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Department of Psychology
Trinity College
Dublin

A novel intervention devised to address the needs of high-functioning children with autism, based on the principles of Drama in Education Cognitive and Behavioural theories.

Submitted in partial fulfilment of the requirements for the award of
Doctor of Philosophy

Haris Karnezi

August 2008

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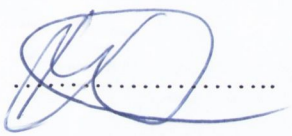

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Abstract

This study is an action research project which sets out to introduce, develop and evaluate an intervention model specifically designed to meet the needs of high functioning children with autism, integrating principles from Behavioural and Cognitive therapy to the Drama in Education model.

Prior to the application of the model to a range of problems associated with autistic spectrum disorders, two experiments were conducted to establish the methodological validity of the model as a means of converting neutral stimuli into reinforcers. Eight children participated in the study, and underwent a pre and post intervention stimulus preference assessment, that indicated a shift in preference towards the target stimuli in six of the participants, in the post intervention condition that none had opted for in the pre-intervention stimulus preference assessment. These findings offer an alternative to the traditional behaviour analytical explanation suggesting that secondary reinforcers may only acquire their reinforcing properties through association with primary reinforcers, and suggests dramatic investment as a means to this end.

The model was then applied to a number of problems encountered by high functioning children with autism including difficulties in social interaction and phobias. Three interventions were designed to address the phobic avoidances in two single cases; and another three interventions were designed to deal with the social deficits of two distinct groups of children (6 to 7 years old and12 to13 years old) and a single case. Results from all applications indicated positive changes in all participants' behaviour. In particular, all three intervention-programmes designed to address the life-long fears of the two single cases produced a decrease in fear related symptoms. Similarly, the findings from the three intervention programmes designed to address the social deficit of the two groups of children and the single case suggested benefits in all eight participants. Specifically, in the younger group improvements were shown in the children's ability to solve ToM tasks, and in the older group qualitative improvements were noted in the children's responses, in terms of verbal (content) and non verbal expression (body posture, vocal expression, fluency, and eye contact). Furthermore, reduction in the children's engagement in ritualistic behaviour was also noted.

The need for more reliable impact measures to assess the effectiveness of the model in generating global changes in the participants' behaviour outside the therapeutic context was identified.

Summary

The aim of this study is to introduce and evaluate a new Drama in Education approach specifically designed to address the needs of high functioning children with autism, incorporating principles and techniques from behavioural and cognitive therapy. In particular, the model focuses on phobic avoidances and difficulties in social communication.

Chapter 1 describes Asperger's syndrome (AS) and high functioning autism (HFA) and considers the debate as to whether AS and HFA are two distinct syndromes or different labels of the same disorder, and presents a comprehensive overview of both conditions and their defining characteristics. The prominent theories of explanation for autism, such as Theory of Mind (ToM), Weak Central Coherence (WCC), and Executive function hypothesis (EF) are then reviewed.

Chapter 2 is divided into two sub-sections. Sub-section one, briefly reviews the theoretical underpinnings of Behavioural and Cognitive therapies and describes some of their respective techniques used to address behavioural difficulties. Sub-section two, focuses on the behavioural and cognitive behavioural views on fears and phobias, and those techniques specifically developed to address them.

Chapter 3 introduces the Drama in Education (DIE) approach. The theoretical underpinning of the DIE model is presented and the process of structuring drama work is outlined. A list of the DIE techniques relevant to this study is also included along with explanatory notes in relation to their implementation and the learning opportunities each one of these offer.

Chapter 4 presents two experiments designed to evaluate the effectiveness of the proposed integrated model as a means of converting neutral stimuli into positive reinforcers through dramatic investment. Given that the proposed model does not rely on the use of arbitrary extrinsic reinforcers to provide motivation, these experiments were designed to demonstrate that the method is capable of generating the motivation necessary to bring about behavioural changes, before embarking on the attempt to use it to tackle a number of behavioural difficulties identified in children on the autistic spectrum.

Chapter 5 provides the rationale, and theoretical underpinning of the proposed model in relation to social competence, outlining the structure of the model and the techniques used, as

well as presenting three related applications. These included, a pilot single case study and two group interventions devised to enhance the social competence of the participants. Details of the participants, instruments and procedures along with the results, and methodological limitation of all three studies are also presented.

Chapter 6 provides the rationale, and theoretical underpinning of the proposed model in relation to phobias, outlining the structure of the model and the techniques used, as well as presenting two single case studies designed to address phobic avoidances of high functioning children with autism. The first case study describes work conducted with a young boy who had two distinct fears; a fear of hand driers and an extreme reaction to being touched by others which also seemed to be motivated by fear. The second case study describes an intervention designed to assist another young boy to overcome his fear of hair-dressers. Details of participants, instruments and procedures along with the results, and methodological limitation of each one of these studies are also presented.

Chapter 7 begins with a recap of the principles underpinning the model and how it relates to the needs of children on the autistic spectrum, and then discusses the finding of the various applications in view of their limitations and implications for future research. Areas of improvement are also considered both in terms of the methodological limitations of the current study and practical limitations in terms of the application of the model.

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Chapter One

An overview of the literature on Autism and Asperger Syndrome

1.1. Asperger Syndrome: the history

Asperger Syndrome (AS) is named after the Viennese paediatrician Dr Hans Asperger, who in 1944 published a paper in which he presented a number of cases of young boys who all had in common a fundamental disturbance resulting in severe difficulties in social integration, and labelled his syndrome 'autistic psychopathy' (Frith, 1991; Prior, 2003; Report of Task Force on Autism, 2001). A year earlier, a Baltimore child psychiatrist, Leo Kanner (1943), unbeknownst to Asperger, had described a very similar condition, and had labelled it 'early infantile autism' (Prior, 2003; Report of Task Force on Autism, 2001). They both used the term autism to define a disorder previously unrecognised as a clinical entity. They were pioneers in recognising autism as a major developmental disorder, with its origin in childhood and persisting over time (Frith, 1991; Prior 2003; Report of Task Force on Autism, 2001).

The word autism is derived from the Greek word for self, *autos*, and it is used to describe a disorder that causes considerably limited interaction with the environment. *"The autist is only himself and not an active member of a greater organism, which he is influenced by and he influences constantly"* (Asperger, 1991, p.38). The label autism was derived from the concept of autism in schizophrenia, coined by the Swiss psychiatrist Eugen Bleuer (1951). Bleuer was referring to a fundamental disturbance of contact in schizophrenic patients: the *'shutting off of relations between self and the outside world'* (Asperger, in Frith, 1991, p.39). Although a disturbance of contact is also evident in both Kanner's and Asperger's cases, and apparently the reason why they both chose the term autism to describe their conditions, they both stressed that their syndromes differed from schizophrenia (Frith, 1991). Whilst schizophrenic patients progressively exhibit loss of contact with the environment, children with autism lack this contact from the beginning (Asperger, 1991). Furthermore, schizophrenia is mainly characterised by auditory hallucinations, delusions and incoherencies (Wing, 1981) absent in Kanner's and Asperger's syndromes (Frith, 1991).

Although the work of Kanner (1943) became very well known, that of Asperger remained unknown for many years, and his original paper was not translated into English until 1991 (Frith, 1991; Prior, 2003; Wing, 2005). The term *Asperger syndrome* was coined by the UK psychologist Lorna Wing (1981) to replace Asperger's original label 'autistic psychopathy'.

Asperger Syndrome was included for the first time in the draft of the 10th edition of the World Health Organisation's (WHO) International Classification of Diseases (ICD-10) in 1990, as a subgroup of pervasive developmental disorders (PDD) and was officially recognised by the American Psychiatric Association (APA) in the Diagnostic and Statistical Manual of Mental Disorders in the fourth edition (DSM-IV) published in 1994 (Frith, 1991; Tantam, 1988). The term PDD was introduced in 1980 to describe a group of neurological disorders that presented the following symptoms:

"narrow interests, tendencies towards repetitive activities and severe pervasive impairments in social interaction, imagination and communication"

(Report of Task Force on Autism, 2001, p.16).

1.1.1. Autistic Spectrum Disorders (ASD)

The term Autistic Spectrum Disorders (ASD) is used to refer to a range of pervasive developmental disorders that include autism, Asperger Syndrome (AS), Rett's Disorder, Childhood Disintegrative Disorder, and Pervasive Developmental Disorder Not Otherwise Specified (PDD-NOS) (Report of the Task Force on Autism, 2001). However, research suggests that only autism, AS and PDD-NOS belong to the same spectrum, differing merely in terms of severity of symptoms or IQ (Miller & Ozonoff, 2000; Myhr, 1998) and that Rett's Disorder and Childhood Disintegrative Disorder are distinct disorders, and should be therefore excluded from the spectrum (Myhr,1998).

The view of autism as a spectrum is accepted by many clinicians (Wing, 1991; Prior, 2003; Wing, 1981; Gillberg, 1991). Autism is not viewed as a single condition but rather as a spectrum of autistic disorders with different forms of autism taking different positions on the spectrum (Task Force, 2001; Frith, 1991). Individuals on the spectrum share the core social and communication impairments that are characteristic of autism,

yet vary from extremely withdrawn and low-functioning individuals at one end, to socially aware, articulate, and intelligent individuals at the other (Prior, 2003).

