive, obsessive activities and interests.

Both these definitions highlight the longevity of the disorder (normally from birth or early infancy), the fact that it continues throughout life, and the difficulty that the individual diagnosed with the disorder has in functioning, particularly on a social level.

Exhorn (2005: 6) comments that “the word autism is the catch-all term that many people use when referring to the spectrum of autistic disorders. The more current term for autism is ASDs or Autism Spectrum Disorders”.



Autism is a disorder that is being diagnosed and recognized in more and more children in today's society. Aarons and Gittens (1996: 1) comment on this in the following statement:

Until quite recently, autism, with its paradoxical signs and symptoms, was considered to be a rare condition. It had an aura of fascination – to such an extent that the majority of the population had a viewpoint about it without necessarily having had any direct experience of the condition.

From the researcher's point of view, the above statement shows the lack of information about and research into autism, particularly in relation to play techniques and the use of them with autistic children. However, the public at large seems to be aware of the disorder, although their understanding can be considered, more often than not, incorrect. As Exhorn (2005: 7) states, "many people used to subscribe to the myth that everyone with an ASD (Autism Spectrum Disorder) behaved like the Dustin Hoffman character in the movie *Rain Man*...or that all children with ASDs (Autism Spectrum Disorders) were aloof and unresponsive, rejected hugs, and never showed affection". However, autism can now be considered a lot more complex than that, in the researcher's opinion.

Autism, according to Trevarthen, Aitken, Papoudi and Roberts (1996: 4), is a compound of two Greek words – 'aut-', which means 'self', and '-ism', which implies 'orientation or state'. Therefore, in a simple statement, autism can be considered a condition of an individual who is unusually absorbed in him/herself. An individual with autism explained her disorder as "one bucket with several different jigsaws in it, all jumbled together and all missing a few pieces each but with a few extra pieces that didn't belong to any of these jigsaws" (Williams, 1996: 1). The International Child and Youth Care Network (2006) comments that "all people with this disability are affected by a triad of impairment, which manifests in the following areas of development: language and communication, social interaction and imagination". Stone (2006: 12) agrees with this, stating that



a child diagnosed with autism will show “atypical development in three primary areas: (1) social skills, (2) language and communication skills, and (3) repetitive and restricted behaviors”.

The field of autism, according to the researcher, appears to be an ever-growing sphere, in both the prevalence of it and research being done with regard to it. The researcher understands autism to be disorders, rather than a disease, that impacts mainly the social functioning of an individual. The impact of the disorder can vary in severity and is unique to each individual diagnosed with disorders. Individuals who are placed in the circumstances of living with autism are faced with a challenging, and at times frustrating, life. However, there are various ways in which their quality of life can be improved.

As has been previously stated, autism was considered a rare condition for a long period, with this only really beginning to change over the last ten to 15 years. Autism was initially defined by the pioneers Leo Kanner and Hans Asperger, who worked independently of each other in publishing the first accounts of autism (Frith, 1989: 7). The researcher feels that it is important to note at this stage that although this reference (Frith) can be considered old, it is also considered vital literature when looking at the subject of autism. Therefore, information from this literature has been included in this study. Frith (1989: 7) states that the “publications, Kanner’s in 1943 and Asperger’s in 1944, contained detailed case descriptions and also offered the first theoretical attempts to explain the disorder”. Frith (1989: 7) went on further to write that the term “autistic” was first identified by Ernst Bleuler in 1911, when referring to a basic disturbance in schizophrenia.

Robledo and Ham-Kucharski (2005: 2) also mention that the term “autism” was first used in 1911 by Ernst Bleuler. However, it is also highlighted in the publication that the “first mention of autism as a disorder appeared in Baltimore in



doctor Leo Kanner's 1943 paper "Autistic Disturbances of Affective Contact", which described his observations of children who exhibited symptoms that at the time were considered indicative of mental or emotional handicaps". Robledo and Ham-Kucharski (2005: 2) go on further to state that "a year later, Viennese doctor Hans Asperger wrote about a condition with symptoms strikingly comparable to those described by Kanner, and which was later termed Asperger's Syndrome, a type of Autism".

Exhorn (2005: 6) writes that "the word *autism* comes from the Greek word *autos*, which means *self*. Exhorn (2005: 6) agrees with the two previous statements, stating that Kanner and Asperger "are considered the pioneers in the field of autism...in the early 1940's".

The researcher is quite interested to notice that the disorder, autism, was identified a relatively long time ago. However, it seems that it has only been over the last ten to 15 years that autism has really come to the foreground and become the focus of many studies, with many people, professionals and parents, searching urgently for the answers.

As previously stated, in this chapter the researcher aims to give the reader a better understanding of autism, looking at the causes, characteristics, behaviour, as well as the effect of autism on society. It is important to note, as stated by Exhorn (2005: 6), that autism is a catch-all term that many people use when referring to the spectrum of autistic disorders. The term actually refers to a group of five different diagnoses namely, Autistic Disorder, Asperger's Disorder, Childhood Disintegrative Disorder (CDD), Rett's Disorder, and PDD-NOS (Pervasive Developmental Disorder-Not Otherwise Specified)". These will be discussed in greater detail at a later stage, but all five diagnoses fall into the Autism Spectrum and have often simply been referred to as "autism". For the



purposes of this study, the researcher will use the term 'autism', which refers to all the diagnoses within the Autism Spectrum.

Autism is a disorder that requires a great deal of attention given the increasing number of children who are now being diagnosed with this disorder (Botha, 2005). Although the disorder is not curable, it is treatable and there are ways in which both the parent/s and professionals can improve the quality of life of these individuals. In order to gain a better understanding of the disorder, one needs to look at the various definitions that are given for the disorder.

2.2 DEFINING AUTISM SPECTRUM DISORDERS

Many definitions for autism have been offered. The researcher will mention only a few of them in order to enhance the understanding of the concept autism.

The Autism Checklist (2006) states that "autism, which affects thought, perception and attention, is not just one disorder with a well defined set of symptoms; autism is a broad spectrum of disorders, which ranges from mild to severe".

According to The Source (2006) autism is:

A life-long developmental disability which impairs various aspects of typical development and lasts a lifetime. Autism is a syndrome, which means that it is a condition defined by the existence of a collection of characteristics and the symptoms of autism are usually apparent within the first 36 months of life.

Robledo and Ham-Kucharski (2005: 1) state that "autism is a neurological disorder that usually manifests itself early in the toddler years. It hampers a



child's ability to learn how to communicate, interact with others socially, and indulge in imaginative play".

These previous definitions begin to highlight the three areas that an autistic child will battle with, namely communication, social interaction and imaginative play. The researcher is of the belief that underdevelopment in any of these areas can and does cause great difficulty for the individual affected.

Exhorn (2005: 7) states that "autism is not a disease, such as pneumonia or high blood pressure ... it is a development disorder – a condition in which there is a disturbance of some stage in a child's typical physical and/or psychological development, often retarding development".

The International Child and Youth Care Network (2006) defines autism as "a lifelong, complex and variable, pervasive developmental disability, which stems from a multi-factorial origin and results in disordered brain developmental function".

Adding to this definition, the Autism and Pervasive Developmental Disorder Fact Sheet (2006) defines autism according to the "The Individuals with Disabilities Education Act (IDEA)", where it is stated that autism "is a developmental disability significantly affecting verbal and non-verbal communication and social interaction, usually evident before age three, that adversely affects a child's educational performance".

The National Alliance for Autism Research (2006) states that autism is "a complex brain disorder that often inhibits a person's ability to communicate, respond to surroundings and form relationships with others".

Within these previous statements one is able to identify that autism stems from disorders within the brain. Baron-Cohen and Bolton (2002: 33) comment on this



by writing that “various causes of autism all share the characteristic of damaging regions of the brain that are responsible for the development of normal communication, social functioning, and play”. However, as will be seen in later sections of the chapter, the actual causes of autism are still very much a matter of debate.

The researcher is of the opinion that all the above definitions provide an understanding of what the theoretical definitions of autism are. However, the researcher’s own professional experience suggests that each individual who is diagnosed with the disorder responds and behaves differently. These definitions are therefore merely a guideline, and then the parent/s or professionals need to deal with the child as a unique individual within his/her own unique circumstances. Stone (2006: 11) comments on this, by stating that “no two children are alike, whether they have autism or not. In the same way, each child with autism is an individual, with his or her own personality and unique characteristics”.

Now that various definitions have been given for autism, it is necessary to focus on the specific characteristics associated with autism. The researcher would again like to highlight the fact that each child is unique, even if there are two children who are given the same diagnoses. The following characteristics can thus be considered guidelines, with different combinations and difficulties arising with different children.

2.3 CHARACTERISTICS OF AUTISM

Autism can be considered a confusing and challenging disorder that is still being researched, with growing understanding being gained. Exhorn (2005: 3) highlights the enormity of being faced with a child with autism, when she states “When I finally got to the bottom of it, when I finally found the right doctor to tell



me what was the matter with our son, I heard the words that no parent wants to hear: 'Your son has autism'".

The Autism and Pervasive Developmental Disorder Fact Sheet (2006) states that autism is "not just one disorder with a well defined set of symptoms; autism is a broad spectrum of disorders that ranges from mild to severe". A close look at the disorder reveals that there are various characteristics that are mentioned by many authors. The researcher is of the belief that in order to gain the best understanding of the disorder, various authors and their ideas need to be mentioned.

According to Robledo and Ham-Kucharski (2005: 4–7) there are four disorders commonly categorized as being on the autism spectrum. These include:

- **Classic autism:** When children are diagnosed with classic autism, this means that they display significant delays in three specific areas, namely an inability to form social relationships and/or the lack of what experts describe as a 'social reciprocity'; problems communicating their thoughts and feelings to others; and engaging in repetitive behaviours.
- **Asperger's Syndrome:** These children do not show any deficiency in the intellectual abilities or delays in language acquisition. However, the main area of concern is the social lives of these children: they struggle to interact with others and develop meaning relationships with those around them.
- **Pervasive Developmental Disorder Not Otherwise Specified (PDD-NOS):** Children who receive this diagnosis exhibit some of the behaviours associated with either classic autism or Asperger's, but miss a few significant others. In other words, the individual may show typical social difficulties associated with autism, but still have adequate or above average communication.



- **Fragile X Syndrome:** this is an inherited chromosomal abnormality that is sometimes mentioned as part of the autism spectrum. A person with this syndrome has a specific gene that is not able to produce a protein that the brain needs to be able to learn. As a result, his or her mental faculties are usually severely impaired, and his or her moods are difficult to regulate.

However, Exhorn (2005: 16–27) and Stone (2006: 7–9) elaborate on Robledo and Ham-Kucharski's (2005: 4–7) categories by mentioning five disorders to be present on the autism spectrum. These include:

- **Autistic Disorder:** This disorder is characterized by a pattern of severe impairment in (1) difficulties interacting with others in a reciprocal way, (2) impaired language and communication skills, and (3) a repetitive and restricted range of interests and activities (Stone, 2006: 7). Exhorn (2005: 17) considers the most common early symptoms of autistic disorder to be “a lack of eye contact, a lack of pointing, and a lack of responding”.
- **Asperger's Disorder:** Children with this diagnosis tend to have average or above average intelligence and typical or advanced language skills, but have social impairments and restricted, repetitive interests. Exhorn (2005: 17) comments that this disorder can often mistakenly be referred to as higher functioning autism, with the main difference being that a child diagnosed with Asperger's Disorder will have strong language skills, which is not a component of Autistic Disorder.
- **Rett's Disorder:** This disorder is very rare, affecting almost exclusively girls. Children with this disorder develop normally in early infancy, but then begin to lose their skills in different areas of functioning. During this phase of regression, the child will show symptoms similar to those seen in Autistic Disorder. This disorder does have an identified genetic cause: an abnormality of a gene on the X chromosome. Rett's Disorder is progressive and will worsen over time (Stone, 2006: 8).



- **Childhood Disintegrative Disorder (CDD):** This disorder is also considered very rare, being 100 times less common than Autistic disorder. According to Exhorn (2005: 23) the “onset of CDD is later than that of Autistic Disorder – between three and five years old ... children generally develop typically and then experience marked regression in communication, social interactions and everyday functioning. Other traits of Autistic Disorder may be present, such as hand flapping or other repetitive behaviour”.
- **Pervasive Developmental Disorder-Not otherwise Specified (PDD-NOS):** This is sometimes referred to as atypical autism, and Exhorn (2005: 26) states that this diagnosis means that “children show some but not all of the criteria for Autistic Disorder, Asperger’s Disorder, Rett’s Disorder, or CDD”.

The information given by the previous three authors, with regard to the different disorders, definitely overlaps a great deal but there is also added information from Exhorn (2005) and Stone (2006). Table 1, given by Stone (2006: 10) gives a good overview of the different disorders and their typical characteristics.

Table 2: Characteristics of Autistic Spectrum Disorders

Characteristics	Autistic Disorder	Asperger’s Disorder	Rett’s Disorder	CDD	PDD-NOS
Social Impairment	X	X	X	Xb	X
Language and communication disorder	X		X	Xb	Xa
Repetitive interests and activities	X	X		Xb	Xa



Average intelligence		X			
Onset prior to 36 months	X		X		
Period of normal development followed by loss of skills			X	X	
Relative impairment	Variable	Milder	More severe	More severe	Milder
Relative prevalence	Higher	Intermediate	Lower	Lower	Higher

Note: a At least one of these two features must be present

b At least two of these three features must be present

Robledo and Ham-Kucharski (2005: 27–42) consider the following to be some of the manifestations of autism:

- Lack of eye contact
- Inability to read/recognize facial expressions
- Lack/absence of verbal communication
- Inappropriate play
- Increased aggression towards others or him/herself
- Unusual behaviour such as echolalia, ‘stimming’ and perseveration
- Associated disorders/problems: sensory integration, tactile, vestibular and proprioceptive dysfunction.



The Indiana Resource Centre for Autism (2006) describes the following diagnostic criteria for autistic disorder, according to DSM-IV:

- A. A total of six (or more) items from (1), (2), and (3), with at least two from (1) and one each from (2) and (3).
1. qualitative impairment in social interaction, as manifested by at least two of the following:
 - a. marked impairment in the use of multiple nonverbal behaviours such as eye-to-eye gaze, facial expression, body postures and gestures to regulate social interaction
 - b. failure to develop peer relationships appropriate to development level
 - c. a lack of spontaneous seeking to share enjoyment, interests or achievements with other people
 - d. lack of social or emotional reciprocity
 2. qualitative impairments in communication as manifested by at least one of the following:
 - a. delay in, or total lack of, the development of spoken language
 - b. in individuals with adequate speech, marked impairment in the ability to initiate or sustain a conversation with others
 - c. stereotyped and repetitive use of language or idiosyncratic language
 - d. lack of varied, spontaneous make-believe play or social imitative play appropriate to developmental level
 3. restricted repetitive and stereotyped patterns of behaviour, interests, and activities, as manifested by at least one of the following:



-
- a. encompassing preoccupation with one or more stereotyped and restricted patterns of interest that is abnormal either in intensity or focus
 - b. apparently inflexible adherence to specific nonfunctional routines or rituals
 - c. stereotypes and repetitive motor mannerisms
 - d. persistent preoccupation with parts of objects
- B. Delays or abnormal functioning in at least one of the following areas, with onset prior to age 3 years: (1) social interaction; (2) language as used in social communication; or (3) symbolic or imaginative play.
- C. The disturbance is not better accounted for by Rett's Disorders or Childhood Disintegrative Disorder.

The Autism and Pervasive Developmental Disorder Fact Sheet (2006) states that "communication problems (such as using and understanding language); difficulty in relating to people, objects, and events; unusual play with toys and other objects; difficulty with changes in routine or familiar surroundings; and repetitive body movements or behaviour patterns", can be considered some or all the characteristics observed in mild to severe forms of autism.

Frith (1989: 11) considers the following to be the diagnostic criteria of autism:

- Qualitative impairment in reciprocal social interaction;
- Qualitative impairment in verbal and non-verbal communication, and in imaginative play; and
- Markedly restricted repertoire of activities and interests.



The Autism Society of South Africa (2006) composed, as seen in Table 2, the following characteristics or criteria for the diagnosis of autism:

Table 3: Criteria for diagnosis of autism

CHARACTERISTIC	SPECIFIC BEHAVIOUR
1. Severe impairment in reciprocal social interaction (at least two of the following).	<ul style="list-style-type: none"> • Inability to interact with peers; • Lack of desire to interact with peers; • Lack of appreciation of social cues; and/or • Socially and emotionally inappropriate behaviour.
2. All-absorbing narrow interests (at least one of the following).	<ul style="list-style-type: none"> • Exclusion of other activities; • Repetitive adherence; and/or • More rote than meaning.
3. Imposition of routines and interests (at least one of the following).	<ul style="list-style-type: none"> • On self, in aspects of life and/or • On others.
4. Speech and language problems (at least three of the following).	<ul style="list-style-type: none"> • Delayed development of speech; • Superficially, perfect expressive language; • Formal, pedantic language; • Odd prosody, peculiar voice characteristics; and/or • Impairment of comprehension, including misinterpretations of literal/implied meanings.
5. Non-verbal communication problems (at least one of the following).	<ul style="list-style-type: none"> • Limited use of gestures; • Clumsy/gauche body language; • Limited facial expression; and/or • Inappropriate expressions.

Stone (2006: 12) states that autism can be of a different range, intensity, or frequency of symptoms, but it will always include atypical development in three primary areas: (1) social skills, (2) language and communication skills, and (3) repetitive and restricted behaviour. Stone (2006: 12–17) goes on to state specific examples of where an autistic child may exhibit impairment in the above mentioned areas.



(1) **Impaired Social Skills:** An autistic child **may not:**

- Smile in response to praise
- Respond when his/her name is called
- Initiate social interaction
- Show enjoyment in interactive or turn-taking games
- Imitate actions of adults, such as waving goodbye
- Join other children in play
- Show and interest in making friends

(2) **Impaired Language and Communication Skills:** A child with autism **may not:**

- Make eye contact with other people
- Express his/her needs or desire to others in conventional ways, such as reaching and vocalizing
- Use nonverbal gestures, such as nodding or shaking his/her head
- Look at other people's faces to seek information
- Engage in back-and-forth babble 'conversations'

(3) **Restricted Interests and Repetitive Activities:** A child with autism **may:**

- Engage in repetitive play activities, such as lining up toys or spinning objects
- Acting out repetitive movements, such as running in circles or flicking their fingers
- Showing prolonged visual interest in objects, such as flapping objects in front of their eyes or staring at mirrors or objects that spin
- Having overly focused interest in one object or activity, such as a fascination with boats or bugs
- Demanding rigid adherence to rituals and routines



A child with autism **may not**:

- Play with a variety of toys
- Use toys the way they are designed to be used
- Arrange toys in their intended scheme
- Show functional play with dolls, stuffed animals, or toy figures, such as feeding a doll
- Play with toys in a variety of ways

Exhorn (2005: 8–9) also gives a list of early indicators of autism. These include:

- The child does not babble, point, or make meaningful gestures by one year of age
- The child does not speak a word by sixteen months
- The child does not combine two words by two years of age
- The child does not respond to his/her name
- The child loses language or social skills
- The child avoids eye contact
- The child does not seem to know how to play with toys
- The child excessively lines up toys or other objects
- The child is attached to one particular toy or object
- The child does not smile
- The child seems hearing impaired at times

When looking at all the previous definitions/characteristics given, one is able to highlight the fact that there is some deficit with regard to communication and social interaction. However, the researcher feels that it is of importance to gain a better understanding of what these components, namely communication and social interaction, entail. These components will be used in the development of the measuring instrument for this particular study (see Addendum B).



According to Improving Verbal Communication (2006), communication involves both verbal and non-verbal communication. The article goes on to state that “words can be considered to contribute 7 % to the conversation; tone of voice 38 % and non-verbal cues 55 %”. About personal growth.com (2006) states that verbal communication involves “words, vocabulary, number and symbols and is organized in sentences using language”. The researcher understands verbal communication to involve speech, comprehension and expression, using vocabulary, as well as tone of voice and clarity of communication.

Non-verbal communication, as can be seen in the previous statement, contributes a great deal to communication. BBC Teaching English (2006) considers the following to be components of non-verbal communication:

- Body language, such as eye movements, facial expression, gestures, foot tapping.
- Use of space.
- Touch.
- Eye contact.
- Use of time, waiting, pausing.
- Tone of voice, volume, speed.
- Use of silence.
- Position of the body, stance
- Attentiveness/listening

Social interaction is defined by Social Behaviour and Interaction (2006) as being “the acts, actions, or practices of two or more people mutually oriented towards each other’s selves...they must be aware of each other...and it involves a mutual orientation”. According to Impaired Social Interaction (2006), an individual who struggles with social interaction will show “a lack of motivation; anxiety;



hopelessness; poor impulse control; disorganized thinking; distractibility/inability to concentrate; social isolation and a lack of self-esteem”. The Centre for the Study of Autism (2006) states that autistic individuals can be considered either “socially avoidant, thereby avoiding all forms of social interaction; socially indifferent, thereby not seeking any form of social interaction; and/or socially awkward, thereby trying to form social bonds but unable to”.

The researcher feels that the examples given previously regarding characteristics of autism give a good understanding of the actual behaviour that an autistic child will show on a daily basis. The examples also highlight the great difference between neurotypical and autistic children, which are focused on in greater detail in Chapter 4, showing the difficulty that an autistic child faces.

Stone (2006: 40) goes on to caution parents to not be under- or over-cautious. This was summarized by Stone (2006: 40) in Table 3, focusing on the ‘do’s’ and ‘don’t’ of early detection.

Table 4: Do’s and don’ts of early detection

Do	Don’t
Become familiar with the behavioural symptoms that are used to diagnose autism	Expect your pediatrician to make a diagnosis during a routine office visit
Be aware that the expression of symptoms can vary from child to child	Talk yourself in or out of the diagnosis on the basis of comparing your child to another
Observe your child’s social and communication skills across different	Jump to conclusions because your young child shows some repetitive behaviours or



situations and with different people	interests
Talk to your pediatrician and request an assessment as soon as you suspect symptoms of autism	Hold off on mentioning your concerns to the pediatrician if you see a pattern of impaired social, communication, and play skills

From the researcher's point of view, Table 3 highlights the many challenges in identifying and diagnosing autism. Each child is unique and will respond differently and will develop at later stages, making it difficult to identify the characteristics as linked to autism. However, the researcher strongly believes, through her own professional experience with autistic children that the most important thing about this disorder is early detection in order to commence treatment as soon as possible. Baron-Cohen and Bolton (2002: 14) concur with this statement, writing that "an early diagnosis offers the hope that treatment can start before the condition has pushed the child too far off the normal course of development".

From all the above given characteristics, there are various symptoms identified in the behaviour of an autistic child. According to Williams (1996: 8–9), these symptoms include the following:

- An impairment in the ability to interact socially;
- Lack of communication, both verbally and non-verbally;
- Certain 'bizarre' behaviour/s;
- 'Bizarre' responses to sensory stimuli; and
- Impairment in the use of imaginary play.

The researcher's professional experience in working with autistic children leads her to suggest that, when looking at an autistic child, there are various obvious



signs that one will notice. In a more direct sense than the above given information, this may include:

- The child constantly being on his/her own by choice;
- The child not wanting to communicate with anyone, in any manner;
- The child displaying inappropriate behaviour in social settings, such as swearing, screaming or causing bodily harm to him/herself or others; and
- The child not displaying normal play behaviour for his/her age.

Autism can be considered a complex disorder, according to the researcher. Therefore, each individual case should be dealt with as such, and the professional/s should approach the case with flexibility and a good understanding of what autism may and could include. This especially refers to the symptoms, as they will definitely vary according to the degree of autism, as well as the individual child's responses.

When focusing on all the definitions and explanations given, there is a lot of focus on the autistic child's difficulties within the sphere of social interaction.

The researcher is of the opinion that it would be beneficial to focus on the Modified Checklist for Autism in Toddlers (M-CHAT), as this is a diagnostic tool that is often used for identifying autism and therefore brings all the characteristics and symptoms together. It included the following questions, to be answered by the parents of the child in question (Stone, 2006: 187–189):

- | | | | |
|----|--|-----|----|
| 1. | Does your child enjoy being swung, bounced on your knee, etc.? | Yes | No |
| 2. | Does your child take an interest in other children? | Yes | No |
| 3. | Does your child like climbing on things, such | | |



	as up stairs?	Yes	No
4.	Does your child enjoy playing peek-a-boo/ hide-and-seek?	Yes	No
5.	Does your child ever pretend, for example, to talk on the phone or take care of dolls, or pretend other things?	Yes	No
6.	Does your child ever use his/her index finger to point, to ask for anything?	Yes	No
7.	Does your child ever use his/her index finger to point, to indicate interest in something?	Yes	No
8.	Can your child play properly with small toys (e.g. cars or bricks) without just moving fiddling, or dropping them?	Yes	No
9.	Does your child ever bring objects over to you (parent) to show you something?	Yes	No
10.	Does your child look you in the eye for more than a second or two?	Yes	No
11.	Does your child ever seem oversensitive to noise (e.g. plugging ears)?	Yes	No
12.	Does your child smile in response to your face or your smile?	Yes	No
13.	Does your child imitate you (e.g., you make a a face – will your child imitate it)?	Yes	No
14.	Does your child respond to his/her name when you call?	Yes	No
15.	If you point at a toy across the room, does your child look at it?	Yes	No
16.	Does your child walk?	Yes	No
17.	Does your child look at things you are looking at?	Yes	No



- | | | | |
|-----|--|-----|----|
| 18. | Does your child make unusual finger movements near his/her face? | Yes | No |
| 19. | Does your child try to attract your attention to his/her own activity? | Yes | No |
| 20. | Have you ever wondered if your child is deaf? | Yes | No |
| 21. | Does your child understand what people say? | Yes | No |
| 22. | Does your child sometimes stare at nothing or wander with no purpose? | Yes | No |
| 23. | Does your child look at your face to check your reaction when faced with something unfamiliar? | Yes | No |

In order to score this questionnaire a parent would need to compare the answers he/she has given with the following:

- | | | | | | |
|---------|---------|---------|--------|---------|---------|
| 1. No | *2. No | 3. No | 4. No | 5. No | 6. No |
| *7. No | 8. No | *9. No | 10. No | 11. Yes | 12. No |
| *13. No | *14. No | *15. No | 16. No | 17. No | 18. Yes |
| 20. Yes | 21. No | 22. Yes | 23. No | | |

The total number of items that match (out of 23) need to be added as well as the total number that match the items with asterisks (out of 6). If the total number of matching items (out of 23) is 3 or higher or the number of items with asterisks that match (out of 6) is 2 or higher, then the child is considered at risk.

If it is identified that the child is at risk, then he/she needs to go for a further evaluation, as the scoring on this scale does not determine whether the child is autistic or not, but rather if there is need for further evaluation.



Through gathering the characteristics and symptoms of autism, one can gather the great complexity and challenges of the disorder, for both the child affected and his/her significant caregivers. From the researcher's point of view it is a disorder that requires a great deal more attention, in order to assist the individuals affected. As can be seen in the following section, autism appears to be on the increase and is being diagnosed in many more children.

2.4 PREVALENCE OF AUTISM

Until quite recently, autism was considered a rare disorder. However, the statistics show otherwise. As stated by The International Child and Youth Care Network (2006) "autism is four times more common than Cerebral Palsy and 17 times more common than Down Syndrome". The researcher found this comment quite surprising, as both Cerebral Palsy and Down syndrome appear to be so much more prevalent than autism.

As regards the respective impacts of autism on males and females, it is documented in most research that autism affects males four times more than females. The Autism and Pervasive Developmental Disorder Fact Sheet (2006) postulated that autism is "four times more common in boys than in girls". Aarons and Gittens (1996: 17) reiterated this, stating that "males with autism tend to outnumber females by three or four times", as does the International Child and Youth Care Network (2006), which comments that autism affects four times as many boys as it does girls.

On an international level the statistics on autism have changed or increased dramatically over the past few years. According to Autism Society of America (2006) "autism is the most common of the Pervasive Developmental Disorders, affecting an estimated 1 in 166 births". It goes on to state that "every day, fifty families in America discover that their child has autism". Science News (2006),



states the same, remarking that “1 in every 166 people is affected with autism...the rate of people being diagnosed with autism has increased substantially over the past two decades”. The National Alliance for Autism Research (2006) states that “the prevalence of autism spectrum disorder has significantly increased from approximately four in 1000 in the early 1990’s to as many as one in every 166 births today”.

The National Alliance for Autism Research (2006) goes on to state that “autism is the second most common disability, next to mental retardation”. The New England Center for Children (2006) considers autism to be “the third most common development disability, following mental retardation and cerebral palsy, although autism is the fastest-growing developmental disability”. The growth of autism spectrum disorder in America in the 1990s was 172%, according to The New England Center for Children (2006), and there are 1.77 million cases of autism in America, with a new diagnosis being made every twenty minutes (Exhorn, 2005: 77). As regards statistics, The New England Center for Children (2006) states that “autism occurs in 1 – 2 or more of every 500 births and 3 – 4 times more often in boys”. Exhorn (2005: 75) concurs with this statement, writing that “the overall ratio of boys with ASDs (Autism Spectrum Disorders) to girls with ASDs is 4:1. Dr Lorna Wing (in Exhorn, 2005: 75) found that among people with Asperger’s and high-functioning autistic disorder, the ratio of boys to girls is 15:1.

On a national level there has also been a large increase in the number of children diagnosed with autism. According to Autism Western Cape (2005) “autism affects 1 in 158 South African children under the age of six years”. Autism South Africa (2006) concurs with this, stating that “autism is on the increase and is now considered to affect approximately 1 per 158 children under the age of 6 years”.



The researcher is of the opinion that the above comments highlight the alarming increase of autism on both an international and national level. However, as The National Alliance for Autism Research (2006) states:

The debate over the actual statistics has not been solved to anyone's satisfaction and it only adds fuel to the fire as cause and treatments are considered. Further, the lack of a consensus of these numbers only divides the Autism community more and without unity, the goals of finding the cause and treatment slip further away.

The researcher feels that this statement only serves to highlight the increasing urgency for further research and greater support for the individuals, and their families, who are coping and living with the disorder every day. Although the researcher understands that one should be aware of the statistics relating to autism, she believes that the focus should rather be on the causes of the disorder, leading to the development of more appropriate and beneficial treatments for the individuals affected.

2.5 CAUSES OF AUTISM

The researcher is of the opinion that the information gathered on the causes of autism can be considered incomplete. This is because research is still being conducted in various fields to gain a better understanding in this area. Aarons and Gittens (1996: 19) best describe all the factors that could contribute to the onset of autism, in the following statement: "For autism to develop, brain damage has to occur in the setting of a genetic predisposition ... the causation of autism which is likely to be heterogeneous, arises when a number of quite common facts coincide".

When looking at the causes of autism, the various authors give varied opinions of the source or beginnings of the disorder. The researcher is of the belief that it is



important to look at all the different theories in order to gain a deeper and overall understanding of what the causes of autism may be. Therefore the researcher has categorized the literature, focusing on genetics, pregnancy/birth, parenting and neurological causes.

2.5.1 Genetics

The first and most obvious cause of autism could be that of genetics. According to Attwood (1995: 141), Hans Asperger mentioned the “ghosting or shadow of similar characteristics in the parents (particularly fathers) of the children”. Aarons and Gittens (1996: 17) state that “autism is highly heritable ... there is an autism ‘phenotype’”. Frith (1989: 77) wrote that, in a study done, approximately two percent of siblings of autistic children are found to be autistic, which is 50 to 100 times higher than that of the population in general.

According to Autism.net (2006) “autism may result when a child with a genetic susceptibility is exposed to one or more of a number of environmental insults resulting in a series of dysfunctional interactions between Genes and Nutrients. This can happen during pregnancy or after birth”.

The National Alliance for Autism Research (2006) states that “there is a strong genetic component or disposition to autism spectrum disorders”. Robledo and Ham-Kucharski (2005: 25) agree with this, stating that “there’s a strong genetic component to the developmental disorder (autism)”.

It is important to note that the genetic connection is not merely referring to autistic parent/s having an autistic child, as this is highly unlikely, but rather various different disorders being present that seem to have a link with autism. These disorders can include speech disorders, learning difficulties and other minor cognitive disabilities (Aarons & Gittens, 1996: 17). The researcher is of the



opinion that parents are often in denial when making any connection between themselves and their child with autism.

Baron-Cohen and Bolton (2002: 29) state that “about 2 or 3 per cent of brothers and sisters also develop autism. This rate is considerably higher than what would be expected from chance alone, and indicates that autism does indeed run in families”. The authors go on to state that “this finding alone does not give any clue to the cause of this family pattern, but it does give some proof that genetic factors are involved”.

The research on this specific cause, however, can be considered inconclusive, although there do seem to be tangible links between the genetic heritages of the autistic child.

2.5.2 Pregnancy/birth

Frith (1989: 78–79) states that “the incidence of prenatal hazards in autism is astonishing high...significantly more hazards of pregnancy and birth are present in autistic than in normal children”. Attwood (1995: 142) wrote that three potential causes of autism are recognized, namely “genetic factors, unfavorable obstetric events and infections during pregnancy or early infancy that affect the brain”.

Robledo and Ham-Kucharski (2005: 22) state that “premature babies are birthed with neurological problems, and are unable to control their body temperature, or even take their first breath unassisted...it’s possible that some of their (autistic child’s) neurological challenges can be attributed to being born too soon”.

Autism.net (2006) states that “research over the last 20 years has suggested a relationship between maternal diet and the birth of an affected infant, and recent evidence has confirmed that folic acid, may prevent the majority of neural tube



defects”. However, Robledo and Ham-Kucharski (2005: 24) comment that no direct correlation between folic acid and autism has as yet been proven.

Baron-Cohen and Bolton (2002: 31) state that “pregnancy and birth problems are more common in children with autism than one would otherwise expect”. They give the following ‘risk’ factors which have been reported in association with autism:

- Mothers above 35 years old at the time of the child’s birth;
- Birth order (first or fourth or later-born children may carry a slightly higher risk);
- Medication during pregnancy;
- Meconium (the first stool of the infant) was present in the amniotic fluid during the labour;
- Bleeding between the fourth and eight month of pregnancy; and
- A ‘rhesus incompatibility’ between the mother’s and the child’s blood group.

However, Baron-Cohen and Bolton (2002: 32) do state very clearly that “these facts by themselves may not cause autism, but they may be part of the cause in some children”.

There is not a great deal of information with regard to difficult pregnancy/birth causing autism. However, the few authors that do mention it provide valuable information, which should be considered.



2.5.3 Parenting

Aarons and Gittens (1996: 15) explain that initially there was a belief that parents were at fault, not providing enough warmth and affection for the child. This idea was disregarded. However, another similar idea arose at a later stage, stating that a breakdown in the bonding process between the child and the parent had led to the development of autism, which therefore also leads to an opportunity for a cure (Aarons & Gittens, 1996: 15). This idea was also disregarded. Attwood (1995: 144) comments on these beliefs, stating that “a belief that must be discouraged is that autism is a consequence of inadequate parenting, abuse or neglect”.

Baron-Cohen and Bolton (2002: 26) state that the view that poor parenting caused autism is often referred to as the “psychogenic theory” of autism, and “parents will be relieved to hear that it is entirely unsupported by any evidence”.

The National Alliance for Autism Research (2006) also comments on this, stating that “autism is not caused by emotional trauma”.

The researcher is in agreement with the above statement, but is of the opinion that parent/s are responsible for the quality of life of the child once autism has been diagnosed. Many parent/s appear to be in denial or constantly searching for the ‘miracle’ cure. This is in no way beneficial for the child and can cause a more severely affected and unhappy child.

2.5.4 Infection/medical conditions

Baron-Cohen and Bolton (2002: 33) state that “as well as genetic and birth of pregnancy factors, infections that damage the brain during pregnancy or childhood are also associated with autism”.



The infections that have been reported in association with autism are (Baron-Cohen and Bolton, 2002: 33):

- Rubella (German Measles)
- Cytomegalovirus (CMV)
- Herpes encephalitis

Baron-Cohen and Bolton (2002: 28) go on to document medical conditions that can damage the nervous system and can therefore be considered the cause of the child's autism. These include:

- Genetic conditions: Fragile X syndrome; Phenylketonuria; tuberous sclerosis; Neurofibromatosis; other chromosomal anomalies.
- Metabolic conditions: Abnormalities of purine synthesis; abnormalities of carbohydrate metabolism.
- Congenital anomaly syndromes: Cornelia de Lange syndrome; Noonan syndrome; Coffin Siris syndrome; Williams syndrome; Biedl-Bardet syndrome; Moebius' syndrome; Leber's amaurosis.

This list contains some conditions which are "genetic, biochemical and viral" (Baron-Cohen & Bolton, 2002: 29). However, it is again important to stress that not all those who have autism have had these particular medical conditions, and indeed not all with these conditions develop autism (Baron-Cohen & Bolton, 2002: 29).

Again, in the researcher's view, the evidence to support the above causes of autism is not conclusive but should be seriously considered.



2.5.5 Neurological causes

Aarons and Gittens (1996: 19) explain that “it seems very likely that brain damage or dysfunction is present in autism in all its manifestations...areas of interest include the right hemisphere, limbic system and cerebellum”. Trevarthen, et al. (1996: 49) postulated that:

The evidence is now overwhelming that a prenatal fault in brain development can cause autism ... this can be caused in a variety of ways, such as by a fault in genetic instructions for formation of specific systems in the brain, or an infection or toxic chemical influence that impinges on the same processes ... in nearly every case of autism evidence of an abnormality in the brain can be found.

Baron-Cohen and Bolton (2002: 35) write that “the assumption is that in all children with autism there is some (possibly subtle) brain damage. When none can be found, it is assumed that this is because our tools for examining the brain are still too crude”.

2.5.6 The final common pathway model

Baron-Cohen and Bolton (2002: 33) document the model, known as the *final common pathway*, in order to try and solve the puzzle of the causes of autism. In this model it is postulated that a combination of factors, such as genetics, viral infections, pregnancy/birth difficulties and other problems cause brain damage to some extent in an individual. This in turn leads to the development of either autism or mental retardation, depending on where the damage occurs in the brain. There is obviously also an overlap between autism and mental retardation (Baron-Cohen & Bolton, 2002: 33–34). This can be seen in Diagram 1. From the researcher’s point of view, Diagram 1 gives a clear overview of the possible causes of autism. The researcher is of the opinion that the focus on autism, and particularly its causes, is definitely on the increase. With regard to the neurological causes, as can be seen in all the previous statements, the focus

seems to be increasing and the researcher is certain that within the near future a lot more information will be made available.

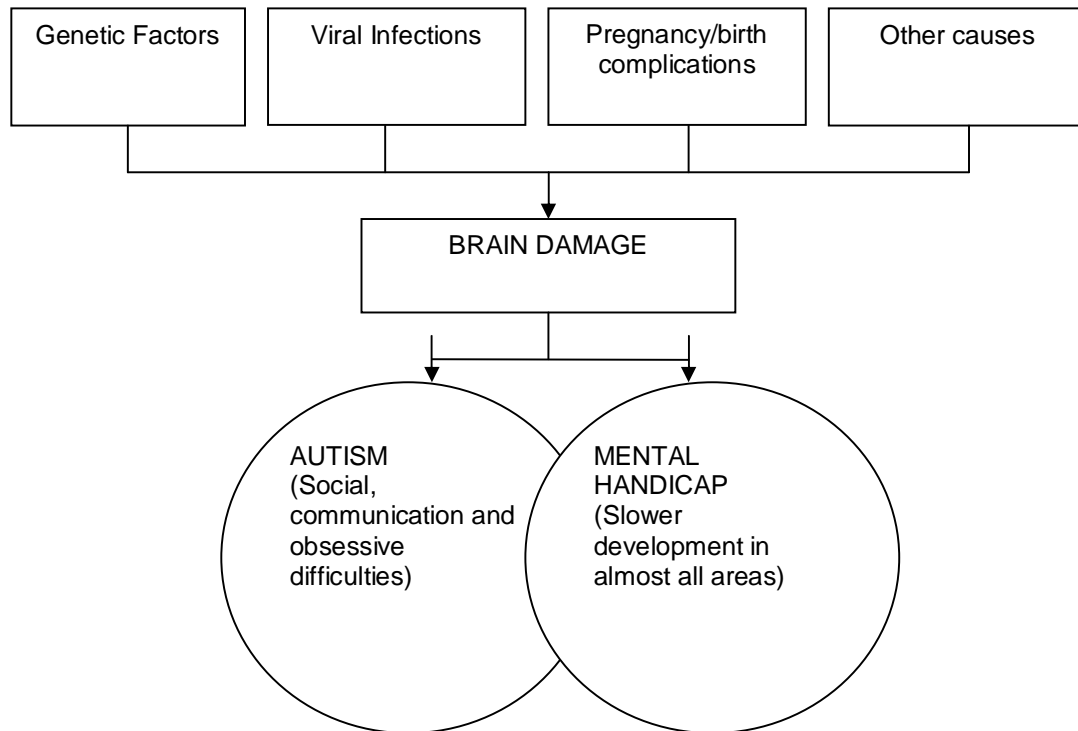


Diagram 1: The final common pathway to autism

All the above causes of autism should be taken into serious consideration when undertaking a study of autism, working with, or living with autistic individuals. All these causes have a value and although a great deal of research still needs to be done in this regard, the causes that are mentioned can be of assistance.

Having looked at the possible causes of autism, it is necessary to look at the treatment options that are currently available to autistic children.



2.6 TREATMENT OF AUTISM

There have many treatment plans and programmes developed for autism, particularly over the past few years. Exhorn (2005: 104) states that it is important that individuals who are dealing with the disorder are aware of the treatments that are available.

Exhorn (2005: 104–114) lists the following treatments as standard treatments and interventions.

- **Applied Behavioural Analysis (ABA):** This treatment methodology is based on theories of operant conditioning by B.F. Skinner. It requires 40 hours of treatment a week and can therefore be considered intensive treatment. It is supported by more scientific research than any other treatment for ASDs and is considered very effective. ABA uses different procedures to teach new skills to children, using a reward system to motivate and reinforce certain behaviours in children while they are learning new skills and behaviours.
- **Floortime:** This is an intensive one-on-one intervention that focuses on children's individual strengths and their relationships to others. It focuses on helping children learn the building blocks of relating, communicating, and thinking. It helps children master interpersonal, emotional, and intellectual skills.
- **Medication:** There is no medication that is able to 'cure' autism, but there are a number of medications that can be used to alleviate specific symptoms associated with autism. Medication can be used to treat behavioural problems, attention disorders, anxiety, and depression. Research has shown that medication can reduce hyperactivity, impulsivity, aggression, and obsessive preoccupations.



- **Occupational Therapy (OT):** OT can be used to help children with autism to achieve competence in all areas of their lives, including self-help, play, socialization, and communication. OT also provides support for children with autism who have difficulty with sensory, motor, neuromuscular, and/or visual skills.
- **Physical Therapy:** This treatment is prescribed to enhance the child's physical ability. Some children with autism have low muscle tone, poor posture, poor balance and poor coordination, and physical therapy can treat these impairments by providing passive, active, resistive, or aerobic exercise as well as training in functional and developmental skills.
- **Sensory Integration Therapy:** The goal of this treatment is to help children absorb and process sensory information better. Sensory integration therapy focuses on the basic senses: tactile (touch), auditory (hearing), and vestibular (sense of movement), and proprioceptive (body position).
- **Social Skills Training:** This can include social skills groups, one-on-one social skills therapy, peer modeling, and video modeling. The goal is to help children with autism to make friends, establish relationships, and have appropriate social interaction. Within the treatment the facilitator can use role-playing, discussions, games, and activities to develop social understanding, teamwork, empathy, and improved interpersonal relationships.
- **Speech and Language Therapy:** This helps a child to communicate more effectively both verbally and nonverbally, using words and/or body language. The sessions may incorporate language-based exercises, games, and activities, assisting children in forming words or communication systems, process information, and express themselves. Children are also taught the pragmatics of language (how to use language).



- **TEACCH (Treatment and Education of Autistic and Related Communication Handicapped Children):** TEACCH is a structured teaching approach that does not rely on one specific technique; it is a complete programme of services that incorporates several techniques and methodologies. The goal is to help people with autism learn functional skills to reach their full potential so they may live more effectively at home, at school, and in the community.

Baron-Cohen and Bolton (2002: 67) mention many of the same treatments, but also include the following:

- **Music therapy:** This therapy can be used to encourage communication as well as teach appropriate social skills, such as turn taking. Music also has a very calming effect on many children with autism, and it is reported, according to Dancer (2003), that for some children singing is actually easier to understand than speech.
- **Holding therapy:** In this therapy parents are encouraged to literally hug their child for a long period, even if the child protests and tries to pull away. Using such forced holding techniques, the child eventually gives up resisting, and some parents report that the child begins to explore his/her parent's face and makes better eye-contact

Robledo and Ham-Kucharski (2005: 76–77) add the following to the list of treatments:

- **Auditory Integration Therapy:** This therapy aims to assist autistic children in processing all the sounds they hear, aiming to showing improvement in learning and behaviour.



- **Hippotherapy:** This refers to therapeutic horseback riding, and activity that has proven to be beneficial to children with disabilities, including autism. The focus is not on teaching a child how to ride a horse; instead, the animal is used as a helper while the therapist and the child work on sensory and neurological challenges.

The researcher has just mentioned a few of the treatments available to children who are diagnosed with autism. There are many more, with new treatments being developed all the time. From the researcher's point of view this is greatly beneficial to children with autism as each child responds differently to treatment, and the more options that are available to these children, the more likely it is that there will be improvement and progress.

Having given a good indication of what autism is, looking at definitions and characteristics, as well as looking at the possible causes and treatment, it is now necessary to focus on the impact/effect that autism has on our society today.

2.7 SOCIAL EFFECT OF AUTISM

The diagnosis of autism in a child has an effect on the immediate family as well as society as a whole.

The National Alliance for Autism Research (2006) states that “few disorders are as devastating to a child and his or her family, as that of autism”.

Aarons and Gittens (1996: 88) state that “almost as soon as parents learn that their child may have autism, their thoughts inevitably turn to the future – what will the outcome be?” The effect that autism has on a family is almost incomprehensible. The families undergo a great deal of changes, which are documented by Braude (1999: 24–26) and include the following:



- **Reaction to changes in routine:** As has been previously stated, autistic children require the most rigid of routines. As soon as this routine is altered the child becomes unsettled. This is related to the insistence on sameness as one of the symptoms of autism.
- **Temper tantrums:** 50% of parents reported that their children exhibited temper tantrums when a change of environment occurred. This, according to the researcher, places a great strain on the parent/s and/or family to maintain an environment of sameness in order to decrease the likelihood of a temper tantrum.
- **Avoidance of physical contact:** Many autistic children tend to avoid any form of physical contact. This forms an essential part of the lives of many autistic children, although it does appear that when the child is approached sensitively, he/she is not totally averse to physical contact.
- **Social interaction:** Attwood (1995: 28) commented that autistic children might have an inability to interact with peers, as well as a lack of desire to interact with those around them. They may display socially and emotionally inappropriate behaviour.
- **Behaviour characteristics:** Many parents mentioned that their children displayed specific behaviour such as a dislike of bathing; food preferences; and/or mood swings and tics.

The researcher is of the opinion that all of the above behaviours place a great deal of stress on the family within its social environment. Each aspect, depending on the individual child, will vary in severity, and may even lead to the family avoiding social events/situations at all costs. The researcher is of the opinion that in the case where there are other siblings, the constant attention that is required by the autistic child and to his/her routine, could severely affect the sibling/s. The impact of autism on the family will be discussed further in Chapter 3.



In society there is also a great increase of pressure owing to the ever increasing number of children being diagnosed with autism. The researcher is of the belief, through professional experience, that in South Africa, as well as various other third world countries, the support for parents of and children with autism is limited. This is apparent when a comparison is made with the support available in other countries such as America and Britain, which is greatly ahead of the support in this country. As regards support, the areas of society that will be impacted by the increasing number of autistic individuals include the economic, educational and professional sectors.

Within the economic sector there will need to be an increase in the amount of social funding available to providing the necessary support for autistic children and their families. Exhorn (2005: 78) comments that “autism has been called the fastest growing developmental disorder, and its impact is reflected in the amount of money that is spent on research, treatment, and education”. In America, according to Exhorn (2005: 78), “the annual cost of ASDs (Autism Spectrum Disorders) is \$90 billion”.