Consistent with the idea of the continuum is Gillberg's assertion (1987) that severely and profoundly retarded children, with the triad of impairments as described by Wing and Gould (1979), are on one end of the spectrum, followed by Kanner's syndrome, then Asperger's syndrome and towards the other end of the spectrum are the mildly handicapped with DAMP syndrome (Deficit of Attention, Motor control, and Perception) (Wing, 1991; Gillberg, 1991).

Autism and Asperger's syndrome, like all conditions along the autistic spectrum, are both recognised neuro-developmental disorders that are principally defined in behavioural terms and share features described as the 'triad of social impairments' (Wing & Gould, 1979). Three broad aspects of development are affected: social interaction, communication and imagination (Task Force on Autism, 2001). Impairment in social interaction includes failure to develop age appropriate peer relationships, lack of social and emotional reciprocity, social awareness yet inappropriateness in reciprocal interaction (DSM-IV). Impairment in communication indicates both verbal (pedantic, literal, stilted, flat and repetitive speech, idiosyncratic and pompous choice of words and phrases/ literal understanding of speech), and non-verbal difficulties (impairment in the use and understanding of non-verbal behaviours: eye contact, facial expression, body posture, gestures) (Happe, 1995; Happe & Frith, 1996; Tager-Flusberg,1991). Impairment in imagination can be described by limited range of imaginative activities, possibly copied and pursued rigidly and repetitively, inability to develop creative pretend play appropriate to developmental age, narrow interests and preoccupations, restricted and repetitive routines, stereotyped patterns of behaviour, inflexibility and obsession with complex topics (Happe, 1995; Happe & Frith 1996).

1.1.2. Diagnosis

The boundaries between the differential diagnoses within the spectrum of autistic disorders remain a controversial issue. This confusion in diagnoses is particularly evident in the conditions that are at the higher end of the spectrum such as Asperger syndrome and HFA, highlighting the limitations of current knowledge in the field (Report of the Task Force on Autism, 2001).

There has been major controversy as to whether Asperger Syndrome and autism are two different conditions with distinct neurobiology and aetiology (see: Howlin, 2003; Klin, Volkmar & Sparrow, 2000; Leekam, Libby, Wing, Gould & Gillberg, 2000) or variants of a single disorder and whether there is a difference between Asperger's syndrome and autism with normal intelligence, often referred to as high-functioning autism HFA (Gunter, Ghaziuddin & Ellis, 2002). However, it is important to note that the term HFA is not included in neither the ICD 10 nor the DSM IV classification systems (Report of Task Force on Autism, 2001).

In an effort to examine the relationship between the two conditions we will be looking how these evolve in development; starting from Kanner's and Asperger's original accounts and moving towards the current conceptualisation of the syndromes, as reflected in the presently used diagnostic criteria.

1.1.3. Asperger's description of the syndrome: 'autistic psychopathy'

What follows is a summary of Asperger's description of his syndrome based on his original paper (1944) published, translated and annotated by Frith (1991). Slight changes in the description of his syndrome, reported in his later writings, are also included.

Asperger described his syndrome as a personality disorder, with characteristic features affecting all aspects of personality; physical appearance, expressive function, intellectual performance and behaviour towards others. Whilst certain characteristics recede and others predominate with age and personality development, the essential disturbance remains unchangeable over time. Asperger believed that his syndrome had its origin in childhood, could be identified from the second year of life, and persisted throughout life. It was genetically transmitted and that the preponderance in boys was pointing to a sex-link genetic transmission. He also stressed that *'the autistic personality is not biologically nor genetically related to schizophrenia'* (Asperger, 1944/ trans.1991, p.87). The fundamental disturbance of the relationship between the child and the environment that characterises autism, accounts for both deficits and special achievements of autistic individuals.

Physical Appearance

In his early writings Asperger (1944) claimed that aristocratic appearance and fine bone features characterised children with autism. This was later disclaimed (1952) as he stressed that appearance could greatly vary amongst individuals with autism.

Expressive characteristics

A number of expressive functions were identified as deficient in people with disturbed contact. These included:

- *peculiar gaze,* rarely focusing at a particular object or person, as a sign of attention or contact,
- *paucity of facial expressions*, mostly blank and expressionless, or tense and worried looking,
- *paucity of expressive gestures*, yet stereotypical patterns of movement were often observed,
- *receptive and expressive language difficulties*, reflected in their difficulty to derive information from non-verbal cues (e.g. volume and tone of voice etc) as well as in using non-verbal cues to convey meaning.

Autistic intelligence

Asperger claimed that autistic intelligence was characterised by the following features:

- *IQ at all levels of ability* (1944) yet most cases reported were of an average and above intelligence (1952) as cited in Frith (1991).
- *originality of thinking*, originating from their inability to attend to the social world intuitively, imitating adults as their neuro-typical peers, that also accounts for major learning and conduct problems,
- *special interests often narrow and circumscribed*, that could also lead to major achievements,
- *rare maturity in art*,
- *ability for introspection and character judgement*, emerging from their constant observation of the environment and themselves.

Behaviour

The following characteristics were identified to be descriptive of these children's behaviour:

- *Impairment in social interaction,* 'negativistic attitude', and 'malicious acts', as well as 'tendency for isolation' were often reported caused by their inability to grasp the interplay of feelings in relationships and the resulting frustration.

- *Repetitive and stereotypical activities*, such as rocking, restricted and repetitive play (e.g. forming rows of toys, sorting toys according colour, size, shape, collecting useless objects) and obsessive preoccupation with special interests, to the detriment of other activities were often observed.

- *Difficulties with daily routines,* such as cleanliness and physical care,

- *Difficulties with bodily functions*, such as eating and sleeping problems

Drive and affect

The drives and instincts of individuals with autism are often disturbed, contrasting with their often above average intellectual abilities. This lack of harmony between affect and intellect results in a failure to instinctively adapt to changing situations and demands.

- *Lack of emotional reciprocity*

  Extreme egocentricity characterises children with autism, who only follow their impulses, regardless of what is happening in the outside world. Being emotionally poorly developed they fail to display affection and may show sadistic traits and perform seemingly deliberate acts of cheek, as they are genuinely unable to understand others, yet capable of strong feelings despite their distinctive emotional defect.

- *Inappropriate social interaction*

  Autistic children often appear to have no understanding of personal distance (e.g. may lean on people, impose themselves on them without any shyness, treating others as furniture). They may demand a service, or start a conversation on a subject of their own interest disregarding the age, social rank of the interlocutor or common courtesies.

- *Absence of sense of humour*

  No intuitive understanding of genuine humour, especially when directed to them; yet, often creative in making puns and word associations.

- *No harmonious integration of sexuality into the developing personality*

  There is no uniformity with regards to sexuality. Whilst some cases seem sexually uninterested, the majority may show early signs of sexual activity, practising masturbation from an early age. This could take place in public, as they lack any sense of guilt or shame.

- *Disturbed relation to objects*

  Autistic children either take no notice of objects in their environment or may have abnormal fixations, such as collecting useless objects or having fetish objects that they may need to carry with them at all times.

- *Sensory issues*

  Hypersensitivity or hyposensitivity to sensory stimuli (e.g. noise, light, pain, etc), pronounced likes and dislikes for certain tastes or tactile sensations.

Having attempted to provide a short summary of Asperger's seminal description of 'autistic psychopathy', it is important to note that despite the common features that characterise autistic personality, Asperger (1944) had also stressed the uniqueness of each child's personality in his description.

Due to their very particular nature, individuals with autism struggle to adjust in society. They often experience incomprehension and rejection as they stand out from the crowd. However, they can succeed in social integration by earning respect through their intellectual abilities (Asperger, 1944/ trans. 1991). Asperger emphasised how their special abilities are inextricably woven into their social deficit. He maintained that their single sightedness, which makes them seem socially awkward, helps them excel professionally. In other words, special achievements and social deficit are the two sides of the same coin. However, this is not the case for the low functioning individuals with autism who often do not achieve social adaptation. Therefore, according to Asperger, the prognosis of individuals with autism very much depends on their intellectual abilities.

However, Asperger insisted that children with autism had great potential, if provided with appropriate education (Asperger, 1944).

Although Asperger's description of 'autistic psychopathy' does not reflect the current concept of Asperger syndrome it may serve as a guide to help us navigate through its development. Miller and Ozonoff (1997) argued that the type of children diagnosed with AS now are different from those presented by Asperger in his early writings. This will become more apparent in the next section where Asperger's description of the syndrome will be compared and contrasted with other descriptions of the syndrome, including the DSMIV and ICD international diagnostic criteria, (Frith, 1991).

1.1.4. Kanner's Syndrome: 'early infantile autism'

The term 'early infantile autism' was used in 1943 by the child psychiatrist Leo Kanner to describe a group of 11 children at the Johns Hopkins Hospital in Baltimore who failed to develop normal social relationships, were upset by changes in their environments and showed abnormalities in speech and language. Kanner became widely known as the author of the canonical textbook in this field, in which he classified autism as a subset of childhood schizophrenia. Although autism can occur in any level of intelligence the majority are mentally retarded, according to studies conducted by De Myer, Barton and Norton (1972), Lockyer and Rutter (1969), and Wing and Gould (1979). Kanner and Eisenberg (1956) provided the following 5 diagnostic criteria for early 'infantile autism'.