In society the funding will be needed for:

- Education,
- Training of professionals and parent/s,
- Therapy and treatment for children and their families,
- Facilities for schooling, aftercare, and treatment.

In the educational sector there will need to be a substantial increase in the number of educational facilities available for autistic children. This includes the need for normal schooling in the morning as well as aftercare facilities for the afternoons and weekends, if necessary.



The schooling environment for an autistic child needs to be significantly different to that of a neurotypical (non-autistic) child. Baron-Cohen and Bolton (2002: 60) make the following remark in this regard: “highly structured teaching programmes have been claimed to produce the greatest gains”. Baron-Cohen and Bolton (2002: 61) go on to state the reasons for this, which include (1) social problems in autism are such that, if a teacher is not actively initiating interaction and being directive, a child with autism may simply drift away, (2) the highly structured approach starts from the assumption that every task should be broken down into simple and clear steps, with each goal clearly defined ... children with autism take to such a methodical approach, (3) highly structured teaching works with children with autism because they seem to prefer predictability.

The researcher is aware of the possibility of an autistic child being placed in a mainstream school, which would be ideal in most cases, but this is almost always not possible, owing to the individual child’s challenges and difficulties.

In the professional sector, particularly professionals working with children and families, there will need to be an increase in the number of professionals who are trained in educating and/or treating children with autism. Autism is a lifelong disorder, so treatment is always long term, and will change as the child develops and grows. An autistic child also needs to be placed in a more controlled and smaller educational setting, with a teacher and assistant needing to be present. Baron-Cohen and Bolton (2002: 61) comment that “if children with autism are not given individual attention, they may revert to their own repetitive activities or solitary existence”. The authors mention that “to maintain their attention sufficiently for learning to occur, a ratio of at most 3 pupils to 1 teacher seems appropriate”. Therefore the number of professionals needed to assist an autistic child and his/her family is substantial.



All the above information indicates that besides the everyday challenges that are faced within the home of an autistic child, there is the added pressure faced when dealing with the autistic child within his/her society and the impact that autism has on our society.

2.8 SUMMARY

Autism is a complex and challenging disorder that is being diagnosed in more and more children in our society. This may be attributed not only to an increase in actual numbers of children affected by autism, but also to increased awareness and more appropriate diagnosis.

This chapter aimed to provide the reader with a greater understanding of autism. This involved looking at the various definitions given for autism, as well as the origins, characteristics, prevalence, and social impact of autism. The purpose of documenting all of this information is to create a good theoretical basis for this study.

This literature study has given the researcher a great deal of information about Autism Spectrum Disorder. Most important, perhaps, is the fact that, although there is a lot of material available on autism, there still seems to be great confusion about what autism includes.

This leads the researcher to the conclusion that a study of this particular nature could be of great benefit to those who are affected by autism, either directly, or indirectly, particularly in providing much-needed support for these individuals. As Dr Ed Yazbak, a retired American Pediatrician, states in an Autistic Society (2006) article, "the statistics (of autism) tell us, not only that there has been a huge increase in autism rates in the last 20 years, but also that this increase is



not stopping". Therefore, in the researcher's opinion the need for information and support with regard to autism is only going to increase.

The principal goal of this study is to develop and evaluate a play technique programme for autistic children in middle childhood. In the next chapter, therefore, the researcher will look at middle childhood, focusing particularly on the developmental differences between neurotypical and autistic children. Once the reader has gained a good understanding of these differences, the researcher will then discuss the impact, of autism in middle childhood, on the family unit, looking at the parents and siblings involved. This is necessary to highlight the difficulties that families with an autistic child are facing and to point to the dire need for support.



CHAPTER THREE

AUTISM IN MIDDLE CHILDHOOD AND THE IMPACT ON THE FAMILY

3.1. INTRODUCTION

This study is focused on developing and evaluating a play technique programme for autistic children in middle childhood. In the previous chapter (Chapter 2) the focus was on the phenomenon of autism, and more specifically at definitions, characteristics, prevalence, treatment and the impact of autism on society. In this chapter it is necessary to focus on autism specifically within the stage of middle childhood. This will be done through a comparison of development in different areas of a child, between neurotypical (non-autistic) and autistic children. The focus will then shift to the impact that this (autism in middle childhood) has on the family unit.

According to the National Network for Child Care (2006), middle childhood refers to the years between 6 and 12 years, generally when children starting attending school until they reach adolescence.

Middle childhood can be defined as “a time when children are beginning to assume a larger share of responsibility for their own behaviour in relationship to their parents, peers and others” (Child & Family Canada, 2006).

These above definitions give an indication of the particular time of middle childhood within an individual’s life as well as particular roles that the individual might fulfill. It is necessary to revisit some definitions of autism at this stage, in order to begin to highlight the difference between a normal child and a child who is diagnosed with autism and is growing through the stage of middle childhood.



The Autism Checklist (2006) states that “autism, which affects thought, perception and attention, is not just one disorder with a well defined set of symptoms; autism is a broad spectrum of disorders, which ranges from mild to severe”.

According to The Source (2006) autism is “a life-long developmental disability which impairs various aspects of typical development and lasts a lifetime”.

The National Alliance for Autism Research (2006) states that autism is “a complex brain disorder that often inhibits a person’s ability to communicate, respond to surroundings and form relationships with others”.

In the following sections, given that the goal of the study is to develop a play technique programme for autistic children in middle childhood, the researcher aims to orientate the reader with regard to the stages of middle childhood, particularly with regard to autistic children in order to contextualize the study. The focus will then be on the impact of autism in middle childhood on the family. In order to understand the autistic child in middle childhood it is important to discuss the meaning of the concept middle childhood.

3.2. DEFINING MIDDLE CHILDHOOD

Middle childhood is a stage that all individuals, both autistic and neurotypical, go through. It is a stage in which a great deal of development and challenges in all areas of an individual’s life occur.

According to Craig (1996: 328) “middle childhood – the period from 6 to 12 years – is a time for slower growth, for developing more fully those patterns that have already been set”.



The National Network for Child Care (2006) describes middle childhood as a time when “the child’s world expands outward from the family as relationships are formed with friends, teachers, coaches, caregivers, and others”.

The Future of Children (2006) comments that “during middle childhood, children begin to navigate their own ways through societal structures, forming ideas about their individual talents and aspirations for the future”.

Health 24.com (2006) states that middle childhood is “a time for slower physical growth and children concentrating more on refining skills. On a cognitive level the child develops rapidly and will show great ability to learn, communicate, memorize and cope within their new school environment”.

Child and Family Canada (2006) consider the following to be important issues in middle childhood:

- Self-esteem: The middle years are vital to a child’s growing sense of self-esteem. The child is getting a stronger idea of who he/she is.
- Relationships with parents: Successful interaction with parents contributes greatly to a positive sense of self.
- Relationships with peers: The child will go to great lengths to gain a sense of accomplishment in relation to his/her peers.
- Physical abilities: During the middle years a child will gain a growing sense of competence in relation to their physical abilities.
- Cognitive and language development: The child now has the ability to know what to do on a day-to-day basis as well as the ability to do it.
- Siblings: The middle years are a time when siblings will usually work together.

All the above definitions and descriptions give a good indication of the development and focus areas of a neurotypical child going through the stages of



middle childhood. With a child who has been diagnosed with autism, the stages and changes of middle childhood are significantly different. The researcher will now focus on the particular difference between neurotypical and autistic children, within this stage of middle childhood.

3.3. DEVELOPMENTAL STAGES WITHIN MIDDLE CHILDHOOD: COMPARISON BETWEEN NEUROTYPICAL AND AUTISTIC CHILDREN

Human development can be defined as “the changes over time in the structure, thought, or behaviour of a person as a result of both biological and environmental influences (Craig, 1995: 5). Within the human body there are seven life stages, namely infancy; preschool child; middle childhood; adolescence; early adulthood; middle adulthood and late adulthood (Craig, 1995: 6).

Within this study the focus is on middle childhood. As previously mentioned there are many differences between the development of a neurotypical child and an autistic child in middle childhood. In the following section the researcher will focus more specifically on these differences, looking at the different areas of development in middle childhood.

When looking at development Craig (1995: 332) writes that it is important to remember “that physical, cognitive, and socio/emotional factors interact to produce individual development”. Therefore the researcher will look at the differences in development within middle childhood according to the physical, intellectual and emotional development that takes place.

3.3.1. Physical Development

Physical development, according to Craig (1996: 7), “involves the basic growth and changes that occur in the individual’s body. These include external change,



such as in height and weight, as well as internal changes in muscles, glands, the brain, and sense organs”.

On a physical level, the differences between a neurotypical child and an autistic child are not that marked. Exhorn (2005: 7) comments that “you can’t tell that a child has autism simply by looking at a picture of him or her ... a two-year-old with autism can be the same height and weight and be just as adorable as a ‘typical’ two year old”. This can be accredited to the fact that autism “is a neurological disorder” (Robledo and Ham-Kucharski, 2005: 1). Exhorn (2005: 7) states that “what distinguishes a child with autism from a typical peer is what you can’t see: the brain”. Therefore, it does not have a direct impact on a child’s physical development.

Within middle childhood the following developments take place with regard to physical changes (Development in Middle Childhood, 2006; Middle Childhood, 2006; Middle Childhood and Adolescent Development, 2006; Childhood Years: ages six through twelve, 2006; Middle childhood: ages ranging from 7 to 12 years, 2006; Middle Childhood and early adolescence, 2006):

- Growth in height and weight is consistent but slower than in earlier childhood;
- Small sex differences emerge;
- Large muscles in arms and legs are more developed than small muscles;
- Uneven growth of bones, muscles, and organs can result in awkward appearance;
- Eyes reach maturity in both size and function;
- Permanent teeth replace baby ones; and
- Motor skills become smoother and more coordinated.

When looking at the physical development of a child in middle childhood, the one area that can be identified as a concern for an autistic child is the development of



motor skills. As noted by The Autism Society of America (2005), “autistic children often show uneven gross/fine motor skill development”.

Ben LaSalle (LaSalle, 2003: 65), who was diagnosed with autism, stated that “There was no way I could be the best at baseball”.

Robledo and Ham-Kucharski (2005: 37) comment on this, stating that autistic children often suffer from sensory integration problems. The authors state that sensory integration is when “a child has difficulty processing information they receive from their senses”. A child can have sensory integration dysfunction in three different systems, namely (Robledo and Ham-Kucharski, 2005: 38):

- Tactile: a child’s sense of touch is impaired;
- Proprioceptive: the child has sensory receptors that cannot read signals from his/her surroundings, as to where his/her body parts are positioned in relation to one another; and/or
- Vestibular: the child’s ability to sense balance and how he/she takes up space in the world is lost.

If an autistic child does battle with sensory integration dysfunction, which is often the case, it will have a direct impact on his/her ability to move and function on a physical level, within the environment.

Therefore, although on a physical level there are no developmental differences between neurotypical and autistic children, there is definitely a difficulty with regard to an autistic child’s functioning within his/her physical abilities.



3.3.2. Intellectual Development

Intellectual or cognitive development is defined, according to Craig (1995: 7), as “involving the mental processes related to thinking and problem solving. Changes include those in perception, memory, reasoning, creativity, and language”.

On an intellectual level there are a great many differences between neurotypical and autistic children. However, these differences cannot always be attributed to autism, but at times to the co-morbid disabilities associated to the diagnosis of autism.

According to BambooWeb Dictionary (2005) there are many co-morbid disorders associated with autism, which may include:

- Attention deficit hyperactivity disorder (ADHD);
- Mental retardation;
- Obsessive-compulsive disorder (OCD);
- Tourette’s syndrome;
- Depression;
- Anxiety disorder;
- Post-traumatic stress disorder; and/or
- Social anxiety disorder

Putrakembara (2005) states that

Children with Autism Spectrum Disorder usually have accompanying learning difficulties. The range of intellectual abilities amongst children with Autism Spectrum Disorder is vast. The presence of additional disorders, such as epilepsy, sensory and intellectual impairments can co-exist with Autism Spectrum Disorder.



Clearly any of these above-mentioned co-morbid disorders would have a direct impact on a child's ability to function, particularly on an intellectual level.

3.3.2.1. Neurotypical children

In middle childhood, a child shows "rapid development of mental skills, with a greater ability to describe experiences and talk about thoughts and feelings" (Child Development, 2006).

There is also, according to Middle Childhood (2006), "an increased ability to remember and pay attention, which leads to an increased ability to speak and express ideas". The article goes on to state "although they (children) are still self centered, they are beginning to think of others".

According to Middle Childhood and Adolescent Development (2006) a child in middle childhood is able to "accumulate general knowledge; is able to apply learned concepts; and show frequent interest in learning life skills".

The National Network for Child Care (2006) states that during middle childhood a child will:

- Begin go think about his/her own behaviour and see consequences for actions;
- Begin to read and write;
- He/she can think through their actions and trace back events;
- He/she is able to talk through problems to solve them;
- He/she can develop a plan to meet a goal; and
- He/she can focus attention and take time to search for needed information.



According to Health 24.com (2006), at the age of middle childhood, “cognitive, language and perceptual-motor skills have developed to such an extent that learning becomes easier and more efficient”.

The researcher is of the opinion that during middle childhood a neurotypical child is developing a great deal of his/her skills for future life, particularly on an intellectual level. It is at this time that a child will normally start formal schooling, therefore developing and building on various academic skills.

3.3.2.2. Autistic children

It is at this time that autistic children might also start attending formal schooling, although it may be special education, according to the specific child’s needs.

Trevarthen, et al. (1996:172) highlights that:

However varied the severity of autism may be, and whatever the precise form of disability may come with the autism in different children, autism is a disorder of relating. Whether the child may speak or make inarticulate sounds, all autistic children communicate in a way that makes sharing of experience, and especially teaching, difficult. This means that the fundamental task of anyone, parent, teacher, playmate or friend, who wants to help the child to communicate and learn better, is to find a way to be as accessible and comprehensible to the child as possible.

The researcher is of the belief that this paragraph highlights various aspects. Firstly, one of the core aspects of autism is mentioned, that autism is a disorder of relating. Secondly, autistic children do communicate in some way, although in most cases it is not audible. And, finally, there is the vital factor that is necessary for all individuals to grasp: one needs to be accessible to the autistic child at all times. However, when one considers this in the classroom situation, it appears almost impossible.



When looking at the development of a neurotypical child with regard to intellectual ability, various areas need to be focused on. When looking at an autistic child the same areas can be focused on as a neurotypical child, but they generally should be considered areas of concern.

The Autism and Pervasive Developmental Disorder Fact Sheet (2006) states that “communication problems (such as using and understanding language); difficulty in relating to people, objects, and events; unusual play with toys and other objects; difficulty with changes in routine or familiar surroundings; and repetitive body movements or behaviour patterns, can be considered some or all the characteristics observed in mild to severe forms of autism”.

This comment highlights the various difficulties for an autistic child with regard to intellectual ability. Autistic children generally have a problem with communication on some level, which has a direct impact on an individual’s ability to learn. There is also the concern of difficulties in changes of routine and environment, which is something that occurs within the school environment.

The Autism and Pervasive Developmental Disorder Fact Sheet (2006) defines autism according to the ‘The Individuals with Disabilities Education Act’, where it is stated that autism is “a developmental disability significantly affecting verbal and non-verbal communication and social interaction, usually evident before age three, that adversely affects a child’s educational performance”.

This statement clearly indicates that the diagnosis of autism has a direct impact on the child’s educational performance.

The Autism and Pervasive Developmental Disorder Fact Sheet (2006) states that “communication problems (such as using and understanding language); difficulty in relating to people, objects, and events are typical with an autistic child”.



Again this statement highlights the communication difficulties experienced by autistic children, which has a direct impact on the ability to learn. The statement also highlights the fact that autistic individuals have difficulty relating to people, which is something that occurs on a regular basis within the educational environment.

According to the DSM-IV (in Exhorn, 2005: 10) autistic individuals show restricted repetitive and stereotyped patterns of behaviour, interests and activities. This will have an impact on the child's willingness or ability to learn, owing to his/her restricted behaviours and interests.

According to Autism South Africa (2006) autistic individuals can experience the following speech and language problems:

- Delayed development of speech;
- Superficially, perfect expressive language;
- Formal, pedantic language;
- Odd prosody, peculiar voice characteristics; and/or
- Impairment of comprehension, including misinterpretations of literal/implied meanings.

The again highlights the difficulties that an autistic child will experience in developing his/her intellectual abilities.

The above information makes it clear that an autistic child will have various deficits with regard to intellectual ability and intellectual development.



3.3.3. Social/emotional Development

Craig (1995: 7) describes social/emotional development as “the development of personality and interpersonal skills. These two areas are interrelated and include self-concept and emotions, as well as social skills and behaviour”.

The social and/or emotional development of children in middle childhood is the area that will show the biggest differences between neurotypical and autistic children.

As Robledo and Ham-Kucharski (2005: 1) state, “autism is a neurological disorder ... it hampers a child’s ability to learn how to communicate, interact with others socially, and indulge in imaginative play”. Stone (2006: 13) comments that “children with autism do not show the expected development of early social interaction skills ... in fact; impaired social interactions are the hallmark of autism and are present in all children with this diagnosis”.

The researcher is of the opinion that this is the area of development which is vital for this particular study, owing to the fact that the focus is on improving or impacting the autistic child’s social functioning.

3.3.3.1. Neurotypical children

In middle childhood, neurotypical children develop to become more independent, with a stronger sense of right and wrong. They begin to show an awareness of the future, with a growing understanding of their place in the world (Centers for Disease Control and Prevention, 2006).



Middle Childhood (2006) states that a child begins to want to do things by and for him/herself, although the child will still need guidance, rules and limits. The child will begin to see things from another child's point of view.

In Middle Childhood and Adolescent Development (2006) it is noted that a child begins to develop a conscience, with him/her wanting to gain social approval and live up to the expectations of people close to him/her. A child will also start to develop deeper friendships, mainly with children of the same sex, based on proximity, common interests/hobbies or other perceived commonalities.

The National Network for Child Care (2006) states that a child will "show signs of growing independence; will begin to see the point of view of others more clearly; and inner control will be formed".

According to Indian Child (2006) a child in middle childhood begins to show improvement in his/her social skills, with the child often developing one or two special friends. Friendships become quite important to the child.

In Middle Childhood and Early Adolescence: Growth and Change (2006) it is noted that a child will

Begin to encounter more – and more diverse – people between the ages of five – 13 than in earlier years. For many of the children these larger networks are important sources of earning and social support. They value social resources more and they seek them out more readily and use them more effectively.

The researcher believes, therefore, that the following changes take place on a social/emotional level within middle childhood:



- A child will become more independent, with a greater sense of right and wrong;
- Friendships become more important, normally with children of the same-sex and based on commonalities;
- A child will become less egocentric and more generous, beginning to see things from another person's point of view; and
- A child will show an improvement in his/her social skills, with more meaningful relationships developing.

The researcher is of the opinion that all these explanations show how children in middle childhood begin to develop their social skills, forming meaningful relationships with adults around them, as well as their peers. This is a time that will have a big impact on the individual child's ability to continue successfully through his/her life, and to develop into a balanced adult.

3.3.3.2. Autistic children

According to the DSM-IV (in Exhorn, 2005: 10) an autistic individual will show qualitative impairment in social interaction, as manifested by at least two of the following:

- Marked impairment in the use of multiple nonverbal behaviours such as eye-to-eye gaze, facial expression, body postures and gestures to regulate social interaction;
- Failure to develop peer relationships appropriate to development level;
- Lack of spontaneous seeking to share enjoyment, interest or achievements with other people; and/or
- Lack of social or emotional reciprocity.

These criteria offer a clear indication of an autistic child's difficulty to develop and maintain relationships with others.



Williams (1996:8-9), considers the symptoms of autism to include the following:

- An impairment in the ability to interact socially;
- Lack of communication, both verbally and non-verbally;
- Certain 'bizarre' behaviour/s;
- 'Bizarre' responses to sensory stimuli; and
- Impairment in the use of imaginary play.

The above statement again indicates an autistic child's difficulty in interacting with those around him/her, as well as the important aspect that an autistic child shows impairment in imaginary play. This will have a negative impact on the child's interaction with his/her peers, because imaginary play is so important to children of this age, as experienced by the researcher in her professional capacity as a play therapist.

The Autism and Pervasive Developmental Disorder Fact Sheet (2006) states that an autistic child will have "communication problems (such as using and understanding language) and difficulty in relating to people, objects, and events".

Robledo and Ham-Kucharski (2005: 1) comment further on this, stating that "autism hampers a child's ability to learn how to communicate, interact with others socially, and indulge in imaginative play".

The National Alliance for Autism Research (2006) agrees with these comments, stating that autism "often inhibits a person's ability to communicate, respond to surroundings and form relationships with others".

The Autism Society of South Africa (2006) comments that an autistic individual will show severe impairment in reciprocal social interaction in at least two of the following:



- Inability to interact with peers;
- Lack of desire to interact with peers;
- Lack of appreciation of social cues; and/or
- Socially and emotionally inappropriate behaviour.

The above statement, according to researcher, gives the best indication of an autistic child's inability to build social relationships, thereby affecting his/her development in middle childhood.

The researcher is of the opinion that all the above statements give a clear indication of how an autistic child will battle in developing relationships and building independence in middle childhood. It is normally at this time, according to the researcher, that one will begin to notice a great deal more the deficits that an autistic child may show, particularly in relation to social behaviour.

Through all the information given, with regard to the development of a child in middle childhood, particularly the differences in development of a neurotypical and autistic child, it is clear, according to the researcher, that an autistic child faces many challenges in meeting the developmental tasks of middle childhood.

With this previous section the researcher aimed to highlight the differences that are present with an autistic child in middle childhood. These differences not only impact the child diagnosed with the disorder, but also those individuals around him/her, more specifically his/her family members and significant others. In the following section the focus will be on the impact of autism, in middle childhood, on the family unit.

3.4. THE IMPACT OF AUTISM ON THE FAMILY

As has been noted in the previous section of this chapter, as well as in the previous chapter (Chapter 2), autism is a complex and challenging disorder. The



researcher is of the opinion that the diagnosis of autism is one that is difficult to make but it is even more difficult then to adjust to and live with, both for the individual and his/her significant others.

The National Alliance for Autism Research (2006) states that “few disorders are as devastating to a child and his/her family, as that of autism”.

Aarons and Gittens (1996:88) state, “almost as soon as parents learn that their child may have autism, their thoughts inevitably turn to the future – what will the outcome be?” The effect that autism has on a family is almost incomprehensible.

The researcher is of the opinion that a diagnosis of any disorder would be devastating for a family. However, the researcher agrees with the National Alliance for Autism Research (2006), when they state that autism is one of the most devastating disorders.

All the above information indicates that, besides the everyday challenges that are faced within the home of an autistic child, there is the added pressure faced when dealing with the autistic child within his/her society.

In order to understand the impact that autism has on a family, it is first necessary to look at what a family constitutes and the definitions that are given.

3.4.1. Definition of a family

Meyer (in Hepworth and Larsen, 2006: 241) defined a family as “Two or more people who are joined together by bonds of sharing and intimacy”. Hepworth and Larsen (2006: 240) go on to state that the family is the “a social system in which each of its constituent parts and subsystems interact with one another in a predictable, organized fashion”.



This definition highlights the fact that the family should interact with one another, in a “predictable and organized fashion”. When a child is diagnosed with autism the challenges of achieving this are increased.

Thompson and Rudolph (2000: 313) state that

Definitions of family range from the nuclear family of breadwinner father, homemaker mother, and two children to multiple families living together. Between the two extremes are at least eight types of families: extended, blended, common-law, single parent, communal, serial, polygamous, and cohabitation. Families are also defined by their organizational structure, characterized by degrees of cohesiveness, love, loyalty, and purpose.

When looking at this definition one’s attention can be drawn to all the different family systems that exist. However, for this study the different types of family are not necessarily that important; rather it is necessary simply to get an indication of what the family system might involve.

Within a family there are different individuals who make up the whole. This includes parents and their child or children. Within the family these individuals will fulfill different roles, with the parent/s carrying the vital role of caregiver and nurturer.

According to the Oxford Pocket Dictionary (2004: 166) a family is “parents and their children, sometimes including grandchildren and other relations”.

A parent, according to Google.com (2006) is “a father or mother; one who begets or one who gives birth to or nurtures and raises a child; a relative who play the role of guardian”. It goes on to state that



Parenting comprises all the tasks involved in raising a child to an independent adult. Parenting begins even before the child is born or adopted and may last until the death of the parent or child. Parenting is a part of the relationship within a family.

A child, according to The Oxford Pocket Dictionary (2004: 78) is “a young person; a boy or girl; someone’s son or daughter”.

All the above definitions give a clear understanding of what a family is and what a family involves. Although an autistic child in middle childhood is involved in or exposed to various environments, such as school or an aftercare facility, it is normally with his/her family that the child will spend the majority of his/her time and he/she will therefore have a tremendous impact on the family system.

3.4.2. Impact on the family

“The symptoms of autism are not the kind that are either there or not there ... the behaviours that are disrupted in autism are complicated” (Stone, 2006: 38). This comment brings to one’s attention the difficulty of living with an autistic child and the fact that autism definitely has an impact on the whole family.

Exhorn (2005: 191) comments that “adjusting to your new life (with a child with autism) will take some time, especially since it was completely unplanned”. In this regard, Stacey (2002), a parent with an autistic child, writes that:

Living with an autistic child is exceptionally hard. It does put a damper on your life. We are always tense as such when Michael (the autistic child) is around. Even when he is being good. You are tense because you don’t know what is going to happen next. Everything you do has to be planned, and thought through carefully, as to accommodate Michael.

A family undergoes a great deal of changes when a child is experiencing or is diagnosed with autism. The following characteristics of an autistic child, as



documented by Braude (1999: 24–26), will have a serious impact on the family system:

- Reaction to changes in routine: As has been previously stated, autistic children require the most rigid of routines. As soon as this routine is altered the child becomes unsettled. This is related to the insistence on sameness as one of the symptoms of autism.
- Temper tantrums: 50% of parents reported that their children exhibited temper tantrums when a change of environment occurred. This, according to the researcher, places a great strain on the parent/s and/or family to maintain an environment of sameness in order to decrease the likelihood of a temper tantrum.
- Avoidance of physical contact: Many autistic children tend to avoid any form of physical contact. This forms an essential part of the lives of many autistic children, although it does appear that when the child is approached sensitively, he/she is not totally averse to physical contact.
- Social interaction: Attwood (1995: 28) commented that autistic children might have an inability to interact with peers, as well as a lack of desire to interact with those around them. They may display socially and emotionally inappropriate behaviour.
- Behaviour characteristics: Many parents mentioned that their children displayed specific behaviour such as a dislike of bathing; food preferences; and/or mood swings and tics.

These behaviours point to the great difficulty that the diagnosis of autism can place on a family.

Exhorn (2005: XIV) writes: “the diagnosis of Jake’s (their son) autism came as a shock to both me and my husband ... every aspect of our lives metamorphosed with Jake’s diagnosis”.



The researcher understands adherence to a strict routine, with any changes bringing about a temper tantrums, to be one of the most challenging aspects. The reason for this is that within most typical families parents attempt to stick to a relatively good routine although there are always times when this is not possible, owing, for instance, to illness in the family or special occasions. It would also be unfair on the other siblings to always have a routine that is only for the one (autistic) child. Therefore this behaviour must be very frustrating.

The lack of physical contact that autistic children often display can lead to great anguish for many parents. One mother, Judy (in Stone, 2006: 51) wrote, with a real tone of sadness, "I love my son so dearly; I want to hold him close and sing to him and read to him – but he just won't let me". In this regard Stacey (2002) also confirms that the most difficult thing to deal with was "accepting the fact that Michael will never get better, that this is a lifelong problem and worry".

It is clear that all the above behaviours place a great deal of stress on the family within its social environment. Science News (2002) stated that "by age three, children diagnosed with autism have already begun a retreat into social isolation ... even an inability to distinguish their own mothers' faces from those of strangers".

Each aspect, depending on the individual child, will vary in severity, and may even lead to the family avoiding social events/situations at all costs. The researcher is of the opinion that, in cases where there are other siblings, the constant attention that is required by the autistic child and his/her routine could severely affect the sibling/s.

Within the family, the presence of an autistic child may have an impact on various areas within the particular family unit. This may include an impact on finances, socializing and emotional development/coping of the family members. This will be discussed in more detail in the next section.



3.4.2.1. Financial Impact

Exhorn (2005: XIV) emphasized the financial impact by stating that there was “continuous and impending financial stress, in relation to dealing with Jake’s diagnosis”.

On a financial level the most obvious cost/financial strain would be for the education of the autistic child. This, according to the researcher, does not only relate to school, but any extra treatments/therapies to assist the child in achieving his/her educational goals.

Therefore, educational costs may include the following:

- Schooling, in most cases, in a Specialized Education School;
- Therapy, which may include: speech therapy; occupational therapy; physiotherapy; and/or some form of behavioural therapy;
- Aftercare facility if both parents are working.

In South Africa, the facilities available for autistic individuals are limited, as noted by Botha (2005). Given this fact, and the amount of financial assistance that an autistic child may require, the cost of educating an autistic child, particularly in South Africa, is very high.

"Autism knows no boundaries, no nations and no race. It seems to be as much a part of us as love, and the common cold, as genius, as art" (Autism Primer, 2002). Therefore, autism is a disorder that impacts many families, from different walks of life and in different financial positions, but the cost of caring for an autistic child remains high.



As Botha (2005) states, on various occasions the family will run into financial difficulties in trying to find placement and appropriate care and treatment for their autistic child.

Therefore, it is clear that the financial strains placed on a family supporting an autistic child are great, and will have a big impact on the family's ability to function successfully.

3.4.2.2. Social Impact

Autistic children engage in unusual behaviour. Encarta (2002) explained that:

Autistic children often engage in repetitious activities, such as arranging objects in meaningless patterns, flipping a light switch on and off, or staring at rotating objects. Some engage in repetitious body movements, such as spinning, flapping their arms, swaying, rocking, snapping their fingers, and clapping or flapping their hands. In some cases these movements may be harmful, involving repeated biting of their wrists or banging their heads.

This comment, coupled with the comment made previously by Braude (1999: 24–26) at the beginning of this section discussing the changes that a family might experience when a child is diagnosed with autism, highlights the great influence that an autistic child's behaviour will have on a family's opportunities to engage in social activities.

As Stacey (2002) comments, “we are always tense as such when Michael (the autistic child) is around. Even when he is being good. You are tense because you don't know what is going to happen next. Everything you do has to be planned, and thought through carefully, as to accommodate Michael”.

The researcher is of the opinion that this highlights a family's difficulty in just doing something as a family in a social context, as the autistic child and his/her



behaviours have to be considered very carefully before any decisions or plans are made.

The Autism Society of America (2005) considers the following to be traits of autism:

- Insistence on sameness; resistance to change
- Preference for being alone; aloof manner
- Tantrums
- Difficulty in mixing with others
- Sustained odd play
- No real fears of dangers

These traits will have a direct impact on a family's ability to interact with others on a social level.

3.4.2.3. Emotional Impact

The researcher is of the opinion that, on an emotional level, an autistic child's family, both parents and/or siblings, are placed under a great deal of stress.

Exhorn (2005: 179) states that "you (a parent) may experience a range of emotions after learning your child is autistic ... these may include a sense of loss, which may pertain to a loss of one's old life or a loss of one's future life. You may experience feelings of fear, worry, confusion, guilt, embarrassment, resentment, and a sense of existential loneliness".

This paragraph highlights the many feelings that parents might experience when initially dealing with the diagnosis, and these feelings will continue into the family's future. These feelings, according the researcher, can have a profound



affect on the family as a unit, as children are normally in tune with the feelings of their parents, and react accordingly.

Gardner (2005), a mother of an autistic child, states that “he feels our warmth; he feels our love. But whether or not he truly understands the word ‘I love you,’ I don’t know”. Botha (2005) comments that she learnt to “live on the raw edge of fear”, trying to cope with her child’s disability. Botha (2005) states that her husband commented that “there are things that are worse than death, and seeing your child like this is one of them”.

All of the above comments, given by a parent of an autistic child, highlight the difficulty and emotional pain associated with living with an autistic child.

In *My Child May Be Affected by ASD* (2005) the following is noted: “parents of a child who has been diagnosed with ASD (Autism Spectrum Disorder), almost have to go through the process of mourning the loss of a ‘normal’ child and coming to terms with the ‘new and different’ child that now stands before them”.

This comment highlights the emotional difficulty a family experiences in hearing, accepting and then living with the diagnosis of autism of a child.

Baron-Cohen and Bolton (2002: 23) also mention the emotional strain that the diagnosis of autism might have on the marriage of the parents. In this regard Exhorn (2005: XIV) comments that “our marriage took huge blows under the stress of our son’s diagnosis”. The researcher is of the opinion that this is a very real concern and agrees with Baron-Cohen and Bolton (2002: 23) when they state that “it is important to tackle the difficulties that arise in the marriage ... set aside time for ourselves as partners (rather than just as parents) when you can talk openly, and share and discuss difficulties”.

My Child May Be Affected by ASD (2005) uses a diagram (reproduced as Diagram 2, below) to illustrate that a parent/family member will most likely experience the following feelings, as they start dealing with the diagnosis of autism.

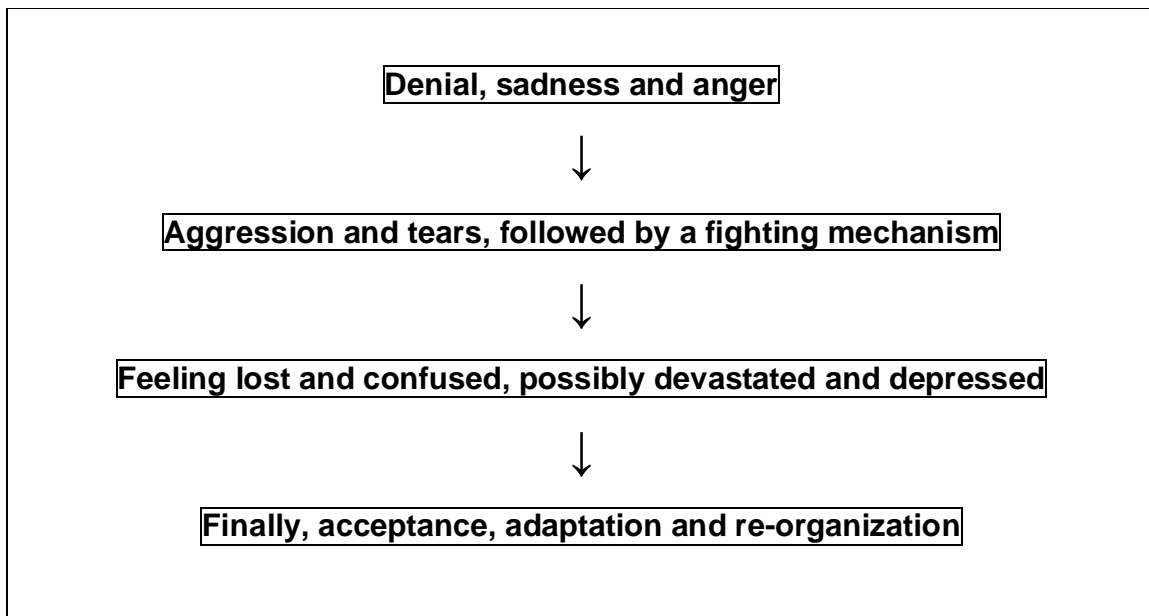


Diagram 2: Feelings, of family members, associated with the diagnosis of autism

Baron-Cohen and Bolton (2002: 21–22) also focus on very similar feelings when first dealing with the diagnosis. This can be seen in the following paragraph:

The immediate reactions are sometimes similar to those seen following bereavement: an initial phase of shock and disbelief. to some extent, the numbness helps prevent parents from being overwhelmed by their distress. At this stage it is difficult to assimilate new information. The shock is then followed by a period of denial, with people sometimes acting as if nothing has occurred. The next phase if often full of feelings of anger and guilt. Anger at the injustice of the situation and guilt, which turns into sadness and despair. Finally most parents adapt and become able to form a realistic picture of the problems, as well as of their child's strengths and special qualities, and begin to focus on practical ways of coping.



The researcher feels that the best description of the feelings associated with dealing with the diagnosis of autism is that it is as if one is going through bereavement, owing to the loss of many things. As previously mentioned, this may include mourning the loss of the life you had before or the life that you thought you would have in the future. It may also include mourning the loss of a child, as one was hoping and dreaming of many things to come. It may also include mourning the loss of the family life as it was before. In the researcher's view, all these feelings can be considered valid and important to work through. However, as Baron-Cohen and Bolton (2002: 22) state, "sometimes individuals get 'stuck' in certain stages, or miss some out altogether, and this can lead to difficulties". The researcher is of the opinion that parents and family members must allow themselves to experience their feelings, but must also ensure that they deal with them and move on to dealing with the situation practically and looking to the future.

In this regard Exhorn (2005: 193–194) gives the following guidelines to help cope with the diagnosis and all the feelings that are attached:

- Organize your time, with the use of a schedule
- Put first things first, in other words, set your priorities
- Set goals and objectives
- Work as a team
- Motivate your team, including your family as well as the various therapists

3.4.3.4 Impact on the siblings

The researcher feels that it is also important to focus on the impact that living with an autistic child has on his/her siblings, as they too are affected by this. In some cases there might not be siblings, but in a lot of cases there are siblings involved.



The impact on siblings is clearly worded in the following joint letter from a brother and sister of an eleven-year-old boy with autism (Exhorn: 2005: 246).

We kids have a little bit of trouble having an autistic sibling. The autistic child gets more attention than the other just because he needs more help. Our names are Diane and Scott, and we have an autistic brother that no longer lives with us. Scott and I were not doing as well as we could have in school when my brother was here. This was because my parents were always chasing after our brother in the neighbors' yards, getting him ready, cleaning up the food he threw on the floor, and a lot of other things. So we were never able to study. This gave us no time for what we had to do. We love our brother very much and were sad he left, but it had also made him and my family happier.

In this situation the family decided to place the child into a respite facility, but this is not always possible. In this insert one is able to identify various feelings that siblings might experience, such as jealousy at the attention that the autistic child is getting; frustration, due to the distraction that the autistic child's behaviour may cause; and sadness at the loss of a sibling.

Baron-Cohen and Bolton (2002: 23) comment on the difficulty of informing the sibling/s of the child's diagnosis. They state that "precisely what is said will depend on the age of the particular child and their ability to grasp the problems ... the news may be a source of distress to them, and will need to be shared in a sensitive manner".

Exhorn (2005: 245) gives the following tips to help "maintain a sense of 'normalcy' in the family:

- Provide consistency
- Set realistic expectations for your children, your spouse, and yourself
- Be patient and show compassion
- Demonstrate love and respect to all of your children



- Focus on positives
- Say thank you to your children for making adjustments to accommodate the child with autism and for helping him/her.

The researcher is of the belief that it important also to recognize the feelings of a sibling/s as the diagnosis of autism also has a profound impact on their lives. As within any family unit, it is important to spend time with and show love to all the family members, even in a challenging situation where there is an autistic child.

A parent (in Stone, 2006: 101) gave the following comments, which accurately summarize the impact on and feelings of parents:

The advice I would give other parents of children with autism is this: (1) Seek therapy and dive into it like your child's life depends on it (because it does). (2) Step away from your world occasionally and breathe some fresh air. (3) Remember, your child's behaviour doesn't reflect on you as a parent. The opinions of the people in the grocery store don't matter; you don't owe the world an apology. You don't have to explain the autism spectrum to everyone who gives you a dirty look. Is your child safe and happy? Is your child getting his needs met and being gently guided toward progress? That makes you more than a good parent – you're the parent of a special-needs child. That's what it's about.

As can be seen, autism has a tremendous impact on the functioning of a family and its members. This can be on a financial, social or emotional level, with the impact being substantial and at times devastating.

3.5. SUMMARY

Middle childhood is a challenging and greatly changing time for a child. It is a time when a child shows development in the physical, intellectual and social spheres.



An autistic child goes through the same phases of development as a neurotypical child. However, because of the severity of the disorder, an autistic child will be faced with various other challenges, as has been discussed in this chapter.

The researcher is of the opinion that the area of development that shows the most significant differences between neurotypical and autistic children is that of social/emotional development. This is because autism is a disorder which mainly affects social functioning and in some cases an autistic child will not reach any developmental milestones with regard to social/emotional development.

Throughout this chapter the researcher aimed to give the reader a good understanding of the differences between a neurotypical and autistic child in middle childhood. These differences are noted in all areas of development, but more so in intellectual and social/emotional development than physical development.

However, it is important to remember that each child is unique in reaching his/her developmental milestones as well as being unique on the autism spectrum. Therefore, although there are generalizations that can be made with regard to the developments that take place in middle childhood, it is important to look at and deal with each child individually.

As mentioned previously, autism is a complex and challenging disorder. A child who is diagnosed with autism and is going through middle childhood faces many challenges and experiences, on a physical, cognitive and social/emotional level. It was important for the researcher to have a good understanding of these challenges and differences so that she could handle the autistic children dealt with in this study in as appropriate a manner as possible.

The goal of the study is to develop a play technique programme for children in middle childhood. The researcher has therefore contextualized the study in



Chapters 2 and 3 by focusing on what autism is (Chapter 2) as well as by gaining an understanding of autism in middle childhood and the impact that this has on the family (Chapter 3). It is necessary now to turn attention to play techniques within play therapy, more specifically the use of play techniques with autistic children (Chapter 4). This will then lead on to a description of the particular play technique programme that will be used with the autistic children in this study (Chapter 5).



CHAPTER FOUR

PLAY TECHNIQUES WITHIN THE FRAMEWORK OF PLAY THERAPY

4.1 INTRODUCTION

According to the article Play Therapy (2006a), “play is the method that children use to communicate and process their world”. Play is thus an essential part of a child’s world, because it is the means by which the child learns and copes within his/her environment.

As mentioned in Chapter 1, the goal of this study is to develop a play *technique* programme, as opposed to a play *therapy* programme for autistic children in middle childhood. The reason for this is that the researcher aims to develop a programme that can be used widely within the autism field, and not only by qualified play therapists. It is therefore necessary to focus on appropriate play techniques, rather than play therapy as the means of attempting to assist autistic children. Play techniques can be considered the mechanisms or methods used within the field of play therapy, in order to assist a child within the therapy process (Oaklander, 1988: 10).

In this chapter the researcher will focus on play techniques within the framework of play therapy, specifically focusing on the play techniques relevant for autistic children. The previous two chapters have focused on autism as a phenomenon; autism in middle childhood; and the impact of autism on the family. In order to attain the goal of the study, namely the development of a play technique programme for autistic children, it is necessary to discuss the play techniques that will be focused on.



The researcher was not able to identify a play technique programmes for autistic children that have been documented up to now. The researcher could identify a few incidences of play therapy being done with autistic children. Josefi and Ryan (2004) documented their case study of a six-year-old boy, titled "Non-directive Play Therapy for Young Children with Autism". Kenny and Winick (2000) documented a study with an autistic girl aged 11, titled "An Integrative Approach to play therapy with an autistic girl". Another study was done by Hess (2006) titled "I would like to play but I don't know how: a case study of pretend play in autism". Lowery (1985) completed a study titled "Autistic aloofness reconsidered: a case report of two children in play therapy". All these studies were done with one or two children, diagnosed on the autism spectrum, rather than a group of children. The researcher was also able to identify studies completed with high-functioning autistic children, such as the study done by Bromfield in 1989 and in 2000 ("Psychodynamic play therapy with a high-functioning autistic child" and "It's the tortoise race: long-term psychodynamic psychotherapy with a high-functioning autistic adolescent"). As noted, these studies were completed specifically with a high-functioning autistic child. The researcher was also able to identify research within other fields of play therapy, such as the study completed by Rinquist (2005) in which animal assisted play therapy was used to assist autistic children in communicating and socializing. Garry Landreth (2001) published a book titled "Innovations in Play Therapy: Issues, Process, and Special Populations" in which a section focuses on play therapy with special populations, such as autistic children. Hellendoorn (1986) also completed a study titled "Play-Play Therapy-Play Research, focusing specifically on research into play therapy as treatment/therapy. In addition to these studies, the researcher is also aware of play therapy being done with autistic children on a regular basis at various centers within South Africa and internationally. However, at this stage, the researcher was not able to identify any specific structured programme that had been developed, using play techniques with autistic children, which are available to the autism field. This highlights the necessity for a study such as this one.



With a good understanding of what autism is, particularly within the middle childhood phase, it is now necessary to look at the nature and content of play therapy, in order to understand the benefits and use of specific play techniques within the play therapy framework.

The aim of this study is to develop a play technique programme for autistic children, as opposed to a play therapy programme. However, in order to get a clear understanding of the various applicable play techniques that will be focused on in this study, it is necessary to put them into context within the play therapy framework. It is also necessary to focus on the play therapy framework when developing the specific play technique programme that will be used in this study, in order to ensure that the programme is structured on a scientific basis. Play therapy will therefore be discussed in the following sections.

4.2 THE NATURE AND CONTENT OF PLAY THERAPY

Play, according to Axline (1974: 9), is a “child’s natural medium of self-expression”. Axline (1974: 1) also writes “there is frankness, and honesty, and vividness in the way children state themselves in a play situation”. Play Therapy UK (2006) defines play as “a physical or mental leisure activity ... it assists in learning and self-development, involving individuals or groups, either spontaneously or part of a planned activity”. Play Therapy (2006b) states that play is “the child’s natural means of expression”. Wikipedia (2006) comments that play is “an unrestrained, amusing interaction with people, animals, or things, often in the context of learning”.

Gaining an understanding of play through the above definitions leads the researcher to the belief that play can fulfill many roles for a child. It can aid in learning and development, on a physical, mental and emotional level. It aids in



the development of relationships and bonds with other individuals and it allows a child to express him/herself freely.

The researcher is of the opinion that play is a very beneficial way to get in contact with children and specifically autistic children, as it is also an autistic child's natural means of communication. In some instances with autistic children, play may be their only means of communication. Play is thus the medium, element or focus in the context of play therapy. But what is the true meaning of play therapy?

What is Play Therapy? (2003a) defines play therapy as therapy that "helps children work through emotional and behavioural issues and helps address a type of mental health or developmental intervention which is designed to help children grow up as happy and well adjusted as possible".

Adding to these descriptions the article, Play Therapy (2006c), defines the concept play therapy as follows: "It is a technique whereby the child's natural means of expression, namely play, is used as a therapeutic method to assist him/her in coping with emotional stress or trauma".

The American Association for Play Therapy (2007) defines play therapy as "the systematic use of a theoretical model to establish an interpersonal process wherein trained play therapists use the therapeutic powers of play to help clients prevent or resolve psychosocial difficulties and achieve optimal growth and development". Axline (in What is Play Therapy? 2003a) elaborates on play therapy in the following way:

Based upon the fact that play is the child's natural medium of self-expression, play therapy is an opportunity that is given to the child to "play out" his feelings and problems just as in certain types of adult therapy where an individual "talks out" his difficulties.



Schoeman and Van der Merwe (1996: 3–5) consider play therapy to be the use of play to assist children, in therapy, in dealing with their particular problem/s. This involves the use of various play materials and the therapist being in tune with the needs of each unique child.

Play therapy, according to the researcher, is based on the principle that play is the main medium of communication for a child, which can be seen in the above definitions. Through the use of play, the child is able to communicate to the therapist what he/she has experienced, what the resulting feeling of the experience is and how the feelings can be resolved.

Play therapy, according to What is Play Therapy? (2003b) "takes place in a playroom, especially designed, decorated, and furnished with toys and equipment children need to use as tools for the dramatic scenes they direct for the therapist".

Play therapy uses a variety of play and creative techniques to alleviate chronic, mild and moderate psychological and emotional conditions in children who are experiencing behavioural problems and/or are preventing children from realizing their potential (Play Therapy UK, 2006). The play material may include the following (Play Therapy, 2006b):

- Manipulatives (e.g. clay, crayons, painting supplies)
- Water and sand play containers
- Toy kitchen appliances, utensils, and pans
- Baby items (e.g. bottles, bibs, rattles)
- Toy guns, rubber knives
- Toy cars, boats, soldiers, and animals
- Blocks, erector sets
- Stuffed animals



Play therapy can be used to "address specific problems and to facilitate positive developmental progress" (Why Play Therapy? 2003b). The article, Play therapy (2006a), commented further on this, stating that play therapy is helpful for children who have experienced/are experiencing the following:

- Dealing with parental conflict, separation or divorce;
- Have been traumatized (sexual, physical or emotional abuse);
- Have been adopted or are in foster care;
- Dealing with issues of loss, such as illness or death of a loved one;
- Have been hospitalized;
- Have witnessed domestic violence;
- Suffering from a disability of some kind, either physical or emotional;
- Diagnosed with Attention Deficit Disorder (ADD/ADHD) ; and/or
- Have experienced serious accidents or disasters.

Elaborating on the above list, Play Therapy UK (2006) considers that play therapy is appropriate for children experiencing the following problems:

- He/she is not realizing his/her full potential – academically or socially
- Has nightmares or disturbed sleep
- Is at risk of being/is excluded from school
- Has suffered trauma
- Has suffered emotional, physical or sexual abuse
- Is (or is in the process of being) adopted or fostered
- Suffers because of separated/divorced parents
- Suffers from anxiety, stress or phobias
- Has suffered a loss or bereavement of any kind
- Is withdrawn or continually unhappy
- Is ill, disabled, or autistic
- Finds it difficult to make friends



- Quarrels frequently with peers or siblings
- Bullies others or is bullied him/herself
- Displays inappropriate behaviour
- Does not play

The researcher is of the opinion that an autistic individual will fit into some of the above categories, specifically under an individual suffering from a disability of some kind, in this case the diagnosis on the autism spectrum with all its characteristics.

The article *Play Therapy and its Assumptions* (2003) states that there are various underlying assumptions to play therapy. These include that play is revealing on many levels; intervention in the 'play world' generalizes to other life arenas; play therapy changes the child client by offering new understanding and greater awareness; the use of the child's language (play) to discuss needs and events relevant to the child, is essential; and there is motivation within the child to change. The researcher highlights the importance that some of these assumptions may be challenged when working with autistic children, such as discussing needs or offering new understandings.

Oaklander (1988: 53–56) gives the following guidelines in conducting the process of play therapy, and although she is specifically focusing on the technique of drawing in this section, the guidelines are also applicable to other techniques within play therapy. These techniques are aimed mainly at professional individuals and will therefore not be easily understood by a layperson. However, these guidelines are important for giving an appropriate theoretical framework of play therapy and are therefore included. The guidelines for conducting the process of play therapy include the following:



-
- Motivate the child to share with you (the therapist) the experience he had, whilst drawing, focusing on the very feelings which were present when he was busy with his creation. How did he approach the task and how did he complete it? This in fact is a process in which the child shares part of himself.
 - Let the child share the drawing (activity) with you. Let him describe the drawing in his own words. This is further a manner in which the child shares himself.
 - The child is now motivated to expand on a deeper level as he expands on different parts of the drawing. Certain parts must be explained, such as the forms, colours, depiction, objects and people.
 - Ask the child to describe the picture as if he himself is in the picture. Use the personal pronoun 'I'.
 - Select specific objects in the picture with which the child should identify.
 - If you deem it necessary to help the process, questions may now be asked. This step creates the opportunity to 'move into the picture'. It creates an opportunity for involvement.
 - Focus the child's attention on the sharpening of awareness, by lifting out certain section of the picture and by over-accentuating it. Encourage the child to stick to this part as long as it is necessary. Encouraging questions may also be required. You may also supply your own answers and ask the child whether he agrees.
 - Get the child to have a pretend conversation between two parts of the picture.
 - Encourage the child to make a definite decision as to the colour he is going to use.
 - Be alert to 'meaning' in the child's voice, posture, facial expression, breathing and silences: these may mean that he is busy sorting something out, that he is thinking, remembering, regressing, is experiencing anxiety



and fear, or merely that he is aware of something. Use these clues to facilitate your work.

- Pay a lot of attention to identification. Help the child to own his creation.
- Make a connection between the picture and the child's own experiences.
- Now look for the missing parts of the picture and draw the child's attention to them.
- Stay with the child's presentation, his 'foreground'. The therapist may also share something of his own feelings.

Again, the researcher points out that the focus is on the specific medium of drawing, but it can be used with all the mediums of play therapy. Through following these basic guidelines, the researcher is of the view that play therapy could have a positive benefit for the child.

In this regard, Play Therapy (2006c) lists the following as benefits of play therapy:

- Reduces anxiety about traumatic events in the child's life;
- Facilitates a child's expression of feeling;
- Promotes self-confidence and a sense of competence;
- Develops a sense of trust in self and others;
- Defines healthy and comfortable boundaries;
- Creates or enhances bonding in relationships; and
- Enhances creativity and playfulness.

As previously mentioned, within this study the focus will not be on play therapy per se, but rather on the use of the various play techniques with autistic children. In play therapy and the various techniques there are however areas that the researcher feels are inappropriate for working with autistic children. Therefore, the researcher, through conducting this study, will aim to select the appropriate techniques for use with autistic children.



When looking at the history of play therapy, it is clear that play, play techniques and eventually play therapy, or the process thereof, has been in the minds and actions of various professionals and individuals. The following references verify this (Play Therapy, 2006b):

- 1903:** Sigmund Freud outlines the stages of childhood instinctual developments
- 1909:** Freud first applies psychotherapy with children
- 1913:** Hug Hellmuth interprets play in terms of Freud's drive theory
- 1925:** Anna Freud uses play to better understand her child patients
- 1927:** Advocacy for High School 'counsellors' to aid healthy developments
- 1930:** Goodenought developed the 'Draw-A-Man' test for assessments
- 1933:** Levy introduces the 'Experimental Play' method
- 1934:** Fred Allen and R. Rogeson begin non-interpretive play methods
- 1937:** Melanie Klein uses interpretations in play therapy
- 1938:** Strong advocacy for the use of play in the growing Child Guidance Field

- 1940:** Carl Rogers 'Client Centered Play Therapy'
- 1944:** Sand play (Sand table) therapy
- 1954:** Erikson's 'Eight Ages of Man' offers a broad epigenetic outline of tasks that address adaptation to external events
- 1955:** Hambridge 'Specific situations' instructing the child to enact specific events through play
- 1957:** Levitt's review suggests child therapy is ineffective
- 1960s:** Frits Redl writes pioneering work about treating children in residential placement
- 1961:** Ginott advocates widespread use of play
- 1962:** Piaget examines children's cognitive development, defines cognitive age spans
- 1964:** Winnicott develops the 'Squiggle Technique'
- 1971:** Gardener develops the 'Mutual Storytelling Technique'



1971: Davidson involves mothers directly in play therapy

1972: Woltman uses hand puppets in play therapy

1980s: Levine and Proskauer develop Brief and Time Limited models of play therapy.

1990s: Tremendous growth in books, games and charts linked to play therapy

1992: Standardized training in play therapy begins

This time line shows that play therapy has been in the minds of professionals and individuals for a long period of time.

Within play therapy there are various theoretical approaches that can be focused on. In this research the focus will be on the gestalt approach. As Yontef (1993: 129) comments, "Gestalt Therapy focuses more on process (what is happening), than content (what is being discussed). The researcher is of the opinion that when working with autistic children it will be more beneficial to use the gestalt approach, due to the fact that the focus is on the process and not the content.

In the following section the focus will be on the gestalt approach, as this is the theoretical framework for this particular study.

4.3 GESTALT APPROACH TO PLAY THERAPY

The gestalt approach refers to the concept of gestalt, which is defined by Thompson and Rudolph (2000: 163) as "a form, a configuration or a totality that has, as a unified whole, properties that cannot be derived by summation from the parts and their relationship. It may refer to physical structures, to physiological and psychological functions, or to symbolic units". Carroll and Oaklander (in O'Connor & Braverman, 1997: 184) state that "gestalt therapy is a humanistic, process-oriented form of therapy that is concerned with the integrated functioning of all aspects of the person: senses, body, emotions, and intellect".



The goal of gestalt is defined as “to know who they (the clients) really are by clarifying those parts of themselves that they have carefully hidden from awareness. To become aware of what they are doing, how they are doing it and how they can change themselves and to learn to accept and value themselves” (Thompson & Rudolph, 2000: 163).

Yontef (1993: 129) commented that gestalt therapy focuses more on “process (what is happening) than content (what is being discussed). The emphasis is on what is being done, thought and felt at the moment rather than on what might be, could be, or should be”. Carroll and Oaklander (in O’Connor & Braverman, 1997: 189) comment that “the purpose of treatment is to restore the alive, graceful functioning that places a child once again on her rightful path of growth”.

By looking at the above definitions one can get the understanding that the gestalt approach focuses on the whole process of the therapy experience, rather than the specific parts/content that takes place within the therapy experience. The researcher is of the opinion that this approach is appropriate for working with autistic children as one will need to look at the whole process to see the impact of the therapy, rather than the specific events or experiences.

Fritz Perls and his wife Laura founded gestalt therapy in the 1940s. Walter (2000: 47) emphasizes that Perls was not the incarnation of gestalt theory pure and simple, but he had impressed so many people in his concrete work with them that it (gestalt) spread. The movement originated in Germany and later spread to the United States and other countries (Walter, 2000: 48).

Much of Perls’s doctrine is summarized in his famous gestalt prayer as quoted by Thompson and Rudolph (2000: 165):

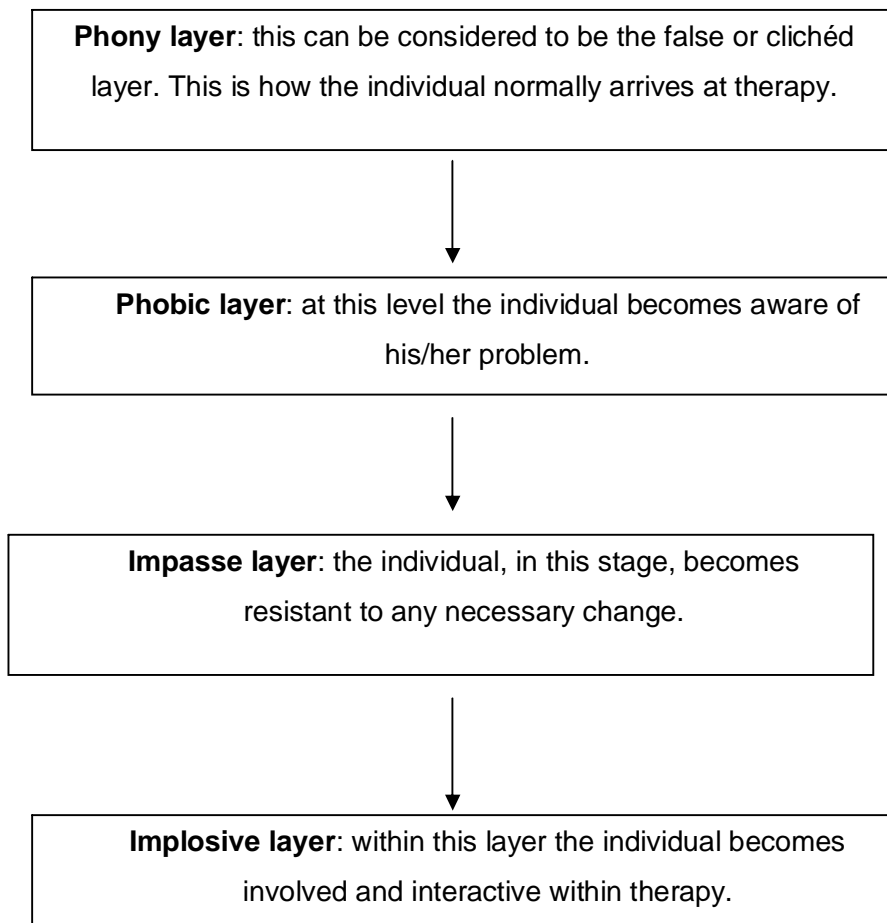
*I do my thing and you do your thing.
I am not in this world to live up to your expectations,
And you are not in this world to live up to mine.*



*You are you and I am I.
And if by chance we find each other, it's beautiful.
If not, it can't be helped.*

The above quotation seems to suggest that the goal of gestalt therapy is to know who he/she (the individual child) really is by clarifying those parts of him/herself that he/she carefully hides from his/her awareness. The researcher also needs to become aware of what he/she is doing, how he/she is doing it and how he/she can change him/herself and learn to accept and value him/herself, and have honesty and purity in him/herself.

Thompson and Rudolph (2000: 166–167) note that Perls based the counselling stages of gestalt therapy on five neurotic layers or stages, which he considered to be the basis of all human thinking. Diagram 3 outlines these neurotic layers:





Explosive layer: this is the final layer, when the individual comes in contact with self, and change begins to take place.

Diagram 3: Five Neurotic Layers

When assuming the role of the therapist within gestalt therapy, the therapist's function is to "facilitate the client's awareness in the 'now'". The gestalt therapist can be considered an aggressive therapist who frustrates the client's attempts to deny an awareness of the here and now. The focus remains on the immediate present (Thompson & Rudolph, 2000: 167).

Within the gestalt framework there are various techniques/mediums that can be used. These techniques may include the use of music to encourage particular feelings or the use of musical instruments to express feelings. This would take place in the form of both introducing a particular type of music and then discussing with the child what he/she feels when hearing the music, as well as encouraging the child to play along with various instruments. The researcher is of the opinion that this could also be effective with an autistic child: even though he/she may not be able to communicate what he/she is feeling, one would be able to observe his/her non-verbal reactions to the music. When using musical instruments to express feelings, the child would simply be encouraged to express what he/she is feeling by playing an instrument. As Dancer (2003) stated, autistic children respond incredibly well to drumming: this allows them the opportunity to express their frustration and simply be free. One may also use art activities, as well as one's tone of voice or body movement, as well as various relaxation techniques/activities.



The researcher is of the opinion that within gestalt there are many more techniques and activities that the therapist could use with a child, but the researcher has simply highlighted a few of the more prominent ones, focusing on the techniques which can be considered appropriate for autistic children. The researcher is of the opinion that the gestalt approach to play therapy could be considered a highly effective manner of conducting therapy with a child.

However, it is important to highlight the fact that these techniques have not been recorded to have been done with autistic children up until this stage, and therefore it would be necessary to change and adapt the techniques where necessary.

In the following section the focus will be on projection within play therapy. Again the researcher feels that it is important to note that projection may not be appropriate with autistic children, but it is important to focus on it due to its vital presence within the play therapy process.

4.4 PROJECTION IN PLAY THERAPY

When looking at the theoretical framework of play therapy, in order to get a better understanding of the techniques that will be used in this study, it is important to focus on projection. Projection is not an appropriate method/medium with the specific target group of this study, namely autistic children, given the fact that the goal of the study is not focusing on interpreting social behaviour but rather on improving/enhancing the social behaviour. However, it is an important aspect of the play therapy framework.

Projection is defined by Schoeman (1996: 64–65) as “imagining that our own (unwanted) feelings belong to someone else” and projection may serve “various objectives for the child, such as giving the child space to sort out the expectations



with which the world confronts him/her and to help a child dispel that which he/she cannot yet handle”.

The researcher has included this section in this study because projection is such a vital element of play therapy. However, when working with autistic children, the researcher must explore whether projection will be applicable or not, given the challenges and difficulties that the child may face. However, the researcher is still of the belief that it is important to focus on this topic in order to gain a good understanding of play therapy and therefore play techniques.

Thompson and Rudolph (2000: 73) defined projection as the following:

When children sense within their own personality a motive of which they are ashamed or which they fear, they may not admit its existence consciously to themselves, but instead may constantly see the motive in other people, attributing to others those unacceptable acts and feelings that their own id urges them to express.

Polser (in Schoeman, 1996: 65) defined projection as “the development of artistic and creative qualities but at the same time it is a primitive defense mechanism, used when one cannot accept his/her feelings and actions because one should not feel or act that way”.

Schoeman (1996a: 70) stated the following reasons for the use of projection:

- To get rid of certain feelings or to want to own the feelings. This is not only because of unfinished business but also a result of the fact that the child finds the feeling acceptable and therefore wants to own it;
- Often a child will want to try something out but is afraid and therefore gives the characteristic to someone else. If it is acceptable to the other person/people, then the child will act on or own the feeling/s; and/or
- A child may use projection as a method of escape.



Schoeman (1996: 65) postulated the following:

The basic principle underlying this technique is that the child must use natural media to communicate his responses, in cases where he would otherwise find it difficult to respond. The child organizes the material in terms of his own perceptions, motivations and attitudes to adapt to his own uniqueness. He uses the familiar and reformulates situations to suit him.

Projection, within play therapy, serves various purposes, which have been summarized by Schoeman (1996: 67–70). Firstly, it is important that projection takes place in the here and now, as it is much easier for a child to express and deal with things that are affecting him/her now. Secondly, projection can be used to stimulate self-growth. Finally, projection can be used to solve unfinished business.

There are various ways in which one can use projection within play therapy. These include the following:

- **Sand play:** this involves, according to Van Dyk (2000: 2), allowing the play-maker to experience a new learning process of picture making that is satisfying for the individual, providing a physical outlet of energy.
- **Water play:** Schaefer and Cangelosi (1993: 126–127) stated that through water, a child might develop a feeling of mastery and liberation, which allows a feeling of satisfaction.
- **Puppets:** Oaklander (1988: 104) wrote that “it is often easier for a child to talk through a puppet than it is to say directly what he finds difficult to express.”
- **Clay:** Oaklander (1988: 67) stated that through the use of clay those who are insecure and fearful could feel a sense of control and mastery, and clay can be considered the most graphic of media, allowing the therapist to observe the process of the child.



- **Art:** Kaduson and Schaefer (1997: 55) stated that “most children enjoy drawing and will find it less threatening than talking about an upsetting experience or loss, which is likely experienced as overwhelming and extremely confusing”.
- **Bibliotherapy:** Van der Merwe (1996: 109) considered various advantages to bibliotherapy, such as a development of insight, verbalization of problems, a result of clearer perspective and teaching the child a language through which feelings can be verbalized.
- **Drama/role play:** Mellou (1994: 77) defined dramatic play as “play that occurs when a child, or children, by means of interacting with the environment, adopt roles and use make-believe transformations to act out stories, real or imaginary, and create new stories as well”.
- **Music:** Oaklander (1988: 115) stated that “music and rhythmic beat are ancient forms of communication and expression ... [and they] fit in nicely with therapeutic work with children”.

All the above techniques can be used to encourage projection in the child, in order to assist the child in dealing with his/her problem. These techniques will be focused on again later in this chapter, specifically in relation to the use of these techniques with autistic children. The focus will then also be on how these techniques will be adapted in order for them to be used with an autistic child.

The researcher is of the opinion that the use of play techniques with autistic children, within the gestalt framework, could be highly beneficial but also a challenging endeavour. The focus in this chapter will now be on the various play techniques within play therapy.

4.5 PLAY TECHNIQUES WITHIN PLAY THERAPY

Within play therapy there are various techniques that can be used. As previously mentioned, the researcher will focus on specific techniques that will be used with



autistic children, but feels that it is beneficial to mention several of the play techniques, in order to give an accurate account of the techniques.

Oaklander (1988: 160) states that "playing is how the child tries out his world and learns about his world, and it is therefore essential to his healthy development". She goes on to state that "play, for a child, is serious, purposeful business through which he develops mentally, physically, and socially ... play is the child's form of self-therapy, through which confusions, anxieties, and conflicts are often worked through" (Oaklander, 1988: 160).

Play Therapy UK (2006) states that it is necessary that a therapist should:

- Develop a warm and friendly relationship with the child
- Accept the child as she or he is
- Establish a feeling of permission in the relationship so that the child feels free to express his or her feelings completely
- Be alert to recognize the feelings the child is expressing and reflect these feelings back in such a manner that the child gains insight into his/her behaviour
- Maintain a deep respect for the child's ability to solve his/her problems and give the child the opportunity to do so. The responsibility to make choices and to institute change is the child's
- Not hurry the therapy along. It is a gradual process and must be recognized as such by the therapist.

The researcher is of the view that this highlights the necessary characteristics of a therapist, namely respect, compassion, a non-judgmental attitude and a general care for and understanding of children. The researcher is also of the opinion that the last comment, namely not to hurry the therapy along, will be important in working with autistic children, given that it could possibly take longer to develop the therapeutic relationship and give the child the opportunity to work with the therapeutic tools.



Various authors comment on the many play techniques. Within this section the researcher will focus on the literature provided by Oaklander (1988), Thompson and Rudolph (2000) Axline (1974) as well as Schoeman and Van der Merwe (1996), as these different authors offer a useful overview of the large spectrum of play techniques.

The researcher feels that it is important to note at this stage that two of the authors, namely Oaklander and Axline, can be considered to be older reference material. However, according to the researcher, these two authors can be considered vital to the field of play therapy and therefore need to be included.

The play techniques include the following.

- **Fantasy:** Oaklander (1988: 11) comments that "through fantasy we can have fun with the child and we can also find out what a child's process is. Usually her fantasy process (how she does things and moves around in her fantasy world) is the same as her life process". Schoeman (1996: 85) states that "fantasy forms a central part of the child's development". Oaklander (1988: 12) comments that "we can look into the inner realms of the child's being through fantasy".
- **Relaxation play:** Van der Merwe (1996: 77) comments that relaxation play "is mostly directed towards the attainment of process goals, namely, to prepare the child for the helping process by attaining the correct level of tension so as to ensure that he finds the helping process worthwhile". Relaxation play may include the use of music, puzzles, games, trips and outings and/or pets and animals getting involved in the process (Van der Merwe, 1996: 78–82).
- **Drawing and Fantasy:** Oaklander (1988: 21) states that when drawing/painting with a child, the child will again use his/her imagination and/or fantasy. Van der Merwe (1996: 138) comments that drawing "can be relaxing and can therefore create the correct atmosphere for further



- therapy". In drawing there are various specific activities that can be used, according to Oaklander (1988: 21–52), such as The Rosebush; The Squiggle; Family drawings; Anger pictures; Group drawing; Free drawing; painting and various others.
- **Biblio-play:** Van der Merwe (1996: 108) writes that "biblio-play is a form of play using books, reading, the written word and audio-visual media". Thompson and Rudolph (2000: 85) define biblio-therapy as "reading and discussing books about situations and children similar to themselves, in order to help the client in several ways". The advantages of biblio-play may include the development of insight for a child; verbalization of problems is encouraged; it can serve as an indirect communication medium between therapist and client; it provides alternative problem-solving mechanism; and/or it may offer possibilities for new positive behaviour patterns.
 - **Making Things:** This technique includes the use of clay; play dough; water; sculpture and construction; wood and tools; collages; pictures in books and magazines; and tarot cards (Oaklander, 1988: 67–84). Van der Merwe (1996: 139) states that making things "is a way of gaining information concerning the child's world and it offers the child the opportunity for examination and release of feelings".
 - **Storytelling, Poetry and Puppets:** The use of stories in therapy involves making up stories to tell children; the children making up stories; reading stories from books; writing stories; dictating stories; using things to stimulate stories such as pictures, projective tests, puppets, the sand tray; and using props and aids such as a tape recorder, video tape, walkie-talkie, toy microphone, or an imaginary TV set (Oaklander, 1988: 85). Thompson and Rudolph (2000: 86) consider storytelling to "assist children in understanding their own thoughts and feelings, and to communicate meaningful insights, values, and standards of behaviour to children".
 - **Assessment play:** Van der Merwe (1996: 98) considers various mediums to be used as assessment techniques, including board games, line



- drawing and picture completion, ecomaps and assessment forms. This will take place "before the change-orientated phase of therapy in order to assess certain aspects" (Van der Merwe, 1996: 98).
- **Sensory Experience:** Oaklander (1988: 109) states that through the various play techniques a therapist is attempting to "give the child experiences that will bring her back to herself, experiences that will renew and strengthen her awareness of that basic senses that an infant discovers and flourishes in: sight, sound, touch, taste, and smell". Activities can involve using clay; finger paints; sand; drawing; listening and discussing sounds; music; taste testing; smelling different things; using body movement; and/or discussing feelings through books, magazine or experiences (Oaklander, 1988: 109–135).
 - **Enactment:** Oaklander (1988: 137) writes that "play acting helps children get closer to themselves by them getting permission to go out of themselves". Van der Merwe (1996: 128) considers the advantages of enactment to include giving the child the opportunity to release his/her emotions while feeling less threatened as well as providing a special means of communication between therapist and child client. Enactment can involve various mediums, such as the empty chair; dreams; characterization; pantomiming situations; and/or polarities (Oaklander, 1988: 137–158).
 - **The sand tray:** Oaklander (1988: 166) comments that "sand is a marvelous medium for working with children of every age". Louwenfeld, in Oaklander (1988: 166), mentions the values of the sand tray, stating "sand lends itself to the demonstration of a large variety of fantasies".
 - **Play materials:** Axline (1974: 54) considers the following to be useful play materials: a doll family and house; toy soldiers and army equipment; toy animals; playhouse materials; dolls; puppets; crayons, clay and paint; sand; water; toy guns; cars; toy telephone; paper and old newspaper; magazines; books; and board games.



All these above techniques are methods and means used within the play therapy process, as can be seen from the writings of the various authors. However, in the researcher's opinion not all these techniques would be appropriate for children diagnosed with autism, owing to the characteristics of autism. In the following section the focus will be on the techniques which could possibly be appropriate for working with autistic children, from the point of view of the researcher.

4.6 AUTISTIC CHILDREN AND PLAY TECHNIQUES

Given that autistic children respond to all situations and circumstances differently from children not diagnosed with the disorder, an autistic child is likely to respond differently to the various play techniques. Therefore, the researcher is of the opinion that only specific techniques can be considered for therapy with autistic children.

These techniques, for the purpose of this study, will include fantasy techniques; relaxation play; drawing; biblio-play; making things; and sensory experiences. The researcher has chosen these techniques based on her knowledge and understanding of autistic children, both through literature and professional experience. The researcher is of the opinion that these can be considered appropriate techniques for autistic children. These techniques will be incorporated in the six phases that will be held with the individual autistic children (the respondents) at The Key School for Specialized Education. The content of the specific phases will be focused on in Chapter 5.

However, as the Autism Checklist (2006) states, "autism is not just one disorder with a well defined set of symptoms; autism is a broad spectrum of disorders, which ranges from mild to severe". Therefore the researcher feels that it is important to note that each individual child will have different capabilities according to the severity of his/her autism and therefore the techniques will need to be adjusted, as described in the following section.



4.5.1. Fantasy

Oaklander (1988: 12) comments that "we can look into the inner realms of the child's being through fantasy". Schoeman (1996: 85) states that "fantasy forms a central part of the child's development".

Therefore, according to the researcher, fantasy can be used to gain a better understanding of a child's world and feelings in order to encourage further development in the child.

The International Child and Youth Care Network (2006) comments that "all people with this disability (autism) are affected by a triad of impairment, which manifests in the following areas of development: language and communication; social interaction and imagination".

The researcher believes that this comment is particularly important given the impairment noted with an autistic child's imagination. This will have a direct impact on an autistic child's ability to engage in fantasy play.

However, as Oaklander (1988: 12) states, "children manufacture a fantasy world because they find their real world difficult to live in"; this, of course, is even more the case with an autistic child. The reason for this is that an autistic child may be frustrated within his/her own circumstances and will therefore create a fantasy world. The challenge could be linked to the autistic child's ability to communicate his/her fantasy world and experiences, rather than a lack of fantasy experience.

Fantasy play with autistic children may include the use of stories, music as well as the various other play mediums, such as dolls, play dough and paint, drawing and puppets.



4.5.2. Relaxation play

Van der Merwe (1996: 77) comments that relaxation play "is mostly directed towards the attainment of process goals, namely, to prepare the child for the helping process by attaining the correct level of tension so as to ensure that he finds the helping process worthwhile".

The researcher is of the opinion that relaxation play can be considered a vital part of the process of working with children, given that a child will need to feel relaxed and comfortable to be able to make changes and progress within him/herself.

Robledo and Ham-Kucharski (2005: 27–42) consider the following to be some of the manifestations of autism: lack of eye contact; inability to read/recognize facial expressions; inappropriate play; increased aggression towards other or him/herself; and unusual behaviour such as echolalia, 'stimming' and perseveration.

This comment brings to one's attention that an autistic child may battle with relaxation. Therefore, the researcher will have to focus a great deal on relaxation play, all throughout the process, allowing the child extra time to relax.

Relaxation play may include the use of music, puzzles, games, drawing and/or books (Van der Merwe, 1996: 78–82).

4.5.3. Drawing

Van der Merwe (1996: 138) comments that drawing "can be relaxing and can therefore create the correct atmosphere for further therapy".



The National Alliance for Autism Research (2006) states that autism is “a complex brain disorder that often inhibits a person’s ability to communicate, respond to surroundings and form relationships with others”.

From the researcher’s point of view, drawing has the potential to be an appropriate technique to use with autistic children, as a means of communication, replacing verbal communication.

In drawing there are various activities that can be used, according to Oaklander (1988: 21–52), such as the rosebush; the squiggle; family drawings; anger pictures; group drawing; free drawing; and painting.

4.5.4. Biblio-play

Van der Merwe (1996: 108) writes that "biblio-play is a form of play using books, reading, the written word and audio-visual media". Thompson and Rudolph (2000: 85) define biblio-therapy as "reading and discussing books about situations and children similar to themselves (the client), in order to help him/her in several ways". This could be an appropriate technique with autistic children, in order to encourage recognition of similar circumstances, and if possible, discussions regarding these situations to encourage positive changes in behaviour. This technique can also be used as an alternative means of communication for the autistic child, again focusing on non-verbal communication rather than verbal communication.

The Autism Checklist (2006) states that “autism affects thought, perception and attention” and the researcher is of the opinion that this could have an impact on the use of biblio-play, given the possibility of an autistic child battling with concentration. However, the researcher will use all the techniques for short periods of time and will attempt always to be in tune with the child.



4.5.5. Making things

Van der Merwe (1996: 139) states that making things "is a way of gaining information concerning the child's world and it offers the child the opportunity for examination and release of feelings".

This technique includes the use of clay; play dough; water; sculpture and construction; wood and tools; collages; pictures in books and magazines; and tarot cards (Oaklander, 1988: 67–84).

The researcher is of the opinion that this technique could be beneficial with an autistic child, as it will allow him/her to express him/herself without verbal language. It can also be a good opportunity to release frustration, which in the researcher's opinion, is something that many autistic children battle with. This can be noted in the comment made by Williams (1996: 1) when describing autism as "one bucket with several different jigsaws in it, all jumbled together and all missing a few pieces each but with a few extra pieces that didn't belong to any of these jigsaws".

4.5.6. Sensory experiences

Oaklander (1988: 109) states that through the play techniques of sensory experiences, a therapist is attempting to "give the child experiences that will bring her back to herself, experiences that will renew and strengthen her awareness of that basic senses that an infant discovers and flourishes in: sight, sound, touch, taste, and smell".

Williams (1996: 8–9) considers autism to include certain 'bizarre' behaviour/s; 'bizarre' responses to sensory stimuli; and impairment in the use of imaginary play.



The researcher is of the opinion that an autistic child is likely to respond dramatically to sensory input, as commented by Williams in the above statement, and therefore it is likely to be effective. However, this will need to be guided with care in order to avoid a sensory overload, which will cause further frustration for the child.

Activities within this technique can involve using clay; finger paints; sand; drawing; listening and discussing sounds; music; taste testing; smelling different things; using body movement; and/or discussing feelings through books, magazine or experiences (Oaklander, 1988: 109–135).

The use of all the above techniques will have the potential to be highly beneficial for autistic children, having a positive impact on their social behaviour. However, the researcher feels that it is vital to stay aware and in tune with the many differences of an autistic child in order to adjust the techniques accordingly.

4.7 SUMMARY

In this chapter, the researcher focused on various aspects of interest to this particular study. This included an in-depth look at play therapy, including the gestalt approach to play therapy as well as the use of play techniques with autistic children. The amount of information on the above-mentioned topics can be considered overwhelming. However, the researcher has aimed to describe what is relevant for this particular study.

Play therapy is an empirically tested effective manner of therapy, especially when working with a child. Given the aim of this study, the focus of this chapter was on specific play techniques to be used with autistic children. As mentioned, there are various play techniques that can be used in working and playing with autistic children, but it is necessary to conduct an empirical study in order to establish the effectiveness of these techniques.



Up to this point the researcher has aimed to describe autism as a phenomenon, autism and middle childhood and its impact on the family. This chapter looked at play techniques, within the context of play therapy, particularly with autistic children.

In the following chapter (Chapter 5) the researcher will describe the specific play technique programme that will be used with the autistic children, in order to allow for an assessment of the effectiveness of the techniques and the programme as a whole.



CHAPTER FIVE

PLAY TECHNIQUE PROGRAMME FOR AUTISTIC CHILDREN IN MIDDLE CHILDHOOD

5.1. INTRODUCTION

In the previous chapters the researcher focused on an outline of the complete study, autism as a phenomenon, autism in middle childhood and the impact on the family and play techniques with autistic children. It is now necessary to focus on the specific play technique programme that will be followed when conducting the empirical part of the study with the 12 autistic children (respondents) in middle childhood.

The goal of the study is to enhance the social behaviour of autistic children through giving them an opportunity to express themselves through the various play techniques. As mentioned in Chapter 1, there will be six phases held with each child. These will be individual phases and will therefore only include the researcher and the specific child. The reason for this being that any other observer or even the use of a video camera would have been a distraction for the respondents', due to their diagnosis of autism, and would therefore have had an influence on their social behaviour and the rating achieved for the social behaviour being measured. The phases will be held once a week at The Key School for Specialized Education, for a period of half an hour per child, over a period of six weeks.

The following outline can be considered a guideline for the programme. The researcher is of the opinion that it is important to be relatively flexible when conducting the programme. The reason for this is that an autistic child is most likely to respond differently to all the techniques and the experience as a whole, and, as mentioned by Oaklander (1988: 56), it is important to stay with the child's



presentation, his 'foreground', and therefore the programme might need to be adapted and changed when working with the individual children.

The following section will thus focus on the six specific phases that will be held. Within the outline the focus will be on the goal for each phase, the objectives for the phase as well as the specific content of the phase. It is important to note that the specific programme is aimed for use by parents and/or professionals dealing with autistic children, therefore not necessarily trained in the field of play therapy. The researcher would therefore, as commented in chapter 7, conduct workshops in order to educate and assist these individuals in conducting this specific programme.

5.2. PHASE ONE (Introduction)

5.2.1 Goal of the phase

The goal of the phase will be to begin developing a relationship between the child and the researcher, in order to facilitate a positive working environment.

5.2.2 Objectives of the phase

- a. By the end of the phase the child and researcher would have been introduced to one another and a relationship would have begun to be formed.
- b. By the end of the phase the child would have been exposed to the play room and the various play activities.
- c. By the end of the phase the researcher would have been able to assess the child's initial response to the environment and play activities.
- d. By the end of the phase the researcher would have had the opportunity to rate the child's social behaviour on the designed scale (pre-test).



5.2.3 Content of the phase

Time allocated	Content of the phase	Material required
5 minutes	Introduction Within the first 5 minutes the researcher will not provide any direction whatsoever, simply allowing the child to explore the room and activities. In this time the therapist will communicate the fact that the child is there just to play, encouraging him/her to focus on the things around him/her. This will also allow time for the child to begin to get used to the researcher's voice.	
20 minutes	Content As this will be the initial phase, the researcher is of the opinion that it is necessary to allow the child time to adapt to the environment. Therefore, there will not be a focus on completing any specific activities, but rather allowing the child the opportunity to explore the play environment and activities. The researcher will assist the child, if necessary, to become aware of the activities and attempt to play with them in some form. The researcher will also encourage some interaction, but not put the child under any pressure at this early stage. The activities that will be available will be the relaxation activities, as can be seen in the material column.	Play activities puzzles; games; books; CD player and CDs
5 minutes	Termination This phase will involve packing away the activities that have been used, indicating to the child that it is the end of the phase. The researcher will also verbalize that there will be another phase in the following week.	



5.2.4. Comments on the phase

Van der Merwe (1996: 77) comments that relaxation play "is mostly directed towards the attainment of process goals, namely, to prepare the child for the helping process by attaining the correct level of tension so as to ensure that he finds the helping process worthwhile".

Robledo and Ham-Kucharski (2005: 27–42) consider the following to be some of the manifestations of autism, namely lack of eye contact; inability to read/recognize facial expressions; inappropriate play; increased aggression towards others or him/herself; and unusual behaviour such as echolalia, 'stimming' and perseveration.

This comment brings to one's attention that an autistic child may battle with relaxation. Therefore, the researcher will have to focus a great deal on relaxation play, all throughout the process, allowing the child extra time to relax.

As this will be the first phase with the individual child, the researcher feels that it is important that the child is not rushed or forced into anything. The main purpose of this phase should be to allow the child time to get use to the environment and the researcher.

The researcher will also use this phase to assess how the child responds to the environment, in order to make any necessary changes for the upcoming phases. These changes will be in line with each individual child, depending on his/her level of functioning as well as his/her individual responses to the experience.



5.3. PHASE TWO

5.3.1 Goal of the phase

The goal of this phase is to expose the child to sensory experiences in order to increase his/her sensory awareness.

5.3.2 Objectives of the phase

- a. By the end of the phase the relationship between the researcher and child would have developed.
- b. By the end of the phase the child would have been exposed to the play room and the various play activities.
- c. By the end of the phase the child would have been exposed to various sensory experiences, such as sand and water play, in order to increase sensory awareness.
- d. By the end of the phase the researcher will be able to make an assessment about the child's level of sensory awareness, within him/herself and within the environment.

5.3.3 Content of the phase

Time allocated	Content of the phase	Material required
5 minutes	Introduction The researcher will allow the child time to settle into the phase, encouraging him/her to become aware of the activities for the day.	
10 minutes	Content <u>a. Sand tray and animals</u> The first activity will be the use of the sand tray and the animals. The researcher will encourage the child to play in the sand for as long as possible, encouraging touch, with both the	Sand tray Plastic animals



10 minutes	<p>sand texture and the texture of the animals.</p> <p><u>b. Water and plastic toys</u> The second activity will be with water and plastic toys, again encouraging the child to simply play and feel the sensation of the water and toys.</p>	Water Plastic toys
5 minutes	<p><u>c. Clay</u> The final activity will be using the clay, simply encouraging the child to touch and smell it, and mould it into anything, with the object not needing to be realistic.</p>	Clay Shape cutters Roller
5 minutes	<p>Termination</p> <p>This phase will involve packing away the activities that have been used, indicating to the child that it is the end of the phase.</p> <p>The therapist will also verbalize that there will be another phase in the following week.</p>	

5.3.4. Comments for the phase

Oaklander (1988: 109) states that through the play techniques of sensory experiences a therapist is attempting to "give the child experiences that will bring her back to herself, experiences that will renew and strengthen her awareness of that basic senses that an infant discovers and flourishes in: sight, sound, touch, taste, and smell".

Williams (1996: 8–9) considers autism to include certain 'bizarre' behaviour/s, 'bizarre' responses to sensory stimuli, and impairment in the use of imaginary play.

The researcher is of the opinion that an autistic child is likely to respond dramatically to sensory input, as commented by Williams in the above statement, and therefore it is likely to be effective. However, this will need to be guided with



care in order to avoid a sensory overload, which will cause further frustration for the child.

5.4. PHASE THREE

5.4.1 Goal of the phase

The goal of this phase is to encourage the child to express him/herself more adequately.

5.4.2 Objectives of the phase

- a. By the end of the phase the relationship between the researcher and child would have developed.
- b. By the end of the phase the child would have been exposed to the play room and the various play activities.
- c. By the end of the phase the child would have been given the opportunity to express him/herself through the various mediums available.

5.4.3 Content of the phase

Time allocated	Content of the phase	Material required
5 minutes	Introduction The researcher will allow the child time to settle into the phase, encouraging him/her to become aware of the activities for the day.	
10 minutes	Content <u>a. Drawing</u> With this activity the child will be encouraged to simply draw, with the researcher sticking a big piece of paper onto a plastic table and giving the child the various mediums with which to draw. The researcher will provide physical assistance if the child is battling to draw.	Paper Crayons Pencil crayons Oil pastels



10 minutes	<p><u>b. Play dough</u> Again the child will simply be encouraged to play with the play dough, using the various tools provided or even just his/her hands.</p> <p>The researcher will also encourage the child to make something, by assisting the child or simply indicating how to do it.</p> <p>The researcher will also encourage the child to bash and smash with the play dough, to encourage the release of any frustration.</p>	<p>Play dough Shape cutters Roller Plastic hammer Cutter</p>
5 minutes	<p><u>c. Puppets/Dolls</u> The researcher will encourage the child to pick up and attempt to use the puppets and dolls. The focus will not be realistic play, however, but rather simply getting the child to interact with the new activity.</p>	<p>Puppets Dolls</p>
5 minutes	<p>Termination This phase will involve packing away the activities that have been used, indicating to the child that it is the end of the phase.</p> <p>The therapist will also verbalize that there will be another phase in the following week.</p>	

5.4.4. Comment on the phase

In this phase, the mediums used included drawing, play dough and puppets/dolls.

With regard to drawing, Van der Merwe (1996: 138) comments that it "can be relaxing and can therefore create the correct atmosphere for further therapy".

From the researcher's point of view, drawing has the potential to be an appropriate technique to use with autistic children, as a means of communication, replacing verbal communication.



Focusing on play dough, Van der Merwe (1996: 139) states that making things "is a way of gaining information concerning the child's world and it offers the child the opportunity for examination and release of feelings". This technique includes the use of clay; play dough; water; sculpture and construction; wood and tools; and collages (Oaklander, 1988: 67–84).

The researcher is of the opinion that this technique could be beneficial with an autistic child, as it will allow him/her to express him/herself without verbal language. It can also be a good opportunity to release frustration, which in the researcher's opinion is a concern that many autistic children battle with.

It is important to note that within the six phases all the activities will be used twice. There are various reasons for this: firstly, the researcher wants to encourage the child to feel comfortable within the environment, and therefore not expose the child to too many new activities; secondly, the researcher wants to see the effectiveness of the various techniques and feels that using them only once will not give sufficient opportunity to do so; and, finally, the researcher is of the opinion that through using the activities twice, the necessary changes can be made for the second time, in order to increase the effectiveness of the technique.

5.5. PHASE FOUR

5.5.1 Goal of the phase

The goal of this phase is to encourage the child to express him/herself more adequately.

5.5.2 Objectives of the phase

- a. By the end of the phase the relationship between the researcher and child would have developed.



- b. By the end of the phase the child would have been exposed to the play room and the various play activities.
- c. By the end of the phase the child would have been given the opportunity to express him/herself through the various mediums available.

5.5.3 Content of the phase

Time allocated	Content of the phase	Material required
5 minutes	<p>Introduction</p> <p>The researcher will allow the child time to settle into the phase, encouraging him/her to become aware of the activities for the day.</p>	
10 minutes	<p>Content</p> <p><u>a. Painting</u></p> <p>The child will be encouraged to paint a picture, although it does not have to be of something realistic, as the focus is on the experience, rather than the outcome. If possible, the child will be encouraged to use his/her fingers to paint; otherwise paint brushes will be available.</p>	<p>Paint Paint brushes Paper</p>
5 minutes	<p><u>b. Puppets/dolls</u></p> <p>The researcher will encourage the child to pick up and attempt to use the puppets and dolls. The focus will not be realistic play, but rather simply getting the child to interact with the new activity and the researcher.</p>	<p>Puppets Dolls</p>
5 minutes	<p><u>c. Sand and animals</u></p> <p>The next activity will be the use of the sand tray and the animals. The researcher will encourage the child to play in the sand for as long as possible, encouraging touch, with both the sand texture and the texture of the animals.</p>	<p>Sand tray Plastic animals</p>
5 minutes	<p>Termination</p> <p>This phase will involve packing away the activities that have been used, indicating to the child that it is the end of the phase.</p>	



	The therapist will also verbalize that there will be another phase in the following week.	
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5.5.4 Comment on the phase

Oaklander (1988: 12) states: “children manufacture a fantasy world because they find their real world difficult to live in” – and this assertion is very pertinent to an autistic child. The reason for this is that an autistic child may be frustrated within his/her own circumstances and therefore will create a fantasy world. The challenge could be linked to the autistic child’s ability to communicate his/her fantasy world and experiences, rather than a lack of fantasy experience. Fantasy play with autistic children may include the use of stories and music, as well as the various other play mediums, such as dolls, play dough and paint, drawing and puppets, which have been included in this phase.

As can be seen in the previous phases, as well as the upcoming phases, the researcher has included three activities within each phase. However, the researcher is not certain how the child will respond to the various activities and therefore it could be necessary to eliminate some activities and/or include some others in the phases. As previously mentioned, this outline is merely a guideline for the programme, and the researcher feels strongly that it is important to be flexible throughout the programme.

5.6. PHASE FIVE

5.6.1 Goal of the phase

The goal of this phase is to encourage the child to express him/herself more adequately.



5.6.2 Objectives of the phase

- a. By the end of the phase the relationship between the researcher and child would have developed.
- b. By the end of the phase the child would have been exposed to the play room and the various play activities.
- c. By the end of the phase the child would have been given the opportunity to express him/herself through the various mediums available.

5.6.3 Content of the phase

Time allocated	Content of the phase	Material required
5 minutes	<p>Introduction</p> <p>The researcher will allow the child time to settle into the phase, encouraging him/her to become aware of the activities for the day.</p>	
10 minutes	<p>Content</p> <p><u>a. Bibliotherapy (books)</u></p> <p>The main focus of the use of books will be to encourage the child to communicate, either verbally or non-verbally, as well as interact with the researcher.</p> <p>The researcher will pick books that focus on emotions, such as anger and happiness, and read them together with the child, encouraging the child to focus on the picture and the researcher's voice.</p>	Books x 3
5 minutes	<p><u>b. Drawing</u></p> <p>With this activity the child will be encouraged to simply draw, with the researcher sticking a big piece of paper onto a plastic table and giving the child the various mediums with which to draw. The researcher will provide physical assistance if the child is battling to draw, encouraging interaction with the researcher.</p>	Paper Crayons Pencil crayons Oil pastels



5 minutes	<p><u>c. Play dough</u> Again the child will simply be encouraged to play with the play dough, using the various tools provided or even just his/her hands.</p> <p>The researcher will also encourage the child to make something, by assisting the child or simply indicating how to do it.</p> <p>The researcher will also encourage the child to bash and smash with the play dough, encouraging the release of any frustration.</p>	<p>Play dough Shape cutters Roller Plastic hammer Cutter</p>
5 minutes	<p>Termination This phase will involve packing away the activities that have been used, indicating to the child that it is the end of the phase.</p> <p>The therapist will also verbalize that there will be another phase in the following week.</p>	

5.6.4. Comment on the phase

Thompson and Rudolph (2000: 85) define bibliotherapy as "reading and discussing books about situations and children similar to themselves (the client), in order to help him/her in several ways".

The researcher is of the opinion that this could be an appropriate technique with autistic children, in order to encourage recognition of similar circumstances, and, if possible, discussions regarding these situations to encourage positive changes in behaviour. This technique can also be used as an alternative means of communication for the autistic child, again focusing on non-verbal communication rather than verbal communication.

As this will be the penultimate phase, the researcher will also introduce the fact that the following phase will be the final phase. The researcher is unsure whether the child will understand the concept of termination or whether the child will even



notice that the phases are no longer taking place. However, the researcher still feels that it is important to try to inform the child of the fact.

After the completion of this phase the researcher might look at including some of the previous activities in the final phase, if there are any further changes that need to be made or if there is insufficient data gathered regarding the particular technique.

5.7. PHASE SIX (Termination)

5.7.1 Goal of the phase

The goal of this phase is to terminate the programme with the child.

5.7.2 Objectives of the phase

- a. By the end of the phase the child would have been informed that this was the final phase, through various discussions, using both verbal and non-verbal cues.
- b. By the end of the phase the researcher will be able to make an assessment of how the child has responded to the play technique programme, focusing on the changes in social behaviour. This will be done through the use of the designed scale (post-test).

5.7.3 Content of the phase

Time allocated	Content of the phase	Material required
5 minutes	Introduction The researcher will allow the child time to settle into the phase, encouraging him/her to become aware of the activities for the day.	