- *A profound lack of affective contact* with other people, especially other children. Children with the syndrome are often described as self sufficient, like in a shell, happier alone, acting as if other people weren't there.
- *An anxious obsessive desire for the preservation of sameness.* This was manifested in repetitive activities and a resistance to change in daily routines.
- *A fascination for objects, which are handled with skills in fine motor movement.* Some children become intensively attached to specific objects, which are used for repetitive activities. They often like collecting used objects. Pretend play is usually absent or limited and repetitive.

- *Mutism, or a kind of language that does not seem intended to serve interpersonal communication.* The language characteristics include echolalia, pronouns reversal, idiosyncratic use of words (due to irrelevant associations), literal interpretation of speech, repetitive and pedantic speech.

- *Good cognitive potential* manifested in their ability to memorise things in those who can speak, and in their skills on performance tests, such as the Seguin board in the mute children. Special abilities 'islets of ability' for music and arithmetic are also mentioned.

Kanner (1943) attributed autistic children's failure on intelligence tests to lack of co-operation. Other characteristic features were also mentioned in Kanner's description of his syndrome which were not however included in the diagnostic criteria. These features include:

- *Impairment in non-verbal aspects of communication*
  For example, lack of facial expression, poor eye contact, monotonous peculiar intonation, little or no use of gestures, characteristic bodily posture manifested from infancy denoting unwillingness to be picked up, may be present.

- *No uniformity in motor skills*
  Whilst some might be very agile others are clumsy and have poor motor co-ordination despite dexterity in fine motor skills.

- *Stereotyped movements of limbs and body* (e.g. finger flicking, flapping, tiptoe walk)

- *Abnormal reactions to sensory stimuli* (e.g. noise, light, pain, heat, cold).

- *Ability to imitate could be poor or absent in some children, and very advanced in others.*

- *Eating can be an issue*
  Some will eat everything including non edible objects, whereas others will have a very limited preference on types of food.

- *Temper tantrums,* are common, possibly resulting from high levels of anxiety, when routines are broken.

1.1.5. Kanner and Asperger Compared

Having examined both Asperger's original description (1944) of autistic psychopathy and Kanner's and Eisenberg's (1956) diagnostic criteria for early infantile autism, one cannot fail to recognise the similarities between the two conditions that have given rise to so much debate and confusion in the field; regarding whether they constitute distinct diagnostic entities, or one and the same disorder. A short review of the similarities and differences between the two original accounts will be attempted in an effort to provide a framework in which the relationship between the two disorders will be explored.

Both Kanner and Asperger noted the following points:

- *Prevalence of males over females,*
- *Peculiarities in expressive characteristics, including both verbal and nonverbal aspects of communication,*
- *Special abilities contrasted to other areas of difficulties,*
- *Stereotypical movements,*
- *Abnormal reaction to sensory stimuli, including hypersensitivity to noise, and sounds, fascination with spinning objects,*
- *Adherence to routines and dislike of change,*
- *Special/ circumscribed interests to the exclusion of everything else,*
- *Lack of imaginative play.*

Although Kanner and Asperger were in agreement with all major features characterising their syndromes, there are also certain observations made by one and not the other (Frith, 1991; Gillberg, 1991). These discrepancies will be now examined in an effort to explore whether they qualify as sufficient to distinguish between the two conditions.

Onset

Kanner claimed that early infantile autism could be recognised from the first year of life. Conversely, Asperger maintained that autistic psychopathy could not be identified before three years of age.

Cognitive development

Although both Kanner and Asperger initially claimed that their syndromes can occur in children of all levels of intellectual abilities, Asperger modified his view in his later writings (1979) where he emphasised the high intellectual abilities in the majority of his cases. Whilst Asperger's cases seem to be ranging from mildly retarded to high functioning, Kanner's cases seem to be covering a wider range of abilities from the high functioning to the severely retarded. There is an overlap in the higher end of the spectrum between the two conditions, where it seems that there is little difference between Asperger's cases and high functioning individuals with autism (Wing, 1991).

Motor skills

Children with autistic psychopathy are often clumsy and stiff, characterised by remarkably ill-co-ordinated posture, gait and gestures (Wing, 1991). Kanner's cases on the other hand, according to Gillberg (1991) had excellent both gross (good at climbing and balance when young) and fine motor skills. In line with Gillberg, Wing (1991) reports excellent fine motor skills in most cases of early infantile autism yet lack of uniformity in the gross motor skills, where some individuals are agile and others clumsy.

Language skills

Language peculiarities were reported by both Asperger and Kanner. However, there are certain discrepancies in their descriptions. Whilst Kanner's cases were characterised by delayed language acquisition, the children described by Asperger developed speech normally and had typically larger vocabulary and better grammar, often talking like grown-ups in early childhood.

Disturbed relationship with the environment

Asperger maintained that the impracticality, clumsiness and social ineptness that characterised children with autistic psychopathy could be explained by a disturbed relationship with both people and objects. Kanner, on the other hand asserted that only the relationship with people was disturbed in children with his syndrome, whilst, the relation to objects was superior to normal.

In summary, according to the original descriptions of the syndromes, autistic psychopathy differs from early infantile autism in terms of onset, cognitive development,

motor skills, language skills and the relationship to objects and people. However, distinguishing the two conditions on the basis of the aforementioned differences is problematic in practice, as most individuals manifest features from either of the descriptions (Wing, 1991). Whether these discrepancies can qualify to separate the two conditions into two difference diagnostic entities remains therefore the source of much debate (see Wing, in Frith 1991, for further details on the debate).

Current conceptualisation of both syndromes has shifted from the original descriptions. Different interpretation of the original accounts, have given rise to differential diagnostic criteria. In the following section the current international diagnostic criteria for autism and Asperger syndrome, will be presented and compared with other diagnostic criteria, in an effort to illustrate the state of affairs in current research.

1.1.6. DSM IV & ICD-10 diagnostic criteria for autism and Asperger syndrome

The most recent accounts of the two major classification systems for mental disorders, the DSM IV (APA, 1994) and the ICD-10 (WHO, 1993) present distinct criteria for autism and Asperger syndrome. According to the (DSM-IV-TR) and the (ICD-10) autistic disorder/ childhood autism has an onset prior to three years of age and is characterised by qualitative impairment in social interaction, impairment in communication (including possible speech delay and language abnormalities) and restricted and repetitive routines. Asperger Syndrome/Disorder on the other hand, is similarly characterised by qualitative impairment in social interaction and restricted and repetitive routines. Yet, unlike autistic disorder, the development in Asperger syndrome is normal up to three years of age, there is no communication impairment (no speech delay), nor cognitive delay.

The validity of the aforementioned classification systems has been questioned by many theorists such as (Eisenmajer, Prior, Leekhan, Ong, Gould, & Welham, 1998; Kim, Szatmari, Bryson, Streiner, & Wilson, 2000; Kugler, 1998; Leekam, Libby, Wing, Gould, & Gilberg, 2000; Manjiviona & Prior, 1999) as failing to adequately distinguish between the two conditions. The distinction between the two conditions on the basis of onset, cognitive development and communication, has been criticised on the following grounds:

i) Onset

The hypothesis adopted by the DSM IV and the ICD-10, that Asperger has a later onset, does not appear to form a reliable criterion to differentiate between the two conditions for the following reasons. The fact that children with Asperger syndrome present for diagnosis at a later stage (Volkmar, Klin, Schultz, Bronen, Marans, Sparrow, & Cohen, 1996) does not necessarily imply a later onset but could also indicate that they are identified later in development (NICHY, 1998, as cited in the Report of the Task Force on Autism 2001). The latter hypothesis is supported by the premise of an interrelation between IQ and autistic symptoms. According to this view children with higher IQ have milder autistic symptoms than those with lower IQ. The milder manifestation of autistic symptoms in high functioning individuals with autism could therefore explain why they are often identified as having autism later in development, compared to those with a lower IQ (Gillberg, Nordin, & Elhers, 1996). This controversial argument will be discussed in more detail, in the next section.

Another explanation for the later identification of high functioning individuals with autism could be that language delay, an exclusive criterion for autism, is more tangible and easier to identify by non experts, at an early stage than any of the other criteria such as social impairment and imagination impairment, that would require a more careful and detailed observation over a longer period of time.

ii) Cognitive development

The distinction between the two syndromes on the basis of cognitive development (normal cognitive development in Asperger and possible cognitive delay in autism) is questioned by many researchers (Miller & Ozonoff, 2000; Tantam, 1988; Prior, Leekam, Ong, et al., 1998; Szatmari, 2000; Tantam, 1988) on different grounds; some arguing that autistic symptoms and IQ are interrelated, whilst others that they are disassociated.

Following the first argument, autistic symptoms decrease with the increase of IQ, and with age (Gillberg, Nordin, & Elhers, 1996). Individuals diagnosed with autism at an early stage, have been diagnosed with AS later in development as their intellectual abilities increased and the autistic symptoms decreased. This being the case, cognitive abilities fail to provide clear boundaries between the two conditions, due to the malleability of their nature. Further support for the inadequacy of cognitive abilities to

serve as a criterion to distinguish between the two conditions comes from the opposing argument, that of a dissociation between autistic symptoms and IQ. According to this view individuals may have mild or severe autism irrespective of where they stand in the spectrum in terms of cognitive development. They could be intellectually at the high or low end of the spectrum and may have mild or severe autism (Gillberg, 2005).

Gillberg (2005) argues against the use of the term HFA, claiming that it is a 'misnomer'. He emphasises that high functioning is not the autism, but the individual and alternatively proposes the term, high functioning individual with autism, in an effort to stress that autistic symptoms could be equally severe in degree and quality in high functioning individuals as in those with lower intellectual abilities. There are in other words two distinct spectrums that tend to be erroneously equated; the cognitive and the autistic. By abandoning therefore the term HFA, and replacing it with the term 'high functioning individual with autism', the distinction between these two spectrums is made clearer and the disassociation between IQ and autistic symptoms, is emphasised. Conversely, consistent with the view of an interrelation between the two spectrums (autistic and cognitive), the term HFA suggests that 'high functioning individuals with autism', would also have milder autistic symptoms (HFA). In this case, the two terms would be overlapping, and the use of the novel term 'high functioning individuals with autism' would be meaningless. If either of these views is adopted; of an interrelation between IQ and autistic symptoms or of a disassociation between the two; intellectual abilities do not seem to form a satisfactory criterion to differentiate between the two conditions. In other words both arguments, lead to the same conclusion even though taking completely different routes.

iii) Communication

The absence of the impairment in communication from the DSM IV and ICD-10 criteria for Asperger, is what makes a diagnosis for Asperger syndrome almost impossible as it is highly unlikely that individuals with social impairment, repetitive and restricted interests will have no communication difficulties (Mayes, & Calhoun, 2003). In the same vein, current research suggests that there is no triad of impairments, but rather a dyad; with social and communicative impairments on the one hand and behavioural problems on the other. Social and communicative impairments are considered as the two sides of the same

coin, and the former separation into two different criteria is regarded as meaningless (Gillberg, 2005).

Furthermore, speech delay and peculiarities are not confined in autism as suggested by the DSM-IV and the ICD-10. Many researchers have also reported language abnormalities including speech delay in young children with Asperger syndrome (Gillberg & Ehlers, 1998; Klin & Volkmar, 1995; Eisenmajer, Prior, Leekam, Wing, Gould, Welham, & Ong,1996; Manjiviona & Prior, 1999).

Speech delay, is further questioned as a distinguishing criterion between the two conditions as it does not appear to be influencing the prognosis of individuals with autism (Eisenmajer, Prior, Leekhan, Wing, Ong, Gould, &Welham, 1998). The discrepancies between the two syndromes become less prominent later in development (Ozonoff, South, & Miller, 2000; Szatmari, Archer, Fishman, Streiner,& Wilson, 1995) and individuals diagnosed with HFA in their early years, could be diagnosed with AS, when they are older, as they develop fluent language skills (Szatmari, 2000).

Furthermore, regardless of their structural language abilities, individuals with AS have communication difficulties, that relate to the pragmatic aspects of the language. These include all the non verbal aspect of communication such as gestures, facial expression, intonation and personal space regulation (The Report of the Task Force on Autism, 2001).

To summarise, distinguishing the two disorders on the basis of onset, communication impairment and cognitive abilities, as prescribed by the DSM IV and ICD-10 diagnostic criteria seems to be failing to sufficiently define the boundaries between the two conditions. Furthermore, the criteria seem particularly problematic as they fail to include features emphasised, in Asperger's (1944) seminal description of his syndrome, such as language peculiarities, intellectual abilities, special abilities, attention deficits, behaviour problems and sensory issues, which are however included in their criteria for autism. This being the case, even Asperger's original cases fail to fulfil the DSM IV and ICD 10 criteria for Asperger syndrome, yet meet all the criteria for autistic disorder (Miller & Ozonoff, 1997).

In an effort to fill the void, Gillberg and Gillberg (1989) furnished a distinct set of diagnostic criteria for Asperger syndrome which were more consistent with Asperger's original description (1944). According to their criteria Asperger syndrome is characterised by social impairment, narrow interests and repetitive routines, speech and language peculiarities and motor clumsiness. By adding language peculiarities, including possible speech delay in their criteria for Asperger syndrome and neglecting to mention normal cognitive development, they are disregarding the two major distinguishing criteria between autism and Asperger syndrome, as per DSM IV and ICD-10. Consequently, Gillberg's criteria for Asperger syndrome seem to be overlapping with DSM- IV and ICD-10 criteria for autism, except for the motor clumsiness, that could serve as a distinguishing quality. Gillberg (1991) suggests that autism and Asperger syndrome are closely related clinical entities. Yet, the discrepancy in motor co-ordination skills may indicate that neural circuits in the two conditions are not completely overlapping. With Asperger engaging not only core autistic centres in the brain, but also centres connected with motor co-ordination regulation and not expressive language (Gillberg, 1991).

1. 2. Explanations for Autism

One of the principle objectives of research on autism over the past decades has been to identify a core deficit in autism that may account for the triad of impairment that characterise this population (Burnette, et al., 2005).

Numerous theories have tried to identify the cause of autistic behaviour. Some tried to find an explanation by focusing on the neurological aspects of the condition and attempted to identify the specific parts of the brain that could be responsible for the malfunction, whilst others focused on the consequences of such malfunction in the brain, and its behavioural manifestations. The latter are known as the cognitive theories and claim that the symptomatology of autism could be attributed to the break down of various cognitive mechanisms. These theories include the Theory of Mind (ToM) hypothesis in autism (Baron-Cohen, 1989) that places emphasis on the social and communication impairment, the Weak Central Coherence hypothesis (Frith, 1989) that focuses on the information processing deficit, which may account for the uneven cognitive profile in terms of strengths and weakness of individuals with autism and the Executive Functioning hypothesis focusing on a central cognitive deficit in a variety of mental processes (Happe & Frith, 1996; Ozonoff, Penningtone & Rogers 1994).

1. 2. 1. Theory of Mind

The proponents of the theory of mind hypothesis on autism maintain that the impairment in the conception of the mind is the primary deficit in autism and that the social and emotional impairments stand secondary to the condition (Mitchell, 1997). According to the cognitive theory the triad of impairments that characterises the condition as defined by Wing and Would (1979) could be explained by a deficiency in the ToM mechanism which fails to acknowledge the mind as an organ that formulates belief (Mitchell, 1997, Happe & Frith 1993).

Theory of mind (ToM) is the ability to attribute mental states, to oneself and to others. These mental states include, volitional mental states, such as desires and intentions, perceptual such as seeing and hearing, and epistemic mental states; such as knowing, thinking and believing. Social interaction is based on the appreciation of these mental states (Mitchell, 1996). Baron Cohen (1995) suggests that mind reading is the best way of making sense of the actions of others. For example, s/he spilled the coffee because s/he thought the cup was empty or s/he is going home because s/he thinks s/he left the keys there (Malle, 2001).

According to this account humans unlike other species are equipped with a theory of mind module that allows them to predict others actions (Astington, Harris & Olson, 1988; Baron-Cohen, Leslie & Frith, 1985; Wimmer & Perner, 1983) not only on the basis of their behaviour, but also in relation to their mental states. Whilst for instance animals may only be able to predict other animals' actions in terms of their behaviour, for example interpret a threatening posture, as intention to attack; humans can predict other humans actions on the basis of their mental states (Stone, Baron-Cohen, & Knight,1998).

A number of theorists have argued that we always search for the meaning behind the words we hear or read, constantly trying to infer the speaker's/author's communicative intention (Sperber & Wilson, 1986). For example when a policeman says 'drop it' to a criminal holding a gun, it is immediately assumed that he is referring to the gun. They call this a search for relevance. A discrete ToM mechanism is the core of this cognitive function (Baron-Cohen & Leslie, 1985; Leslie, 1987).

Studies on children's developing appreciation of mental states started with Piaget (1929), who suggested that in the 'preoperational stage' children are confined in their own subjective world, unable to understand other peoples' visual or cognitive perspectives, assuming that their own view of the world is the only one (Mitchel, 1996; Baron-Cohen, Tager-Flusberg & Cohen, 1993). To illustrate this point Piaget drew on the children's egocentric speech, as evidence of their inability to put themselves in the position of their interlocutor, as an active listener. Dahlgren, Dahlgren-Sandberg, and Hjelmquist (2003) argue that Piaget's view is consistent with the ToM hypothesis.

Later studies conducted to explore the children's developing understanding of the mind based on their ability to appreciate mental states concluded that the prediction of people's actions on the basis of their true beliefs does not necessarily imply an understanding of the mind (i.e. Mitchell, 1997). For example, a child who watches his father putting his watch in a drawer before leaving the room, and correctly predicting that when he comes back in, he would look for his watch in the drawer where he left it, does not mean that he possesses an understanding of the mind, as s/he may just be reporting the true location of the object (as if s/he was asked 'where is the watch?') (Mitchell, 1997). The argument that follows is that it is not until one demonstrates an understanding of false belief that one can qualify as having ToM (Dennet, 1978).