20 minutes	Content Within the final phase, the focus will again be on relaxation techniques, such as games, puzzles and music, allowing the child to enjoy and respond to the calming environment. As this will be the final phase, the researcher will hope to encourage more interaction and play than in the first phase, as well as more expression by the child, either verbally or non-verbally.	Play activities puzzles; games; books; CD player and CDs
5 minutes	Termination This phase will involve packing away the activities that have been used, indicating to the child that it is the end of the phase. The researcher will also attempt to explain, through verbal and non-verbal communication, that it is the end of the programme.	

5.7.3 Comment on the phase

As the researcher has already mentioned, it is unclear how the child will respond to the attempt to indicate that it is the final phase. However, the researcher feels that it is important to attempt to explain the situation to the child, in order to avoid disappointment, leading to negative behaviour, in the future.

5.8. SUMMARY

This chapter focused on the specific play technique programme that will be used with the autistic children in middle childhood. This had included looking at the six specific phases, focusing on the phase goals and objectives, activities and techniques that will be used.

It is important to note that through doing the programme the researcher hopes to see improvement in the children's social behaviour. However, also through implementing the programme the researcher hopes to get a better understanding



of what techniques are effective with the autistic children, and thereby making the necessary adjustments to the programme.

It is now necessary, in the following chapter, to focus on the empirical study and the results of the quantitative research.



CHAPTER SIX

EMPIRICAL RESEARCH FINDINGS

6.1 INTRODUCTION

Autism is a challenging and increasingly common disorder. “Autism knows no boundaries, no nations, and no race. It seems to be as much a part of us as love, and the common cold, as genius, as art” (Autism Primer, 2002). Autism has a big impact on our society, as can be seen in the statistics given by Autism Western Cape (2005) and the Autism Society of America (2005), as discussed in Chapter 2.

Stacey (2002) states that the most difficult thing to deal with was “accepting the fact that Michael (the autistic child) will never get better, that this is a lifelong problem and worry”. Botha (2005) further comments on this, stating, “It is hard to believe that life is never going to just be normal”. According to the researcher, both these comments indicate the great need for support for individuals affected by the disorder.

Child and Family Canada (2006) consider the following to be important issues in middle childhood:

- Self-esteem: The middle years are vital to a child’s growing sense of self-esteem. The child is getting a stronger idea of who he/she is.
- Relationships with parents: Successful interaction with parents contributes greatly to a positive sense of self.
- Relationships with peers: The child will go to great lengths to gain a sense of accomplishment in relation to his/her peers.
- Physical abilities: During the middle years a child will gain a growing sense of competence in relation to their physical abilities.



- Cognitive and language development: The child now has the ability to know what to do on a day-to-day basis as well as the ability to do it.
- Siblings: The middle years are a time when siblings will usually work together.

The above definition gives a good indication of the development and focus areas of a neurotypical child going through the stages of middle childhood. With a child who has been diagnosed with autism, the stages and changes of middle childhood are significantly different (refer to chapter 3). The respondents of this particular study were in middle childhood, therefore between the age of 6 and 12 years. It is important to note, however, that due to the individual's diagnosis on the autism spectrum, the focus of the study was more on the particular behaviour of each individual, due to their diagnosis, rather than the specific age of the individual.

In an attempt to provide support for such individuals, the researcher formulated the goal of this study as follows:

To develop and evaluate the effectiveness of a play technique programme to enhance the social behaviour of autistic children between the ages of six and 12 years.

Accordingly, the researcher developed the following study objectives:

- ***To theoretically conceptualize autism as a phenomenon in middle childhood and the impact thereof on the family system, as well as play techniques in the context of autism.***
- ***To explore the nature, on a national and international level, of existing play technique programmes for autistic children.***
- ***To develop a play technique programme for autistic children.***
- ***To implement the play technique programme.***



- ***To evaluate the effectiveness of the play technique programme.***
- ***To come to conclusions and make recommendations to enhance the effectiveness of the play technique programme for autistic children.***

Robledo and Ham-Kucharski (2005: 1) state that “autism is a neurological disorder that usually manifests itself early in the toddler years. It hampers a child’s ability to learn how to communicate, interact with others socially, and indulge in imaginative play”. The National Alliance for Autism Research (2006) states that autism is “a complex brain disorder that often inhibits a person’s ability to communicate, respond to surroundings and form relationships with others”.

Against the background of the objectives, as well as on the understanding of autism spectrum disorder, as commented on in the previous definitions, the following hypothesis and sub-hypotheses were formulated:

If autistic children are involved in the play technique programme, then their social behaviour will improve.

- ***If autistic children are involved in the play technique programme then their verbal communication skills will improve.***
- ***If autistic children are involved in a play technique programme then their non-verbal communication skills will improve.***
- ***If autistic children are involved in a play technique programme then their social interaction skills will improve.***
- ***If autistic children are involved in a play technique programme then their challenging behaviours will decrease.***

The research approach adopted was quantitative in nature. Creswell (in Fouché & Delport, 2002:79) defines quantitative research as “A paradigm based on positivism, which takes scientific explanation to be nomothetic (i.e. based on



universal law). Its main aims are to measure the social world objectively, to test hypotheses and to predict and control human behaviour”.

Intervention research was the most appropriate type of research for this particular study. This was due to the fact that the researcher was aiming to conduct an intervention, namely a play technique programme, which was attempting to impact a particular problem within society, namely the lack of support provided for parents and/or professionals dealing with autistic children in middle childhood. De Vos (2002: 396) defines intervention research as “studies carried out for the purpose of conceiving, creating and testing innovative human services approaches to prevent or ameliorate problems or to maintain quality of life”.

The main focus of this chapter is to display, analyze and interpret the quantitative data collected by means of structured observation using a self-constructed measuring instrument. Tables bar and column graphs as well as pie charts have been used for the presentation of the data.

6.2 RESEARCH METHODOLOGY

6.2.1 Research Design

The researcher utilized the quasi-experimental one-group pre-test–post-test design in this study. The one-group pre-test–post-test design, according to Fouché and De Vos (2002: 144), has a built-in strategy for comparing pre-test with post-test. In this particular design there is a measurement (pre-test) of a dependent variable (the autistic children’s social behaviour) when no independent variable (play technique programme) is present. Subsequently the independent variable is introduced, followed by a repeated measurement (post-test) of the dependent variable.



6.2.1.1 Sample and sampling technique

The respondents were 12 autistic children in middle childhood (between six and 12 years of age) from The Key School for Specialized Education in Parktown West, an urban area in the north of Johannesburg. The school consists of children who are developmentally challenged, with the majority of them being diagnosed on the autism spectrum. The children come from all areas around Johannesburg, given that this is one of the few schools of its kind in the greater Johannesburg area.

The school was selected from all the schools in Johannesburg for the following reasons: (a) accessibility; (b) number of autistic children in the school; (c) age of the children attending the school; and (d) willingness to participate in the study. Throughout the study the school principal and teachers gave their full cooperation and support.

In this study the sampling method that was used was probability sampling, more specifically a combination of stratified and systematic sampling. Grinnel and Williams (1990: 119) state that “a probability sample is one in which all the people or units in the sampling frame have the same known probability of being selected for the sample”. Stratified sampling consists of “the grouping of units composing a population into homogeneous groups (or strata) before sampling. This procedure, which may be used in conjunction with simple random, systematic, or cluster sampling, improves the representativeness of a sample, at least in terms of the stratification variables” (Strydom & Venter, 2002: 205). Systematic sampling involves selecting the first case randomly, preferably from a random table, and then all subsequent cases are selected according to a particular interval (Strydom & Venter, 2002: 205).

In this particular study four classes, which had already been divided at the school according to level of functioning, could be considered the strata. From each



stratum the researcher selected three participants through systematic sampling. Systematic sampling was conducted by randomly selecting the first participant from the class list and then selecting every third child in order to gather a group of twelve children. In this study the gender of the participants was considered irrelevant.

For a child to be included in the sample it was required that he/she be between the ages of six and 12 and been diagnosed on the autism spectrum.

It was essential that the child's parent/s or legal guardian had signed the consent form (see Addendum C). All 12 children were involved in a six-week play technique programme, with half an hour phases once a week held at The Key School for Specialized Education.

6.2.1.2 Data collection method

A self-constructed measuring instrument, in the form of a scale, was used to evaluate the respondents' changes in social behaviour, owing to exposure to the play technique programme (see Addendum B).

The change of the respondents' social behaviour was observed through the use of structured observation. Structured observation, according to Bailey (1994: 246), involves "counting the frequency with which certain behaviours occur or certain things are said". The behaviour was monitored according to the self-constructed measuring instrument. This was done according to a 5-point scale, with the specific rating being linked to the number of times that the behaviour being measured was noted. For example a rating of 1 (very poor/did not appear) indicated that the behaviour was not noted at all at the time of the measurement whereas a rating of 5 (very good/completely) indicates that the behaviour was



noted on 4 or more occasions at the time of the measurement. A self-constructed measuring instrument was used in this study because there was no applicable measuring instrument available that had already been developed.

As previously mentioned, the focus was on the change of the respondents' social behaviour. Social behaviour is defined as "how the person interacts with others (e.g. habituated body signals; general voice characteristics; style of speech; visible handicaps)" (Google, 2005). Answers.com (2005) elaborates by stating that social behaviour is "behaviour directed at other people ... it is more advanced than behaviour or an action".

In order to measure the social behaviour of the respondents, the researcher has developed a measuring instrument in the form of a five point scale, based on the literature review. The measuring instrument consisted of four categories:

- (a) Verbal communication
- (b) Non-verbal communication
- (c) Social interaction
- (d) Challenging behaviour

These four categories included various assessment areas that were rated on a five-point scale. Each point was given the following values:

- **1:** Very Poor/Did not appear (no occurrence of the particular behaviour being measured)
- **2:** Poor/To a little extent (behaviour noted on one occasion within the time period of the measurement)
- **3:** Average/To some extent (behaviour noted on two occasions within the time period of the measurement)
- **4:** Good/To a great extent (behaviour noted on three occasions within the time period of the measurement)



- **5:** Very good/Completely (behaviour noted on four or more occasions within the time period of the measurement)

The following specific behaviours/assessment areas were rated on the five-point scale (see Addendum B) within the four categories mentioned above:

(a) Verbal communication

- Level of spontaneous speech regarding respondents' needs
- Level of spontaneous speech regarding respondents' feelings
- Comprehensive speech regarding general social interaction
- Comprehensive speech regarding present events within the phase
- Appropriate speech within the phase
- Ability to express comprehension
- Speech when required
- Appropriate use of vocabulary
- Appropriate sentence structure
- Clarity of speech
- Use of tone when speaking

(b) Non-verbal communication

- Facial expressions, for the purpose of communication
- Gestures
- Appropriate use of personal space
- Eye contact
- Interest in listening to the researcher
- Appropriate use of silence
- Level of appropriate response to listening
- Ability to focus
- Concentration span



- Attentiveness
- Openness to researcher

(c) Social interaction

- Level of interest in social interaction
- Desire for physical contact with researcher
- Desire for emotional contact with researcher
- Participation in play phase
- Ability to reach out, emotionally, within the phase
- Ability to show obedience to any instructions, both verbal and non-verbal
- Reaction/level of comfort to social interaction
- Appropriate response to social interaction
- Interaction cues
- Invitation cues
- Awareness of researcher
- Level of motivation

(d) Challenging behaviour

- Repetitive behaviour
- Inappropriate behaviour
- Self-injurious behaviour
- Aggressive behaviour
- Agitation
- Anxiety
- Avoidance
- Distractibility

In the following sections the researcher will present the research findings that resulted from this particular study. The data will be structured in the following



manner. The initial sections will focus on the biographical details of the respondents' involved in the study, namely their age, gender, race/ethnicity and home language. The focus will then be on the empirical results of the study, commenting on the results achieved in both the pre- and post-tests according to the four categories mentioned previously.

6.3 RESEARCH FINDINGS

Quantitative data can either be analyzed manually or by computer (De Vos et al., (2002: 222). Rubin and Babbie (2001: 44) state that quantitative research emphasizes “the production of precise and generalizable statistical findings ... it verifies whether a cause produces an effect in general”.

In this study the researcher analyzed the data through the use of the computer, particularly MS Word, and with assistance from the Department of Statistics at the University of Pretoria, using two programmes, namely BMP Statistical Software and SAS (version 8.2). The collected quantitative data will now be displayed by means of tables and graphical presentations as well as written explanations.

6.3.1 Biographical details of respondents

Biographical details can be understood as the details of an individual's life (Oxford Pocket Dictionary, 2004). This can include an individual's age, gender, religion, culture, home language, and marital status.

In the following sections biographical factors, namely the respondents' age, gender, race and home language, are discussed.



6.3.1.1 The respondents' age group

The respondents in this study fell into the age group of middle childhood. Middle childhood is defined as “the years between six – 12 years, generally when children starting attending school until they reach adolescence” (National Network for Child Care, 2006). Child and Family Canada (2006) adds that middle childhood can be defined as “a time when children are beginning to assume a larger share of responsibility for their own behaviour in relationship to their parents, peers and others”.

However, as stated by The Source (2006), autism is “a life-long developmental disability which impairs various aspects of typical development and lasts a lifetime”. Therefore, in the researcher’s opinion, children who are on the autism spectrum do not experience the same changes and challenges as a child who is not on the spectrum, when developing in middle childhood. These differences were noted in Chapter 3. However, for this study, the respondents all fell into the specific age group of middle childhood.

It is important to note that the children who are registered at The Key School for Specialized Education all fall between the ages of 4 years and 12 years, which is due to a requirement in registering at the school. As previously mentioned, this is one of the factors that influenced the researcher to approach The Key School for Specialized education. Table 5 presents the age composition of the respondents.

Table 5: Age composition of respondents

AGE	FREQUENCY
6	2
7	6
8	1
9	1

10	1
11	0
12	1
TOTAL	12

Table 5 allows one to come to the following conclusions:

- The developmental phase for 100% of the respondents is middle childhood (between the ages of six and 12).
- A total of 6 (50%) of the respondents were seven years old.
- Two (16,6%) of the respondents were six years old.
- The age groups of eight, nine, 10 and 12 years old all had a representation of 8%/one respondent.
- None of the respondents fell into the age group of 11 years old.

The following pie chart shows the data given in Table 5.

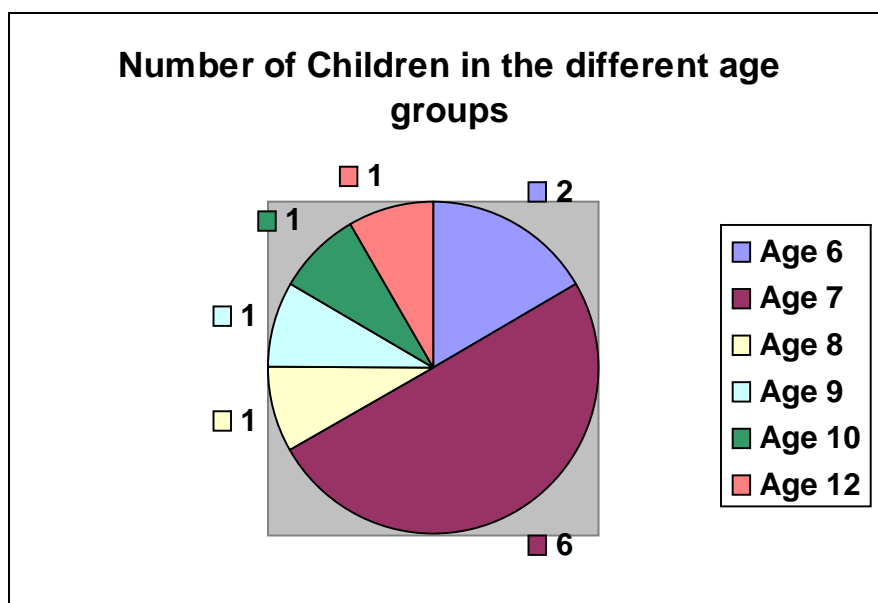


Diagram 4: A pie chart of the age of respondents



6.3.1.2 The respondents' gender

In this study the target population was autistic children in middle childhood. Information on each respondent's gender was gathered in order to demonstrate that both sexes were represented within the target group.

However, it is important to note that the ratio difference between males and females is large (refer to Table 6). This statistic merely confirmed the statement made by The New England Center for Children (2006), namely that "autism occurs 3 – 4 times more often in boys than in girls."

Table 6 presents the gender of the various respondents participating in the study.

Table 6: Gender of respondents

GENDER	FREQUENCY	PERCENTAGE
MALE	10	85%
FEMALE	2	15%
TOTAL	12	100%

The same information shown in Table 6 is now given visually. Diagram 5 below is a bar graph of the gender distribution of the respondents participating in the study. Again, when looking at this bar graph, one can clearly see the great difference in the number of males and females involved in the study.

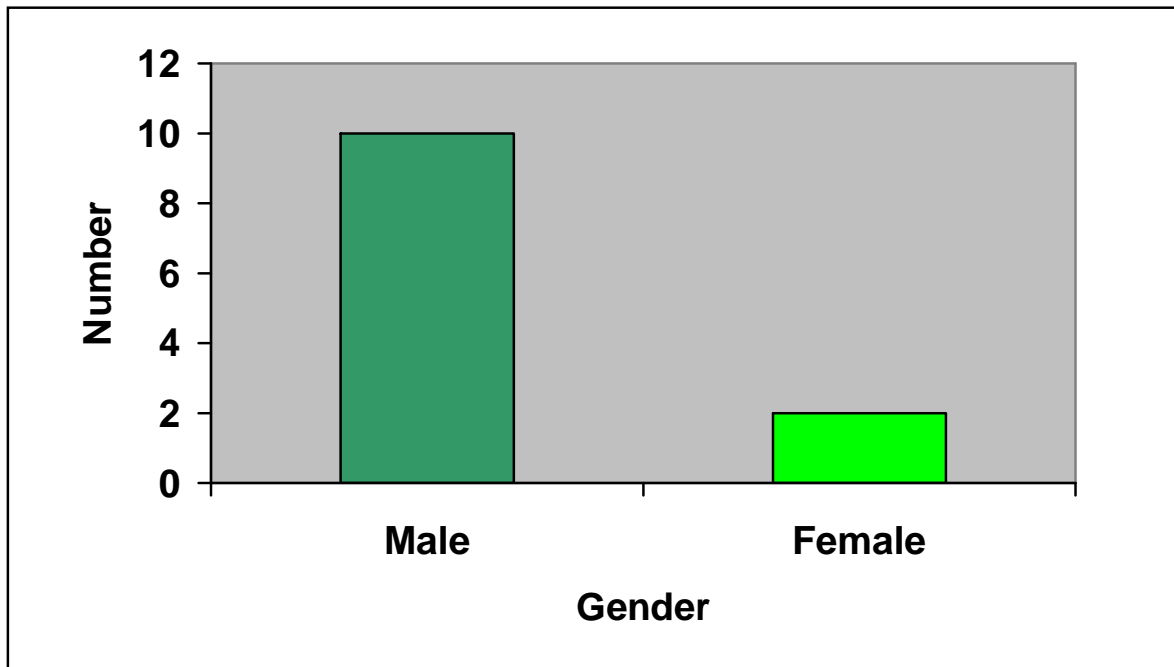


Diagram 5: Gender of the respondents involved in the study

6.3.1.3 The respondents' race

In this study the race was not considered a vital variable, as the main criterion was that the respondent had been diagnosed on the autism spectrum.

However, the researcher is of the belief that it is important to consider the race of each respondent, given that each child's specific culture could have an impact on his/her social behaviour, outside of the diagnosis of autism.

Table 7 gives an indication of the different races. There was a relatively equal number of respondents within the various races; however, the dominant race was black (6 respondents).



Table 7: Race of respondents included in the study

RACE	FREQUENCY	PERCENTAGE
WHITE	4	33.3%
BLACK	6	50%
INDIAN	2	16.6%
TOTAL	12	100%

At The Key School for Specialized Education there is no emphasis placed on the race of the child who is enrolling in the school. The school considers only the diagnosis, which the majority of the time is on the autism spectrum. Owing to the fact that there is no discrimination at the school based on race, the researcher was given the opportunity to involve children of different races in this particular study.

The researcher is of the opinion that the specific race of the child did not have a noticeable impact on the child's social behaviour, given that their social behaviour appeared to be solely dependent on their diagnosis on the autism spectrum.

Diagram 6 gives a pictorial view of the race of the respondents involved in the study. Again, one is able to see that there was a good representation of various races.

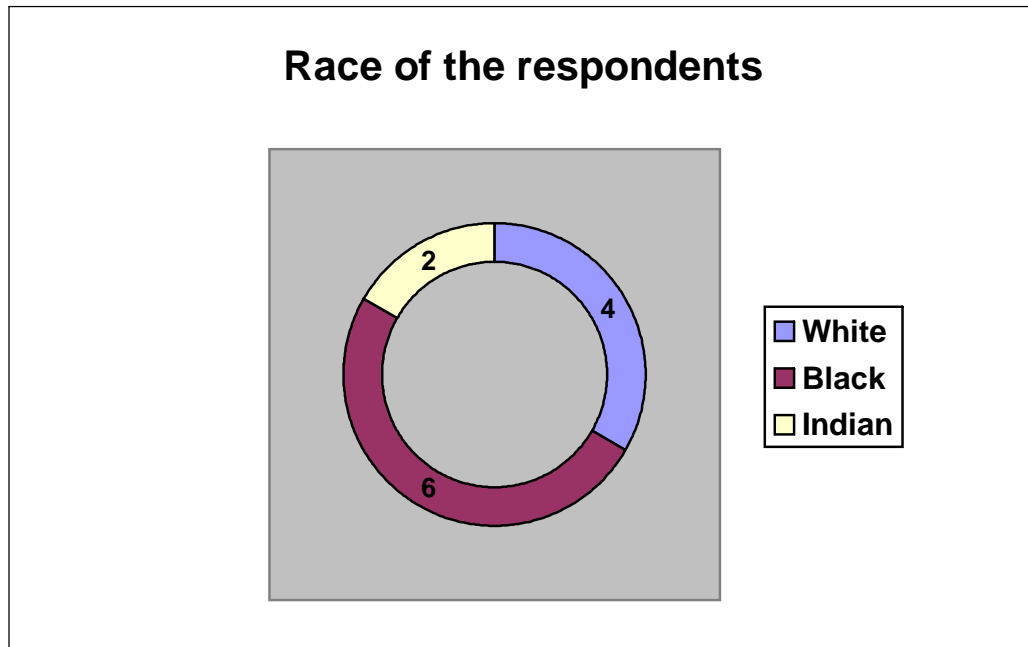


Diagram 6: Graphical presentation of the race of the respondents

6.3.1.4 The respondents' home language

Once again the respondents' home language was not considered a pertinent variable within this study. However, it is still of interest to highlight the different languages of the children involved.

It is important to note that all the phases held with the respondents were done in English, given that this is the researcher's first language and it is the language through which the respondents are educated. However, for a large percentage (50%) of the respondents English is not their home language.

Table 8 gives an overview of the home languages of the respondents included in the study.



Table 8: Home language of respondents

HOME LANGUAGE	FREQUENCY	PERCENTAGE
ENGLISH	6	50%
ZULU	4	33.3%
SHONA	1	8,3%
FRENCH	1	8,3%
TOTAL	12	100%

Table 8 reveals the following:

- Half (50%) of the respondents use English as their home language.
- The second highest percentage, as regards home languages, is Zulu, with 33,3% (4) of the respondents speaking Zulu at home.
- Finally, 8,3% (1) of respondents, respectively, speak Shona and French.

Diagram 7 presents this information in a pictorial form.

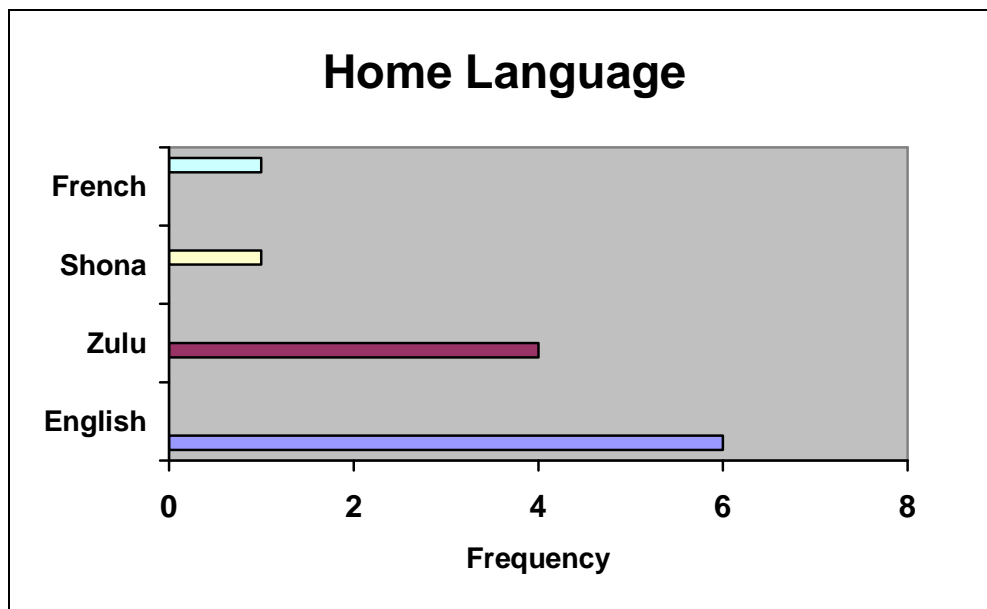


Diagram 7: Home language of respondents

As mentioned at the beginning of this section, various aspects of one's biographical details could be focused on. However, the researcher has highlighted the aspects that can be considered of interest for this particular study.

The following sections will now focus on the empirical data that was gathered, through using a self-constructed measuring instrument, when involving the respondents in the play technique programme.

The focus will be on the scores that the respondents received, in the pre- and post-test scoring. These scores will be represented in various visual forms as well as through written information. This is in order to highlight the changes that took place once the intervention had been implemented.



6.4 Empirical results: Social behaviour of autistic children

The following section will focus on the empirical results of the social behaviour of the respondents (autistic children) involved in the play technique programme.

As previously noted, autism has three core features, namely “impairments in social interaction, impairments in verbal and nonverbal communication, and restricted and repetitive patterns of behaviour” (Wetherby & Prizant, 2000: 1). As can be seen in the self-constructed measuring instrument (see Addendum C), these core features formed the basic elements of the measurement.

Google (2005) states that social behaviour is “how the person interacts with others (e.g. habituated body signals; general voice characteristics; style of speech; visible handicaps)”. This definition indicates that the social behaviour of autistic children involves communication, both verbal and non-verbal, and interaction, and is influenced by any visible handicaps. Through this definition, as well as various others given for social interaction, the researcher was able to identify and focus, in the context of this study, on the four key elements of autistic children’s social behaviour, namely verbal communication; non-verbal communication; interaction; and challenging behaviour.

Therefore, the focus, when using the play technique programme, was to measure change in these core features, namely: verbal and non-verbal communication; social interaction; and challenging behaviours. These core features combined can be considered the social behaviour of the autistic children.

In order to measure these core elements of social behaviour the researcher administered the quasi-experimental one-group pre-test–post-test design. The social behaviour of the selected sample group of 12 autistic children in middle childhood was measured individually at the beginning of the study i.e. before



implementation of the play technique programme (pre-test), through the use of the self-constructed scale within structured observation. Thereafter each child was involved in six individual phases using various play techniques. After implementation of the programme each respondent was measured again (post-test). This enabled the researcher to measure the effectiveness of the intervention by comparing the pre- and post-test measurements.

As previously mentioned, the intervention to enhance the social behaviour of autistic children in middle childhood was in the format of a play technique programme. Within the play technique programme there were various techniques that were focused on. These were included in the various phases, with all the techniques being repeated throughout the programme.

The following play techniques, based on the literature review, were utilized in six phases with each respondent individually.

(a) Phase one

This was the introductory phase. The goal of the phase was to begin developing a relationship between the respondent and the researcher, in order to facilitate a positive working environment. The play activities included puzzles, games, books, and a CD player and CDs to play background music.

(b) Phase two

The goal of this phase was to expose the respondent to sensory experiences in order to increase his/her sensory awareness. The play techniques included in this phase included the sand tray and plastic animals, water and plastic toys, and clay/play dough.



(c) Phase three

The goal of this phase was to encourage the respondent to express him/herself more adequately. The play techniques used in this phases included drawing, play dough, and puppets and dolls.

(d) Phase four

The goal of this phase was to deepen the child's level of expression, through play techniques such as painting, puppets and dolls and sand tray and plastic animals.

(e) Phase five

The goal of this phase was to further deepen the child's level of expression. The play techniques focused on in this phases included bibliotherapy (books), drawing and play dough.

(f) Phase six

The goal of this phase was to terminate the programme with the respondent. The play activities included puzzles, games, books and a CD player and CDs to play background music (refer to Chapter 5 to see the full play technique programme).

Each element – namely, verbal communication, non-verbal communication, social interaction, and challenging behaviour – will now be analyzed and interpreted according to the pre- and post-test results. Each variable (element of social behaviour) is operationalized in the context of autism, by referring to the specific assessment areas that were measured.



These results will be discussed in various ways: through written summaries, diagrams, and tables as well as by focusing on the statistical significance of the change that took place.

6.4.1 Verbal communication

Personal growth.com (2006) states that verbal communication involves “words, vocabulary, number and symbols and is organized in sentences using language”. Verbal communication can be defined as the use of words to communicate with others; it is an oral format rather than written format. The researcher understands verbal communication to involve speech, comprehension and expression, using vocabulary, as well as tone of voice and clarity of communication.

Verbal communication can be considered one of the core negative factors of an individual's life that is challenged when the diagnosis of autism is made. This comment is clarified by Autism and Pervasive Developmental Disorder Fact Sheet (2002), where it is stated that “Autism is a neurological disorder that is normally evident by the age of three, and affects a child's *ability to communicate, understand language, play, and relate to others*”.

The researcher's goal with this variable was to test the following sub-hypothesis:

- **If autistic children in middle childhood are involved in a play technique programme then their verbal communication skills will improve.**

Based on the in-depth literature study, 11 assessment areas focused on the components of verbal communication were included in the self-constructed measuring instrument (see Addendum C):



- Level of spontaneous speech regarding respondents' needs
- Level of spontaneous speech regarding respondents' feelings
- Comprehensive speech regarding general social interaction
- Comprehensive speech regarding present events within the phase
- Appropriate speech within the phase
- Ability to express comprehension
- Speech when required
- Appropriate use of vocabulary
- Appropriate sentence structure
- Clarity of speech
- Use of tone when speaking

The respondents were given ratings on each assessment area according to a five-point scale.

The researcher will firstly give an overview of the scores achieved by the respondents, through looking at the combined rating that each individual respondent achieved with regard to verbal communication. The focus will then shift onto each individual assessment area as listed previously, looking at the combined pre- and post-test scores achieved by the respondents. Then the researcher will give an overview of the combined scores achieved for each assessment area, highlighting the changes that took place when the pre- and post-test measurements were compared.

It is important to note once again that the ratings given on the five-point scale were counted/scored according to the following distinctions.

- **1:** Very Poor/Did not appear (no occurrence of the particular behaviour being measured)



- **2:** Poor/To a little extent (behaviour noted on one occasion within the time period of the measurement)
- **3:** Average/To some extent (behaviour noted on two occasions within the time period of the measurement)
- **4:** Good/To a great extent (behaviour noted on three occasions within the time period of the measurement)
- **5:** Very good/Completely (behaviour noted on four or more occasions within the time period of the measurement)

In the following diagram, Diagram 8, one can see the combined pre-test and post-test ratings regarding verbal communication of each respondent. The researcher obtained these scores by combining all the ratings that each individual respondent scored with regard to the 11 assessment areas of verbal communication, both in the pre- and post-test measurements, and then dividing each total score by 11 in order to obtain an average score achieved by each individual. One can clearly note the improvement overall, with these improvements being discussed in detail with regard to each assessment area, after Diagram 8.

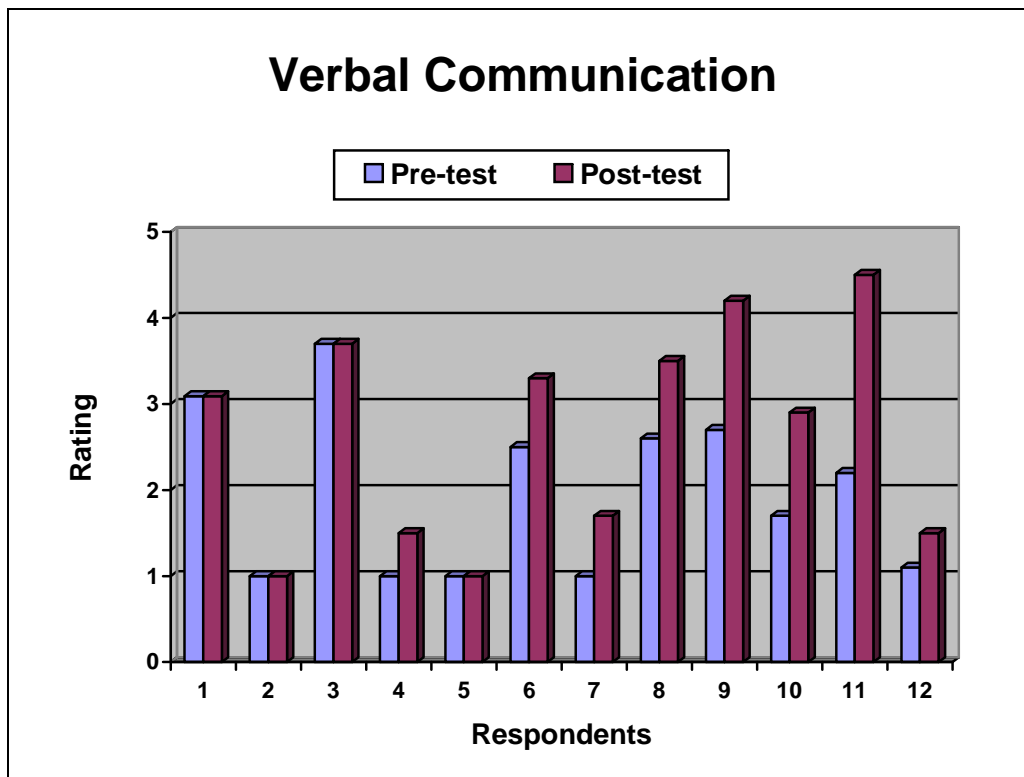


Diagram 8: Pre- and post-test scores for verbal communication for all the respondents individually

In order to gain a better understanding of these scores, it is important to focus on each assessment area individually. The researcher will now describe each assessment area, discussing the scores achieved in the pre- and post-test measurements, through the use of written information as well as visual displays.

6.4.1.1 Level of spontaneous speech regarding respondents' needs

When looking at the first assessment area with regard to verbal communication, namely the level of spontaneous speech regarding respondents' needs, there is an obvious indication of improvement between the pre- and post-test scores. Spontaneous is defined by the Oxford School Dictionary (2004: 436) as "happening or done naturally; not forced or suggested by someone else".

Therefore spontaneous speech can be understood as the respondent's ability to express his/her needs, within the play phase, through verbal communication automatically, instinctively and in a natural manner.

In the following diagram, Diagram 9, one is able to see the combined scored achieved by the respondents for each specific rating, in the pre- and post-test.

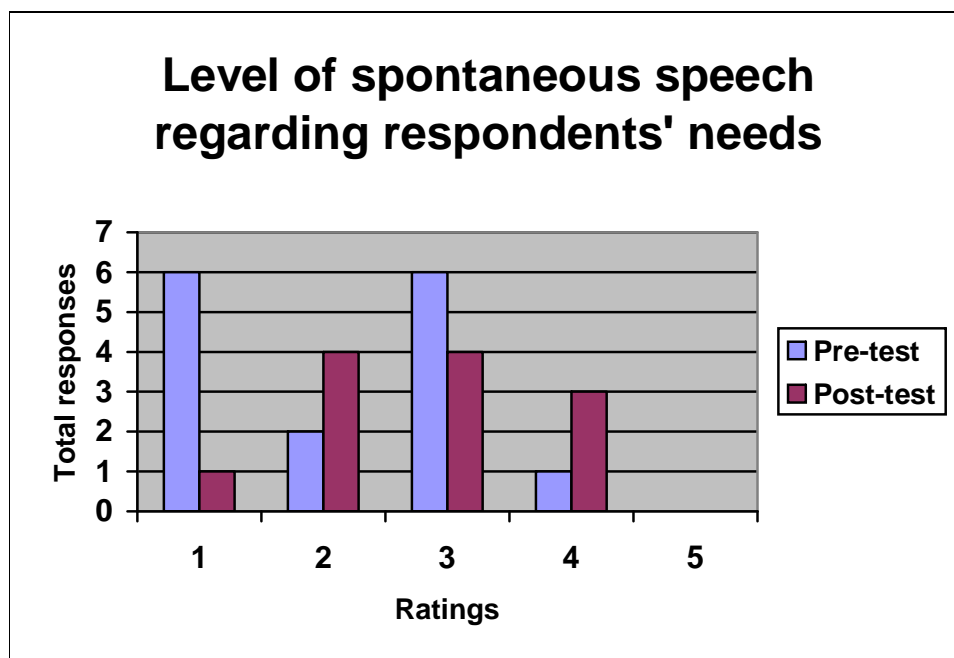


Diagram 9: Pre- and post-test scores for level of spontaneous speech regarding respondents' needs

One is clearly able to see the improvement that took place between the pre- and post-test, with a decrease in the number of respondents who achieved a rating of 1 (very poor/did not appear) and an increase in a rating of 4 (good/to a great extent) in the post-test. However, it is important to note that the majority of the scores (66,6%) achieved in the post-test, were a rating of 2 (poor/to a little extent) and/or 3 (average/to some extent), indicating that this particular skill remained a challenge for the respondents.

6.4.1.2 Level of spontaneous speech regarding respondents' feelings

When focusing on the second assessment area, namely “level of spontaneous speech with regard to respondents' feelings”, there was also improvement evident between the pre- and post-test. Referring to the previous definition of spontaneous, on page 185, the researcher understands spontaneous speech with regard to respondents' feelings as the respondents' ability to express their feelings in an automatic, instinctive and natural manner.

The following diagram, Diagram 10, shows the combined rating achieved by the respondents.

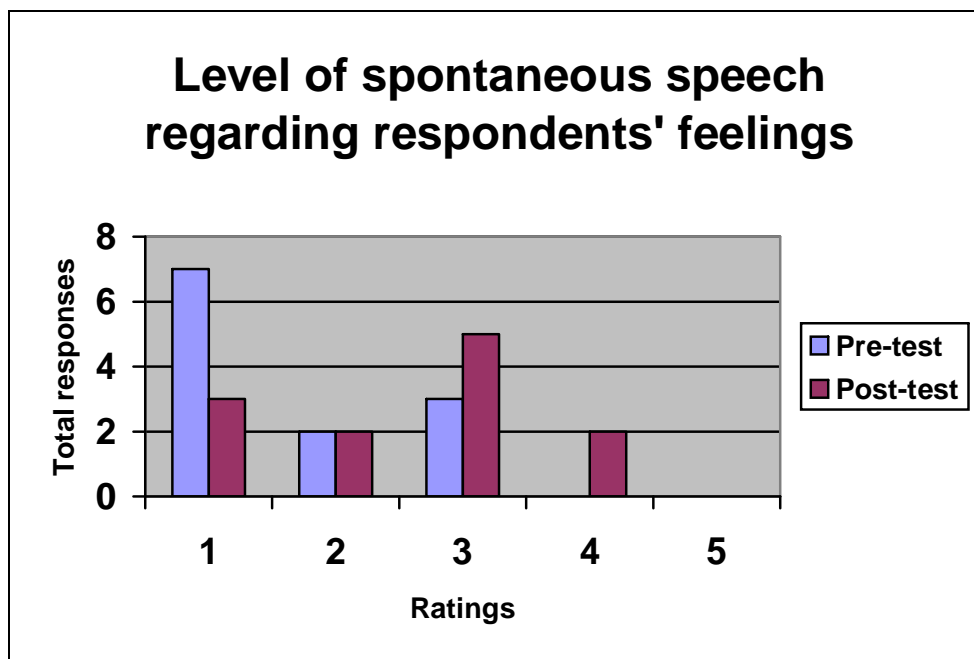


Diagram 10: Pre- and post-test scores for level of spontaneous speech regarding respondents' feelings

The most noted difference with regard to this assessment area is the fact that in the post-test two (16,6%) of the respondents were able to achieve a



rating of 4 (good/to a great extent). Another noticeable difference is the decrease in the number of respondents who achieved a rating of 1 (very poor/did not appear) in the post-test, with seven respondents (58,3%) achieving this in the pre-test and only three respondents (25%) obtaining this score in the post-test.

6.4.1.3 Comprehensive speech regarding general social interaction

The third communication assessment area measured was the level of “comprehensive speech regarding general social interaction”. Comprehensive is defined as “understandable” (Oxford School Dictionary, 2004: 93). Therefore, comprehensive speech can be understood as the respondents’ ability to indicate understanding of the general social interaction that was taking place within the play technique phase.

Diagram 11 gives a visual presentation of the pre- and post-test scores achieved by the respondents.

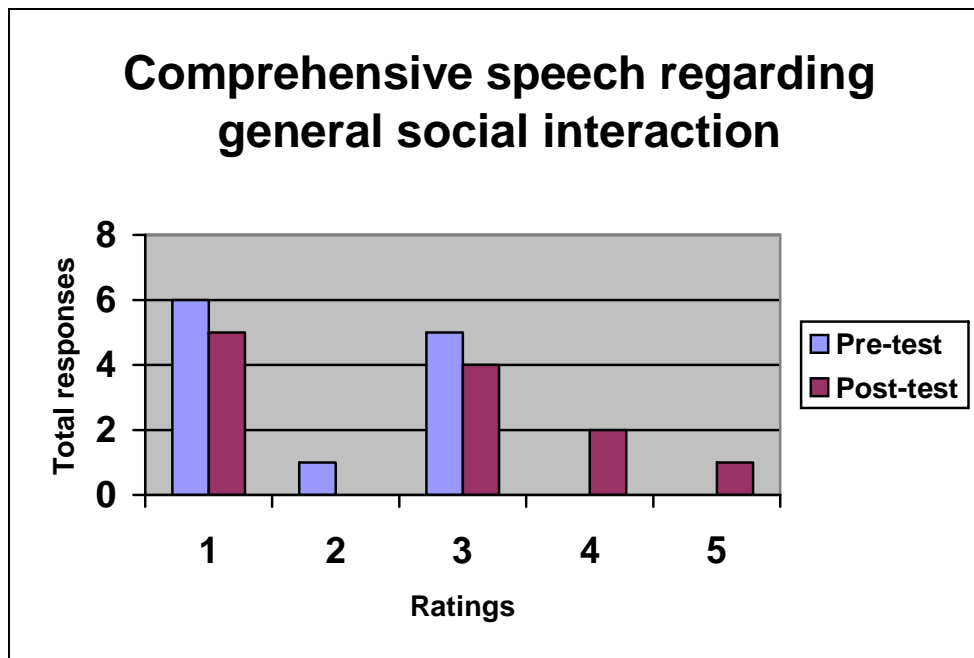


Diagram 11: Pre- and post-test scores for comprehensive speech regarding general social interaction

With regard to this skill, five (41,6%) of the respondents achieved a rating of 1 (very poor/did not appear) in the post-test, highlighting the difficulty that remained for the respondents with regard to comprehensive speech. However, it was positive to see that two (16,6%) of the respondents managed to achieve a 4 (good/to a great extent) and one (8,3%) of the respondents was able to achieve a rating 5 (very good/completely) in the post-test showing a good level of improvement.

6.4.1.4 Comprehensive speech regarding present events

The fourth communication assessment area was that of “comprehensive speech regarding present events in the phase”. This assessment area can be understood, based on the previous definition given for comprehensive, as the respondents’ ability to communicate verbally, showing an understanding of the present events in the play technique phase.

Again, one is able to see the improvement that has taken place, particularly when looking at the following diagram (Diagram 12).

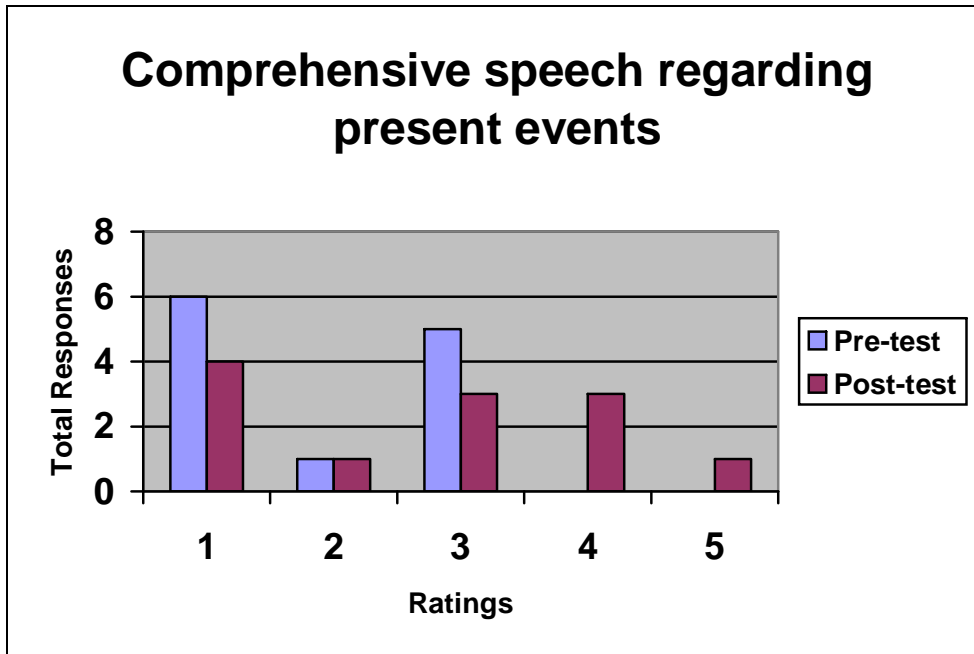


Diagram 12: Pre- and post-test scores for comprehensive speech regarding present events

The most noticeable difference can be seen in the number of respondents who were able to achieve a rating of 4 (good/to a great extent) and 5 (very good/completely) in the post-test, with the total equaling four respondents (33,3%), whereas in the pre-test none of the respondents were able to achieve either of these ratings.

It is important once again to mention that communication is a challenge for individuals who are diagnosed on the autism spectrum. This can be verified by the comment given by Stone (2006: 12): “a child diagnosed with autism will show atypical development in three primary areas: (1) social skills, (2) *language and communication skills*, and (3) repetitive and restricted behaviors”.

6.4.1.5 Appropriate speech within the phases

The fifth assessment area focused on was that of “appropriate speech within the phases”. Appropriate can be understood as “suitable” (Oxford School Dictionary, 2004: 22). Therefore this assessment area can be understood as the respondents’ ability to engage in suitable verbal communication within the play technique phase.

This difficulty that the respondents experienced can be noted in relation to this specific skill, as Diagram 13 indicates. In the pre-test six (50%) of the respondents received a rating of 1 (very poor/did not appear), with two (16,6%) receiving a rating of 2 (Poor/to a little extent) and four (33,3%) receiving a rating of 3 (average/to some extent).