ToM tests were therefore developed in an effort to assess children's ability to explain an action in relation to the character's false belief (Wimmer & Perner 1983). These tests are known as false belief tests. Wimmer and Perner (1983) adopted the term ToM from Premack and Woodruff (1978) and designed the first false belief test (Maxi and the chocolate scenario) to assess children's understanding of mental states, as illustrated by their ability to comprehend that characters might hold beliefs conflicting reality.

The story was acted out for the child with dolls and toys. The scenario was as follows: Maxi leaves a bar of chocolate in the kitchen and leaves. During his absence, his mother comes in and changes the location of the chocolate. When Maxi returns, the experimenter asks the child where Maxi would look for the chocolate.

The key aspect of this task was that it required the participants to attend to Maxi's belief and not to the true location of the chocolate. Results from this study demonstrated that

only children above the age of three were able pass the test (Dahlgren, Dahlgren-Sandberg, & Hjelmquist, 2003). Many variations of this test have now been used indicating that children younger than three or four years of age have trouble inferring beliefs contrasting reality. And it is not until later in development that children start to use beliefs to justify people's actions (Saxe, Carey, & Kanwisher, 2004).

Baron Cohen, Leslie and Frith (1985) were the first to adapt Wimmer's and Perner's (1983) test in their seminal study of ToM in children with autism (Sally and Ann see Appendix 1). Their study concluded that children with autism have difficulty in understanding mental states, compared to their neurotypical peers and children with down syndrome (Baron-Cohen, 1995; Dahlgren, Dahlgren-Sandberg, & Hjelmquist, 2003). These results were replicated in further studies, postulating that the deficit in ToM could account for two of the core autistic symptoms (Tager-Fusberg,1992).

The methodological validity of Baron-Cohen's (1985) seminal study on the ToM abilities of individuals with autism has been questioned on the basis of using an inadequate measure. It was argued that given the impairment of individuals with autism to engage in make believe, it was unreasonable to measure their understanding of mental states, on the basis of tasks, requiring an understanding of pretence. In the same vein ascribing belief into dolls was also considered problematic (Gelder, 1987). In response to this criticism Leslie and Frith (1988) designed a new real life interaction test that did not involve dolls, but people. Two experimenters and a child took part in this task. The three of them placed a coin underneath an upturned cup. One of the experimenters (A) left the room. Meanwhile the child and the other experimenter (B) changed the location of the coin. When experimenter (A) came back, experimenter (B) asked the child where would experimenter (A) look for the coin. Most children with autism predicted erroneously that experimenter (A) would look for the coin in its actual location, confirming Baron-Cohen's (1985) seminal findings of a ToM deficit in autism.

Further false belief tasks such as the 'deceptive box' (Perner, Leekam, & Wimmer, 1987) and the 'appearance reality' task (Flavell, Flavell, & Green, 1983) were designed only to confirm that children with autism fail to understand that the mind holds beliefs, which may be in conflict with reality. Both tasks required an understanding that the mind may construct a model of reality that may be erroneous.

In *'the deceptive box'* task the experimenter showed the children a box of smarties and asked them what did they think was inside. Only when the children had answered smarties could the experiment begin. The experimenter opened the box and showed the children that it contained pencils. A second experimenter (John) then came in the room. Experimenter (A) asked the children what would John think was inside the box. Results demonstrated that most children under the age of four and most children with autism failed to correctly predict what John would think was in the box, as they were inclined to consider their current knowledge as universal.

Consistent with the deceptive box results were those from the appearance reality task. In this task the children were shown an object that looked like something else (for example a sponge that looked like a rock) and were asked what they thought it was. The children deceived by the appearance replied rock. Later, the true identity of the object was revealed and the children were asked what someone else who had not seen the object before, would think it is (Frye, Zezalo, & Burack,1998). Results demonstrated that children who failed false belief tasks also failed the appearance reality task. This is not surprising since the understanding of misleading appearance, similarly to the understanding of false belief requires the understanding that the mind may create mistaken models of reality (Gopnik & Astington,1988). Baron-Cohen (1991) who replicated, the appearance reality task developed by Flavell et al., (1983), found that individuals with autism failed. Furthermore, children with autism had difficulty not only in acknowledging what someone else would think but also in acknowledging their own prior false belief (Gopnik & Astington, 1988; Perner, Leekam & Wimmer, 1987).

The validity of the ToM hypothesis in autism on the basis of success in false belief tests has been further questioned by finding suggesting that certain individuals with autism pass these tests. In response to this criticism, second order false belief tasks were designed. Whist in the first order false belief tasks only an understanding of what is in somebody else's mind is required, in the second order false belief tasks an understanding of what someone thinks about somebody else's thoughts is required (Dahlgren, et al., 2003). Baron-Cohen (1989) used a version of Perner's and Wimmer's (1985) second order false belief task to test ToM abilities in children and adolescents with autism who passed first order false belief tasks. He concluded that although certain individuals with autism may pass simple false belief tests, their inability to pass more complex tests such

as the second order false belief tasks, demonstrated that they did not possess a fully developed theory of mind module. Conversely to Baron-Cohen's aforementioned argument, Bowler (1992) gave evidence of high functioning individuals with autism who passed second order false belief tasks and concluded that the ability to acknowledge false belief is not tantamount to having autism.

Autism is a spectrum disorder. This being the case, ToM abilities of individuals with autism lie along a spectrum, implying that certain individuals are more impaired than others. Less impaired individuals may pass 1st order false belief tasks, yet may still have problems in social interaction. To detect the problems advanced ToM test were designed (Kleinman, Marciano & Ault, 2001). Research indicates that first and second order false belief tasks fail to detect ToM deficit in adults of normal intelligence who might have developed compensatory techniques to deal with their impairment, yet still have the social and communication impairments of autism (Bowler, 1992; Ozonoff, Rogers & Pennington, 1991; Dahlgren & Trillingsgaard, 1996; Happe, 1994). To tackle this issue more subtle tests for social cognition in high functioning individuals with autism were devised:

- Strange stories
- Faux Pas
- Reading the mind in the eyes
- Reading the mind in the voice

Strange Stories

Happe (1994) in an attempt to fill the gap tested high functioning individuals with autism on advanced ToM tasks involving story comprehension. In these tests the participants were presented with stories of everyday situations where the characters said things they did not literally mean. The participants had to infer the real meaning behind the utterances of the characters, based on contextual information. For example, a person receiving a present may reply, 'Thank you very much. It's lovely. That's what I wanted' either because s/he genuinely thinks it's lovely or because s/he doesn't want to hurt the other person's feelings. One can only come to the correct inference by taking all the information into consideration. Results from the strange stories tests demonstrated that even the most able individuals with autism failed to give context appropriate

interpretations of the characters' utterances and showed difficulty to appreciate non-literal language such as irony, jokes, white lies, metaphors, and indirect requests.

The findings of this study were replicated in a modified version by Jolliffe and Baron-Cohen (1999a) confirming that able individuals with autism have difficulties in answering questions requiring the ability to mind read. Even though many individuals with Asperger's syndrome gave correct or partially correct answers, the additional information they gave to justify their responses was of little relevance, revealing an idiosyncratic way of processing information.

Faux Pas

The 'Faux Pas' task, is one of the most advanced ToM tasks that attempts to detect subtle ToM deficits in individuals with autism who pass first and second order false belief tasks. This task requires the participants who listen to a story to understand when a 'faux-pas' has occurred. Understanding 'faux-pas' requires the participants to infer simultaneously two conflicting mental states. That of the person committing the faux-pas, who says something s/he doesn't know s/he shouldn't and that of the person hearing it that may feel insulted or hurt. Understanding 'faux-pas' requires two components, a cognitive and empathetic/affective. Research suggests that children between 7 and 8 years of age with Asperger syndrome, pass both 1st and 2nd order false belief tasks, yet show marked difficulty in understanding the 'faux-pas' (Baron-Cohen, O'Riordan, Stone, Jones & Plaisted, 1999).

Reading the mind in the eyes / Reading the mind in the voice

Baron-Cohen, Wheelwright and Jolliffe (1997) designed a test where the participants had to choose a mental state term to describe a character's emotion, either by looking at photos of the entire face or just the region around the eyes. Results from their study demonstrated that individuals with autism performed significantly worse in both tasks compared with controls. Furthermore, whilst controls' performances were similar in both tasks, individuals with autism performed significantly worse on the eye only condition. This led to the conclusion that individuals with autism are unable to derive from the region of the eyes, the same information as their neurotypical peers. Baron-Cohen (1997) suggested that failure to attend to other peoples' eyes, may impede the individuals with autism from learning the language of the eyes. According to this hypothesis, inability to

choose appropriate mental state terms to match with the eyes, may not be due to inability to mind-read but could be attributed to the fact that the task required attention to the eyes.

In an effort to clarify this issue Kleinman, Marciano, and Ault (2001) designed an auditory test, where the participants had to attribute mental states based on the verbal intonation of the characters performing. Results from this study demonstrated that individuals with autism were equally impaired in inferring mental states from the intonation, as they were from the eyes.

Research on perception has demonstrated that humans can identify emotions from both verbal intonation (Bachorowski & Owren, 1995; Banse & Scherer, 1996) and visual cues, such as pictures of people's faces (Ekman & Friesan, 1975). However, children and adolescents with autism have shown deficit in both conditions (Loveland, Tunali-Kotoski, Pearson, Chen, Brelsford, & Ortegon, 1995; Hobson, 1986).