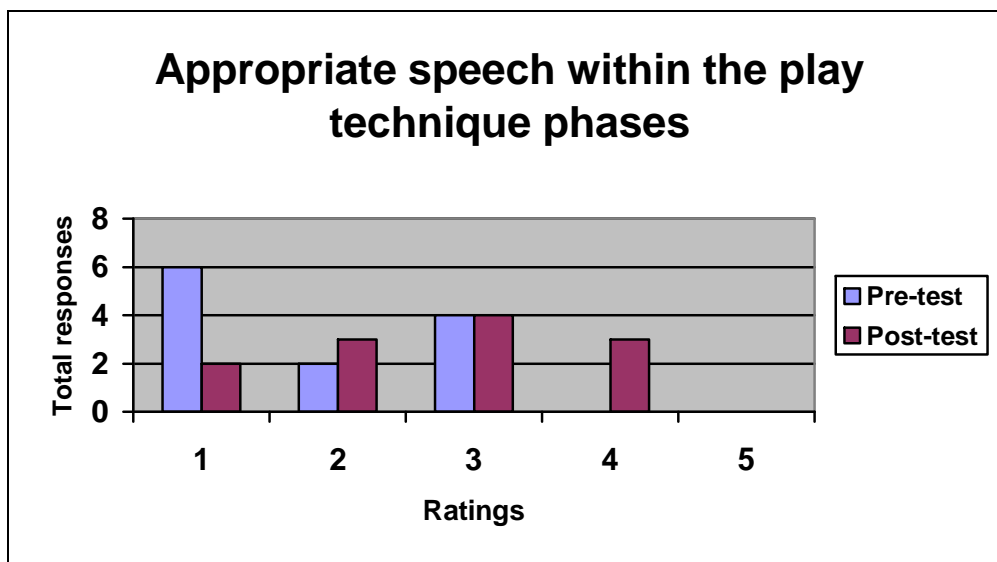


Diagram 13: Pre- and post-test scores for appropriate speech within the play technique phase

However, improvement was still evident, with the majority of the respondents (59%) achieving a rating of either a 3 (average/to some extent) or a 4 (good/to a great extent) in the post-test.

6.4.1.6 The ability to express comprehension

The next communication assessment area, assessment area 6, was “the ability to express comprehension”. The Oxford School Dictionary (2004:1) defines ability as “being able” whereas comprehension is defined as “understandable” (Oxford School Dictionary, 2004: 93). Therefore this assessment area can be understood as the respondents being able to express/show understanding.

Diagram 14 portrays the ratings achieved by the respondents in the pre- and post-test.

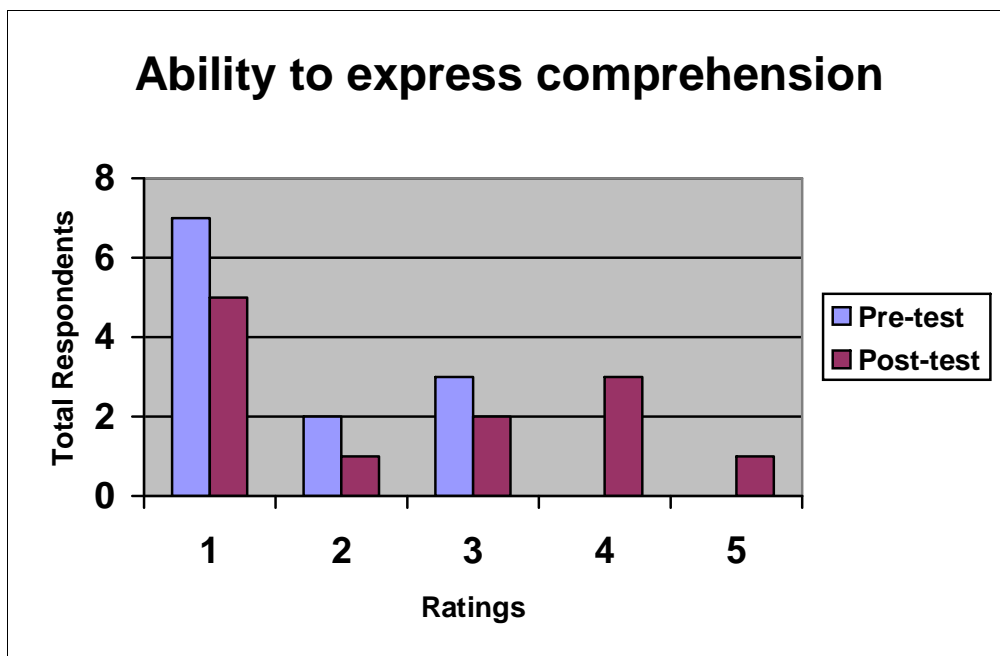


Diagram 14: Pre- and post-test scores for ability to express comprehension



It is very noticeable that a large number of respondents achieved a rating of 1 (very poor/did not achieve) in the pre-test, with seven respondents (58,3%) achieving this. It is also noticeable that once again none of the respondents was able to achieve a rating of either 4 (good/to a great extent) or 5 (very good/completely) in the pre-test.

When completing the post-test one can clearly see the improvement that has taken place, with a decrease in ratings of 1 (very poor/did not appear), 2 (poor/to a little extent) and 3 (average/to some extent), and the presence of the ratings of 4 (good/to a great extent) and 5 (very good/completely), with three respondents (25%) achieving this in the post-test.

6.4.1.7 Speech when required

“Speech when required” was the seventh assessment area measured, when focusing on verbal communication. This assessment area can be understood as the respondents’ ability to communicate verbally when asked or encouraged within the phase. This can often be through answering a question or responding to a verbal request.

Diagram 15 shows the scores achieved in the pre- and post- test.

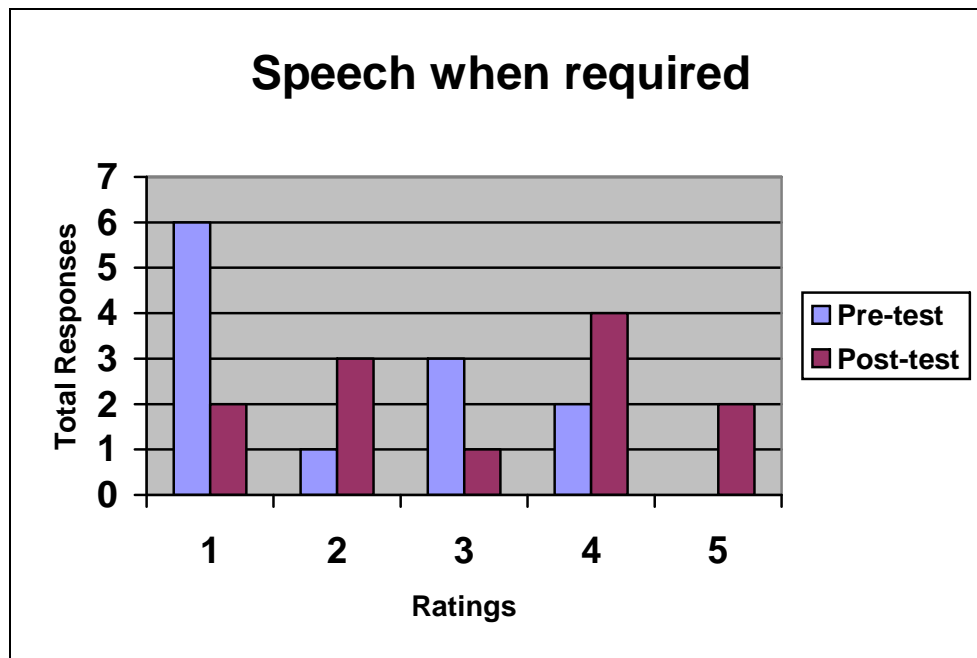


Diagram 15: Pre- and post-test scores achieved for speech when required

Again, one can immediately notice the high percentage of respondents (50%) who received a rating of 1 (very poor/did not appear) in the pre-test. This is also the area that showed the greatest degree of improvement, with only 16,6% of the respondents achieving a rating of 1 in the post-test.

There was also a positive improvement with regard to a rating of 4 (good/to a great extent), with four respondents (33,3%) achieving this in the post test, as opposed to two respondents (16,6%) in the pre-test; and an improvement with a rating of 5 (very good/completely) with no respondents achieving this in the pre-test and two respondents (16,6%) achieving this in the post-test.

6.4.1.8 Appropriate use of vocabulary

“Appropriate use of vocabulary” was the eighth area of assessment with regard to verbal communication. Vocabulary is defined as “a list of words with their meanings” (Oxford School Dictionary, 2004: 508). As has been previously stated,

the language used in the phases was English, as this is the researcher's first language and the language that is used at The Key School for Specialized Education. This area of assessment therefore focused on the respondents' ability to use appropriate/suitable words in communicating.

In the following diagram, Diagram 16, it is possible to see once again the improvement that took place between the pre- and post-test.

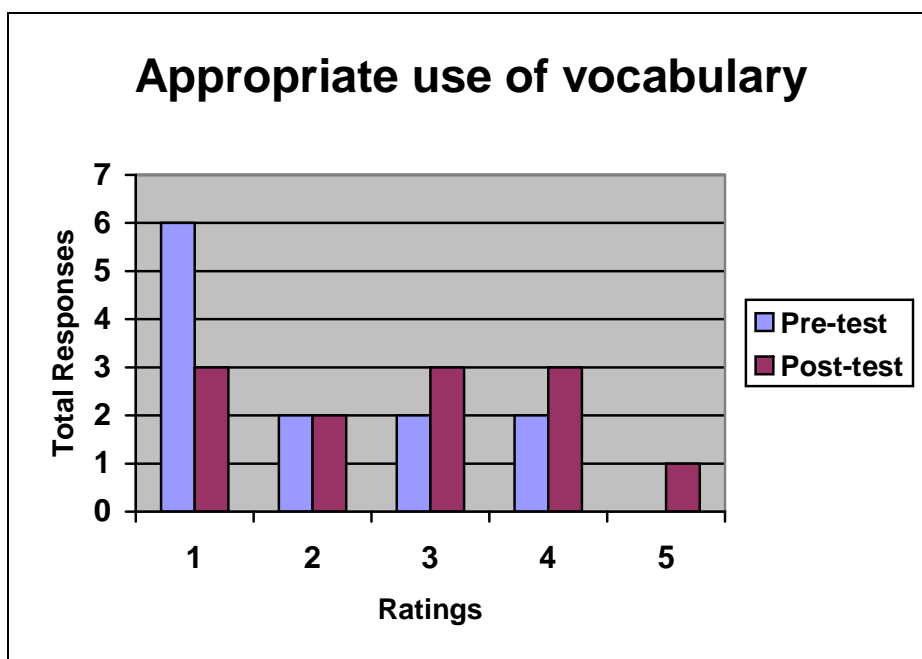


Diagram 16: Pre- and post-test scores for appropriate use of vocabulary

The most noticeable improvement that took place is the great decrease in the number of respondents who achieved a rating of 1 (very poor/ did not appear), with six respondents (50%) obtaining this in the pre-test and only three respondents (25%) obtaining this in the post-test.

The increase in the ratings of 3 (average/to some extent), 4 (good/to a great extent) and 5 (very good/completely) is also noticeable, although only one

respondent (8,3%) was able to obtain a rating of 5, therefore highlighting the intractable difficulty of this skill for the respondents.

6.4.1.9 Appropriate sentence structure

The ninth area of assessment with regard to verbal communication is that of “appropriate sentence structure”. The researcher understands this as the respondents’ ability to use the correct word order and vocabulary when speaking. The scores achieved can be seen in Diagram 17.

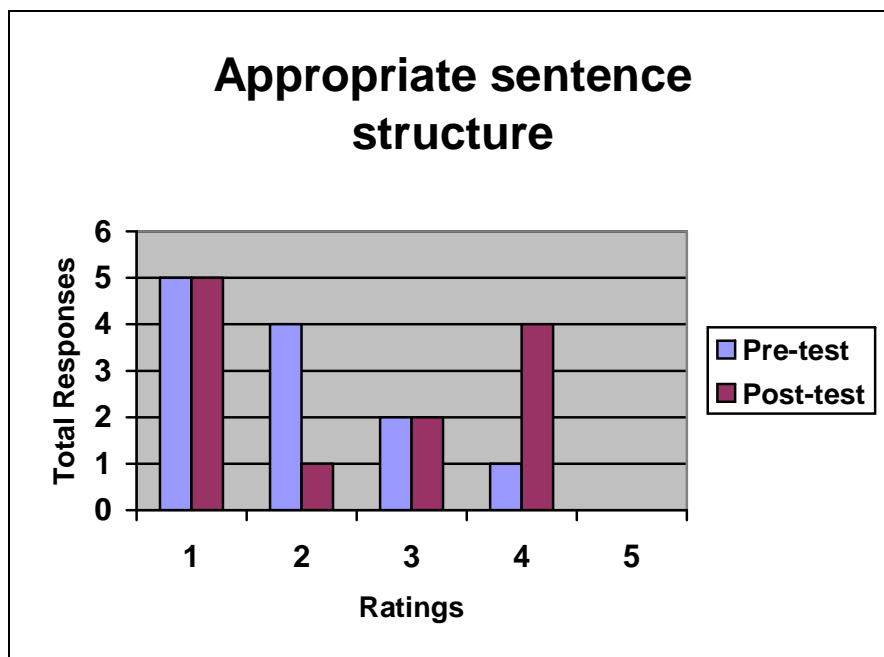


Diagram 17: Pre- and post-test scores for appropriate sentence structure

The improvement that took place with regard to this skill is most noticeable with the increase in the number of respondents who managed to achieve a rating of 4 (good/to a great extent), with four respondents (33,3%) achieving this in the post-test and only one respondent achieving this in the pre-test.

However, it is also noticeable that a large percentage (42%) of the respondents achieved a rating of 1 (very poor/did not appear) in both the pre- and post-test, highlighting the fact that this skill remained a difficulty for some of the respondents.

6.4.1.10 Clarity of speech

The tenths assessment area was that of “clarity of speech”. Clarity can be understood as “clearness” (Oxford School Dictionary, 2004: 82). Therefore this assessment area focused on the respondents’ ability to speak/talk clearly. The following diagram, Diagram 18, gives the pre- and post-test scores achieved.

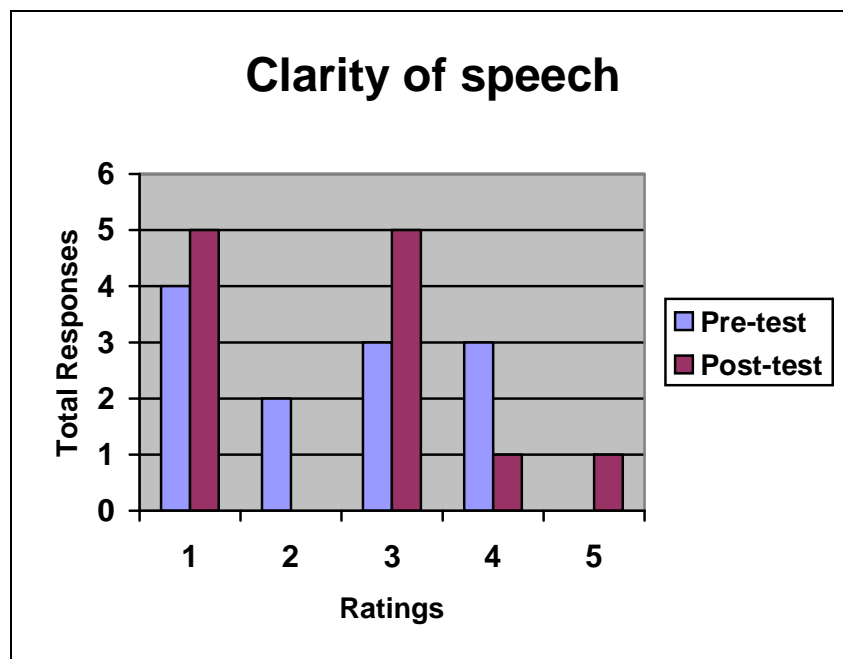


Diagram 18: Pre- and post-test scores for Clarity of Speech

In this particular assessment area an average ability was shown in the pre-test, with the respondents coping adequately with this skill. However, there were still 50% of the respondents who battled with the skill, with four respondents (33,3%)



receiving a rating of 1 (very poor/did not appear) and two respondents (16,6%) obtaining a rating of 2 (Poor/to a little extent) in the pre-test.

There was improvement evident in the post-test, although the majority of the improvement took place with regard to the rating of 3 (Average/to some extent), with 5 respondents (41,6%) achieving this in the post-test. This highlights the point that this skill remains a challenge for the respondents, although it is possible for this skill to be developed and improved. It is also important to note that although improvement can be seen with regard to this behaviour the respondents did still have difficulty with this skill and this can be confirmed by the increase of the rating of 1 (very poor/did not appear) in the post-test.

6.4.1.11 Use of tone when speaking

The final assessment area with regard to verbal communication was that of “use of tone when speaking”. Improving Verbal Communication (2006) states “words can be considered to contribute 7% to the conversation; tone of voice 38% and non-verbal cues 55%”. This highlights the importance of tone in conversing with others. Tone is defined as the “give a particular tone of sound” (Oxford School Dictionary, 2004: 477). Therefore, when focusing on this assessment area the researcher was observing the respondents’ ability to use tone to communicate/express emotion.

Diagram 19 shows the pre- and post-test scores achieved by the respondents with regard to this skill.

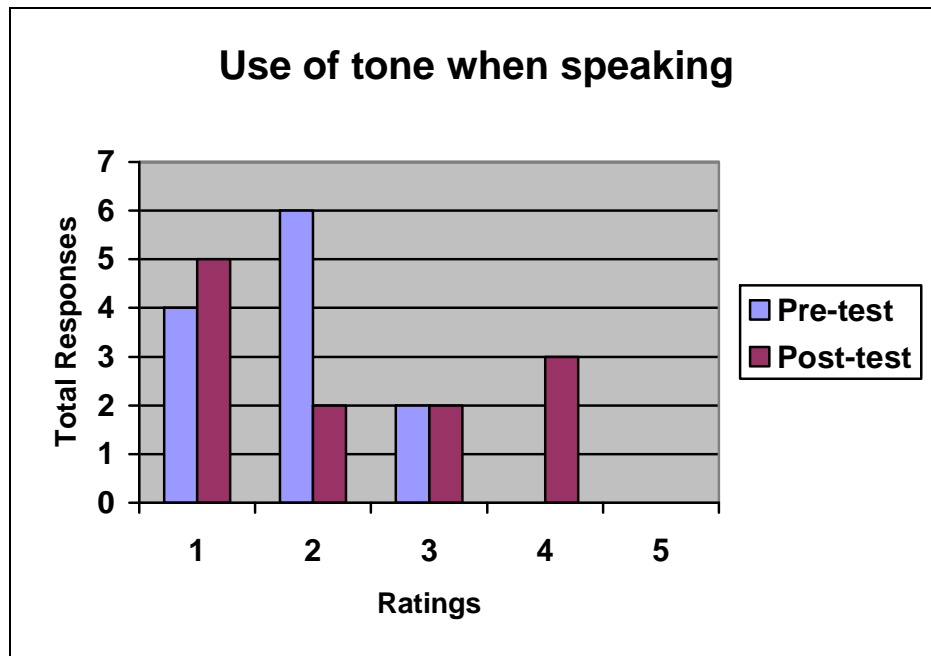


Diagram 19: Pre- and post-test scores for use of tone when speaking

Diagram 19 shows that improvement did take place when the post-test scores were measured, particularly with regard to a rating of 4 (good/to a great extent), with 3 respondents (25%) achieving this in the post-test, as opposed to no respondents in the pre-test. However, 50% of the respondents achieved a rating of 2 (poor/to a little extent) and 33.3% a rating of 1 in the pre-test, indicating the challenge that this skill remains for the respondents.

In the table below, Table 9, the researcher has calculated the total number of responses, from all the respondents, for each specific rating (namely Very Poor/did not appear; Poor/to a little extent; Average/to some extent; Good/ to a great extent; Very good/Completely), according to each assessment area focused on. These have been calculated for both the pre- and post-test scores, in order to highlight the comparison between these scores.

For example, when focusing on the first assessment area with regard to verbal communication, namely "level of spontaneous speech regarding his/her (the



child's) needs", the researcher has combined the number of times all the respondents have received a rating of 1 (Very poor/did not appear) in both the pre-test and the post-test scoring.

For example, six respondents received a rating of 1 in the pre-test, indicating a lack of ability with regard to this skill. In the post-test only one respondent received a rating of 1, indicating an improvement in this skill.

The researcher has then completed the same step with regard to each rating, relating to each assessment area, focusing on both the pre- and post-test scores achieved. The researcher has done this with each specific social behavioural element, namely verbal communication, non-verbal communication, social interaction and challenging behaviour.

To give a summary of all the scores achieved with regard to verbal communication, the following frequency distribution was compiled in Table 9. Table 9 presents a frequency distribution of the respondents' combined ratings according to their verbal communication capabilities, by utilizing a pre-test and post-test.



Table 9: Frequency distribution of the respondents' Verbal Communication ratings

Assessment Areas	VERBAL COMMUNICATION									
	Pre-Test					Post-Test				
	Very poor/ did not appear	Poor/ to a little extent	Average/ to some extent	Good/ to a great extent	Very good/ completely	Very poor/ did not appear	Poor/ to a little extent	Average/ to some extent	Good/ to a great extent	Very good/ completely
Level of spontaneous speech regarding his/her needs	6	2	3	1	-	1	4	4	3	-
Level of spontaneous speech regarding his/her feelings	7	2	3	-	-	3	2	5	2	-
Comprehensive speech regarding general social interaction	6	1	5	-	-	5	-	4	2	1
Comprehensive speech regarding present events within the phase	6	1	5	-	-	4	1	3	3	1
Appropriate speech within the phase	6	2	4	-	-	2	3	4	3	-
Ability to express comprehension	7	2	3	-	-	5	1	2	3	1
Speech when required	6	1	3	2	-	2	3	1	4	2
Appropriate use of vocabulary	6	2	2	2	-	3	2	3	3	1
Appropriate sentence structure	5	4	2	1	-	5	1	2	4	-
Clarity of speech	4	2	3	3	-	5	-	5	1	1
Use of tone when speaking	4	6	2	-	-	5	2	2	3	-
Total	63	25	35	9	0	40	19	35	31	7

The overall significance of the ratings achieved with regard to verbal communication, when looking at the total scores achieved, can be summarized as follows:



- There was an overall improvement with regard to the respondents' verbal communication skills, with a decrease in ratings 1 (very poor/did not achieve), 2 (poor/to a little extent) and an increase in ratings 4 (good/to a great extent) and 5 (very good/completely). This can be seen in Table 10.

Table 10: Verbal communication ratings

Rating	Pre-test	Post-test
1	63	40
2	25	19
3	35	35
4	9	31
5	0	7

- In the pre-test, the highest score achieved was for the rating of 1 (very poor/did not achieve) with 47,7% of the responses being marked in this category and no respondents achieved a rating of 5 (very good/completely); highlighting the difficulties that children who are diagnosed with autism have with verbal communication. The percentages are achieved through using the total score achieved within each rating and dividing this by the total responses recorded for verbal communication, namely 132 (11 assessment areas times by 12 respondents).
- In the post-test one can clearly see that the greatest increase was in the ratings of 4 (good/to a great extent) and 5 (very good/completely), with an increase of 22 and 7 responses respectively. This indicates a positive improvement in the respondents' verbal communication skills.
- However, it is still important to note that a fair percentage (71,2%) of the respondents scored a rating of 1 (very poor/did not achieve), 2 (poor/to a little extent), and/or 3 (average/to some extent) in the post-test, highlighting the point that verbal communication can be considered an intractable challenge for autistic children.



Table 11 shows the median scores for respondents' verbal communication ratings in the pre- and post-test.

This table shows the median, the minimum and maximum scores, the Interquartile deviation and the range for all respondents combined in each class, in the pre- and post-test. As previously mentioned, the respondents were taken from the various classes at The Key School for Specialized Education, which are divided according to developmental age. This is how the respondents have been divided in this table, with class 1 representing the children on the lowest developmental age at the school and class 4 representing the children on the highest development age at the school.

The median can be defined as the middle value of an ordered set of scores, which does not depend on all the scores and is therefore not affected by extreme values. The value of the median might not belong to the set of scores (De Vos, Fouché & Venter, 2002: 237).

The Interquartile deviation/range can be defined as "the difference between the score representing the 75th percentile and the score representing the 25th percentile" (Statistical Indices of Data Variability, 2007). The Interquartile range is "calculated by subtracting the 25th% value from the 75th% value and is based around the median" (National Water Quality Laboratory Technical Memorandum, 2007).

The range can be defined as "the difference between the largest and smallest measurements of the raw scores" (De Vos, Fouché & Venter, 2002: 237). The minimum and maximum scores are also shown, with these referring to the combined minimum and maximum scores achieved by the respondents.

Table 11: Median scores of respondents' ratings with regard to Verbal Communication.

Class		1	2	3	4
Number of respondents		3	2	2	5
Median	Pre-Test	1.1818182	2.1818182	1.0000000	2.5454545
	Post-Test	1.4545455	2.4090909	1.227227	3.5454545
Minimum	Pre-Test	1.0000000	1.0000000	1.0000000	1.3636364
	Post-Test	1.0000000	1.4545455	1.0909091	2.9090909
Maximum	Pre-Test	3.0909091	3.3636364	1.0000000	2.7272727
	Post-Test	3.0909091	3.3636364	1.3636364	4.5454545
Interquar-tile deviation	Pre-Test	1.045455	1.18182	0	0.22727
	Post-Test	1.045455	0.954545	0.136365	0.272725
Range	Pre-Test	2.0909091	2.3636364	0	1.3636364
	Post-Test	2.0909091	1.9090909	0.2727273	1.6363636

The Wilcoxon Signed-Rank Test for a Paired Experiment (Wackerly, Mendenhall & Scheaffer, 2002) was used to test the statistical significance of these results. The test criterion on a 1% level of significance allows for the null hypothesis to be rejected if the p-value is less than (<) 0.01. The null hypothesis (Ho) states that the intervention had no effect. The alternative hypothesis (H1) states that the intervention did have an effect.



With regard to verbal communication the following results are yielded by the Wilcoxon Signed-Rank Test for a Paired Experiment. The test statistic given is 0.0 and the p-value is 0.00195, therefore leading to the following conclusion:

- 0.00195 is less than 0.01%, which is considered the level of significance;
- Therefore the null hypothesis is rejected;
- The alternative hypothesis is accepted;
- This allows the conclusion that the intervention (the play technique programme) had a highly significant effect on the verbal communication of the respondents.

6.4.2 Non-verbal communication

BBC Teaching English (2006) consider the following to be components of non-verbal communication: Body language; Use of space; Touch; Eye contact; Use of time; Tone of voice; Use of silence; Position of the body; and Attentiveness/listening.

Non-verbal communication can be considered another element of social behaviour that autistic individuals are challenged with on a daily basis. This can be seen in the statement made by Stone (2006: 12), who notes that a child diagnosed with autism will show “atypical development in three primary areas: (1) social skills, (2) language and communication skills, and (3) repetitive and restricted behaviors”.

The researcher’s goal within this variable was to test the following sub-hypothesis:



- **If autistic children in middle childhood are involved in a play technique programme then their non-verbal communication skills will improve.**

Based on the in-depth literature study, the following 11 assessment areas of non-verbal communication were included in the self-constructed measuring instrument (see Addendum C):

- Facial expressions, for the purpose of communication
- Gestures
- Appropriate use of personal space
- Eye contact
- Interest in listening to the researcher
- Appropriate use of silence
- Level of appropriate response to listening
- Ability to focus
- Concentration span
- Attentiveness
- Openness to researcher

The researcher will firstly give an overview of the scores achieved by the respondents, through looking at the combined rating that each individual respondent achieved with regard to non-verbal communication. The focus will then shift to each individual assessment area as listed previously, looking at the combined pre- and post-test scores achieved by the respondents. Then the researcher will give an overview of the combined scores achieved for each assessment area, highlighting the changes that took place when the pre- and post-test measurements were compared.

It is important to note once again that the ratings given on the five-point scale were counted/scored according to the following distinctions:



-
- **1:** Very Poor/Did not appear (no occurrence of the particular behaviour being measured)
 - **2:** Poor/To a little extent (behaviour noted on one occasion within the time period of the measurement)
 - **3:** Average/To some extent (behaviour noted on two occasions within the time period of the measurement)
 - **4:** Good/ To a great extent (behaviour noted on three occasions within the time period of the measurement)
 - **5:** Very good/Completely (behaviour noted on four or more occasions within the time period of the measurement)

In Diagram 20, the researcher gives an indication of the pre- and post-test scores of each respondent individually, with regard to non-verbal communication skills.

The researcher obtained these scores by combining all the ratings that each individual respondent scored with regard to the 11 assessment areas of non-verbal communication, both in the pre- and post-test measurements, and then dividing each total score by 11 in order to arrive at an average score achieved by each individual.

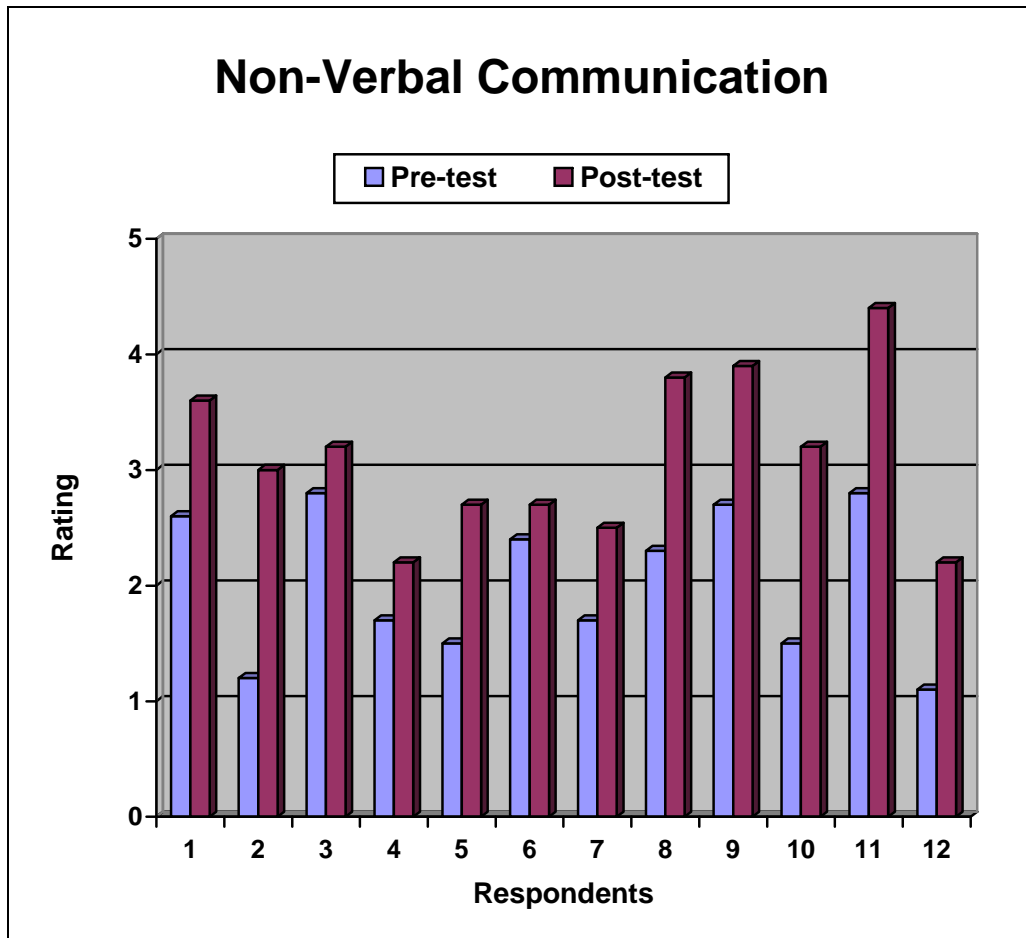


Diagram 20: Pre- and post-test scores for non-verbal communication of all the respondents

All the respondents reflected improvement once the play technique programme was implemented.

In order to gain a better understanding of Diagram 20 and the statistics given, the researcher will now focus on each assessment area individually.

6.4.2.1 Facial expression for the purpose of communication

The first assessment area focused on, with regard to non-verbal communication, is that of “facial expression for the purpose of communication”. Expression is defined as “the look on a person’s face that shows his or her feelings” (Oxford School Dictionary, 2004: 163). Therefore, according to the researcher, facial expression can be understood as the respondents’ ability to show/use facial symbols to communicate a message.

Diagram 21 shows the scores the respondents achieved for assessment area 1. One is able to see the improvement that took place.

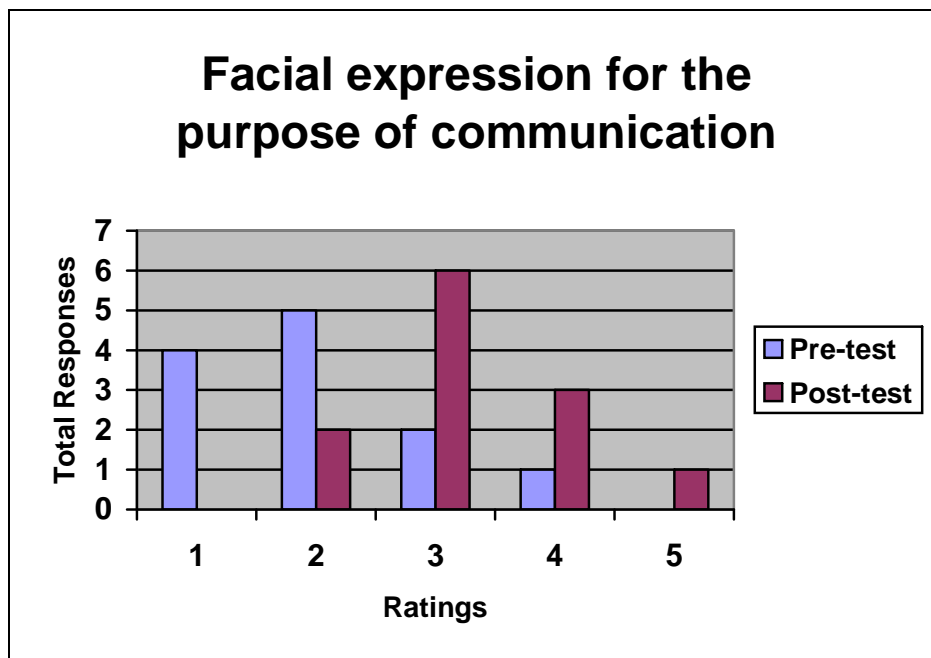


Diagram 21: Pre- and post-test scores for facial expression for the purpose of communication

As can be seen in Diagram 21, the respondents did show a lack of facial expression in the pre-test, with the majority (91,5%) of the respondents receiving



a low rating. A total of four respondents (33,3%) received a rating of 1 (very poor/did not appear); five respondents (41,6%) received a rating of 2 (poor/to a little extent) and two respondents (16,6%) receiving a rating of 3 (average/to some extent). Only one respondent (8,3%) achieved a rating of 4 (good/to a great extent).

In the post-test there was a fair amount of improvement, particularly with regard to a rating of 3 (average/to some extent), with six respondents (50%) obtaining this rating, as opposed to two (16,6%) in the pre-test. It was also positive to see that three respondents (25%) managed to achieve a rating of 4 (good/to a great extent) and one respondent (8,3%) achieved a rating of 5 (very good/completely). Therefore, there was definitely evidence of improvement with regard to the skill of using facial expression as a means of non-verbal communication.

6.4.2.2 Gestures

“Gestures” was the second assessment area, with the respondents experiencing this skill as a challenge in the pre-test. Gestures are defined as “a movement or action that expresses what a person feels” (Oxford School Dictionary, 2004: 193).

The scores achieved by the respondents can be seen in Diagram 22.

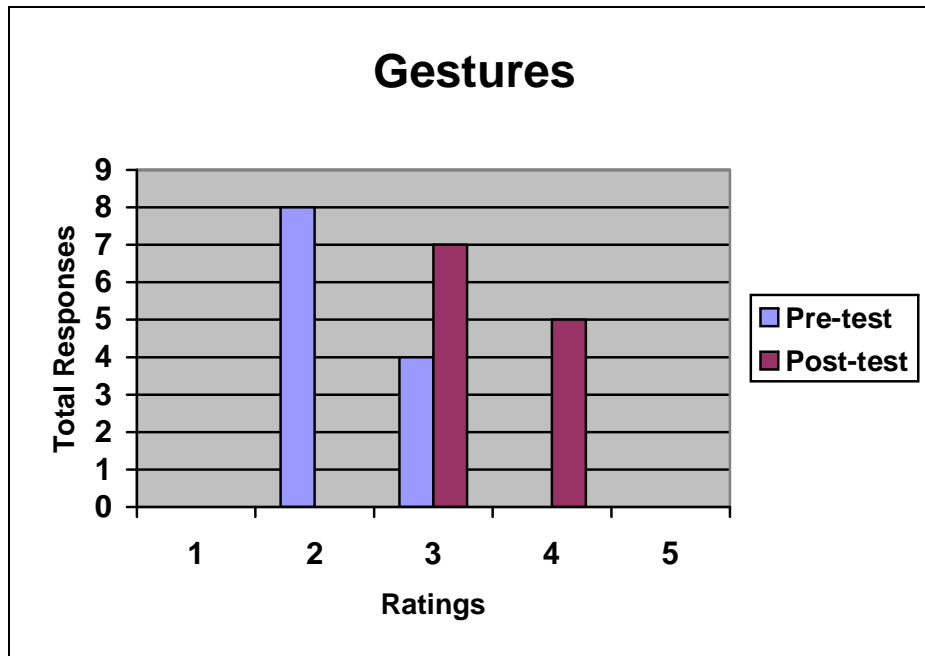


Diagram 22: Pre- and post-test scores for gestures

Although none of the respondents received the lowest rating, eight (66,6%) of the respondents received a rating of 2 (poor/to a little extent) in the pre-test. The other four respondents (33,3%) received a 3 (average/to some extent), indicating that the skill was still a challenge for the respondents.

Once the play technique programme had been conducted and the post-test was completed, it was clear that progress had taken place. This is mainly evident in the increase in the number of respondents who obtained a rating of 3 (average/to some extent), with seven respondents (58,3%) achieving this. It was also positive to see that five (41,6%) of the respondents managed to achieve a rating of 4 (good/to a great extent), showing a vast improvement in this particular skill.

6.4.2.3 Appropriate use of personal space

The next assessment area was “appropriate use of personal space”, focusing on this as a non-verbal communication skill. Personal space can be understood as one’s own, private physical space around the individual’s person (Oxford School Dictionary, 331). Based on the researcher’s experience with autistic children it was important to assess the respondents’ ability to respect others’ personal space – to assess, in other words, whether they did not get too close, as well as whether they were able to come into another person’s space at all. Therefore both extremes had to be considered.

The following diagram, Diagram 23, shows the pre- and post-test scores for this assessment area.

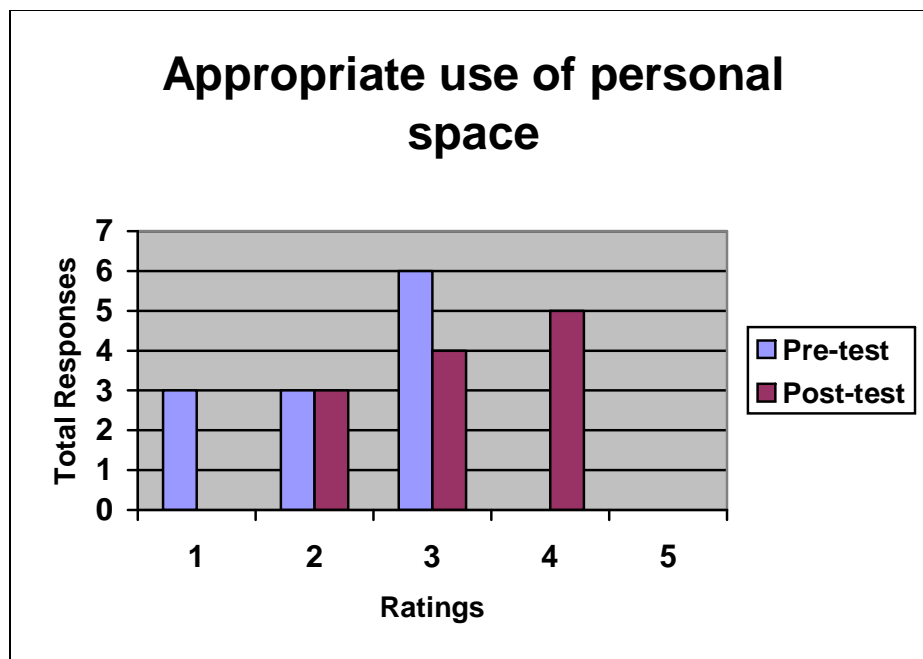


Diagram 23: Pre- and post-test scores for appropriate use of personal space

Again the improvement between the pre- and post-test scores is evident, particularly with the high incidence of a rating of 4 (Good/to a great extent) in the post-test, with five respondents (41,6%) achieving this in the post-test as opposed to 0 in the pre-test. None of the respondents achieved a rating of 1 (very poor/did not appear) in the post-test, indicating achievement with regard to this skill.

6.4.2.4 Eye contact

The fourth assessment area was that of “eye contact”. Eye contact is defined as the “condition/state of touching, meeting or communicating” (Oxford School Dictionary, 2004: 99).

Diagram 24 shows the pre- and post-test scores for this assessment area.

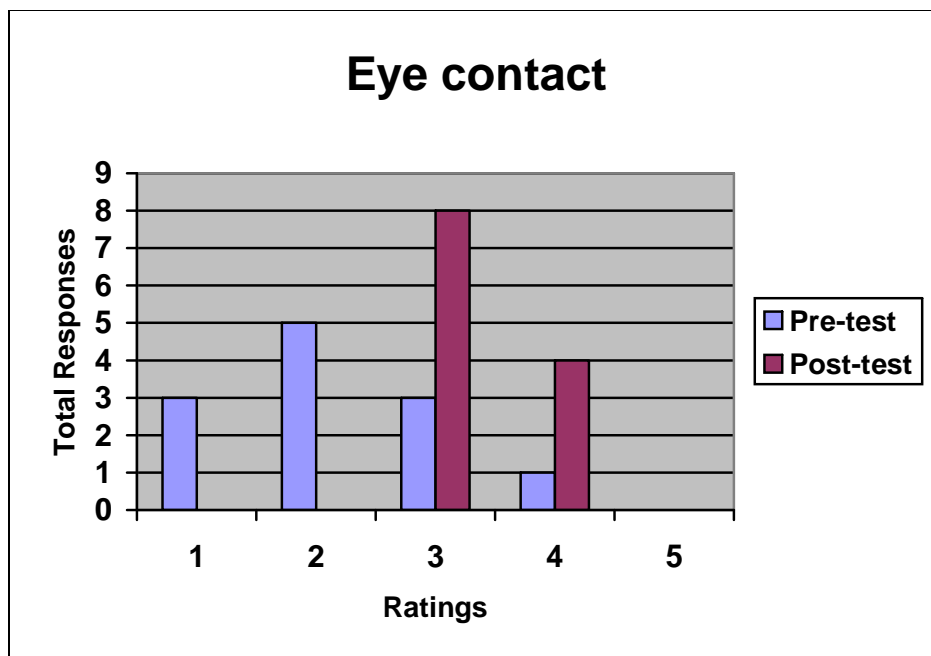


Diagram 24: Pre- and post-test scores for eye contact



Diagram 24 shows the improvement that took place: none of the respondents obtained a rating of 1 (very poor/did not appear) or 2 (poor/to a little extent) in the post-test in comparison with the pre-test when three respondents (25%) received a rating of 1 (very poor/did not appear) and five respondents (41,6%) achieved a rating of 2 (poor/to a little extent).

A total of four respondents (33,3%) managed to obtain a rating of 4 (good/ to a great extent) in the post-test. The majority of the respondents achieved a rating of 3 (average/to some extent) in the post-test, with eight respondents (66,6%) given this rating, highlighting the fact that even though there was improvement evident with this skill, it remained a challenge for some of the respondents.

6.4.2.5 Interest in listening

“Interest in listening” was the fifth area assessed with regard to non-verbal communication. This can be understood, according to the researcher, as the respondents’ interest in listening to the verbal and non-verbal communication from the researcher and indicating that they are listening, through non-verbal cues. Diagram 25 shows the scores that were achieved by the respondents.

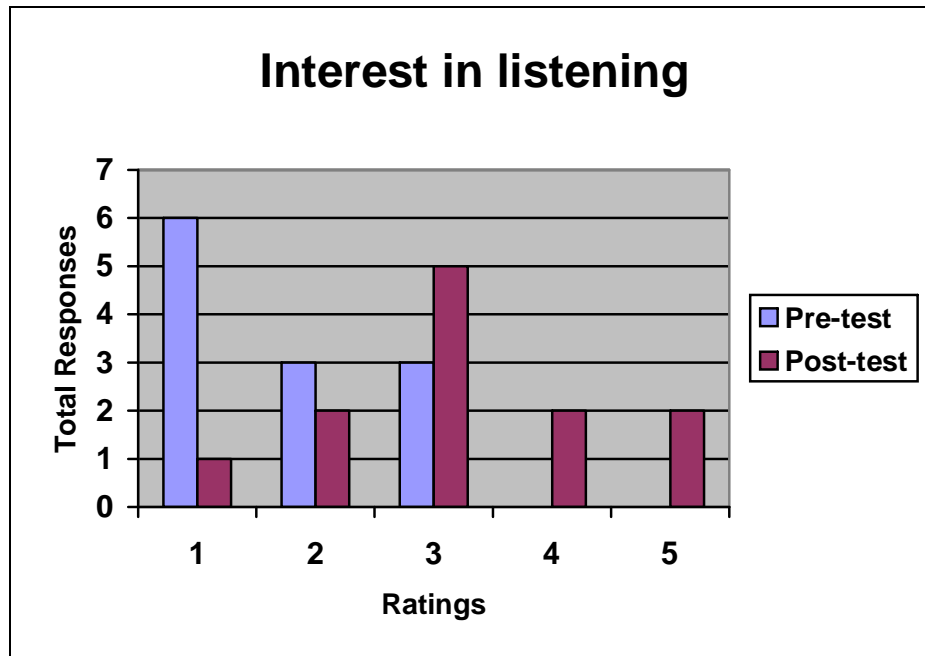


Diagram 25: Pre- and post-test scores for interest in listening

Diagram 25 indicates that the respondents showed a weakness with regard to this skill, as can be seen in the large number of respondents who achieved a rating of 1 (very poor/did not appear), with 50% of the respondents achieving this in the pre-test.

However, once the intervention (the play technique programme) was introduced, there was a great deal of improvement evident. The most noticeable improvement is evident in the fact that two (16,6%) of the respondents obtained a rating of 4 (good/to a great extent) and 5 (very good/completely) respectively, showing an increase of interest in listening.

6.4.2.6 Appropriate use of silence

The sixth skill assessed was that of “appropriate use of silence”. The focus when measuring this skill was to identify whether the respondent was able to engage in suitable moments of silence, in the conversation. It was necessary for the

researcher to identify whether there was a complete lack of silence and/or too much silence in the conversations held. As can be seen in Diagram 26, the respondents showed a lack of ability in this skill in the pre-test. With this skill, as in the previous skill, 50% of the respondents received a rating of 1 (very poor/did not appear) in the pre-test.

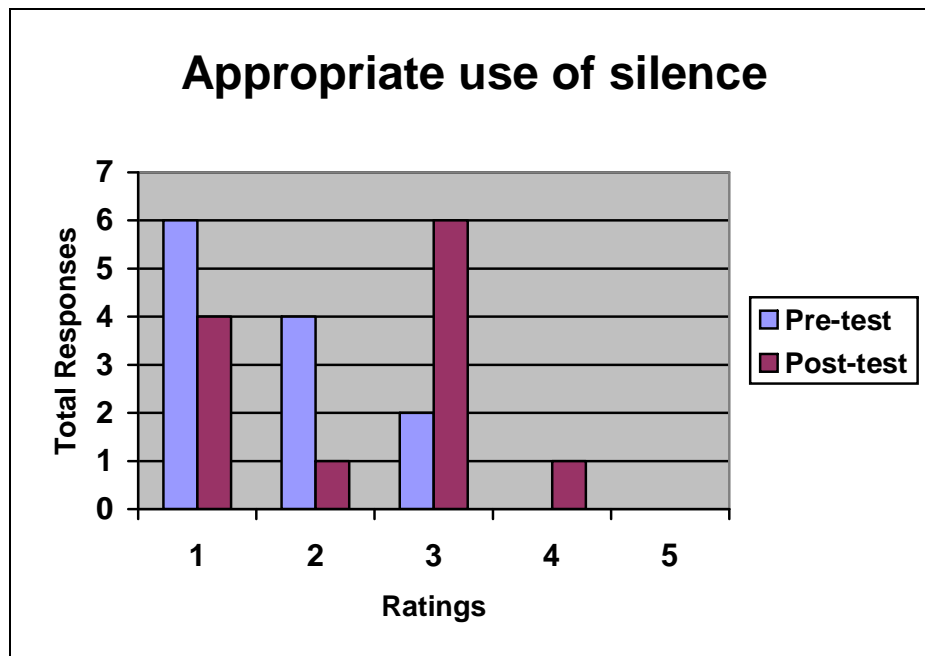


Diagram 26: Pre- and post-test scores for appropriate use of silence

Once the intervention has been implemented, there was improvement evident. The greatest improvement can be seen in the respondents achieving a rating of 3 (Average/to some extent), with 50% of the respondents scoring this. This does indicate an improvement, but it also indicates the fact that this skill can still be considered a challenge for these respondents.