ToM & Verbal Ability

There is a correlation between success in false belief tasks and verbal abilities, which is reflected in the results of several studies indicating that individuals with high functioning autism and Asperger syndrome perform better in comparison with the rest of the population on the autistic spectrum (Bowler, 1992; Dahlgren, & Trillingsgaard, 1996; Ozonoff et al., 1991). Despite the evidence of an association between linguistic competence and ToM abilities (Astington & Jenkings, 1999; Cutting, & Dunn, 1999; Dunn, Brown, Slomkowski, Tesla, & Youngblade, 1991) the nature of this relation has been a controversial issue. Some claim that language ability is a necessary precursor for ToM development (de Villiers & de Villiers, 2000), whilst others suggesting that ToM is a necessary precursor for language development (Baron-Cohen & Leslie, 1985; Bloom, 2000; Happe, 1992). In response to this debate Malle (2003) offered a compromising theory. He suggested that *early development components of ToM are fundamental for certain aspects of language acquisition, such as establishing the referents of newly heard words, whilst other aspects of language acquisition such as syntax of complementation and the semantic of opacity are in turn necessary for the late developing concept of belief* (Malle 2003, p.272).

According to the former hypothesis linguistic ability is central to the children's understanding of the world and the social relationships (Tomasello, 1999) and a prerequisite to the understanding of the mind as an organ that represents mental states including false beliefs (Astington, 2001). In particular, the understanding of certain linguistic constructions such as syntax complementation seems to be a precondition for the 'development of a representational ToM'. Because it is only through the syntax of complementation, that one can come to understand mental states that conflict with reality. Language is the only representational system that can support the concept of false belief, as it is propositional and can therefore capture the falsity and embeddedness of propositions (de Villers, 2000). For example, although the sentence 'John believed that it snowed in Washington on Monday' may be true, the embedded complement 'it snowed in Washington on Monday' might be false. Understanding the syntactic structure of embedded complement is therefore essential for the understanding of false belief. Linguistic competence is therefore essential for the understanding of the mind (Lohmann & Tomassello, 2003).

Further support for the importance of linguistic competence for the development of ToM abilities, comes from a study by Begruno and Bowler (2004) that suggests bilinguals score higher than monolinguals on ToM tests. The argument that follows is that being able to communicate in a second language gives one the advantage of participating in two social worlds and thus enhancing one's sensitivity to the subtleties of social communication. Furthermore, the mentalistic ability of bilingual speakers, to hold at least two linguistic representations for every referent, fosters the development of their ToM abilities.

Similarly, Nelson and Robin (2004) claim that a prerequisite for the ToM competence is the ability to hold in mind two conflicting representations of the same referent. Early in development children are unable to hold two conflicting representations in mind, but rather update their knowledge states by discarding a former belief, with newer information (Gopnik & Astington, 1988). The acquisition of the concept of false belief pre-requires from the children the computational resources to hold in mind a previously formed representation even when a new one is created by a new perceptual situation (Gordon & Olson,1998). Although, linguistic ability may be essential for the development of a representational ToM, it does not seem to be sufficient. Evidence to

support this hypothesis comes from studies indicating that high functioning individuals with autism who have intact linguistic abilities have difficulties in the social use of language (Tager-Flusberg, 1993; Tantam, 2000).

Social language is inextricably linked with ToM, as it requires an understanding of the speaker's communicative intentions, based on an appreciation of his/her mental state. The inability of individuals with autism to understand mental states could therefore account for their over literal interpretation of speech and their difficulties in understanding simile, metaphor and irony (Happe, 1995). The link between ToM abilities and understanding of mental state terms has been supported by studies indicating that children who use fewer epistemic mental states to describe characters' feelings, tend to have difficulty in appreciating the mental states of characters in a story (Tager-Flusber, 1992). Similarly, belief term comprehension is also associated with the development of children's representational ToM, as research indicates that the children who pass false belief tasks, score better results on belief terms comprehension (Ziatas, Durkin & Pratt, 1998). This suggests that the ability to comprehend the certainty expressed in the various belief terms such as, think, know, guess, requires the ability to infer the mental state behind the utterance (Mitchell & Isaacs, 1994) and hence appreciate the speaker's intention (Happe, 1995).

The correlation between ToM abilities and understanding of mental states is further supported by studies suggesting that the quality and quantity of family talk about mental states that typically developing children are exposed is related to their performance in false belief tasks (Cutting & Dunn, 1999). In other words, bigger exposure in conversational opportunities enhances the development of ToM, whilst limited communicative opportunities impede its development (Sparrevohn & Howie, 1995). This is illustrated in studies of children with severe hearing and visual disabilities, demonstrating that both groups show a marked deficit in ToM tasks, that may be attributed to limited exposure to conversational opportunities. Further support for the hypothesis that restricted communicative opportunities may account for a ToM deficit, comes from a study comparing ToM abilities of deaf children brought up in families using signing language, with others that did not. Results demonstrated that the former group, not being deprived of communicative opportunities, performed better than the

latter in false belief tasks (Ziatas, Durkin & Pratt, 1998; Saxe, Carey & Kanwisher, 2004; Dahlgren, et al., 2003).

The relationship between language and ToM is succinctly summarized in Saltz's (1994) claim that the understanding of the mind relies on social linguistic intelligence, which develops with the help of social experience on one hand and language on the other. Whereas, the former allows the children to develop a sense of self by comparing themselves with others, the latter enables them to verbally express internal states (Dahlgren et al., 2003). Difficulty in accessing language, suggests difficulty in accessing experience and vice versa. Restricted access to experience, has major impact on language development. Difficulty in accessing language suggests restricted access to incidental learning, which is a major tool for the development of ToM.

1.2.2. Weak Central Coherence

There is a growing debate as to whether ToM is the core deficit in autism, or whether the disturbance is in more primary perceptual processes (Frith & Happe, 1994; Klin, Volkmar & Sparrow, 1992). Mottron and Belleville (1993) suggested that the global and local components of visual stimuli, which are organized and processed hierarchically by the neurotypical population, are processed independently and equivalently by individuals with autism. This discrepancy in visual attention can account for the detailed style of processing information that characterises individuals with autism as opposed to the global style of processing that characterises the neurotypical population (Plaistead, Swettenham, & Rees, 1999).

The theory of detailed versus global processing in autism is thoroughly addressed in Frith's account (1989) on Weak Central Coherence (WCC). According to this theory weak drive of central coherence could account for the ToM deficit in individuals with autism. Many studies have demonstrated that individuals with AS have major difficulties in attributing contextually appropriate mental states to the characters in a story (Kaland, Smith & Mortensen, 2004). Their idiosyncratic and context inappropriate answers could be attributed to weak central coherence, a tendency to process contextual information in a piecemeal fashion as opposed to global processing (Frith & Happe,1994). Whist they may have intact ToM they may not appear to have, as they are unable to derive meaning from the context (Morgan, Maybery & Durkin, 2003). WCC theory suggests that failure

in false belief tasks could be attributed to inability to integrate separate local cues into a cohesive understanding of the social situation. Even if ToM is available, WCC may restrict children's potential to make use of it (Frith, 1989; Happe, 1997).

Kaland, Moller-Nielsen, Callesen, et al. (2002) claim that individuals with Asperger do not lack the ability to attribute mental states but that they have a different cognitive style of processing social events compared with controls. Hermelin and O'Connor (1985) suggest that some individuals with ASD are able to use cognitive mechanisms to deal with affective processes. However, this slows down their responses disrupting the natural flow of social interaction, making them appear odd in social situations, where mental flexibility and subtle timing play an important role (Bowler, 1992).

Similarly, Frith (1989) claimed that coherent processing of information in typically developing children is rapid because the process is spontaneous and intuitive, unlike the piecemeal fashion process that characterises individuals with autism who appear to be calculating their every move as if they are working out a complicated maths problem. The problem in high functioning individuals with autism does not therefore lie in their ability to infer mental states but rather in the speed by which this inference is made. However, very few studies have focused on this aspect of the problem. In an effort to fill this void Kaland, Moller-Nielsen, Smith, et al. (2005) designed the 'Stories from Every Day Life' after Happe's (1994) 'Strange Stories' with a view to record the reaction time of mental state inferences of high functioning individuals with autism. Results demonstrated that individuals with AS not only had difficulty in using the story context to inform their answers but were also slow in test situations and especially in mental inferences compared with controls.

The local versus detailed processing hypothesis is further supported by studies indicating that individuals with autism do better in tasks that require local processing such as embedded figures and block design and worse in global processing tasks, such as verbal homographs (Happe, 1997; Joliffe & Baron-Cohen, 1999b) and ambiguous sentences (Joliffe & Baron-Cohen, 2000). In the verbal homographs individuals with autism failed to use the context to infer the correct pronunciation of identical words, and similarly in ambiguous sentences, failed to use the context to arrange them coherently.