Only one respondent (8,3%) was able to achieve a rating of 4 (good/to some extent) in the post-test, showing achievement with regard to this skill. However, this also indicates that the skill generally remained a challenge for the respondents involved in the study.

6.4.2.7 Level of appropriate response to listening

The next skill assessed was that of “level of appropriate response to listening”. Again, the researcher was measuring the respondents’ suitable response to listening through using non-verbal communication. Diagram 27 shows the scores obtained by the respondents in both the pre- and post-test.

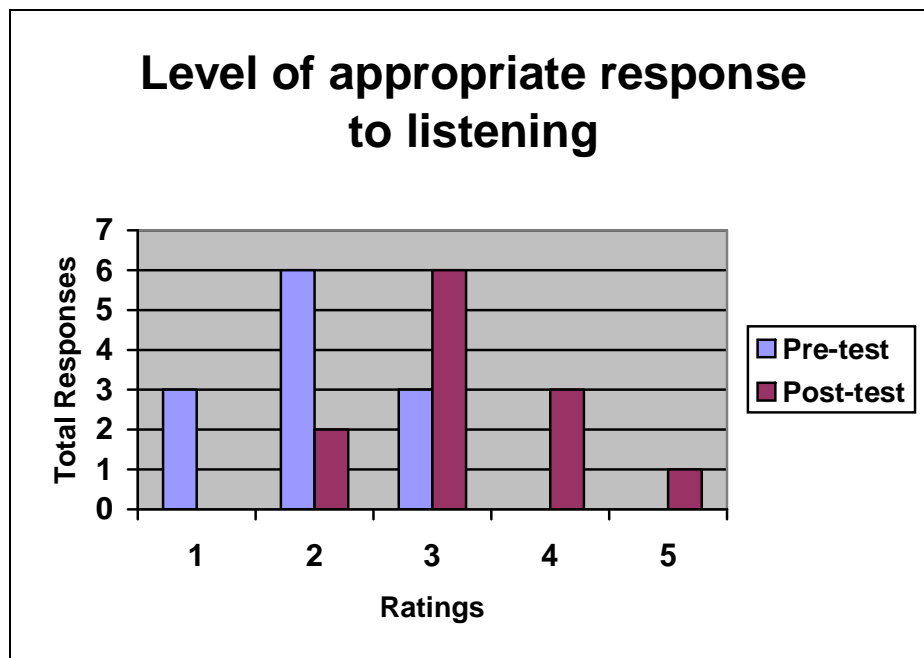


Diagram 27: Pre-and post-test scores for level of appropriate response to listening

The respondents showed limited ability with this skill when the pre-test was conducted. This is demonstrated by the fact that three (25%) obtained a rating of 1 (very poor/did not achieve), six (50%) achieved a rating of 2 (poor/to a little extent) and a further three respondents (25%) obtaining a rating of 3 (average/to some extent).

When the post-test was conducted a noticeable improvement was evident. A total of three respondents (25%) received a rating of 4 (good/to a great extent)

and one respondent (8,3%) received a rating of 5 (very good/completely). However, 50% of the respondents were given a rating of 3 (average/to some extent), indicating that the skill remained difficult for some of the respondents.

6.4.2.8 Ability to focus

“Ability to focus” was the eighth area of assessment with regard to non-verbal communication. Focus can be defined as the “concentrate” (Oxford School Dictionary, 2004: 179). Therefore, when observing and measuring this assessment area the researcher was assessing the respondents’ ability to concentrate.

Diagram 28 shows the pre- and post-test scores achieved by the respondents.

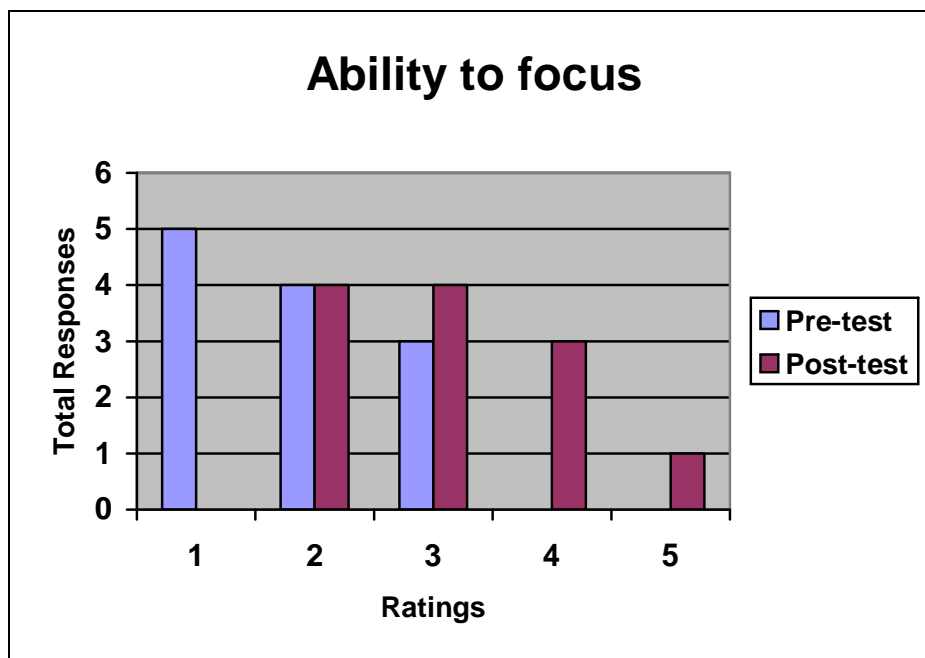


Diagram 28: Pre- and post-test scores for ability to focus

The respondents had difficulty with this skill in the pre-test. This can be seen in the fact that five (41,6%) achieved a rating of 1 (very poor/did not appear); four

(33,3%) obtained a rating of 2 (poor/to a little extent); and three (25%) received a rating of 3 (average/to some extent).

Progress was noted, however, with none of the respondents receiving a rating of 1 (very poor/did not appear) in the post-test. It was also positive to note that three (25%) of the respondents were able to obtain a rating of 4 (good/to a great extent) and one respondent (8,3%) obtained a 5 (very good/completely).

6.4.2.9 Concentration span

“Concentration span” was the next area of assessment. Concentration is defined as “give your full attention or effort to something” (Oxford School Dictionary, 2004: 94). The Autism Checklist (2006) states that “autism affects thought, perception and attention”, highlighting the fact that concentration can be considered difficult for children diagnosed with autism. Diagram 29 shows the scores achieved with regard to this skill in the pre- and post-test.

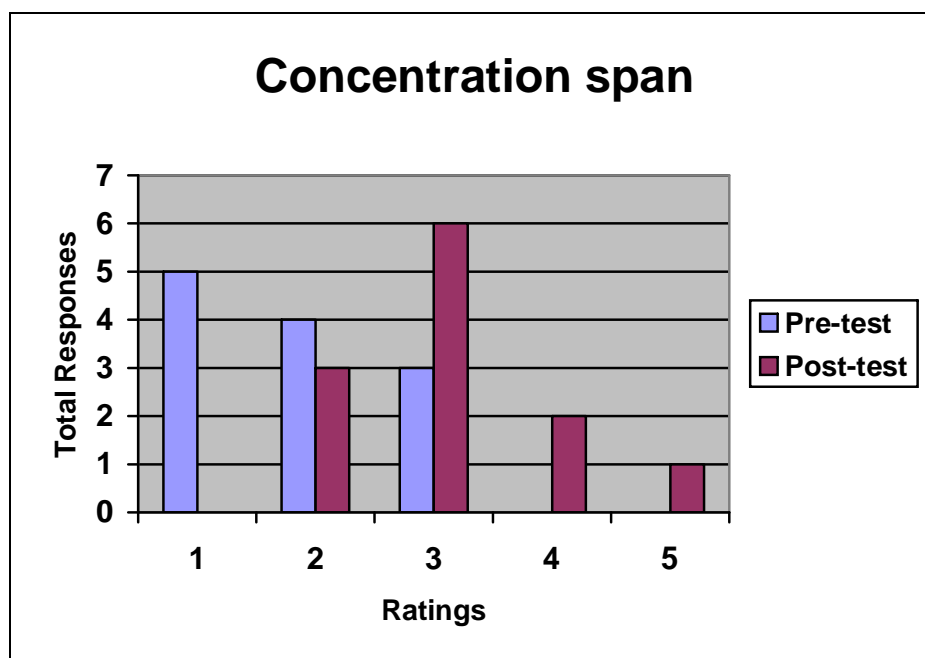


Diagram 29: Pre- and post-test scores for concentration span



The difficulty that autistic children have with attention, as mentioned in the previous quotation, can be confirmed by the fact the five (41,6%) of the respondents achieved a rating of 1 (very poor/did not appear); four (33,3%) achieved a rating of 2 (poor/to a little extent); and three (25%) achieved a rating of 3 (average/to some extent) in the pre-test.

A large number of the respondents (50%) achieved a rating of 3 (average/to some extent) in the post-test scores, highlighting the fact that the skill did show improvement but remained a challenge for these respondents. However, two (16,6%) of the respondents managed to obtain a 4 (good/to a great extent) and one respondent (8,3%) was able to obtain a 5 (very good/completely).

6.4.2.10 Attentiveness

The tenth assessment area was “attentiveness”. The researcher understands attentiveness to be the ability to pay attention and be focused on a particular activity.

Diagram 30 shows the pre- and post-test scores obtained for this skill.

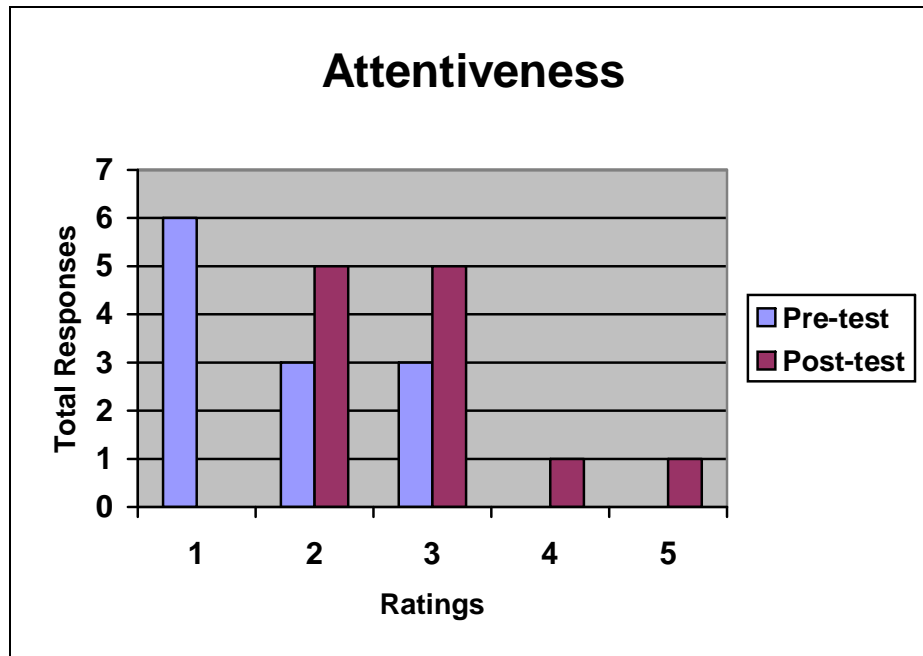


Diagram 30: Pre- and post-test scores for attentiveness

Diagram 30 shows that in the pre-test 50% of the respondents obtained a rating of 1 (very poor/did not appear), indicating that this could be considered a difficult skill for the respondents.

The post-test shows that there was improvement, particularly in the fact that none of the respondents obtained a rating of 1 (very poor/did not appear), which can be considered a big contrast to the pre-test scores. One (8,3%) of the respondents obtained a rating of 4 (good/to a great extent) and another achieved a rating of 5 (very good/completely).

The skill did remain a challenge for the majority of the respondents, however, with five (41,6%) of the respondents achieving a rating of 2 (poor/to a little extent) and the same number achieving a rating of 3 (average/to some extent).

6.4.2.11 Openness to researcher

The final assessment area with regard to non-verbal communication was “openness to researcher”. The researcher assessed the respondents’ ability to open up to her, within the phase, through non-verbal communication, such as eye contact, positive facial expressions and/or positive body positioning.

Diagram 31 shows the pre- and post-test achieved for this skill.

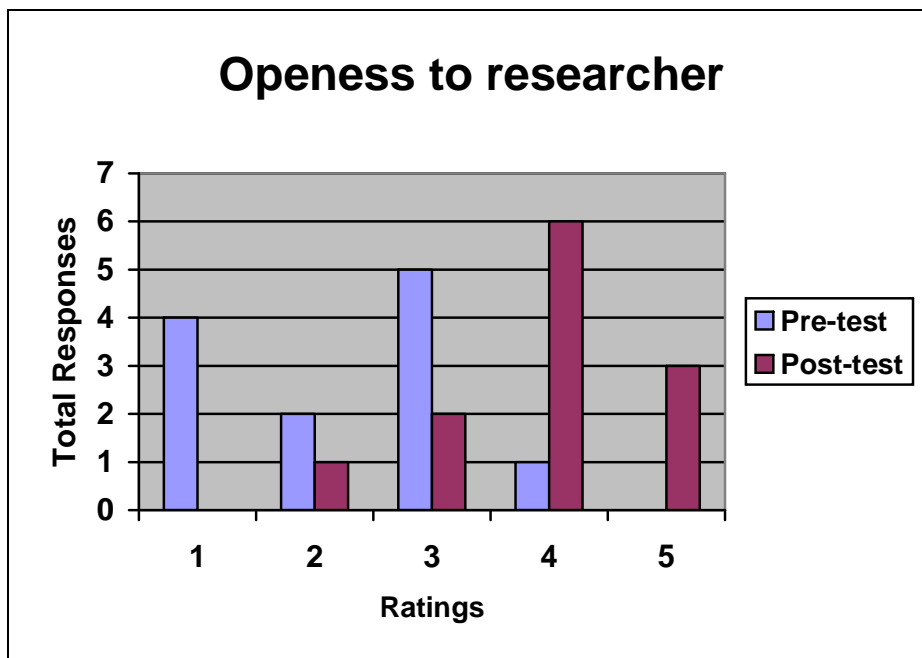


Diagram 31: Pre- and post-test scores for openness to researcher

This skill can be considered a challenge to the respondents, given that four (33,3%) obtained a 1 (very poor/did not appear); two (16,6%) obtained a 2 (poor/to a little extent); and five respondents (41,6%) measured a rating of 3 (average/to some extent) in the pre-test.



When the post-test was conducted, however, the skill showed marked improvement. This is mainly evident in the fact that 50% of the respondents were able to obtain a rating of 4 (good/to a great extent) and three respondents (25%) obtained a rating of 5 (very good/completely).

To give a summary of all the scores achieved with regard to non-verbal communication, the following frequency distribution was compiled (Table 12). Table 12 presents a frequency distribution of all the respondents' ratings according to their non-verbal communication capabilities, by utilizing a pre- and post-test.

Table 12: Frequency distribution of respondents Non-Verbal Communication ratings.

Assessment areas	NON-VERBAL COMMUNICATION									
	Pre-Test					Post-Test				
	Very poor/ did not appear	Poor/ to a little extent	Average/ to some extent	Good/ to a great extent	Very good/ completely	Very poor/ did not appear	Poor/ to a little extent	Average/ to some extent	Good/ to a great extent	Very good/ completely
Facial expressions, for the purpose of communication	4	5	2	1	-	-	2	6	3	1
Gestures	-	8	4	-	-	-	-	7	5	-
Appropriate use of personal space	3	3	6	-	-	-	3	4	5	-
Eye contact	3	5	3	1	-	-	-	8	4	-
Interest in listening to the researcher	6	3	3	-	-	1	2	5	2	2
Appropriate use of silence	6	4	2	-	-	4	1	6	1	-
Level of appropriate response to listening	3	6	3	-	-	-	2	6	3	1
Ability to focus	5	4	3	-	-	-	4	4	3	1
Concentration span	5	4	3	-	-	-	3	6	2	1
Attentiveness	6	3	3	-	-	-	5	5	1	1
Openness to researcher	4	2	5	1	-	-	1	2	6	3
Total	45	47	37	3	0	5	23	59	35	10

The total scores achieved by the respondents in relation to non-verbal communication can be summarized as follows:



- Only a select few of the children (1,9%) were able to score a rating of 4 (good/to a great extent) and/or 5 (very good/completely) in the pre-test scoring, indicating the lack of non-verbal communication skills.
- The majority (97%) of the children scored a rating of a 3 (average/to some extent), a 2 (poor/to a little extent) or a 1 (very poor/did not appear) in the pre-test. This again indicates the great difficulty that these autistic children have with the skill of non-verbal communication.
- In the post-test there was a combined score of 45 (34%) falling on a rating of 4 (good/to a great extent) or 5 (very good/completely). In comparison with the pre-test there is a positive improvement, indicating the effectiveness of the play technique programme.
- One is also able to see a positive improvement in the decrease in children who scored a 1 (very poor/did not appear) or 2 (poor/to a little extent) rating. In the pre-test the total scored on these ratings was 92 (69,6%), while in the post-test the total scored was 28 (21,2%).
- However, the majority (44,6%) of the children scored a rating of 3 (average/to some extent) in the post-test, continuing to indicate that non-verbal communication, although it did improve with the play technique programme, is still a challenge for these autistic children.

The following table, Table 13, shows the median scores of the respondents with regard to non-verbal communication. This table includes the same focus areas as in Table 12, with these being explained on page 204.

Table 13: Median scores of respondents' ratings with regard to non-verbal communication

Class		1	2	3	4
Number of respondents		3	2	2	5
Median	Pre-Test	1.2727273	2.0909091	1.4545455	2.3636364
	Post-Test	3.000000	2.8636364	2.6363636	3.8181818
Minimum	Pre-Test	1.0909091	1.3636364	1.3636364	1.5454545
	Post-Test	2.1818182	2.2727273	2.5454545	2.7272727
Maximum	Pre-Test	2.6363636	2.8181818	1.5454545	2.8181818
	Post-Test	3.6363636	3.4545455	2.7272727	4.4545455
Interquartile deviation	Pre-Test	0.772725	0.72727	0.090905	0.22727
	Post-Test	0.72727	0.59091	0.09091	0.31818
Range	Pre-Test	1.5454545	1.4545455	0.1818182	1.2727273
	Post-Test	1.4545455	1.1818182	0.1818182	1.7272727

The Wilcoxon Signed-Rank Test for a Paired Experiment (Wackerly, Mendenhall & Scheaffer, 2002) was used to test the statistical significance of these results. The test criterion on a 1% level of significance allows for the null hypothesis to be rejected if the p-value is less than ($<$) 0.01. The null hypothesis (H_0) states that the intervention had no effect. The alternative hypothesis (H_1) states that the intervention did have an effect.



With regard to non-verbal communication the following results are yielded by the Wilcoxon Signed-Rank Test for a Paired Experiment. The test statistic given is 0.0 and the p-value is 0.00025, therefore leading to the following conclusion:

- 0.00025 is less than 0.01%, which is considered the level of significance;
- Therefore the null hypothesis is rejected;
- The alternative hypothesis is accepted;
- This allows the conclusion that the intervention (the play technique programme) had a highly significant effect on the non-verbal communication of the respondents.

6.4.3 Social Interaction

Social interaction is defined by Social Behaviour and Interaction (2006) as being “the acts, actions, or practices of two or more people mutually oriented towards each other’s selves ... they must be aware of each other ... and it involves a mutual orientation”. Attwood (1995: 28) commented that autistic children might have an inability to interact with peers, as well as a lack of desire to interact with those around them. They may display socially and emotionally inappropriate behaviour. Therefore, these statements highlight the difficulties that autistic children may experience with social interaction.

The researcher’s goal with respect to this variable was to test the following sub-hypothesis:

- **If autistic children in middle childhood are involved in a play technique programme then their social interaction skills will improve.**

Based on the in-depth literature study, the following 12 assessment areas of social interaction were included in the self-constructed measuring instrument (see Addendum C):



- Level of interest in social interaction
- Desire for physical contact with researcher
- Desire for emotional contact with researcher
- Participation in play phase
- Ability to reach out, emotionally, within the phase
- Ability to show obedience to any instructions, both verbal and non-verbal
- Reaction/level of comfort to social interaction
- Appropriate response to social interaction
- Interaction cues
- Invitation cues
- Awareness of researcher
- Level of motivation

The researcher will firstly give an overview of the scores achieved by the respondents, through looking at the combined rating that each individual respondent achieved with regard to social interaction. The focus will then shift to each individual assessment area as listed previously, and the combined pre- and post-test scores achieved by the respondents will be looked at. Then the researcher will give an overview of the combined scores achieved for each assessment area, highlighting the changes indicated by a comparison of the pre- and post-test measurements.

It is important to note once again that the ratings given on the five-point scale were counted/scored according to the following distinctions.

- 1: Very Poor/Did not appear (no occurrence of the particular behaviour being measured)



-
- **2:** Poor/To a little extent (behaviour noted on one occasion within the time period of the measurement)
 - **3:** Average/To some extent (behaviour noted on two occasions within the time period of the measurement)
 - **4:** Good/ To a great extent (behaviour noted on three occasions within the time period of the measurement)
 - **5:** Very good/Completely (behaviour noted on four or more occasions within the time period of the measurement)

In Diagram 32 the researcher gives an indication of the pre- and post-test scores of each respondent individually, with regard to social interaction skills. The researcher obtained these scores by combining all the ratings that each individual respondent scored with regard to the 12 assessment areas of social interaction, both in the pre- and post-test measurements, and then dividing each total score by 12 in order to obtain an average score achieved by each individual.

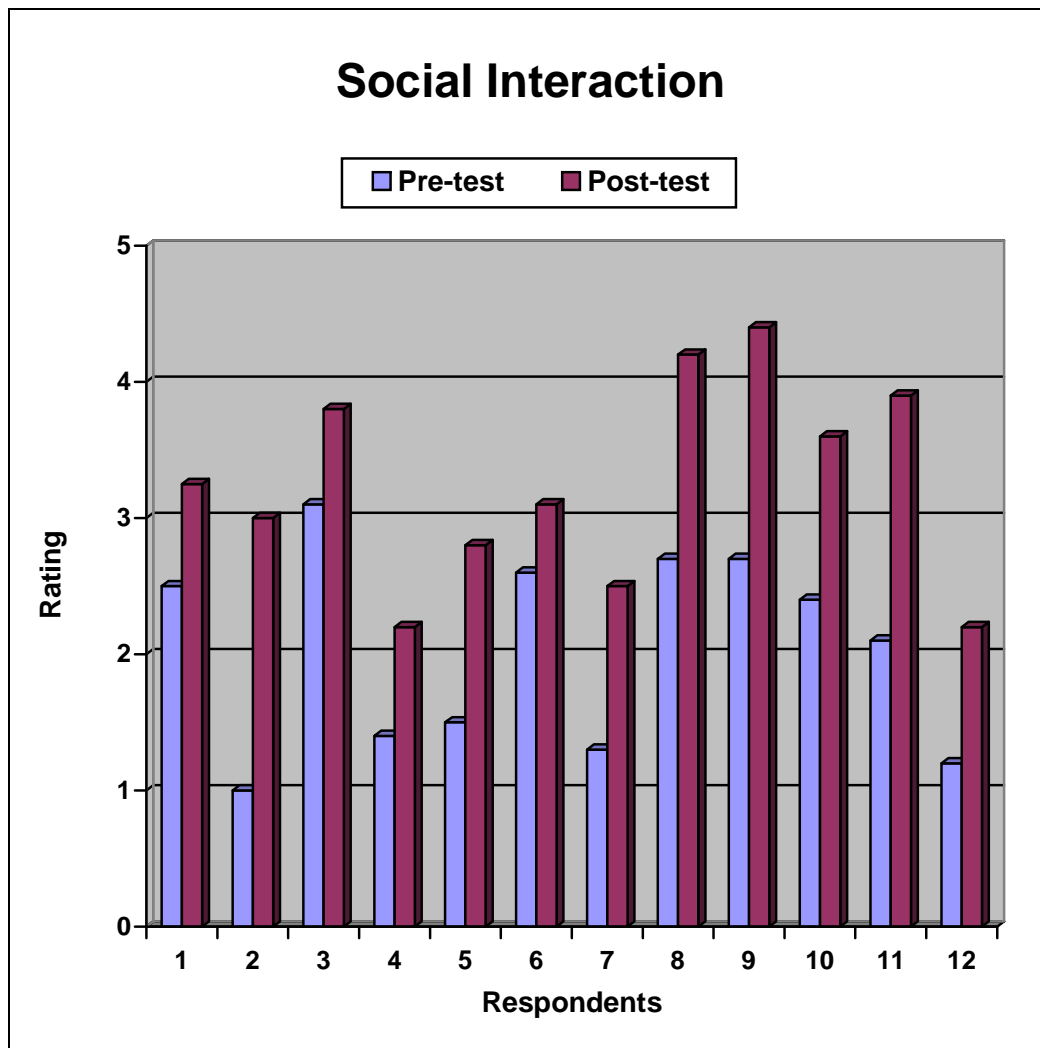


Diagram 32: Combined pre- and post-test scores for social interaction of each respondent

Diagram 32 shows that, if the pre- and post-test scores of each respondent individually are compared, one can clearly see the improvement that took place for all the respondents once the play technique programme was implemented.

In order to gain a better understanding of these scores, the researcher will now focus on each assessment area individually.

6.4.3.1 Level of interest in appropriate social interaction

The first assessment area with regard to social interaction was the “level of interest in appropriate social interaction”. Interest is defined as “a feeling of wanting to know about or help with something” (Oxford School Dictionary, 2004: 238) and therefore this assessment area can be understood as the respondents’ willingness to actively take part in appropriate social interaction. As has been previously mentioned, social interaction can be considered a difficulty for individuals diagnosed on the autism spectrum. As mentioned by Robledo and Ham-Kucharski (2005: 1), “autism is a neurological disorder that usually manifests itself early in the toddler years. It hampers a child’s ability to learn how to communicate, interact with others socially, and indulge in imaginative play”.

Diagram 33 shows the pre- and post-test scores that the respondents scored in relation to the first assessment area.

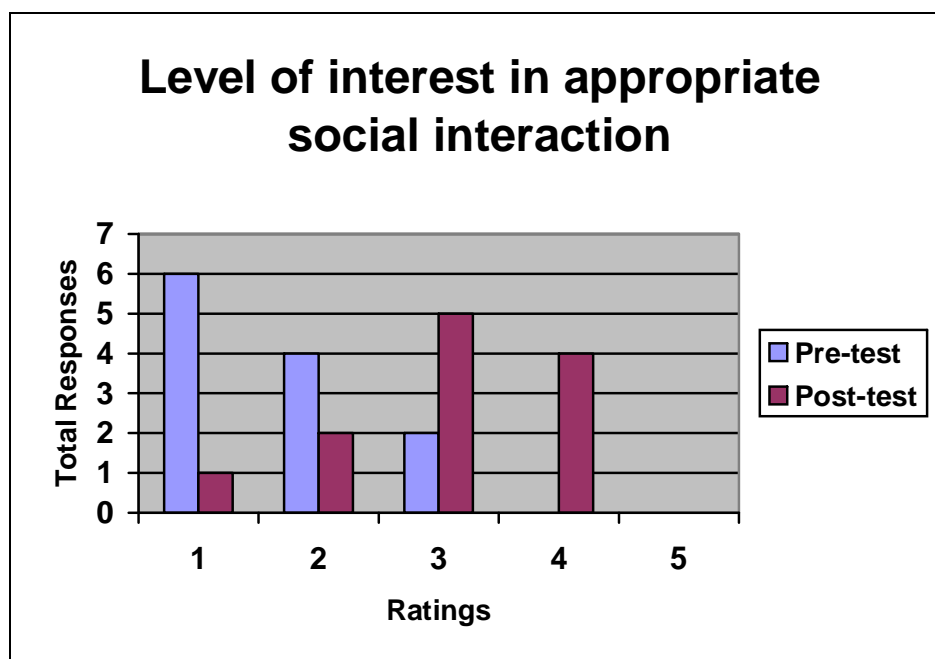


Diagram 33: Pre- and post-test scores for level of interest in appropriate social interaction



One can see that in the pre-test 50% of the respondents obtained a rating of 1 (very poor/did not appear) and 33,3% achieved a rating of 2 (poor/to a little extent), highlighting the fact that social interaction was difficult for the respondents.

Once the intervention was introduced progress was evident, with only one (8,3%) of the respondents obtaining a rating of 1 (very poor/did not appear) and five (41,6%) of the respondents achieved a rating of 3 (average/to some extent). It was also positive to note that 4 (33,3%) of the respondents were able to obtain a rating of 4 (good/to a great extent).

6.4.3.2 Desire for physical contact

The second area of assessment regarding social interaction was that of “desire for physical contact”. Desire can be understood as “a feeling of wanting something very much” (Oxford School Dictionary, 2004: 126). This assessment area can therefore be understood as the respondents’ longing for any form of appropriate physical contact with the researcher, within the play environment.

Diagram 34 shows the pre- and post-test scores achieved with regard to this skill.

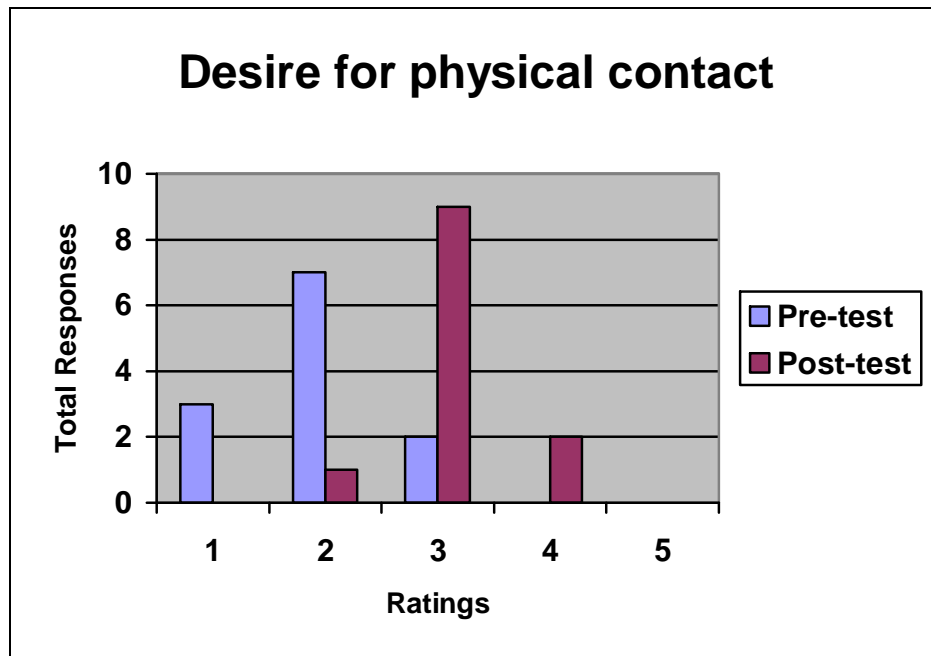


Diagram 34: Pre- and post-test scores for desire for physical contact

It is evident once again that this skill was challenging for the respondents in the pre-test, with three (25%) of the respondents achieving a rating of 1 (very poor/did not appear) and seven (58,3%) achieving a rating of 2 (poor/to a little extent).

Progress did occur once the intervention was introduced, which can be seen in the post-test scores recorded. It is important to note, however, that nine (75%) of the respondents obtained a rating of 3 (average/to some extent), which indicates that although the respondents did show an improvement, the skill did remain a challenge for the majority of them.

6.4.3.3 Desire for emotional contact

The next social interaction assessment area was that of “desire for emotional contact”. This can be understood as the respondents’ longing for emotional contact within the play situation.

Diagram 35 shows the pre- and post-test scores obtained by the respondents with regard to this skill.

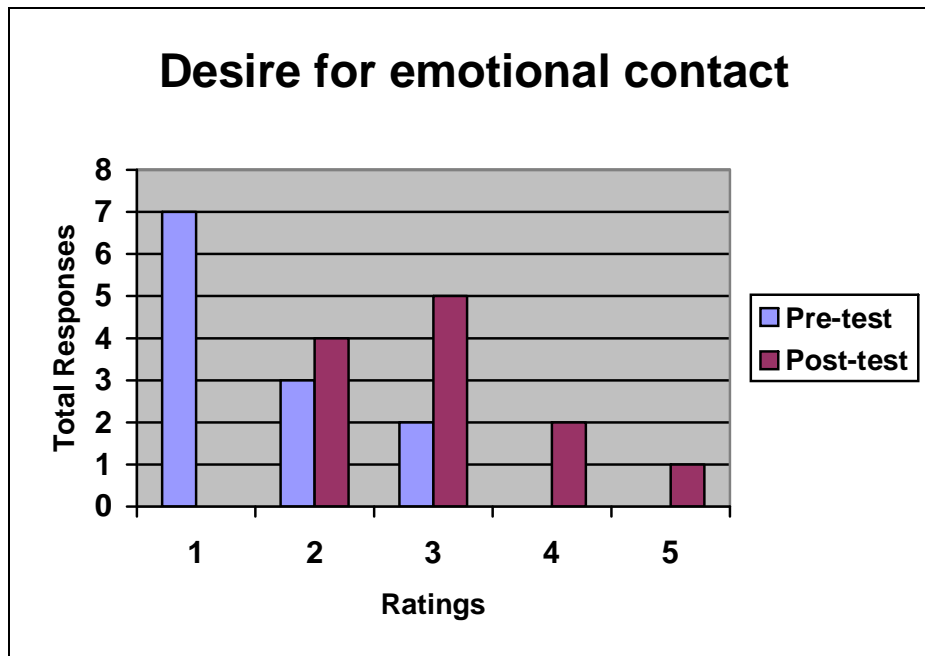


Diagram 35: Pre- and post-test scores for desire for emotional contact

Again one is able to notice that in the pre-test the respondents showed a weakness with regard to this skill, with seven (58,3%) obtaining a rating of 1 (very poor/did not appear) and three (25%) obtaining a rating of 2 (poor/to a little extent).

The post-test scores clearly show that progress took place. A total of five respondents (41,6%) were able to obtain a rating of 3 (average/to some extent); two respondents (16,6%) were able to obtain a rating of 4 (good/to a great extent) and one respondent (8,3%) was able to obtain a rating of 5 (very good/completely).

6.4.3.4 Participation in the play phase

“Participation in the play phase” was the fourth area of assessment with regard to social interaction. The Oxford School Dictionary (2004: 323) defines participation as “take part or have a share in something”.

Diagram 36 shows the combined pre- and post-test scores achieved by the respondents.

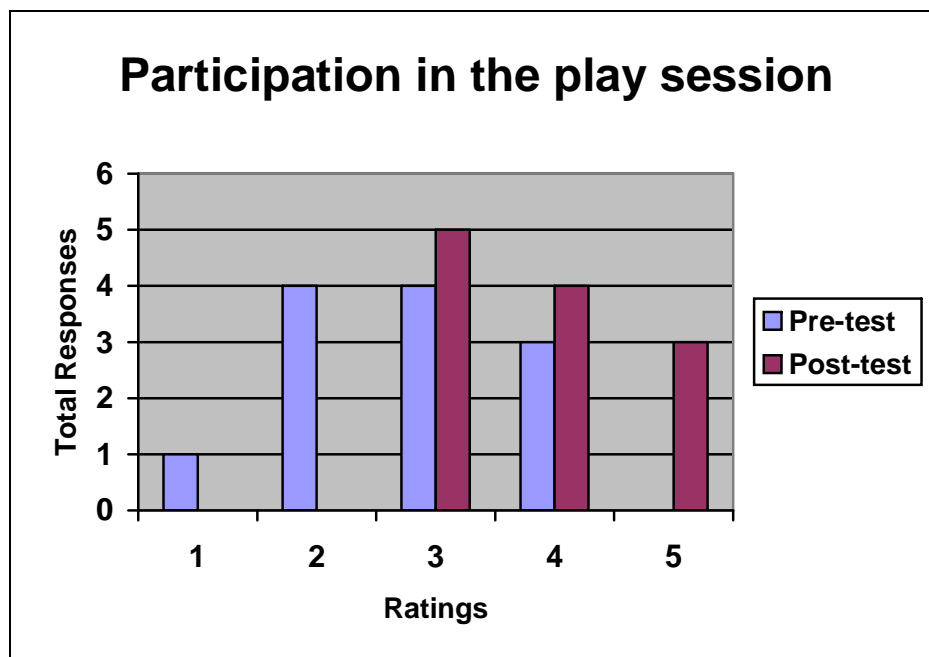


Diagram 36: Pre- and post-test scores for participation in the play phase

Although some of the respondents did have difficulty with this skill initially, with one (8,3%) achieving a rating of 1 (very poor/did not appear) and four (33,3%) achieving a rating of 2 (poor/to a little extent), 59% of the respondents did show some capability, scoring 3 (average/to some extent) and 4 (good/to a great extent) on the measuring scale in the pre-test.

In the post-test most of the respondents showed a good grasp of this skill, with four (33,3%) achieving a rating of 4 (good/to a great extent) and three (25%) achieving a rating of 5 (very good/completely). It is important to note, however, that five (41,6%) of the respondents did achieve a rating of 3 (average/to some extent), highlighting the fact that this skill remained slightly challenging for them.

6.4.3.5 Ability to reach out emotionally

The fifth social interaction assessment area was the “ability to reach out emotionally”. This can be understood as the respondents’ ability to engage on an emotional level with the researcher, through verbal and non-verbal communication.

In the following diagram, Diagram 37, one can clearly see that all the respondents found this skill a challenge in the pre-test. This can be seen in the fact that seven (59%) of the respondents achieved a rating of 1 (very poor/did not appear) and the other five (41%) respondents achieved a rating of 2 (poor/to a little extent).

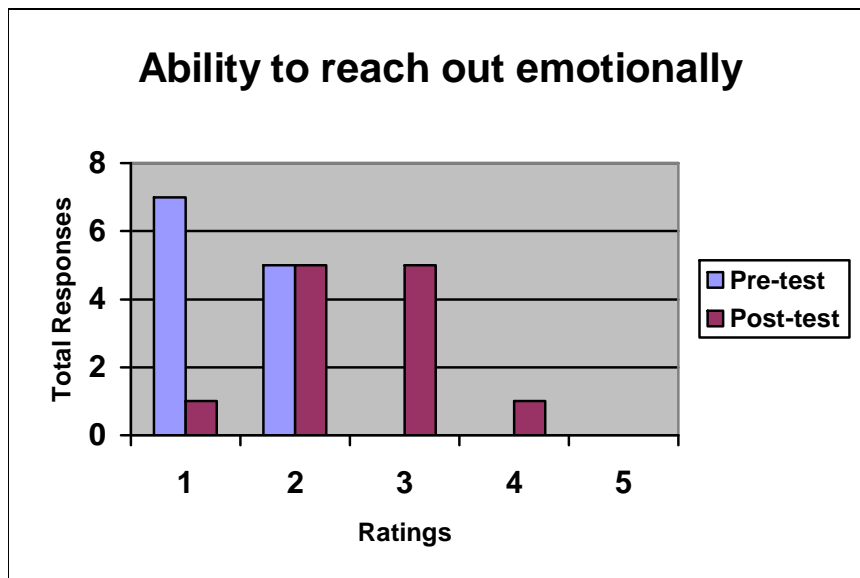


Diagram 37: Pre- and post-test scores for ability to reach out emotionally

In the post-test improvement was evident: only one respondent (8,3%) achieved the lowest rating (1). It is clear, however, that the skill did remain a challenge for the respondents, with five (41,6%) of the respondents achieving a rating of 2 (poor/to a little extent) and the other five (41,6%) achieving a rating of 3 (average/to some extent). Only one respondent (8,3%) achieved a rating of 4 (good/to a great extent).

6.4.3.6 Ability to show obedience to instructions

The following social interaction assessment area was the “ability to show obedience to instructions”. Obedience can be understood as the ability to comply with a situation and be willing to obey (Oxford School Dictionary, 2004: 305). Therefore the assessment area focused on the respondents’ ability to comply with instructions given within the play phase. Diagram 38 shows the pre- and post-test scores obtained for this skill.

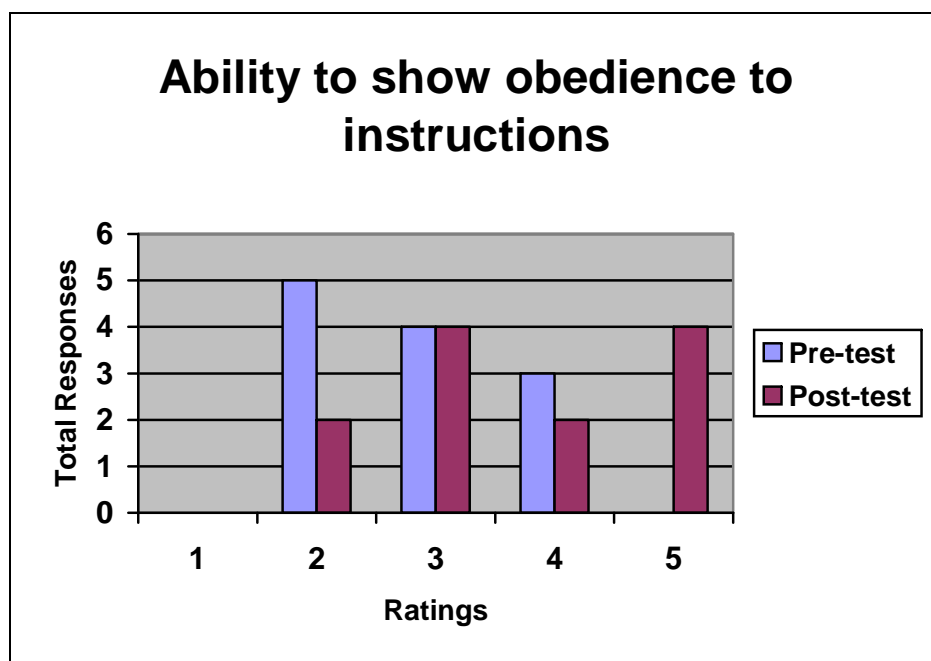


Diagram 38: Pre- and post-test scores for ability to show obedience to instructions



Although the respondents generally did battle with this skill in the pre-test, with five respondents (41,6%) achieving a rating of 2 (poor/to a little extent) and four respondents (33,3%) achieved a rating of 3 (average/to some extent), a total of three respondents (25%) were however able to achieve a rating of 4 (good/to a great extent) in the pre-test.

When the post-test was conducted progress was clearly evident. This is obvious in the fact that four (33,3%) of the respondents were able to obtain a rating of 5 (very good/completely), showing a good ability with regard to this skill. A total of two respondents (16,6%) obtained a rating of 4 (good/to a great extent) and four (33,3%) obtained a rating of 3 (average/to some extent).

6.4.3.7 Reaction to social interaction

“Reaction to social interaction’ was the seventh assessment area with regard to social interaction. As has been previously mentioned, social interaction can be defined as being mutually reciprocal and having free passage to each other when communicating (Oxford Dictionary, 2004: 428). This assessment area focused on measuring the respondents’ physical and emotional response to social interaction initiated by both the researcher and the respondent.

As can be seen in Diagram 39, the respondents did show some difficulty with this area, but in the post-test the majority of the respondents (59%) managed to obtain a rating of 4 (good/to a great extent) and two (16,6%) of the respondents a rating of 5 (very good/completely), indicating progress.

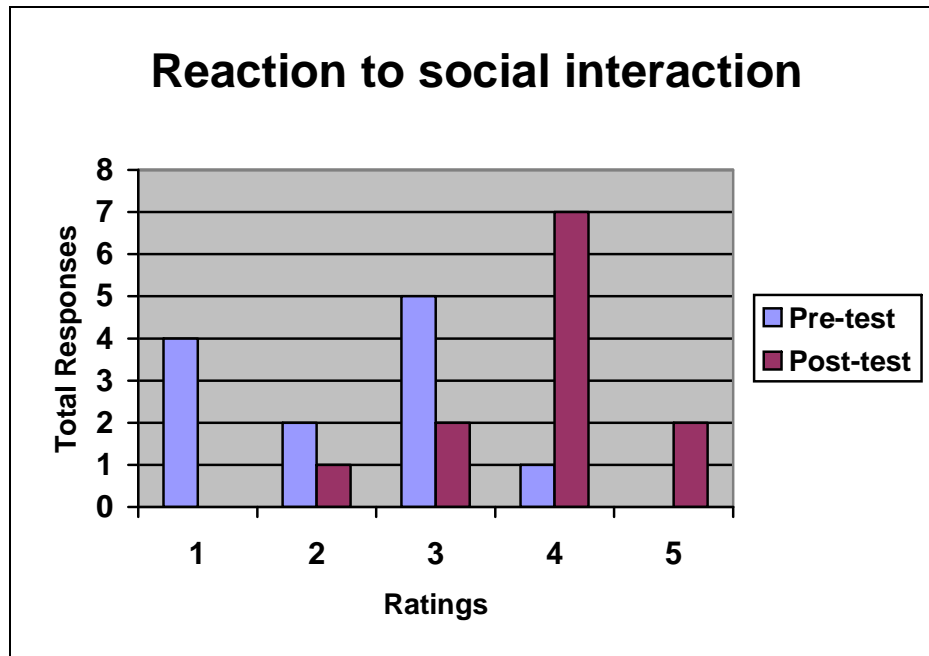


Diagram 39: Pre- and post-test scores for reaction to social interaction

6.4.3.8 Interactional cues

The eighth area assessed with regard to social interaction was “interactional cues”. Interactional cues, in the context of this study, can be understood to be the cues that one uses in order to encourage interaction.

In the following diagram, Diagram 40, one can see the pre- and post-test scores obtained by the respondents with regard to this skill.

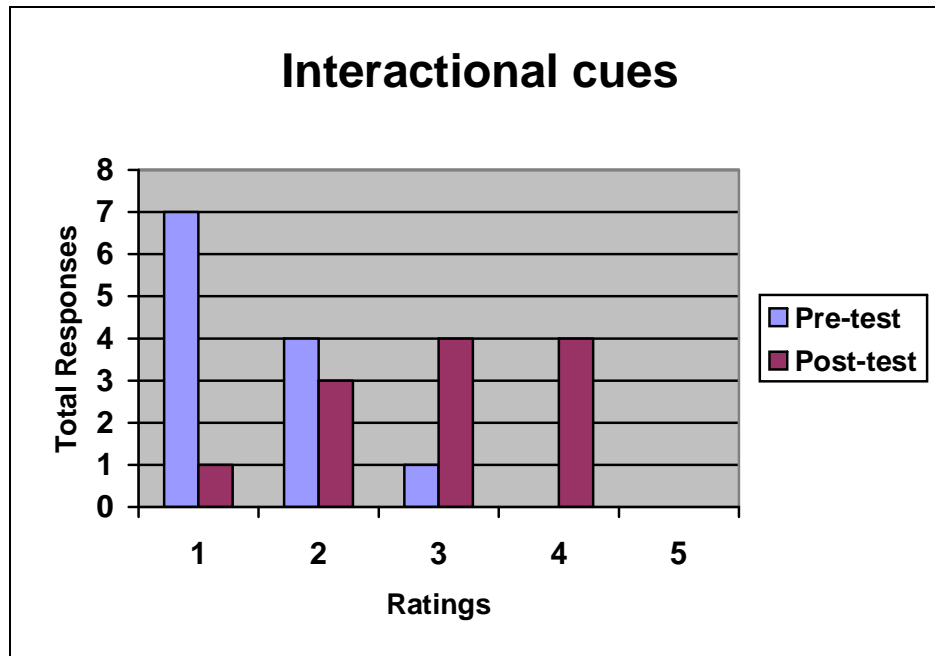


Diagram 40: Pre- and post-test scores for Interactional cues

As has been mentioned previously, social interaction can be considered a challenge for individuals on the autism spectrum and therefore the ability/skill to use interactional cues can be understood also to be a challenge for these individuals. This was evident in the fact that seven (59%) of the respondents were rated on level 1 (very poor/did not appear) in the pre-test, while four (33%) received a rating of 2 (poor/to a little extent).