Results of the latter studies have concluded that individuals with AS and autism were less likely than the neurotypical participants, to refer to the context when reading a phrase to infer the correct pronunciation. The cognitive perception impairment in global information processing could therefore account for the social interaction deficit that characterises individuals with autism (Jarrold, Butler, Cottington & Jimenez, 2000), since most aspects of social information processing require global as opposed to detail processing; for example face processing or context dependent language (Kaufman & Kaufman, 1983; Happe, 1997). Furthermore, WCC could account for the literal interpretation of language that characterises individuals with autism, as well as their inability to read facial expressions and understand emotions, regardless of their ToM abilities. The tendency towards detailed as opposed to global processing of information in individuals with autism could be also associated with the high anxiety levels and mood disorders that characterise the vast majority of individuals with autism (Ghaziuddin, Weidmen & Ghaziuddin, 1998; Muris & Steerneman, 1998; Tantam, 2000).

An alternative hypothesis would be that ToM deficit and WCC are not mutually exclusive but co-exist (Frith & Happe, 1994) and whilst the former could account for the difficulty children with autism have in understanding mental states the latter could account for their uneven profile in terms of strengths and weaknesses.

1.2.3. Executive Function Hypothesis

Executive function is the ability to suppress all irrelevant stimuli and focus attention to a specific domain, disengaging oneself from the immediate context and formulating a sequence of actions towards future goals (Hughes, Russel & Robbin, 1994). Research indicates that individuals with autism have difficulty with tasks requiring executive function abilities (Hughes & Russell, 1993; Ozonoff, Pennington & Rogers, 1991; Ozonoff, Strayer, Mc Mahon & Filloux, 1994; Russell, Mathner, Sharpe, & Tidswell, 1991; Russell, Jarrold, & Potel, 1994). *"Inability to block out irrelevant stimuli, narrow attentional focus and persistence in repetitive routines, to the exclusion of attention to people, paints the picture of executive dysfunction"* (Dahlgren et al, 2003, p132).

According to the executive function hypothesis the core deficit in autism is not related to a specific cognitive process but rather a more general cognitive deficit of executive function of inhibitory control. Competence in false belief tasks relies on two abilities.

First the ability to hold in mind simultaneously two conflicting representations of reality, the actual and that represented in the protagonist's head, and second the ability to refrain from giving a wrong yet compelling answer, that of the actual location of the object. Different false belief tasks, have shown that children's performance on these tests is clearly dependent on the demand for inhibitory control. Decreasing the salience of the actual location of the object can improve performance, reducing the demand for inhibitory control (Wellman, Cross & Watson, 2001). For example, in the Max and the chocolate scenario, the task was made easier when the chocolate instead of being moved to the green cupboard was eaten or moved to an unknown location. Further support to the executive function hypothesis in autism comes from other false belief tasks that do not require reasoning about beliefs, and yet similarly indicate that children under the age of four are unable to correctly answer (Zaitchik, 1990; Lesli & Thaiss, 1992) and studies that suggest they are unable to entrain two distinct verbal labels for a single object (Apperly & Robinson 2002). Consensus has not yet been reached as to whether executive function or inhibitory control are fundamental for the understanding of belief (Perner & Lang 2000) nor whether false belief performance is limited by immature inhibitory control (Perner, Stummer & Lang, 1999).

Research indicates that people with frontal lobe damage similarly to those with autism show executive function deficit, social unresponsiveness and insensitivity. This led to the hypothesis that individuals with autism may have the same executive function deficit as people with frontal lobe damage, which could account for their narrow attention focus, repetitive behaviour and persistence on sameness. To test this hypothesis a study assessing both executive function and ToM abilities of individuals with Asperger syndrome was carried out (Ozonoff, Pennington & Rogers, 1991). The study included set shifting and planning tasks, such as the Wisconsin Card Sort and the Tower of London, as well as first and second order false belief tasks. Results indicated that children with Asperger had no problem with simple ToM tasks yet had executive function difficulties, as evidenced in both executive function tasks conducted. In the Wisconsin Card Sort, where the subjects were required to match a set of cards according to shape in one trial, color and number, in the subsequent ones, they showed inability to shift set and adapt to the changing requirements, as they tended to repeat their initial responses. Similarly, in the Tower of London task, that involved matching different configurations of shapes with a goal configuration, in as few moves as possible, the participants acted impulsively and

failed to plan and execute an optimal set of moves to transform the shapes into the goal configuration. Results from this study led to the conclusion that executive dysfunction deficit in autism is more pervasive than the ToM deficit and may alone account for the autistic symptoms (Mitchell,1997).

Another task to test the executive function hypothesis is The Window Task. In this task the children had to point to an empty box as opposed to the baited one in order to get the treat. Yet, children with autism were unable to resist from pointing to the baited box, despite the fact that they kept loosing the treat. The study concluded that the children's inability to refrain from responding intuitively in order to achieve their goal could account for the false impression that individuals with autism have a ToM deficit. According to the Executive Dysfunction hypothesis in autism, children's inability to lie, in order to deceive a thief in relation to the real location of the treat was not due to inability to understand mental states, as suggested by the ToM hypothesis but due to their impulsivity (Russell, et al. 1991).

However, this claim was challenged by studies (Leekan & Perner, 1991; Leslie & Thaiss, 1992) that identified individuals with autism who showed deficit in understanding false belief but who succeeded in executive function tasks, such as the false photo task, that did not require an understanding of the mind. The false photo task was introduced in neurotypical children by Zaitchik (1990) and replicated in later studies involving children with autism (Leekam & Perner, 1991; Leslie & Thais, 1992). In this task a picture of a toy placed on a table was taken with a polaroid camera. As the photo was developing the experimenter changed the position of the doll and then asked the child what did s/he think the photo will show. To this question the majority of children with autism gave the correct answer, which led to the conclusion that although children with autism were able to understand physical representations, such as photographs and pictures, they had trouble in understanding mental representations (Charman & Baron-Cohen, 1995, Leekam & Perner, 1991; Leslie & Thaiss, 1992). This led to the conclusion that executive dysfunction does not appear to be a sufficient explanation for the ToM deficit in autism. Slaughter (1998) on the other hand, challenged the validity of this conclusion arguing that that the false photo task was easier than the false belief and therefore, the comparison was not valid.

Taking the aforementioned arguments into account Mitchell (1997) concluded that the cognitive impairment in autism is twofold: one, that causes the deficit in the understanding of mind and can explain the failure in false belief tasks and another that accounts for the executive function impairment which explains the narrow interests and insistence on sameness of children with autism. Furthermore, the EF hypothesis attempts to explain the deficit in pretend play in children with autism. Their difficulty to engage in pretend play is attributed to their inability to disengage from the real world (inhibition) in order to engage in the pretence, as well as a difficulty in shifting from one interpretation of a toy to another, set shifting (Haris, 1993; Jarrold, Boucher & Smith, 1994).

1.3. Summary

No consensus has been reached amongst researchers as to whether Asperger's Syndrome and High Functioning Autism are two distinct syndromes or different labels for a single disorder. As detailed this chapter, the current classification systems DSM IV and ICD -10 that distinguish the two conditions on the basis of onset, communication impairment and cognitive abilities have been questioned by many researchers, who claim that these fail to sufficiently define the boundaries between the two conditions.

Given that the overlapping features between HFA and AS outweigh their discrepancies, and that these discrepancies do not seem to shed light on either of the conditions in terms of exclusive characteristics that could inform treatment, these two terms have been viewed as synonymous; and Gillberg's term 'high functioning individuals with autism' has been adopted in this study, to embrace both.

The focus of this study was to devise an intervention that would meet the needs of high functioning children with autism. Special emphasis was placed on understanding the distinct nature of the cognitive processes that may contribute to the triad of impairments (impairment in social interaction, communication and imagination) that characterise them. To this end a number of theories of explanation for autism were examined. Amongst the most prominent theories were: the Theory of Mind hypothesis (ToM), that attributes the communication impairment in autism to an inability to attribute mental states to oneself and to others, as a way of understanding and predicting behaviour; the Weak Central Coherence hypothesis (WCC) that attributes the social interaction deficit

and the uneven cognitive profile that characterises individuals with autism to a global processing information deficit; and finally the Executive Functioning (EF) hypothesis that attributes the social-communication deficit and the persistence to repetitive routines to an inability to suppress irrelevant stimuli and focus attention on a specific domain.

There is ongoing debate as to which one of these theories may account for the symptomatology of autism. Although it is beyond the scope of this thesis to take position on this debate, awareness of each one of these theories played a vital role in developing an intervention that aspired to be sensitive to the needs of children on the autistic spectrum.

Chapter 2

Behavioural and Cognitive therapies

2.1. Introduction

The aim of this chapter is by no means to present a comprehensive literature review on behaviour psychology but rather describe the principles underpinning the behavioural and cognitive science and highlight those aspects that are relevant to this particular study and have influenced the intervention programmes devised.

2.2. Behaviour Psychology

Behavioural psychology was born out of the dissatisfaction with traditional psychoanalytic theory and methods, and developed as an alternative to psychoanalysis. Unlike traditional approaches that view behaviour as the expression of inner forces such as drives, impulses, needs, motives, conflicts and traits; behavioural approaches emphasise on the role of the environmental, situational and social factors as the determinants of behaviour (Kazdin, 1984). In other words, whilst non behaviourists look at overt behaviour to infer the private behaviour, behavioural analysts see both public and private behaviour as dependent variables closely related to each other and also affected by the physical and social environment (Keenan, Kerr & Dillenburger, 2000).