Improvement was evident when the post-test was conducted. This can be seen in the decrease in the number of respondents who achieved a rating of 1 (very poor/did not appear), with only one respondent (8,3%) achieving this rating. Four (33,3%) of the respondents were able to achieve a rating of 4 (good/to a great extent); another four (33,3%) achieved a rating of 3 (average/to some extent) and three (25%) achieved a rating of 2 (poor/to a little extent), indicating that the skill did remain a challenge for some of the respondents.

6.4.3.9 Invitational cues

The ninth area of assessment was “invitational cues”. The researcher understands invitational cues to indicate an individual’s ability to invite interaction from those around him/her. Diagram 41 shows the pre- and post-test scores obtained by the respondents with regard to this skill.

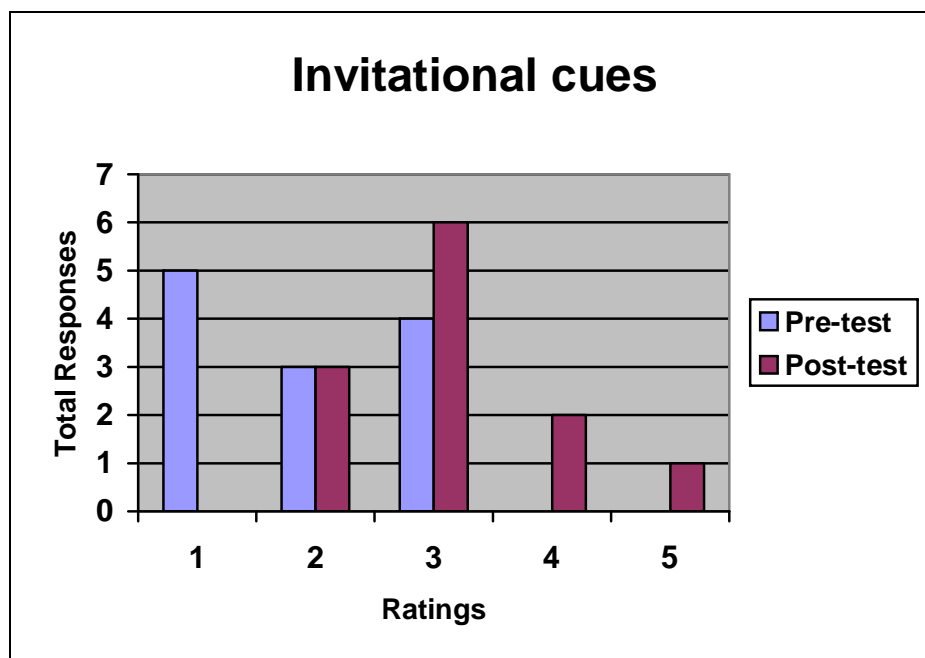


Diagram 41: Pre- and post-test scores for invitational cues

When the post-test was conducted progress was evident. Two (16,6%) of the respondents were able to achieve a rating of 4 (good/to a great extent) and one respondent (8,3%) was able to achieve a rating of 5 (very good/completely).

This area remained a challenge even after the intervention, however: 50% of the respondents achieved a rating of 3 (average/to some extent) in the post-test and three (25%) achieved a rating of 2 (poor/to a little extent).

6.4.3.10 Awareness of the researcher

“Awareness of the researcher” was the tenth assessment area focused on. Awareness can be understood as “knowing; realizing” (Oxford School Dictionary, 2004: 31). This assessment area therefore focused on the respondents’ knowledge and consciousness of the researcher, indicating this through verbal and non-verbal communication.

Diagram 42 shows the pre- and post-test scores respondents achieved with regard to this area.

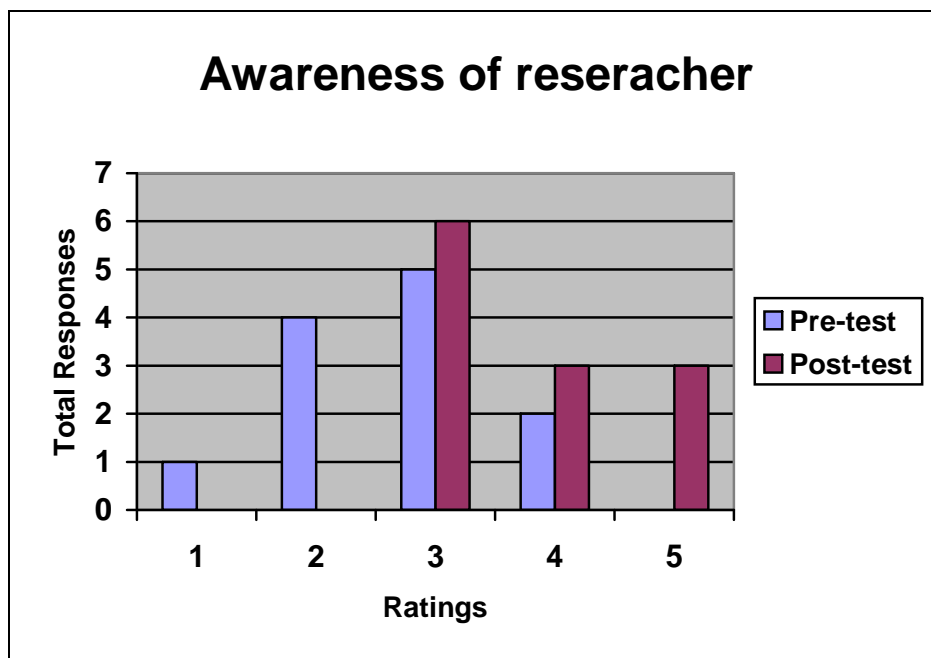


Diagram 42: Pre- and post-test scores for awareness of researcher

In the pre-test in this assessment area, the respondents indicated some difficulty, with one (8,3%) respondent achieving a rating of 1 (very poor/did not appear), four (33,3%) achieving a 2 (poor/too a little extent) and five (41,6%) achieving a rating of 3 (average/to some extent).

When the post-test was conducted, three (25%) of the respondents were able to achieve a rating of 4 (good/to a great extent), showing improvement with regard to this rating; and three respondents (25%) were able to achieve a rating of 5 (very good/completely), also indicating an improvement. The other six (50%) achieved a rating of 3 (average/to some extent) in the post-test.

6.4.3.11 Level of motivation

The eleventh area of assessment regarding social interaction was “level of motivation”. This assessment area focused specifically on the respondents’ level of motivation to participate in the play phase as well as to interact with the researcher in a social manner.

Diagram 43 shows the pre- and post-test scores achieved by the respondents with regard to this skill.

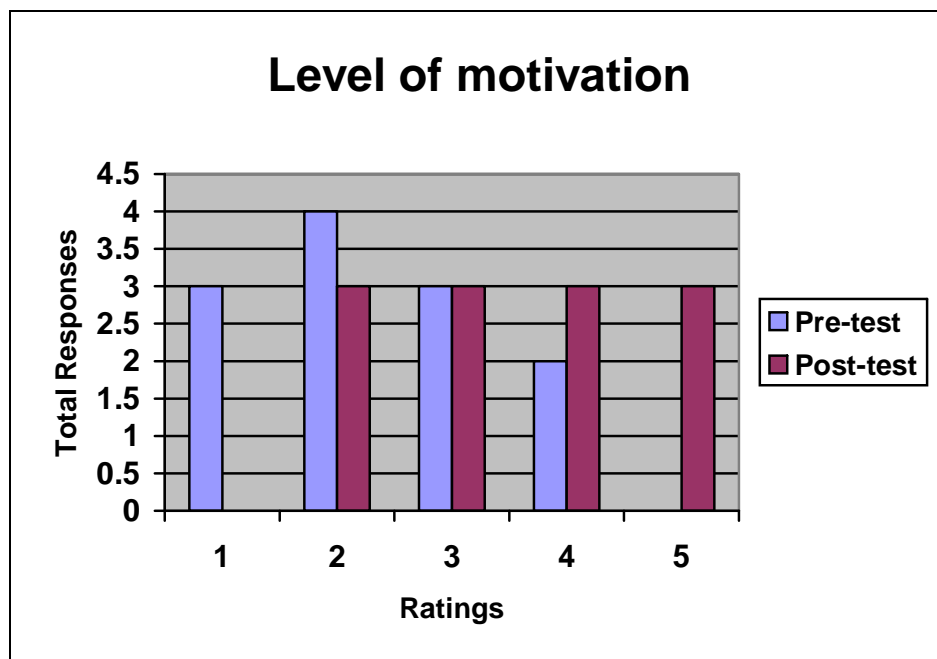


Diagram 43: Pre- and post-test scores for level of motivation



Diagram 43 reveals that a large number of the respondents battled with this skill. This is suggested by the fact that three (25%) of the respondents achieved a rating of 1 (very poor/did not appear), four (33,3%) achieved a rating of a 2 (poor/to a little extent), and three (25%) achieved a rating of 3 (average/to some extent).

Once the intervention had been completed progress was clearly evident. This is mostly noticeable in the fact that three (25%) of the respondents were able to achieve a rating of 4 (good/to a great extent) and another three (25%) a rating of 5 (very good/completely).

6.4.3.12 Appropriate response to social interaction

The final assessment area with regard to social interaction was “appropriate response to social interaction”. This assessment area can be understood as the overall measurement of social interaction, taking all the previous focus areas into account.

Diagram 44 shows the combined pre- and post scores for this skill.

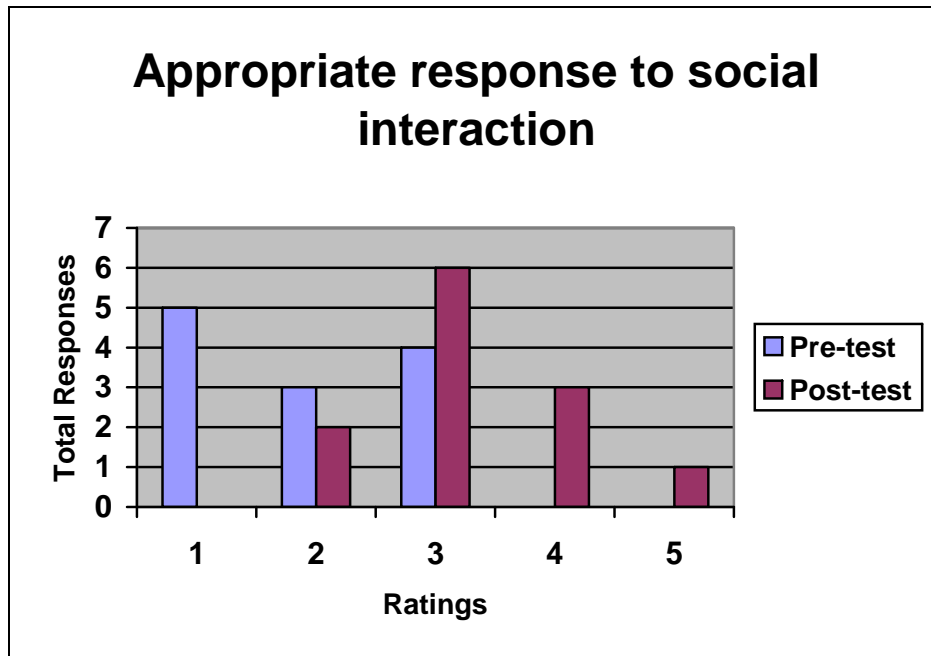


Diagram 44: Pre- and post-test scores for appropriate response to social interaction

In the pre-test the respondents showed weakness in this area, as suggested by the fact that all the respondents scored average or below average. Once the intervention was implemented progress was noted. This can be seen in the fact that three (25%) of the respondents obtained a rating of 4 (good/to a great extent) and one respondent (8,3%) was able obtain a rating of 5 (very good/completely).

To give a summary of all the scores achieved with regard to social interaction, the following frequency distribution was compiled. Table 14 presents a frequency distribution of the respondents' combined ratings according to their social interaction skills, by utilizing a pre- and post-test.



Table 14: Frequency distribution of respondents' social interaction ratings

Assessment areas	SOCIAL INTERACTION									
	Pre-Test					Post-Test				
	Very poor/ did not appear	Poor/ to a little extent	Average/ to some extent	Good/ to a great extent	Very good/ completely	Very poor/ did not appear	Poor/ to a little extent	Average/ to some extent	Good/ to a great extent	Very good/ completely
Level of interest in appropriate social interaction	6	4	2	-	-	1	2	5	4	-
Desire for physical contact with researcher	3	7	2	-	-	-	1	9	2	-
Desire for emotional contact with researcher	7	3	2	-	-	-	4	5	2	1
Participation in play phase	1	4	4	3	-	-	-	5	4	3
Ability to reach out, emotionally, within the phase	7	5	-	-	-	1	5	5	1	-
Ability to show obedience to any instructions, both verbal and non-verbal	-	5	4	3	-	-	2	4	2	4
Reaction/level of comfort to social interaction	4	2	5	1	-	-	1	2	7	2
Appropriate response to social interaction	5	3	4	-	-	-	2	6	3	1
Interactional cues e.g. Nodding, maintaining eye contact	7	4	1	-	-	1	3	4	4	-
Invitational cues e.g. Encouraging the interaction	5	3	4	-	-	-	3	6	2	1
Awareness of researcher	1	4	5	2	-	-	-	6	3	3
Level of motivation	3	4	3	2	-	-	3	3	3	3
Total	49	48	36	11	0	3	26	60	37	18



Table 14 summarizes the ratings achieved with regard to social interaction as follows, when focusing on the total scores achieved for each rating in the pre- and post-test:

- It is clear that the respondents showed a weakness with their social interaction skills: they mainly scored a rating of 1 (very poor/did not appear) and 2 (poor/to a little extent) in the pre-test.
- The weakness in social interaction skills was again highlighted by the fact that none of the respondents was able to score a rating of 5 (very good/completely) in his/her pre-test scores.
- There is, however, a clear indication of positive improvement in social interaction, as can be seen in the increase and/or presence of 4 (good/to a great extent) or 5 (very good/completely) ratings.
- However, once again, it is clear that the majority (41,6%) of the ratings achieved were a 3 (average/to some extent) in the post-test, indicating the challenge that autistic children experience with regard to social interaction, even when involved in an intervention/programme of some kind.

Table 15 displays the median scores for respondents' social interaction ratings.

Table 15: Median scores of respondents' ratings with regard to Social Interaction

Class		1	2	3	4
Number of respondents		3	2	2	5
Median	Pre-Test	1.2500000	2.2916667	1.4166667	2.5833333
	Post-Test	3.0833333	3.0000000	2.6666667	4.0000000
Minimum	Pre-Test	1.0833333	1.4166667	1.3333333	1.9166667
	Post-Test	2.1666667	2.2500000	2.5000000	3.1666667



Maximum	Pre-Test	2.5000000	3.1666667	1.5000000	2.9166667
	Post-Test	3.2500000	3.7500000	2.8333333	4.4166667
Interquar-tile deviation	Pre-Test	0.70835	0.875	0.083335	0.375
	Post-Test	0.541665	0.75	0.166665	0.25
Range	Pre-Test	1.4166667	1.7500000	0.1666667	1.0000000
	Post-Test	1.0833333	1.5000000	0.3333333	1.2500000

The Wilcoxon Signed-Rank Test for a Paired Experiment (Wackerly, Mendenhall & Scheaffer, 2002) was used in order to test the statistical significance of these results. The test criterion on a 1% level of significance allows for the null hypothesis to be rejected if the p-value is less than ($<$) 0.01. The null hypothesis (H_0) states that the intervention had no effect. The alternative hypothesis (H_1) states that the intervention did have an effect.

With regard to social interaction the following results are yielded by the Wilcoxon Signed-Rank Test for a Paired Experiment. The test statistic given is 0.0 and the p-value is 0.00025, therefore leading to the following conclusions:

- 0.00025 is less than 0.01%, which is considered the level of significance;
- Therefore the null hypothesis is rejected;
- The alternative hypothesis is accepted;
- This allows the conclusion that the intervention (the play technique programme) had a highly significant effect on the social interaction of the respondents.



6.4.4 Challenging behaviour

According to Williams (1996: 8–9), autistic children may show “certain ‘bizarre’ behaviour/s and ‘bizarre’ responses to sensory stimuli”. Braude (1999: 24–26) commented that autistic children may display socially and emotionally inappropriate behaviour, with many parents of autistic children mentioning that their children displayed specific behaviours such as a dislike for bathing, food preferences, and/or mood swings and tics.

The researcher’s professional experience in working with autistic children leads her to assert that with an autistic child there are various obvious signs that one will notice. These may include the child displaying inappropriate behaviour in social settings, such as swearing, screaming or causing bodily harm to him/herself or others and the child not displaying normal play behaviour for his/her age. These can be considered challenging behaviours.

The researcher’s goal within this variable was to test the following sub-hypothesis:

- **If autistic children are involved in a play technique programme then their challenging behaviour/s will decrease.**

Based on the in-depth literature study, the following eight assessment areas of challenging behaviour/s were included in the self-constructed measuring instrument (see Addendum C):

- Repetitive behaviour
- Inappropriate behaviour
- Self-injurious behaviour
- Aggressive behaviour
- Agitation



- Anxiety
- Avoidance
- Distractibility

The researcher will firstly give an overview of the scores achieved by the respondents, through looking at the combined rating that each individual respondent achieved with regard to challenging behaviours. The focus will then shift to each individual assessment area as listed previously, and the combined pre- and post-test scores achieved by the respondents will be looked at. Then the researcher will give an overview of the combined scores achieved for each assessment area, highlighting the changes that a comparison between the pre- and post-test measurements yields.

It is important to note once again that the ratings given on the five-point scale were counted/scored according to the following distinctions.

- **1:** Very Poor/Did not appear (no occurrence of the particular behaviour being measured)
- **2:** Poor/To a little extent (behaviour noted on one occasion within the time period of the measurement)
- **3:** Average/To some extent (behaviour noted on two occasions within the time period of the measurement)
- **4:** Good/ To a great extent (behaviour noted on three occasions within the time period of the measurement)
- **5:** Very good/Completely (behaviour noted on four or more occasions within the time period of the measurement)

Diagram 44 gives an indication of the pre- and post-test scores of each respondent individually, with regard to their challenging behaviour/s. The researcher obtained these scores by combining all the ratings that each individual respondent scored with regard to the eight assessment areas of

challenging behaviours, both in the pre- and post-test measurements, and then dividing each total score by eight in order to obtain an average score achieved by each individual.

If one compares the pre- and post-test scores of each respondent individually, as displayed in Diagram 45, one can clearly see the improvement that took place once the play technique programme was implemented.

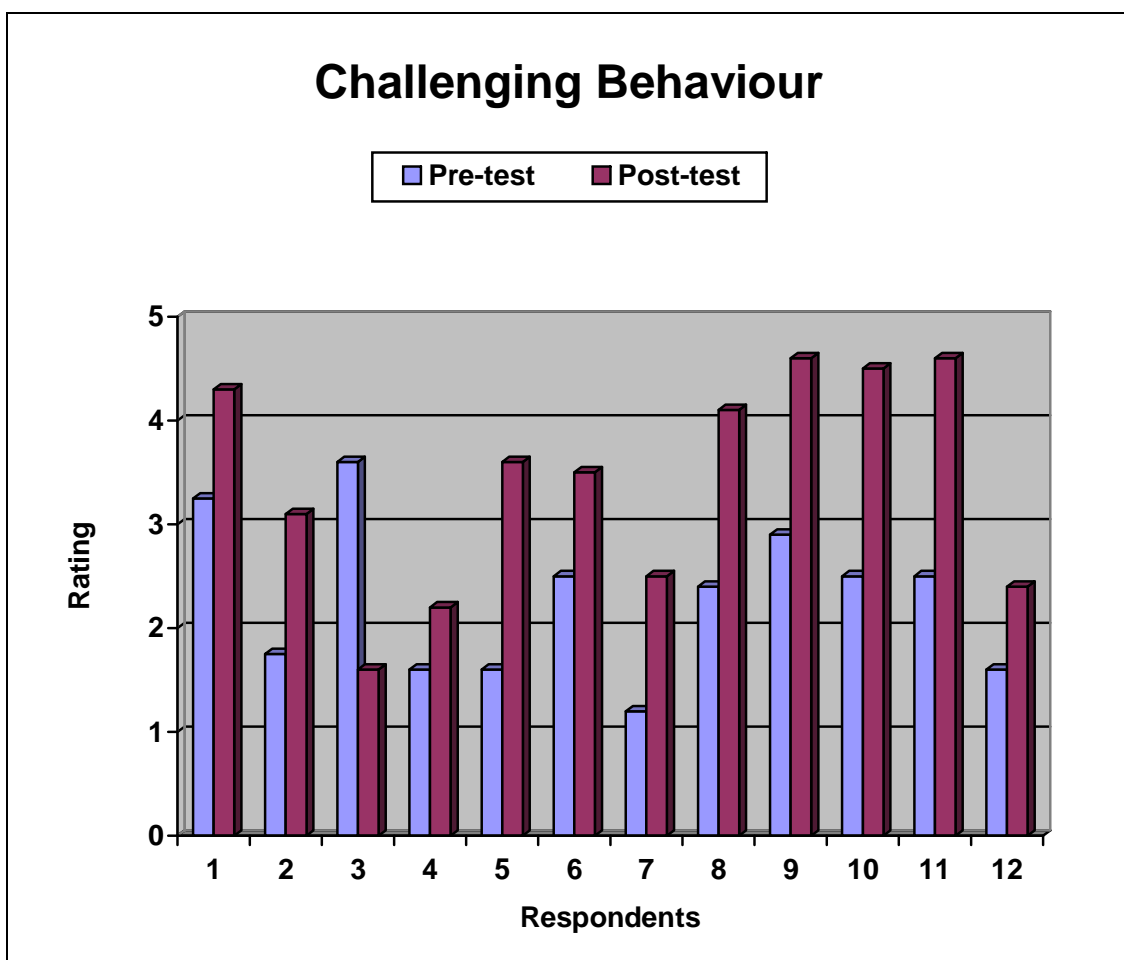


Diagram 45: Pre- and post-test scores for challenging behaviour



In order to gain a better understanding of the scores given in Diagram 45, it is necessary to focus on each specific assessment area, as has been done with all the previous assessment areas.

It is important to note when looking at these scores that the scoring was done according to the minimization of the behaviour. In other words, if a respondent obtained a rating of 1 (very poor/did not appear) it can be understood that the challenging behaviour was not minimized at all, whereas if the respondent achieved a rating of 5 (very good/completely) the challenging behaviour was minimized completely and was therefore no longer present – thus a positive improvement had taken place.

6.4.4.1 Repetitive behaviour

The first assessment area focused on, with regard to challenging behaviour, was “repetitive behaviour”. Repetitive behaviour can be understood as a behaviour that recurs again and again.

Diagram 46 shows the pre- and post-test scores achieved with regard to this assessment area. One can see the progress that took place. The most noticeable difference, as occurred in previous cases, is the number of respondents who achieved a rating of 1 (very poor/did not appear) in the pre-test: in this case 50% of the respondents achieved this, whereas only 17% achieved this in the post-test.

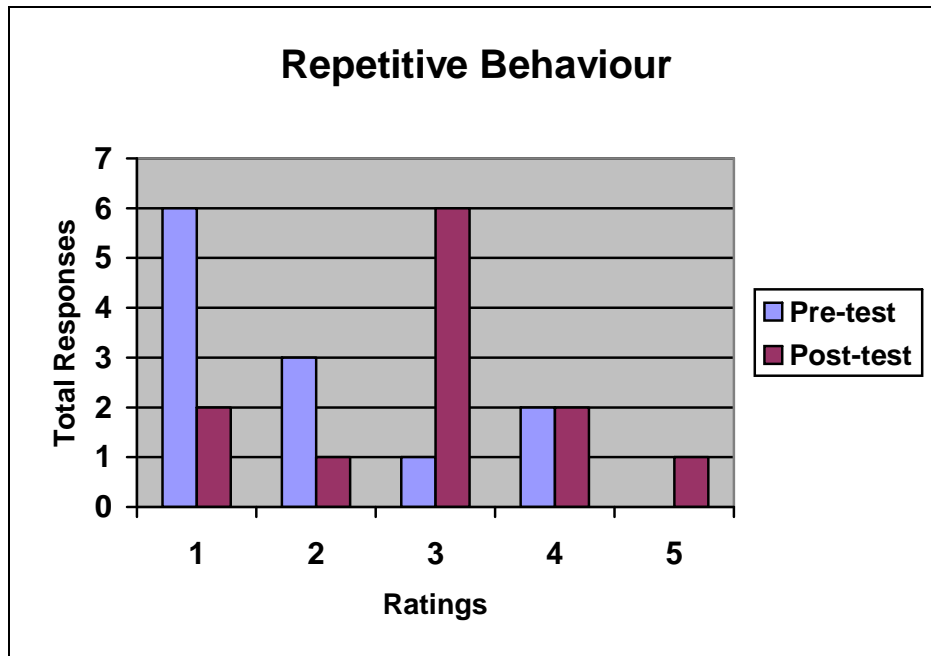


Diagram 46: Pre- and post-test scores for repetitive behaviour

It is important to note, however, that 50% of the respondents achieved a rating of 3 (average/to some extent) in the post-test, indicating that this skill remained a challenge for some of the respondents.

6.4.4.2 Inappropriate behaviour

“Inappropriate behaviour” was the second area of assessment. Inappropriate behaviour can refer to any behaviour that is deemed inappropriate for a particular situation at a particular time.

Diagram 47 shows the pre- and post-test scores achieved with regard to this assessment area.

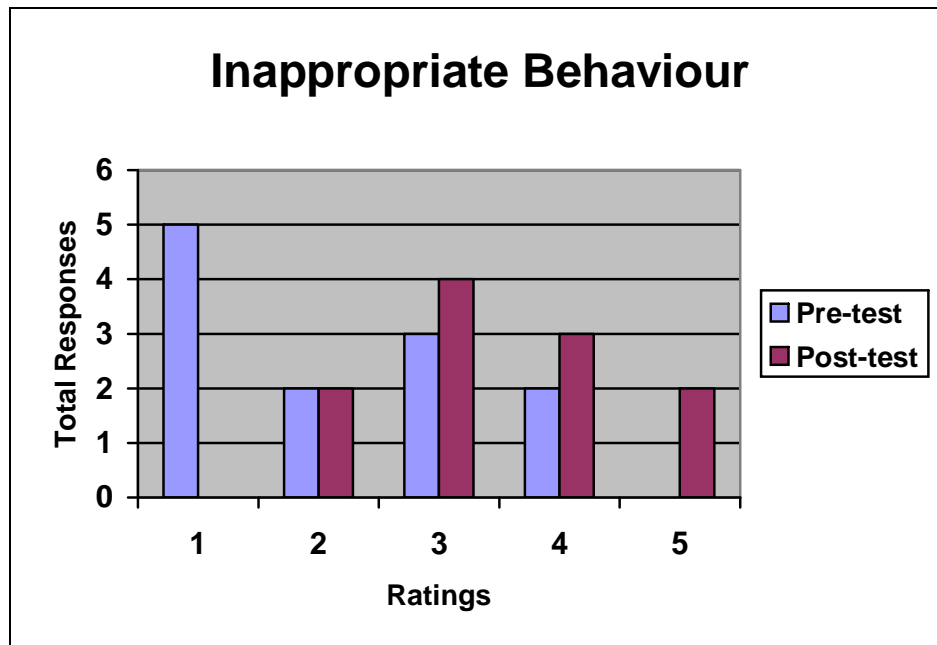


Diagram 47: Pre- and post-test scores for inappropriate behaviour

In the pre-test a large proportion of the respondents battled with inappropriate behaviour, with the majority (80%) not achieving a rating above 3 (average/to some extent) with regard to the minimization of this behaviour.

In the post-test, however, improvement can be seen, particularly with regard to the fact that none of the respondents achieved a rating of 1 (very poor/did not appear). The majority (75%) achieved a rating of 3 (average/to some extent), 4 (good/to a great extent) and 5 (very good/completely).

6.4.4.3 Self-injurious behaviour

The next area of assessment was “self-injurious behaviour”. Self-injurious behaviour can be defined as “harm/damage by and on oneself” (Oxford School Dictionary, 2004: 406 & 235). When focusing on this assessment area the researcher was therefore observing the presence of such behaviour.

Diagram 48 shows the combined pre- and post-test scores achieved for this assessment area.

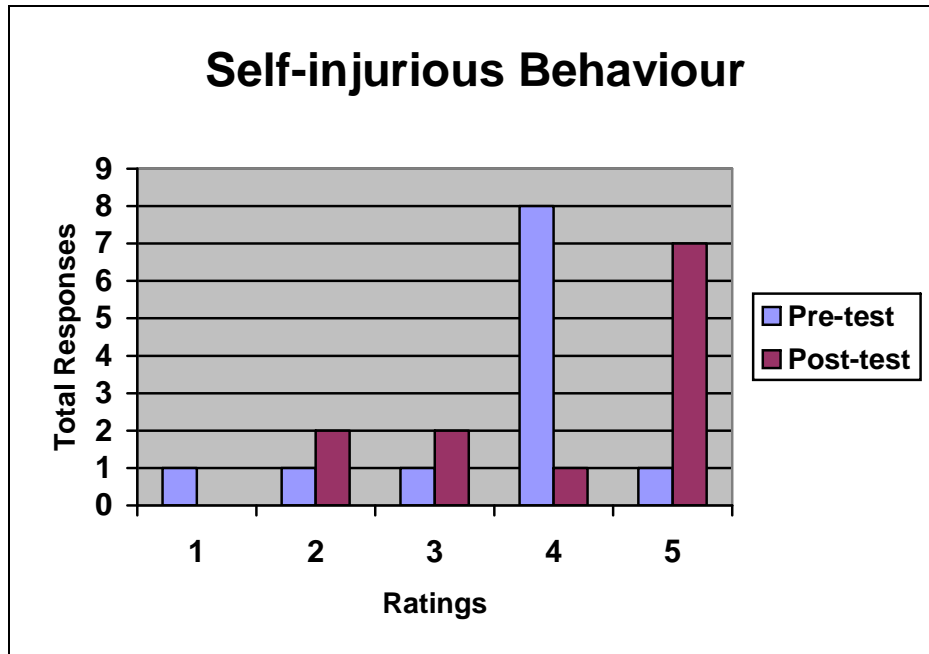


Diagram 48: Pre- and post-test scores for self-injurious behaviour

Diagram 48 shows that the majority of the respondents did not show a great deal of self-injurious behaviour when the pre-test was conducted. This is reflected in the fact that 65% of the respondents obtained a rating of 4 (good/to a great extent).

Improvement was still evident in the post-test, however, with seven (58,3%) of the respondents obtaining a rating of 5 (very good/completely), indicating that the self-injurious behaviour was no longer evident within the play phases.

It is important to note that some of the respondents showed an increase in their self-injurious behaviour when the post-test was conducted, although this occurred in only a few cases. This can be verified by the fact that four respondents (33,3%), two in each category, obtained a rating of 2 (poor/to a little

extent) and/or 3 (average/to some extent) in the post-test, as opposed to one respondent (8,3%) in the pre-test. The general improvement, however, can still be considered significant.

6.4.4.4 Aggressive behaviour

The fourth area of assessment was “aggressive behaviour”. Aggressive behaviour can be defined as “likely to attack people; forceful” (Oxford School Dictionary, 2004: 10). Again it can be seen, as shown in Diagram 49, that the majority (75%) of the respondents did not show a high level of aggression when the pre-test was conducted; however, aggression was still evident.

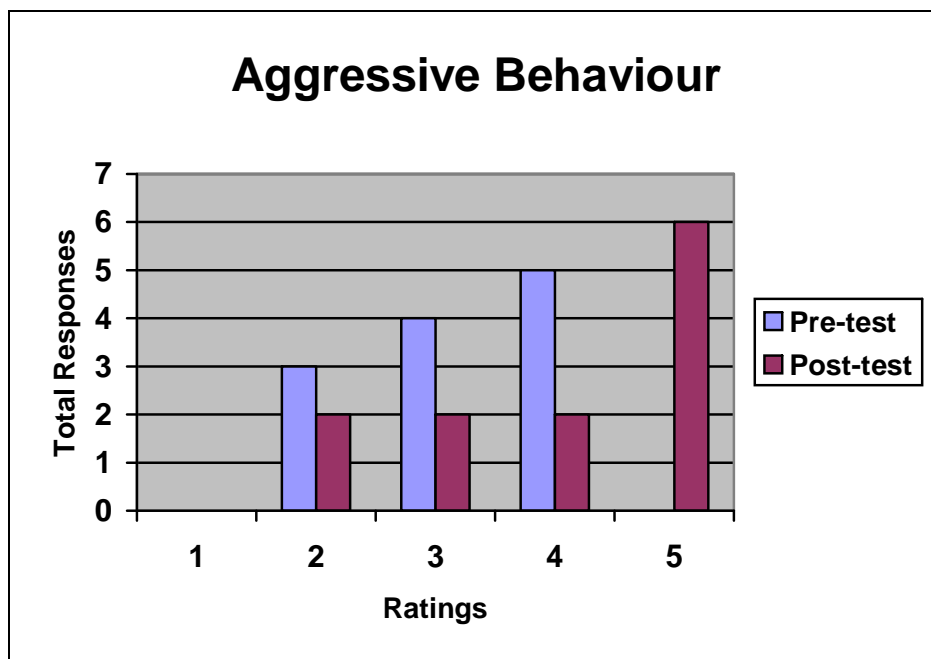


Diagram 49: Pre- and post-test scores for aggressive behaviour

The improvement, however, can still be considered substantial, with 50% of the respondents obtaining a rating of 5 (very good/completely), indicating that these respondents were no longer showing any aggressive behaviour in the play

phases. None of the respondents was able to achieve this rating when the pre-test was conducted.

6.4.4.5 Agitation

The next area of assessment was that of “agitation”, with the pre- and post-test scores achieved being shown in Diagram 50. The Oxford School Dictionary (2004: 10) defines agitation as “feel upset or anxious”. In the context of this study this variable means the amount of agitation present, thereby having an impact on the respondents’ social behaviour.

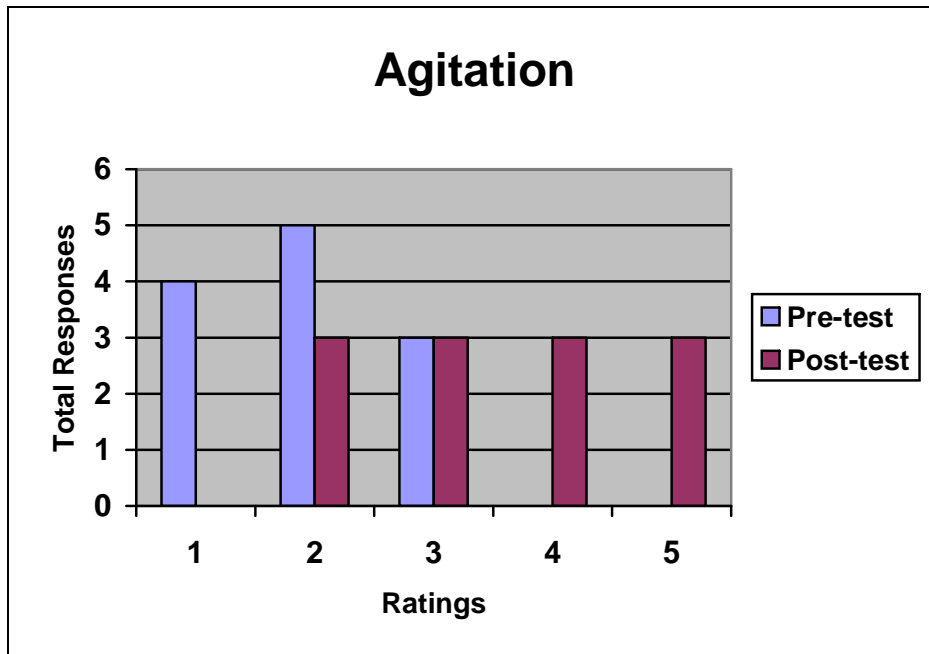


Diagram 50: Pre- and post-test scores for agitation

Diagram 50 shows that many of the respondents did battle with agitation when the pre-test was conducted: four (33,3%) of the respondents achieved a rating of 1 (very poor/did not appear), indicating that their agitation was not minimized at all; and five (41,6%) of the respondents achieved a rating of 2 (poor/to a little extent), indicating a slightly lower, but still evident, level of agitation.

When the post-test was completed improvement was noted. This can be seen in the fact that none of the respondents achieved a rating of 1 (very poor/did not appear), indicating that all the respondents did show some minimization of their agitation. All the other ratings received 25% of the respondents respectively. This indicates that agitation did remain a concern for some of the respondents, but 50% showed a positive decline in agitation.

6.4.4.6 Anxiety

‘Anxiety’ was the next assessment area with regard to challenging behaviour. Anxiety can be defined as “being worried” (Oxford School Dictionary, 2004: 19). In this study with regard to the assessment area of anxiety, the researcher was observing the level of anxiety present within the respondents’ social behaviour.

Diagram 51 shows the pre- and post-test scores achieved with regard to this assessment area.

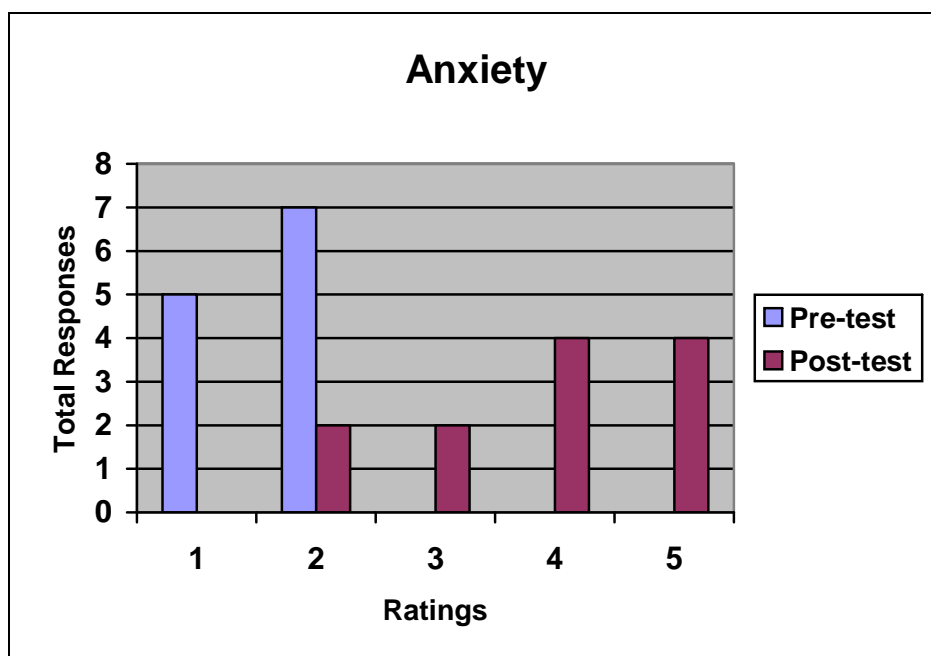


Diagram 51: Pre- and post-test scores for anxiety



Diagram 51 shows that all the respondents showed significant levels of anxiety when the pre-test was conducted, with five respondents (41,6%) achieving a rating of 1 (very poor/did not appear) and seven respondents (58,3%) achieving a rating of 2 (poor/to a little extent).

When the post-test was conducted the respondents showed a significant decrease in their anxiety levels. This is indicated by the fact that none of the respondents achieved a rating of 1 (very poor/did not appear). Furthermore, four (33,3%) of the respondents achieved a rating of 4 (good/to a great extent) and 5 (very good/completely) respectively, indicating that their anxiety was eliminated.

6.4.4.7 Avoidance

The seventh area of assessment was that of “avoidance”. Avoidance can be understood as “keeping yourself away from someone or something; refrain from” (Oxford School Dictionary, 2004: 31). When observing this assessment area the researcher was focusing specifically on the respondents’ avoidance of the previous three elements mentioned namely verbal communication, non-verbal communication and social interaction. Diagram 52 indicates the pre- and post-test scores achieved by the respondents with regard to avoidance.

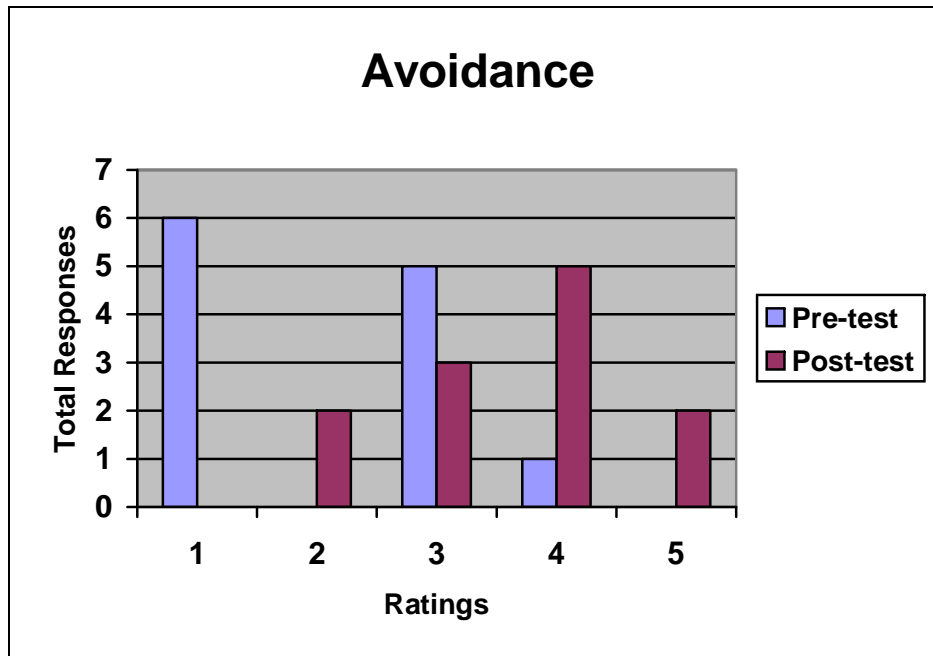


Diagram 52: Pre- and post-test scores for avoidance

As can be seen in the Diagram 52, many of the respondents showed a high level of avoidance in the pre-test: 50% of the respondents achieved a rating of 1 (very poor/did not appear) in the pre-test, indicating that the behaviour of avoidance was present.

Once the intervention (the play technique programme) was introduced and completed, the respondents showed a decrease in their behaviour of avoidance. Two (16,6%) of the respondents did not show any avoidance when the post-test was conducted, achieving a rating of 5 (very good/completely), and five (41,6%) of the respondents showed a highly significant decrease in their degree of avoidance, achieving a rating of 4 (good/to a great extent).

6.4.4.8 Distractibility

The final area of assessment, with regard to challenging behaviour, was “distractibility”. Distractibility is defined as “take attention away; distracting a

person's attention" (Oxford School Dictionary, 2004: 136). As previously mentioned, autistic individuals do battle with concentration and this has a direct impact on their distractibility.

Diagram 53 showed the combined pre- and post-test scores achieved with regard to distractibility.

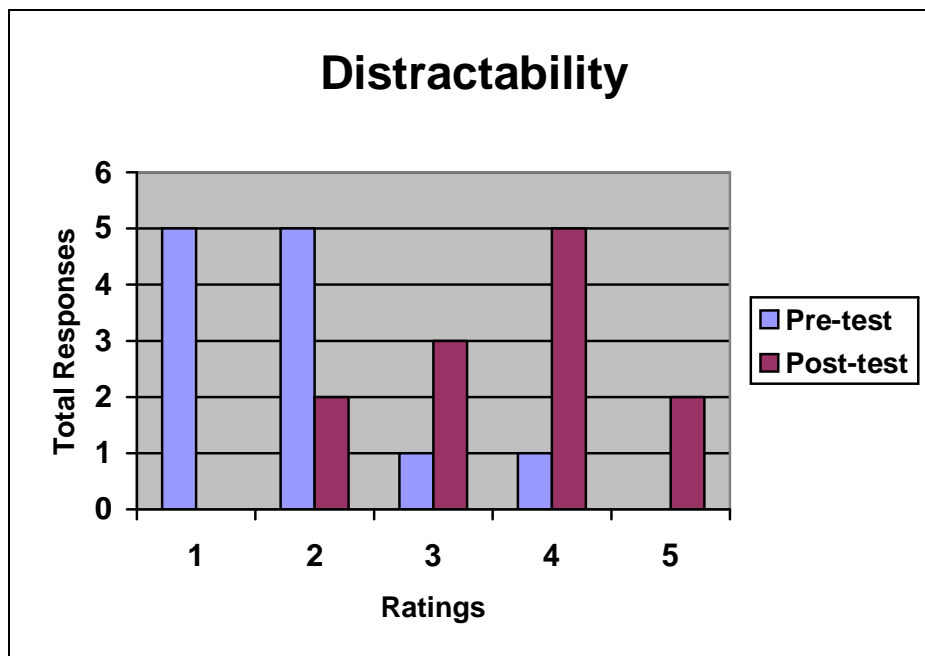


Diagram 53: Pre- and post-test scores for distractibility

When the pre-test was conducted the majority of the respondents (83%) battled with being distracted, as can be seen in the fact that five (41,6%) of them achieved a rating of 1 (very poor/did not appear) and five (41,6%) a rating of 2 (poor/to a little extent).

The post-test scores show that significant improvement took place. The most obvious changes can be considered to be the fact that none of the respondents achieved a rating of 1 (very poor/ did not appear), five (41,6%) were able to obtain a 4 (good/to a great extent) and two (16,6%) a 5 (very good/completely).



This indicates that the respondents' distractibility was minimized through the use of the play technique programme.

Table 16 summarizes the scores achieved by presenting a frequency distribution of the respondents' combined ratings according to their challenging behaviour, by utilizing a pre- and post-test.

Table 16: Frequency distribution of respondents' ratings regarding Challenging Behaviour

Assessment areas	CHALLENGING BEHAVIOUR									
	Pre-Test					Post-Test				
	Very poor/ did not appear	Poor/ to a little extent	Average/ to some extent	Good/ to a great extent	Very good/ completely	Very poor/ did not appear	Poor/ to a little extent	Average/ to some extent	Good/ to a great extent	Very good/ completely
Repetitive behaviour	6	3	1	2	-	2	1	6	2	1
Inappropriate behaviour	5	2	3	2	-	-	2	4	3	2
Self-injurious behaviour	1	1	1	8	1	-	2	2	1	7
Aggressive behaviour	-	3	4	5	-	-	2	2	2	6
Agitation	4	5	3	-	-	-	3	3	3	3
Anxiety	5	7	-	-	-	-	2	2	4	4
Avoidance	6	-	5	1	-	-	1	3	3	5
Distractibility	5	5	1	1	-	-	2	3	5	2
Total	32	26	18	19	1	2	15	25	23	31

Table 16 summarizes the ratings achieved with regard to challenging behaviour as follows, by focusing on the total scores achieved for each rating in the pre- and post-test:

- All the children included in the study indicated some form of challenging behaviour, which is indicative of the diagnosis that they have received.

- The type of challenging behaviour that was evident was different with each child, with some children showing a combination of the challenging behaviours.
- The researcher feels that it is important to note that when the pre-test was administered it was the children's first encounter with the researcher, and this could have possibly caused an increase in the respondents' challenging behaviour. This would have had an impact on their ratings.
- There was a definite decrease in challenging behaviour when the post-test was conducted. This can be seen in the increase of a rating of 4 (good/to a great extent) or 5 (very good/completely), with a total combined increase of 34 points.
- Although there was a definite improvement, the children still displayed challenging behaviour, as can be seen in the majority of the ratings being 2 (poor/to a little extent) and 3 (average/to some extent).

Table 17 presents the median scores for the respondents' challenging behaviour/s.

Table 17: Median scores of respondents' ratings with regard to Challenging Behaviour

Class		1	2	3	4
Number of respondents		3	2	2	5
Median	Pre-Test	1.750000	2.6250000	1.3750000	2.5000000
	Post-Test	3.1250000	3.4375000	3.0625000	4.5000000
Minimum	Pre-Test	1.6250000	1.6250000	1.1250000	2.3750000
	Post-Test	2.3750000	2.2500000	2.5000000	3.5000000



Maximum	Pre-Test	3.2500000	3.6250000	1.6250000	2.8750000
	Post-Test	4.3750000	4.6250000	3.6250000	4.6250000
Interquartile deviation	Pre-Test	0.8125	1	0.25	0
	Post-Test	1	1.1875	0.5625	0.25
Range	Pre-Test	1.6250000	2.0000000	0.5000000	0.5000000
	Post-Test	2.0000000	2.3750000	1.1250000	1.1250000

The Wilcoxon Signed-Rank Test for a Paired Experiment (Wackerly, Mendenhall & Scheaffer, 2002) was used to test the statistical significance of these results. The test criterion on a 1% level of significance allows for the null hypothesis to be rejected if the p-value is less than ($<$) 0.01. The null hypothesis (H_0) states that the intervention had no effect. The alternative hypothesis (H_1) states that the intervention did have an effect.

With regard to challenging behaviour/s the following results are yielded by the Wilcoxon Signed-Rank Test for a Paired Experiment. The test statistic given is 0.0 and the p-value is 0.00025, therefore leading to the following conclusion:

- 0.00025 is less than 0.01%, which is considered the level of significance;
- Therefore the null hypothesis is rejected;
- The alternative hypothesis is accepted;
- This allows the conclusion that the intervention (the play technique programme) had a highly significant effect on the challenging behaviour/s of the respondents.

6.4.5 Collective Summary of Social Behavioural Changes

Up to this point the focus has been on each individual social behavioural skill. It is now necessary to give an overview of the combined skills achieved, focusing on the general social behaviour of the respondents and the changes that took place.

Social behaviour is defined by Answers.com (2005) as “behaviour directed at other people ... it is more advanced than behaviour or an action”. Google (2005) states that social behaviour is “how the person interacts with others (e.g. habituated body signals; general voice characteristics; style of speech; visible handicaps)”.

Table 18 summarizes the four areas focused on within the self-constructed measuring instrument, with a combination of all the respondents’ scores represented.

Table 18: Combination of ratings for social behavioural skills

Skills	Pre-Test					Post-Test				
	Very poor/ did not appear	Poor/ to a little extent	Average/ to some extent	Good/ to a great extent	Very good/ completely	Very poor/ did not appear	Poor/ to a little extent	Average/ to some extent	Good/ to a great extent	Very good/ completely
Verbal communication	63	25	35	9	0	40	19	35	31	7
Non-verbal communication	45	47	37	3	0	5	23	59	35	10
Social Interaction	49	48	36	11	0	3	26	60	37	18
Minimizing challenging behaviour	32	26	18	19	1	2	15	25	23	31
Total	189	146	126	42	1	50	83	179	126	66

The following is therefore clear:

- In relation to all the elements of social behaviour focused on there was an improvement of some kind, as a comparison of the pre-test and post-test scores reveals. This can be seen in Table 19 as well.

Table 19: Comparing pre-test and post-test scores

Rating	Pre-test	Post-test
1	189	50
2	146	83
3	126	179
4	42	126
5	1	66

- There was a 58% decrease in the total number of 1 (very poor/did not appear) ratings and a 27% decrease in the total number of 2 (poor/to a little extent) ratings.
- There was a 17% increase of respondents managing to score a rating of 3 (average/to some extent).
- A great deal of improvement was seen with regard to a rating of 4 (good/to a great extent), with a 50% increase.
- However, the greatest range of improvement can be seen in the respondents achieving a rating of 5 (very good/completely), with a 98% improvement.

Diagram 54 presents this information graphically.

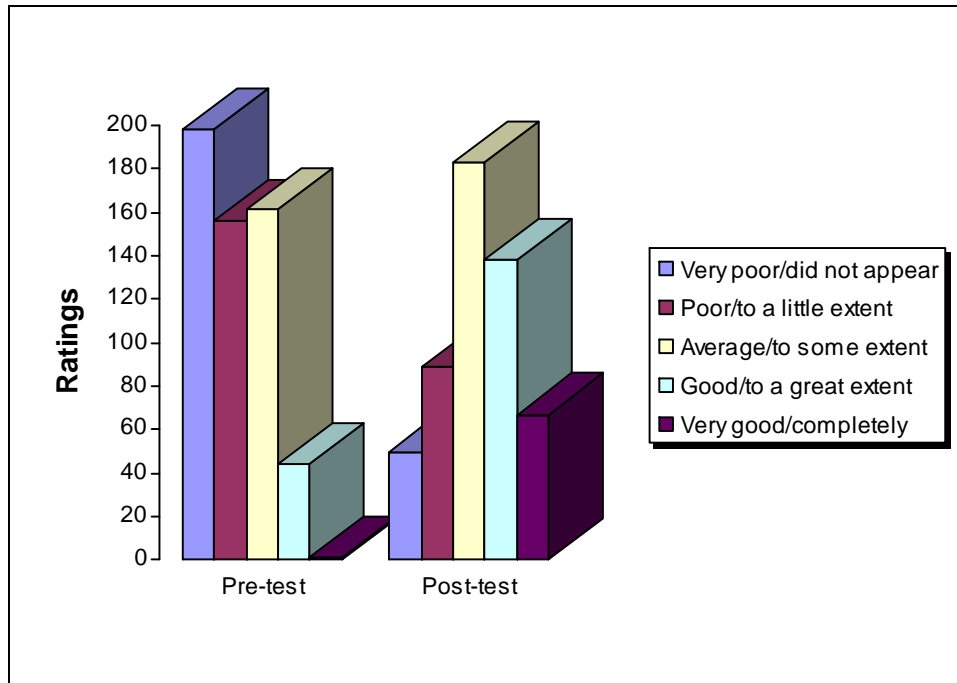


Diagram 54: Combination of ratings for social behavioural skills

The diagram shows that there was a large drop in respondents scoring a 1 or a 2, and a large increase in respondents scoring a 4 or a 5, when comparing the pre- and post-test results. This indicates a positive level of improvement with regard to the social interaction skills that were focused on.

6.5 Summary

In this chapter the researcher presented the empirical data that was gathered throughout this study.

The focus was firstly on the biographical details of the respondents involved in the study, such as their age, gender, home language and race.



Attention then shifted to the results of the empirical data, which focused on the social behaviour skills of the respondents, namely verbal communication, non-verbal communication, social interaction and challenging behaviour.

The empirical data clearly shows the progress that took place after the completion of the intervention, namely the play technique programme.

The final chapter, Chapter 7, will summarize the study and present its conclusions and recommendations.



CHAPTER SEVEN

GENERAL SUMMARY, CONCLUSIONS AND RECOMMENDATIONS

7.1 INTRODUCTION

Autism is a challenging and ever-increasing disorder. According to Indystar.com (2005) autism is a “disorder that prevents children from interacting normally with other people and affects almost every aspect of their social and psychological development”. The Autism Primer (2002) states further that “individuals with autism have to painstakingly learn normal patterns of speech and communication, and appropriate ways to relate to people, objects, and events, in a similar manner to those who have had a stroke”.

Autism is a neurological disorder that is normally evident by the age of three, and affects a child’s “ability to communicate, understand language, play, and relate to others” (Autism and Pervasive Developmental Disorder Fact Sheet, 2002).

The researcher understands autism as being a dysfunction of the brain, which leads to the inability to interact on a social level, both through verbal and non-verbal communication. Again, social interaction is a behaviour that drives the human race and this is a situation that is not known to an autistic individual.

Autism Western Cape (2005) considers the following behaviour to be signs and symptoms of autism:

Displays indifference; resistance to change in routine; no fear of real danger; inappropriate laughing or giggling; lack of eye contact; inappropriate attachment to objects; destructive and



aggressive at times; aloof; and difficulty with social relationships, verbal communication and non-verbal communication.

According to Autism Western Cape (2005) “autism affects 1 in 158 South African children under the age of six years, with it being four times more prevalent in boys than in girls”. According to the Autism Society of America (2005) “autism is the most common of the Pervasive Developmental Disorders, affecting an estimated 1 in 166 births”. Science News (2005) gives the same statistics, stating that “1 in every 166 people is affected with autism the rate of people being diagnosed with autism has increased substantially over the past two decades”.

In order to provide assistance and support for individuals affected by autism, the researcher developed the following research goal:

To develop and evaluate the effectiveness of a play technique programme to enhance the social behaviour of autistic children between the ages of six and 12 years.

In order to achieve this goal, the researcher formulated the following specific objectives, to be achieved through completing the study:

- ***To theoretically conceptualize autism as a phenomenon in middle childhood and the impact thereof on the family as well as play techniques in the context of autism.***
- ***To explore the nature, on a national and international level, of existing play technique programmes for autistic children.***
- ***To develop a play technique programme for autistic children.***
- ***To implement the play technique programme.***
- ***To evaluate the effectiveness of the play technique programme.***



- ***To come to conclusions and make recommendations to enhance the effectiveness of the play technique programme for autistic children.***

Against the background of these objectives, the researcher formulated the following hypothesis and sub-hypotheses:

If autistic children are involved in the play technique programme, then their social behaviour will improve.

- *If autistic children are involved in the play technique programme then their verbal communication skills will improve.*
- *If autistic children are involved in a play technique programme then their non-verbal communication skills will improve.*
- *If autistic children are involved in a play technique programme then their social interaction skills will improve.*
- *If autistic children are involved in a play technique programme then their challenging behaviours will decrease.*

In this chapter, the final chapter of this study, the researcher will present an overview of the entire study, through focusing on the various chapters, and by giving summaries, conclusions and recommendations for each one.

The focus will initially be on the literature study, which was covered by Chapter 2 through Chapter 5. These chapters focused on autism as a phenomenon; autism in middle childhood and the impact on the family; play techniques; and the newly developed play technique programme. The focus will then shift to the empirical research findings, which were dealt with in Chapter 6.



Through giving summaries, conclusions and recommendations the researcher aims to achieve the final objective of this study, namely: ***To come to conclusions and make recommendations in order to enhance the effectiveness of the newly developed play technique programme for autistic children.***

7.2. LITERATURE STUDY

7.2.1. General Introduction to the study

7.2.1.1 Summary

Autism is a neurological disorder that is normally evident by the age of three, and affects a child's "ability to communicate, understand language, play, and relate to others" (Autism and Pervasive Developmental Disorder Fact Sheet, 2002).

However, according to Botha (2005) children above the age of three years are now being diagnosed with autism, with her son being one of the first in South Africa. This and various other cases suggest that the number of individuals being diagnosed with autism appears to be increasing. This was verified by Gous (2005), who stated that the statistics on autism in South Africa at present are that the incidence ratio is 1:158.

Gous (2005) stated that there is limited support for both teachers and parents, and the parents are often unable to afford the limited support that is offered. The parents also often show a high level of denial, owing to a lack of understanding, and are therefore not interested in receiving the required support or education.

For this reason, the focus of this study was on developing a play technique programme that could be adapted for parents and/or professionals who are dealing with autistic children. This aims to empower the parents and/or



professionals to help the child to become more aware and make contact with his/her environment and to stimulate the child in reaching some of his/her developmental tasks. The programme was adapted in order to allow parents and /or professionals who may not have had prior play therapy training to use it. It will be practical and useful in managing the stresses of everyday life, through improving their child's social behaviour.

In the context of a quantitative study the researcher utilized the quasi-experimental one-group pre-test–post-test design. The type of research conducted was applied research, more specifically intervention research. The data collection instrument used, within structured observation, was a self-constructed measuring instrument/scale which was implemented before (pre-test) and after (post-test) the play technique programme (intervention) was introduced.

The goal of the study was to develop and evaluate the effectiveness of the play technique programme to enhance the social behaviour of autistic children between the ages of six and 12 years.

7.2.1.2 Conclusions

The following conclusions were drawn from the introduction to this study:

- There seems to be an ever-increasing number of children who are being diagnosed with autism and this is causing concern, both to society and to the individuals affected by it.
- Autism remains a relatively unknown disorder and this is having an impact on the quality of life of those individuals who are diagnosed with autism.



- It can be understood that autism is a disorder that poses many challenges, with autistic children demanding individual attention and guidance at all times. This leads to a greater need for specialized education and improved quality of life for these individuals.
- It seems that the quantitative approach was applicable to this study because the focus of the study was on the development and evaluation of the effectiveness of a play technique programme in enhancing the social behaviour of autistic children.
- Applied research, more specifically intervention research, was considered appropriate for this study because the study aimed to impact on and benefit autistic individuals as a population, by providing a practical outcome to impact the social behaviour of autistic children.
- In order to evaluate the effectiveness of the play technique programme, the one-group pre-test–post-test design (i.e. quasi-experimental/ associative design) was applicable to this particular study.
- It was necessary for the researcher to develop, in the context of structured observation, a self-constructed measuring instrument, because a standardized measuring instrument was not available to collect data. This instrument seemed appropriate for the purposes of this study.

7.2.1.3 Recommendations

The following recommendations are made in light of these conclusions:

- Autism is an area of concern in our society. Societies as a whole and particularly the professionals concerned, such as teachers, therapists and carers, need to be informed about the disorder. This can be done through workshops, seminars and written documents. Through access to the



- information, one can strive to develop a better quality of life for children who are diagnosed with autism.
- Increased focus needs to be placed on research studies of this nature, focusing on treatment of the disorder in order to provide further support for those affected by the disorder.
 - Greater time needs to be spent on developing and testing treatment plans within the educational, therapeutic and home environment, for individuals with autism, in order to improve their quality of life.
 - Collaboration between professionals, carers and support staff in institutions needs to be encouraged in order to ensure that autistic individuals are receiving comprehensive and appropriate treatment.
 - The outcomes of this particular study should be taken further in order to become practical and available to those in need, with regard to living with and treating autistic individuals, through workshops and seminars held with the significant parties, such as parents and/or teachers involved with autistic children.

7.2.2 Autism as a social phenomenon

7.2.2.1 Summary

Baron-Cohen and Bolton (2002: 1) define autism as “a condition that affects some children from either birth or infancy and leaves them unable to form normal social relationships or to develop normal communication. As a result, the child may become isolated from human contact and absorbed in a world of repetitive, obsessional activities and interests”.

Autism is a disorder that is being diagnosed and recognized in more and more children in today’s society. Aarons and Gittens (1996: 1) comment on this in the following statement: “Until quite recently, autism, with its paradoxical signs and symptoms, was considered to be a rare condition. It had an aura of fascination –



to such an extent that the majority of the population had a viewpoint about it without necessarily having had any direct experience of the condition”.

The Autism and Pervasive Developmental Disorder Fact Sheet (2006) states that “communication problems (such as using and understanding language); difficulty in relating to people, objects, and events; unusual play with toys and other objects; difficulty with changes in routine or familiar surroundings; and repetitive body movements or behaviour patterns”, can be considered some or all the characteristics observed in mild to severe forms of autism.

There are various symptoms identified in the behaviour of an autistic child. According to Williams (1996: 8–9), these symptoms include the following:

- An impairment in the ability to interact socially;
- Lack of communication, both verbally and non-verbally;
- Certain ‘bizarre’ behaviour/s;
- ‘Bizarre’ responses to sensory stimuli; and
- Impairment in the use of imaginary play.

On an international level the statistics on autism have changed or increased dramatically over the past few years. According to the Autism Society of America (2006) “autism is the most common of the Pervasive Developmental Disorders, affecting an estimated 1 in 166 births”. Exhorn (2005: 75) concurs with this statement, writing that “the overall ratio of boys with ASDs (Autism Spectrum Disorders) to girls with ASDs is 4:1. On a national level there has also been a large increase in the number of children diagnosed with autism. According to Autism Western Cape (2005) “autism affects 1 in 158 South African children under the age of six years”.



As regards the causes of autism, the various authors give varied opinions of the source or beginnings of the disorder. The causes noted include genetics; pregnancy/birth, parenting; infection/medical conditions and neurological causes (Baron-Cohen & Bolton: 2002; Aarons & Gittens: 1996; The National Alliance for Autism Research: 2006; Attwood: 1995; Robledo & Ham-Kucharski: 2005; Frith: 1989; Autism.net: 2006).

Many treatment plans and programmes have been developed, particularly over the past few years, to treat/manage autism. Exhorn (2005) commented on the following methods of treatment (refer to Chapter 2, page 79–81): Applied Behavioural Analysis (ABA); Floortime; Medication; Occupational Therapy (OT); Physical Therapy; Sensory Integration Therapy; Social Skills Training; Speech and Language Therapy; and TEACCH (Treatment and Education of Autistic and Related Communication Handicapped Children). Baron-Cohen and Bolton (2002: 67) mention many of the same treatments, but also include the following: Music therapy; and Holding therapy. Robledo and Ham-Kucharski (2005: 76–77) add the following to the list of treatments: Auditory Integration Therapy; and Hippotherapy.

7.2.2.2 Conclusions

The following conclusions were drawn from this chapter:

- Autism can be understood as a complex and challenging disorder, with a great deal of investigation and research still needed to be done in order to improve our understanding of the disorder.
- There are various characteristics and symptoms associated with autism, covering a wide spectrum of behaviours and circumstances.



- It has been shown on an international and national level that the number of individuals being diagnosed on the autism spectrum is on the increase.
- There are various causes of autism, which should all be considered when working with/educating individuals affected by autism.
- Each individual diagnosed with autism is unique in the manner in which he/she is affected and impacted by the disorder and therefore there are various treatment options available.
- Owing to his/her disorder, the individual diagnosed with autism places great strain and difficulty on the social lives of all his/her significant caregivers.

7.2.2.3 Recommendations

The following recommendations are made in light of these conclusions:

- Society as a whole needs to become more aware of autism and the effects on the individuals living with autism through a greater drive to educate society through seminars, workshops, publications (such as books and web articles) and true life stories.
- Individuals diagnosed with autism should be treated separately, and not as a group, as each individual diagnosed with autism is unique.
- Given the great challenges faced by autistic individuals as well as the increasing number of individuals being diagnosed on the autism spectrum, further studies of this nature, focusing on treatment and management of the disorder, should be encouraged.
- Further research and investigation, focusing on the individual needs and difficulties being faced by autistic individuals, needs to be done on an urgent basis in order to ensure more appropriate and varied treatment options for autistic individuals.



- Steps need to be taken in order to provide more consistent and comprehensive support for the significant others of autistic individuals. This needs to occur on a governmental level within South Africa, providing financial and emotional support for the significant others through education and support groups or organizations; on an educational level, through providing the necessary information and links to support provided; and on a professional level, within the social work and psychology fields, providing the necessary therapeutic support for the significant others of autistic individuals.
- Professionals and/or carers working with autistic individuals need to ensure that they are well educated and informed with regard to the disorder, through educating themselves through literature, interacting with other professionals in the field and attending workshops and seminars focusing on the disorder, in order to ensure that they are providing the correct treatment/care for the specific individual.

7.2.3 Autism in Middle Childhood and the Impact on the family

7.2.3.1 Summary

Human development can be defined as “the changes over time in the structure, thought, or behaviour of a person as a result of both biological and environmental influences (Craig, 1995: 5). Humans experience seven life stages, namely infancy; preschool childhood; middle childhood; adolescence; early adulthood; middle adulthood and late adulthood (Craig, 1995: 6).

Middle childhood can be defined as “a time when children are beginning to assume a larger share of responsibility for their own behaviour in relationship to their parents, peers and others” (Child & Family Canada, 2006). The Future of Children (2006) comments that “during middle childhood, children begin to



navigate their own ways through societal structures, forming ideas about their individual talents and aspirations for the future”.

According to The Source (2006), autism is “a life-long developmental disability which impairs various aspects of typical development and lasts a lifetime”. Therefore, when focusing on autism in middle childhood it is vital to focus on the differences in the life experiences of autistic children during the period of middle childhood.

On a physical level, the differences between a neurotypical child and an autistic child are not that marked. Exhorn (2005: 7) comments that “you can’t tell that a child has autism simply by looking at a picture of him or her ... a two-year-old with autism can be the same height and weight and be just as adorable as a ‘typical’ two year old”. This can be accredited to the fact that autism “is a neurological disorder” (Robledo & Ham-Kucharski, 2005: 1).

On an intellectual level a great many differences between neurotypical and autistic children may be observed. However, these differences cannot always be attributed to autism, but at times to the co-morbid disabilities associated with the diagnosis of autism.

The literature review demonstrates that the area that will show the biggest differences between neurotypical and autistic children is the social and/or emotional development of children in middle childhood.

The impact of autism on families who have an autistic child is enormous. Exhorn (2005: 191) comments that “adjusting to your new life (with a child with autism) will take some time, especially since it was completely unplanned”. In this regard, Stacey (2002), a parent with an autistic child, writes that:



Living with an autistic child is exceptionally hard. It does put a damper on your life. We are always tense as such when Michael (the autistic child) is around. Even when he is being good. You are tense because you don't know what is going to happen next. Everything you do has to be planned, and thought through carefully, as to accommodate Michael.

A family undergoes a great deal of changes when a child is experiencing or is diagnosed with autism. Each aspect, depending on the individual child, will vary in severity, and may even lead to the family avoiding social events/situations at all costs. The researcher is of the opinion that, in cases where there are other siblings, the constant attention that is required by the autistic child and his/her routine could severely affect the sibling/s.

7.2.3.2 Conclusions

The following conclusions were drawn from this chapter:

- It seems as if autism is a lifelong developmental disorder, which affects an individual for his/her lifetime and therefore has an impact on the developmental stage of middle childhood. It can be understood that on a physical level the differences between a neurotypical child and an autistic child are not that marked.
- On an intellectual level there are significant differences between neurotypical and autistic children.
- It is the area of the social and/or emotional development of children in middle childhood that will show the biggest differences between neurotypical and autistic children and these differences place a great deal of pressure on the family unit and/or significant others of the autistic individual.



- The impact of autism on the family is enormous: the challenges that an autistic child experiences during middle childhood place a great deal of strain on the family unit on a daily basis and within all areas of their functioning.

7.2.3.3 Recommendations

The following recommendations are made in light of these conclusions:

- Any individual working/living with an autistic child in middle childhood needs to be aware of the physical, intellectual, emotional and social differences that the autistic child may experience because of his/her disabilities. This awareness can be achieved through educating oneself through literature and available resources; meeting with other professionals and/or parents/carers who are dealing with the disorder on a daily basis; and attending any workshops/seminars focusing on the topic.
- It is again important to note that each individual child will be unique and therefore one cannot generalize about the challenges that the autistic child may be experiencing. Each child must be treated individually according to his/her unique characteristics.
- The differences and difficulties that the autistic individual is experiencing, such as an inability to interact socially, negative behaviours such as aggression or self-injurious behaviour, and/or inappropriate behaviour, have a direct impact on the family and its functioning and therefore it is vital that the family gets appropriate and professional support. This support should be given in the education field, by the state (through appropriate services in our society) as well as in the professional environment, particularly from the fields of social work and psychology.



7.2.4 Play Techniques

7.2.4.1 Summary

According to the article Play Therapy (2006a) “play is the method that children use to communicate and process their world”. Play is thus an essential part of a child’s world due to the fact that it is the means by which the child learns and copes within his/her environment. What is Play Therapy? (2006a) defines play therapy as therapy that “helps children work through emotional and behavioural issues and helps address a type of mental health or developmental intervention which is designed to help children grow up as happy and well adjusted as possible”. Schoeman and Van der Merwe (1996: 3–5) consider play therapy to be the use of play to assist children, in therapy, in dealing with their particular problem/s.

Play therapy uses a variety of play and creative techniques to alleviate chronic, mild and moderate psychological and emotional conditions in children that are causing behavioural problems and/or are preventing children from realizing their potential (Play Therapy UK, 2006). The play material may include the following (Play Therapy, 2006b):

- Manipulatives (e.g. clay, crayons, painting supplies)
- Water and sand play containers
- Toy kitchen appliances, utensils, and pans
- Baby items (e.g. bottles, bibs, rattles)
- Toy guns, rubber knives
- Toy cars, boats, soldiers, and animals
- Blocks, erector sets
- Stuffed animals



Play therapy can be used to "address specific problems and to facilitate positive developmental progress" (Why Play Therapy? 2003b). This article went on to say that play therapy is helpful for children who have experienced/are experiencing the following:

- Dealing with parental conflict, separation or divorce;
- Have been traumatized (sexual, physical or emotional abuse);
- Have been adopted or are in foster care;
- Dealing with issues of loss, such as illness or death of a loved one;
- Have been hospitalized;
- Have witnessed domestic violence;
- Suffering from a disability of some kind, either physical or emotional;
- Diagnosed with Attention Deficit Disorder (ADD/ADHD) ; and/or
- Have experienced serious accidents or disasters.

Play Therapy (2006c) lists the following as benefits of play therapy:

- Reduces anxiety about traumatic events in the child's life;
- Facilitates a child's expression of feeling;
- Promotes self-confidence and a sense of competence;
- Develops a sense of trust in self and others;
- Defines healthy and comfortable boundaries;
- Creates or enhances bonding in relationships; and
- Enhances creativity and playfulness.

Within play therapy there are various approaches that can be focused on. In this study the approach used was the gestalt approach. The gestalt approach refers to the concept of gestalt, which is defined by Thompson and Rudolph (2000: 163) as "a form, a configuration or a totality that has, as a unified whole, properties



that cannot be derived by summation from the parts and their relationship. It may refer to physical structures, to physiological and psychological functions, or to symbolic units". The goal of gestalt is defined as "to know who they (clients) really are by clarifying those parts of themselves that they have carefully hidden from awareness. To become aware of what they are doing, how they are doing it and how they can change themselves and to learn to accept and value themselves" (Thompson & Rudolph, 2000: 163).

As previously mentioned, the goal of this study was to develop a play *technique* programme, as opposed to a play *therapy* programme for autistic children in middle childhood. The reasoning for this is that the researcher aimed to develop a programme that can be used widely within the autism field, and not only by qualified play therapists. It is therefore necessary to focus on appropriate play techniques, rather than play therapy as the means of attempting to assist autistic children. Play techniques can be considered the mechanisms or methods used within the field of play therapy, in order to assist a child within the therapy process (Oaklander, 1988: 10). The play techniques include the following:

- Fantasy play
- Relaxation play
- Drawing and fantasy
- Biblio-play
- Making things
- Storytelling, poetry and puppets
- Sensory experience
- Enactment
- The sand tray



The appropriate techniques, according to the researcher, were utilized within the six phases held with the respondents (refer to Chapter 5).

7.2.4.2 Conclusions

The following conclusions were drawn from this chapter:

- Play therapy can be understood as an intervention using play as the main medium of therapy to assist individuals in dealing with physical, social or emotional problems.
- The researcher is of the opinion that play therapy can be considered vital therapy for children who have experienced any traumatic episodes or are struggling with an emotional problem.
- Play therapy can be beneficial for various situations and circumstances, as mentioned in the summary, and was considered an appropriate approach to guide this study.
- Although the play technique programme was developed within the theoretical framework of Gestalt Therapy, the focus was on a *play technique programme* as opposed to a *play therapy programme*, in order to make the programme more accessible to the general public and not only to qualified play therapists and thereby making the impact of the programme more significant with regard to the amount of autistic individuals reached.

7.2.4.3 Recommendations

The following recommendations are made in light of these conclusions:



- The constructive use of play techniques should be considered a valuable treatment method for autistic children and should be included in the treatments being offered to autistic individuals in our society. This could be included within the school environment as well as part of the professions services outside of the school. Other approaches of play therapy also needed to be focused on, such as Filial play therapy and Adlerian play therapy.
- Further studies within the fields of social work and psychology, focusing on the treatment and management of autism, should be done in order to gain a better understanding of the benefits of using play techniques with autistic children.
- Scientifically tested play technique programmes should become available, to professionals, such as teachers and therapists, and/or parents of autistic individuals, in order to provide them with greater assistance. This can be done through workshops and/or seminars as well as through written publications and journals.

7.2.5 Development of Play Technique Programme

7.2.5.1 Summary

As has been previously mentioned, the aim of the study was to develop a play technique programme for autistic children in middle childhood. The programme included six phases, with the phases focusing on various techniques and skills.

The six phases focused on and included the following:

- **Phase one:** This was the introductory phase. The goal of the phase was to begin developing a relationship between the respondent and the researcher, in order to facilitate a positive working environment. The play



- activities included puzzles, games, books, and a CD player and CDs to play background music.
- **Phase two:** The goal of this phase was to expose the respondent to sensory experiences in order to increase his/her sensory awareness. The play techniques included in this phase included the sand tray and plastic animals; water and plastic toys; and clay/play dough.
 - **Phase three:** The goal of this phase was to encourage the respondent to express him/herself more adequately. The play techniques used in this phases included drawing, play dough, as well as puppets and dolls.
 - **Phase four:** The goal of this phase was to deepen the child's level of expression, through play techniques such as painting, puppets and dolls as well as sand tray and plastic animals.
 - **Phase five:** The goal of this phase was to further deepen the child's level of expression. The play techniques focused on in this phase included biblio-therapy (books), drawing and play dough.
 - **Phase six:** The goal of this phase was to terminate the programme with the respondent. The play activities included puzzles, games, books, and a CD player and CDs to play background music. (Refer to Chapter 5 to see the full play technique programme.)

7.2.5.2 Conclusions

The following conclusions were drawn from this chapter:

- Phases of no longer than 30 minutes each were considered appropriate for the respondents, given that autistic children can battle with concentration.



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- A total of six phases were held with 12 respondents, as the researcher considered this a sufficient amount for this study to be considered significant.
 - Various play techniques were considered appropriate for use within the play techniques phases, such as biblio-therapy, painting, drawing, sand tray, play dough, puppets and games. The researcher considered these techniques appropriate as a result of her experience with the particular techniques and understanding of autism.
 - Through developing the play technique programme and implementing the programme with autistic children, their social behaviour has been improved and therefore the programme can be considered for further use within the field of autism.
 - The improvements that took place once the programme was implemented clearly indicate that the play technique programme should be utilized on a larger scale in order to ensure that a larger number of individuals who are impacted by autism are reached and that more meaningful outcomes are achieved.

7.2.5.3 Recommendations

The following recommendations are made in light of these conclusions:

- The play technique programme developed for this study should be made available to professionals and more specifically parents/carers of autistic children through a workshop and/or group training.



- The doctors who diagnosed children with autism in South Africa should be made aware of this programme so that they can provide the parents with direction and support right from the diagnosis.
- Given the improvement in autistic children's social behaviour in this study, it should be ensured that more autistic children are exposed to this programme. This could be done through contacting the schools/treatment facilities that are dealing with autism and offering a workshop or training day in order to educate the people involved.
- This specific programme should also be added to the current repertoire of therapies available to autistic children.
- Play therapy and play techniques should become a widely used form of treatment for autistic children. In order to encourage this, the benefits of play therapy and play techniques need to be explained and acknowledged, as this will facilitate a greater desire for this form of treatment. This can be done through workshops and seminars as well as through various forms of literature.

7.3 EMPIRICAL RESEARCH FINDINGS

7.3.1 Quantitative Research Findings

7.3.1.1 Summary

The research approach selected was quantitative in nature. Intervention research was the most appropriate type of research for this particular study. The researcher utilized the one-group pre-test–post-test design (i.e. quasi-experimental/associative design). The 12 respondents were selected through probability sampling, more specifically stratified and systematic sampling. A self-constructed measuring instrument was used to evaluate the respondents' changes in social behaviour.



The main purpose of the chapter was to display, analyze and interpret the quantitative data collected by means of structured observations using a self-constructed measuring instrument. Tables, bar and column graphs and pie charts were used for the presentation of the data.

The biographical factors, namely the respondents' age, gender, race and home language, were discussed. Thereafter the social behaviour developments in the autistic children's' behaviour were documented, and the pre- and post-tests conducted. These focused on verbal communication, non-verbal communication, social interaction and challenging behaviours.

7.3.1.2 Conclusions

The following conclusions, focusing on the biographical details and the social behaviour measures of the respondents, were drawn from this chapter:

a. Biographical details

The respondents' biographical details were documented and the following conclusions were drawn:

- It was decided that the focus of this study would be autistic children in middle childhood (between the ages of six and 12 years) and therefore all the respondents were within this developmental stage.
- It was mentioned earlier in the study that the ratio difference of autistic children is quite marked, with The Autism and Pervasive Developmental Disorder Fact Sheet (2006) postulating that autism is "four times more common in boys than in girls". This study



confirmed this ratio, with 10 of the respondents being male and only 2 of the respondents being female.

- Race was not considered a pertinent factor in this study, the diagnosis of autism being more important.
- In this study language was not considered a vital factor given the fact that the main medium of communication was play.

b. Social behaviour development

The implementation of the play technique programme with the autistic children involved in the study allowed for the following conclusions about social behaviour development to be drawn:

- The following results on **verbal communication** were yielded by the Wilcoxon Signed-Rank Test for a Paired Experiment. The test statistic given was 0.0 and the p-value was 0.00195, therefore leading to the following conclusion:
 - 0.00195 was less than 0.01%, which was considered the level of significance;
 - Therefore the null hypothesis was rejected;
 - The alternative hypothesis was accepted;
 - This allowed the conclusion that the intervention (the play technique programme) had a highly significant effect on the verbal communication of the respondents.
- The following results on **non-verbal communication** were yielded by the Wilcoxon Signed-Rank Test for a Paired Experiment. The test statistic given was 0.0 and the p-value was 0.00025, therefore leading to the following conclusion:



-
- 0.00025 was less than 0.01%, which was considered the level of significance;
 - Therefore the null hypothesis was rejected;
 - The alternative hypothesis was accepted;
 - This allowed the conclusion that the intervention (the play technique programme) had a highly significant effect on the non-verbal communication of the respondents.

 - The following results on **social interaction** were yielded by the Wilcoxon Signed-Rank Test for a Paired Experiment. The test statistic given was 0.0 and the p-value was 0.00025, therefore leading to the following conclusion:
 - 0.00025 was less than 0.01%, which was considered the level of significance;
 - Therefore the null hypothesis was rejected;
 - The alternative hypothesis was accepted;
 - This allowed the conclusion that the intervention (the play technique programme) had a highly significant effect on the social interaction of the respondents.

 - The following results on **challenging behaviour/s** were yielded by the Wilcoxon Signed-Rank Test for a Paired Experiment. The test statistic given was 0.0 and the p-value was 0.00025, therefore leading to the following conclusion:
 - 0.00025 was less than 0.01%, which was considered the level of significance;
 - Therefore the null hypothesis was rejected;
 - The alternative hypothesis was accepted;

- This allowed the conclusion that the intervention (the play technique programme) had a highly significant effect on the challenging behaviour/s of the respondents.
- Diagram 54 gives an indication of the pre- and post-test scores of each respondent individually, with regard to the overall impact of the play techniques. This has been done through combining all the scores that the respondents achieved, within all four areas of development. One is able to see the improvement that took place, with regard to the impact of/reaction to the play techniques, with 100% of the respondents achieving a higher rating in the post-test as compared to their pre-test.

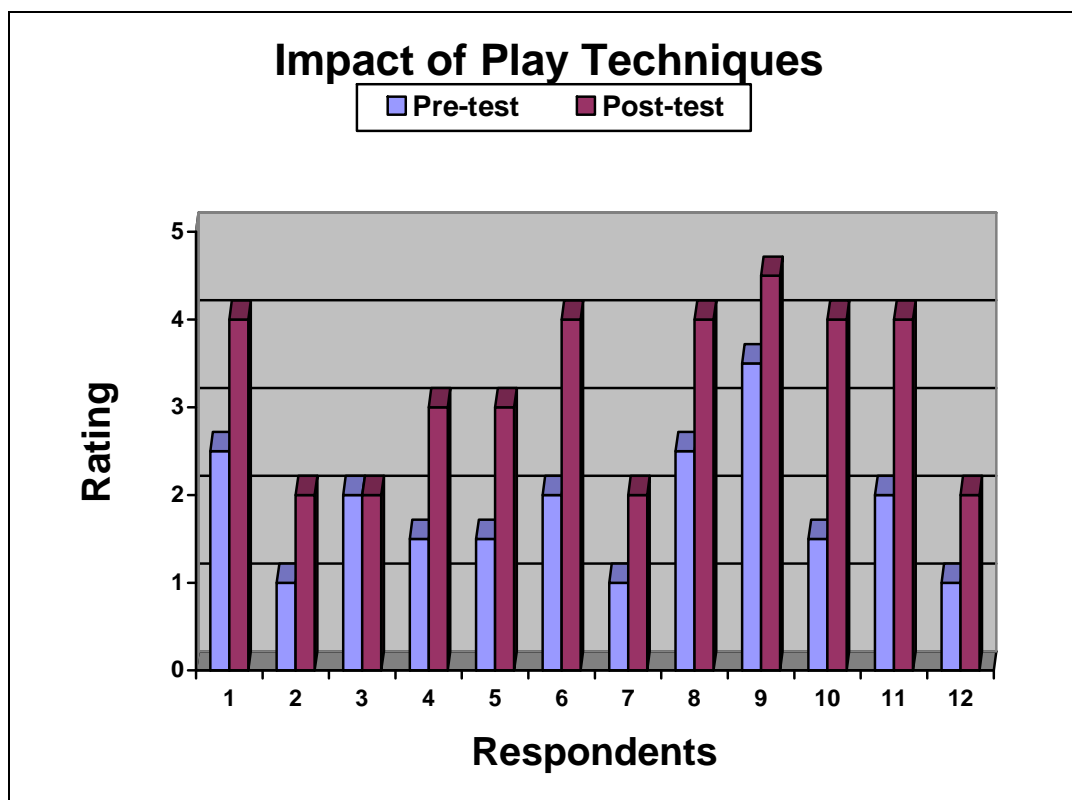


Diagram 55: Pre- and post-test scores for impact of play techniques



7.3.1.3 Recommendations

The following recommendations are made in light of these conclusions:

- Given the clear improvements that took place with regard to the social behaviour development of the autistic children involved in this study, the play technique programme should be made available to other professionals working with and/or parents of autistic individuals in order to improve the quality of life of these individuals.
- A study of this nature should be done over a longer period of time (a longitudinal study) in order to document the long-term benefits of such a play technique programme.
- The results of this study should be utilized by parents and professionals working with autistic individuals, in order to increase their ability to interact on a social level.
- A greater number of autistic children should be involved in such a programme in order for the results of the impact of the play technique programme on the social behaviour development, and hence the improvement of quality of life, of autistic children to be generalizable.
- A vigorous attempt should be made to make this specific play technique programme known to other professionals in the field of autism. This can be done through seminars, workshops and literature organized by the researcher.



7.4 AIM AND OBJECTIVES OF THE STUDY

7.4.1. Aim of the study

The aim of this study was to develop and evaluate the effectiveness of a play technique programme to enhance the social behaviour of autistic children between the ages of six and 12 years.

7.4.2. Research Objective Achievements

Table 20 below presents the specific objectives that were formulated in the study and the specific manner in which these objectives were achieved.

Table 20: Accomplishment of the study objectives

Nr.	Objective	Objective achievement
1	To theoretically conceptualize autism as a phenomenon in middle childhood and the impact thereof on the family, as well as play techniques in the context of autism.	This objective was achieved in completing Chapters 2, 3 and 4 of this study.
2	To explore the nature, on a national and international level, of existing play technique programmes for autistic children.	This objective was achieved by exploring all the existing play technique programmes available, with the researcher not able to identify any. This is commented on in Chapter 4.
3	To develop a play technique programme for autistic children.	This objective was achieved in completing Chapter 5 of this study.
4	To implement the play technique programme.	This objective was achieved at The Key School for Specialized Education, with the researcher implementing the play technique programme with 12 autistic children over a six-week period.



5	To evaluate the effectiveness of the play technique programme.	This objective was achieved in completing Chapter 6 of this study.
6	To come to conclusions and make recommendations to enhance the effectiveness of the play technique programme for autistic children.	This objective was achieved in completing Chapter 7 of this study.

7.5. CONCLUDING STATEMENT

The purpose of this final chapter was to summarize the study and provide conclusions and recommendations based on all the information given in the previous chapters. The intention was to offer a clear overview of the focus of this study and its outcome.

The researcher is of the opinion that this study will have a positive impact on the social work profession in general, particularly within the field of play therapy. It provides a better understanding of the phenomenon of autism and offers an alternative form of therapy to deal with autistic children. This, it is believed, will enhance the possibility of more appropriate social behaviour and thereby provide support for the families of autistic individuals.

This study has taken a great deal of time and effort, but has yielded a great deal of enjoyment and reward. It has been a challenge, as the field focused on can be considered a relatively new and unknown field to many people as well as to the researcher herself. Thus a great deal of learning and understanding on the researcher's part were required, which in turn led to a desire to continue the work with autistic children.

The researcher is now working with autistic children at The Key School for Specialized Education in Parktown West, treating autistic children through the method of play therapy. This is a direct consequence of this study, and arises



from the improvements that were noted with the autistic children in this study, when they were involved in the play technique programme. The researcher continues to see the benefits of play therapy, specifically with autistic children, and continues to reap many rewards in witnessing the improved social behaviour of these children.



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ADDENDUM A



THE KEY

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Aftercare: 082 555 6412
Email: keyschool@tafrica.com
Website: www.autism-sa.org

10 November

To Whom It May Concern

This is to confirm that Cathy Davies has been given provisional permission to do her research at The Key School. She will need to provide us with her ethical clearance certificate as well as obtain permission from parents before her research can commence. Furthermore, the research will need to take place outside of school hours ie before 08h00 and after 13h00 as we cannot accommodate work with children during school hours.

We wish her well in her research with our children with autism.

Yours faithfully

Jennifer G Gous MA(AAC)
Principal

Unlocking the potential of children with autism

Sponsored by The Society for Children and Adults with Autism

Affiliated to
Autism South Africa



ADDENDUM B

RESEARCH SCALE

Evaluation Scale	
1	Very Poor/Did not appear
2	Poor/To a little extent
3	Average/To some extent
4	Good/ To a great extent
5	Very good/Completely

1. Verbal Communication

• Level of spontaneous speech regarding his/her needs	1	2	3	4	5
• Level of spontaneous speech regarding his/her feelings	1	2	3	4	5
• Comprehensive speech regarding general social interaction	1	2	3	4	5
• Comprehensive speech regarding present events within the session	1	2	3	4	5
• Appropriate speech within the session	1	2	3	4	5
• Ability to express comprehension	1	2	3	4	5
• Speech when required	1	2	3	4	5
• Appropriate use of vocabulary	1	2	3	4	5
• Appropriate sentence structure	1	2	3	4	5
• Clarity of speech	1	2	3	4	5
• Use of tone when speaking	1	2	3	4	5

2. Non-verbal communication

• Facial expressions, for the purpose of communication	1	2	3	4	5
• Gestures	1	2	3	4	5
• Appropriate use of personal space	1	2	3	4	5
• Eye contact	1	2	3	4	5
• Interest in listening to the researcher	1	2	3	4	5
• Appropriate use of silence	1	2	3	4	5
• Level of appropriate response to listening	1	2	3	4	5
• Ability to focus	1	2	3	4	5
• Concentration span	1	2	3	4	5
• Attentiveness	1	2	3	4	5
• Openness to researcher	1	2	3	4	5



3. Social Interaction

• Level of interest in appropriate social interaction	1	2	3	4	5
• Desire for physical contact with researcher	1	2	3	4	5
• Desire for emotional contact with researcher	1	2	3	4	5
• Participation in play session	1	2	3	4	5
• Ability to reach out, emotionally, within the session	1	2	3	4	5
• Ability to show obedience to any instructions, both verbal and non-verbal	1	2	3	4	5
• Reaction/level of comfort to social interaction	1	2	3	4	5
• Appropriate response to social interaction	1	2	3	4	5
• Interactional cues e.g. Nodding, maintaining eye contact	1	2	3	4	5
• Invitational cues e.g. Encouraging the interaction	1	2	3	4	5
• Awareness of researcher	1	2	3	4	5
• Level of motivation	1	2	3	4	5

4. Minimizing challenging behaviour

• Repetitive behaviour	1	2	3	4	5
• Inappropriate behaviour	1	2	3	4	5
• Self-injurious behaviour	1	2	3	4	5
• Aggressive behaviour	1	2	3	4	5
• Agitation	1	2	3	4	5
• Anxiety	1	2	3	4	5
• Avoidance	1	2	3	4	5
• Distractibility	1	2	3	4	5

5. Impact of play technique programme

5.1. Reaction to techniques	1	2	3	4	5
5.2. Impact of techniques	1	2	3	4	5



ADDENDUM C

Participants Name..... Date.....

Principal Investigator: Cathy Davies
48 Malaga, 118 Dennis Road
Atholl Gardens
Johannesburg

Informed Consent

1. Title of the study: A play technique programme for autistic children in middle childhood.
2. Purpose of the study: To develop and evaluate the effectiveness of a play technique programme to enhance the social behaviour of autistic children, who are between the ages of six to 12 years.
3. My child will be observed within the school environment, prior to being involved in six play technique sessions on the school premises. My child will then be observed again in order to establish the benefit of the play technique sessions.
4. Risks and Discomforts: The risks and discomfort of this project is that my child may experience fatigue when involved in the play technique sessions. A social worker will be present during the sessions and will ensure that my child is treated well and given the necessary support.
5. Benefits: The main benefit of this study is that I will gain a better understanding of how to cope with and assist my child with his/her social behaviour. Furthermore the study will help researchers and professionals gain a better understanding of the social behaviour of autistic children and how they can be assisted.
6. Participant's Rights: I may withdraw my child from the study at any time.
7. Financial Compensation: Neither I nor my child expect to get any financial reward from the researcher. I understand and accept that the researcher will have contact with my child at school.
8. Confidentiality: I have been assured that everything that my child says or does will be kept strictly confidential except in cases where the researcher shares information with the authorized supervisor. Furthermore I have been assured that my child's responses will be anonymous. Anonymity is assured by the use of letters of the alphabet for comparison of the pretest and posttest results.
9. If I have any questions or concerns I can call 073 208 8420 during office hours.



I understand my child's rights as a research subject and I voluntarily consent to allowing my child to participate in this study. I understand what the study is about and how and why it is being done. I will receive a signed copy of this consent form.

Parent's signature

Date

Signature of the Investigator

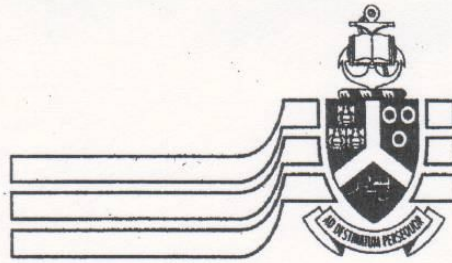


ADDENDUM D

Members:

Research Proposal and Ethics Committee

Dr P Chiroro; Dr L Davis; Prof C Delpoit;
Dr JEH Grobler; Prof KL Harris; Prof E Krüger;
Prof B Louw (Chair); Prof D Prinsloo;
Prof G Prinsloo; Dr E Taljard; Prof H van der Mescht;
Prof J van Eeden; Prof A Wessels; Mr FG Wolmarans



University of Pretoria

Research Proposal and Ethics Committee
Faculty of Humanities

28 November 2005

Dear Professor Delpoit

Project: *A play technique programme for autistic children in middle childhood*
Researcher: CE Davies
Supervisor: Prof CSL Delpoit
Department: Social Work and Criminology
Reference number: 2226138-0

Thank you for the application you submitted to the Research Proposal and Ethics Committee, Faculty of Humanities.

Language editing needs to be controlled in the dissertation as both the application and proposal contain editorial errors.

I have pleasure in informing you that the Research Proposal and Ethics Committee formally approved the above study on 24 November 2005. The approval is subject to the candidate abiding by the principles and parameters set out in her application and research proposal in the actual execution of the research.

The Committee requests you to convey this approval to Mrs Davies.

We wish you success with the project.

Sincerely

Prof Brenda Louw
Chair: Research Proposal and Ethics Committee
Faculty of Humanities
UNIVERSITY OF PRETORIA