The theoretical discrepancy between the two approaches is clearly reflected in the treatments that developed from each approach. Whilst in psychoanalytic treatments the clients' issues of concern are only seen as symptoms of underlying problems, and therapy focuses on looking within the individuals to find the motives for their manifestations; behavioural treatments view the presented problems to be significant in their own right and directly address them. The behavioural approach to treatment is severely criticised by the traditional approaches that raise concerns about symptom substitution. According to this view, even if a specific problem is resolved, unless the underlying disorder is treated, another problem will emerge. Research to support this claim is limited, whilst a number of studies have indicated that treating specific symptoms has a positive knock on effect on other behaviours (Kazdin, 1984).

Another major theoretical difference between the traditional intrapsychics view of personality and the behaviourists has guided the respective therapies in different directions. A sharp distinction between normal and abnormal behaviour, is drawn by traditional theory, defining the former as the socially acceptable expression of the intraspychic and the latter as the reflection of a disordered personality. Behaviour theory, on the other hand views behaviour differences among individuals as a continuum, and abnormality is only inferred from the degree to which behaviour deviates from social norms. According to this view, all behaviour, both normal and abnormal, is determined and developed by the same principles of learning. Three types of learning are considered to be essential in developing and modifying behaviour, classical conditioning, operant conditioning and observational learning (Kazdin, 1984).

2.2.1. Classical Conditioning

Classical conditioning is concerned with modifying behaviour, including reflex responses and involuntary activities. Reflex responses, are those responses that are triggered automatically by specific stimuli such as noise, light, and shock. Conversely, conditioned responses are those that have acquired their power to elicit the response through association with the reflex responses. Whilst reflex responses are unlearned and unconditioned, conditioned responses are the result of a learning process. Pavlov's experiment (1927) on dogs' salivary reflexes epitomises the classical conditioning theory. The study demonstrated that the dogs learned to salivate in response to a variety of different stimuli that became conditioned through association with a reflex response stimulus. The process involved presenting the new stimuli one second prior to the presentation of the reflex stimulus for several trials, until the neutral stimulus became a conditioned stimulus.

Behaviour therapists characterise naturally developed phobias as the result of classical conditioning. They assert that conditioned responses might be the outcome of accidental association of stimuli in the environment (Mash & Terdal, 1981). Despite the controversy as to whether classical conditioning theory can adequately explain the aetiology of fear and anxiety, there is little debate about its contribution to the development of a number of successful techniques in dealing with phobias (Kazdin, 1984; Thorpe & Olson, 1990). These will be discussed later in this chapter.

2.2.2. Operant Conditioning

Behaviour therapists claim that normal and abnormal behaviour can be understood and altered in terms of the operant learning principles (Thorpe & Olson, 1990; Kazdin, 1984). Operant behaviour, unlike respondent behaviour is not automatically elicited by the stimulus preceding it, but is rather determined by its consequences (Thorpe & Olson, 1990; Kazdin, 1984). According to Skinner (1969) behaviour is the product of a three term contingency relation (antecedent stimulus, behaviour, consequent stimulus).

To produce an operant behaviour, the experimenter instead of presenting a stimulus is therefore setting up a behavioural contingency. A contingency is an if ... then relationship that may or may not lead the subject to perform the desired behaviour. Whether the contingency will be successful in producing the target response depends on the stimuli that are selected for consequences, the time of delay between stimuli and response and other factors. Skinner's (1969) experiment on how pigeons learned to peck on a disk for food to be delivered is a classic example on how operant behaviour is produced, shedding light on how skills are acquired.

Behavioural contingencies play an important role in determining which response will be strengthened and which will be discouraged. Behaviour can increase or decrease in frequency as a result of consequent stimuli, reinforcement or punishment. Whilst, punishment decreases the frequency of a behaviour by the presentation of aversive stimuli or the withdrawal of desirable ones, reinforcement increases it (Thorpe & Olson, 1990). There are two types of reinforcement; positive, where a behaviour is increased in frequency by the presentation of a desirable consequent stimulus, and negative where a behaviour is increased in frequency by the removal of a usually aversive stimulus (Kazdin, 1984). When negative reinforcement is in operation, escape or avoidance learning takes place. A child may perform a target behaviour to avoid aversive consequences or may engage in a disruptive behaviour that is unintentionally negatively reinforced by the withdrawal of a demand to which s/he does not wish to comply (Kazdin, 1984). Although, behaviour theory mainly focuses on positive reinforcement, the understanding of negative reinforcement is particularly significant, in recognising what might trigger and maintain an undesirable behaviour in naturalistic settings where negative reinforcement is often the case (Keenan, et al., 2000).

To eliminate an undesired behaviour, extinction procedures should be put in place. Extinction is the process of modifying a disruptive behaviour by disconnecting a reinforcing contingency. The extinction of an operant response is closely related to the extinction of a classically conditioned response. The process involves identifying the reinforcer of a disruptive behaviour and withholding it, when the behaviour occurs, so that the behaviour eventually stops. Part of the extinction procedure involves reinforcing other behaviours, removing the child from the reinforcing environment, as well as reinforcing behaviours incompatible with the problem behaviour (Keenan et al., 2000).

2.2.3. Observational learning

Bandura (1971) was the first to acknowledge that classical conditioning and operant learning could not account for all the learning people acquire during life and included observational learning as the 3rd factor. According to this theory experience is not the only pathway to learning, but observation can also serve as a learning medium.

People do not only learn by experiencing the consequences of their own actions, but also by viewing other peoples' actions and their respective consequences. Modelling, is in other words the process through which people learn behaviours, values and beliefs from the observation of causal relationships (actions and consequence) (Chiou, & Yang, 2006). The observer of a model may be encouraged or discouraged to perform certain behaviours as a result of the consequences on the model for similar behaviours. The effect on the observer can be inhibitory or disinhibitory, depending on whether the behaviour is encouraged or discouraged (Khan & Gangemi, 2001).

The success of observational learning, heavily relies on four processes. The attention the observer is paying to the model, the ability of the observer to retain the information gained from watching the model, the competence to put the information together, and finally the motivation to perform the behaviour modelled. Providing reinforcement in observation learning can also enhance results (Thorpe & Olson, 1990; Braaksma, 2002). Observational learning is considered to be successful when a new behaviour emerges that was not evident prior to the modelling (Schunk, 1998).

2.2.4. Applied Behavioural Analysis (ABA)

Applied Behavioural Analysis is the application of the science called Behavioural Analysis to problems encountered by people in their lives. As mentioned earlier in this chapter the behavioural and psychoanalytic approaches stand in sharp contrast in relation to how they view behavioural differences between individuals. This polarity is also reflected on their views on autism and its treatment. Whilst the psychoanalytic theory that prevailed in 1950-60s viewed autism as the result of an emotional or psychological trauma, and emphasised on helping children overcome their emotional difficulties; research in 1970s that revealed a cognitive and linguistic impairment in autism, led behaviourists to focus on teaching specific cognitive and linguistic skills (Lovaas, 1977). ABA views autism as a series of excesses and deficits in the behaviour repertoire, that need to be changed or managed (Keenan, et al., 2000).

Applied Behavioural Analysis (ABA) is also referred to in the context of autism, as the Lovaas Approach, after its original proponent Ivar Lovaas who in 1973 demonstrated the efficacy of behavioural interventions in treating multiple behaviours in diverse cases of children, including a population with autism (Lovaas, Koegel, Simmons & Long, 1973). Since then further research has demonstrated that ABA is one of the most effective approaches in dealing with the behavioural problems of children with autism (Kabot, Masi, Segal, 2003; Lovaas & Smith, 2003; Howard, Sparkman, Cohen, Green & Stanislaw, 2005; Sallows & Graupner, 2005; Smith, Groen & Wynn, 2000). It is not a cure for autism but a treatment that can modify behavioural problems (Harris & Handleman, 1994). Yet, it wasn't until 1993 that ABA returned to popularity, after the publication of Maurice's book 'Let me hear your voice' (Leaf & McEachin, 1999).

According to behavioural analysts, behaviour is the product of a three-term contingency, the Antecedent (A), the Behaviour (B) and the Consequences (C). **A**ntecedents are the circumstances that precede and set off the **B**ehaviour, and **C**onsequences are what follows it. Behavioural contingencies influence behaviour in all situations. Altering the contingencies can modify the behaviours (Keenan et al., 2000).

The study of these contingencies can lead to a better understanding of the learning process. Behavioural contingencies play an important part in encouraging certain responses and discouraging others. Furthermore, the identification of antecedents and

consequences of a behaviour can shed light on its function. For example, a disruptive behaviour may serve the purpose of communicating the child's discomfort with the environment. Therefore, understanding the function of the behaviour is vital in identifying a replacement behaviour that would meet the child's needs (Keenan et al., 2000).

The concept of positive reinforcement is central to the all behavioural modification programmes. There are two broad categories of reinforcers, primary, unconditioned reinforcers and secondary or conditioned reinforcers. The former are the stimuli to which people respond, without having undergone any special education. These include food, water and sex. The latter are those stimuli that have acquired their reinforcing value through their association with primary reinforcers. In other words, it is those stimuli that have acquired their power of eliciting responses through learning (Thorpe & Olson, 1990).

The success of many behavioural interventions mainly relies upon the strength of the accessible reinforcers. At the initial stages of an intervention, where children are unlikely to find the desired behaviours intrinsically rewarding, extrinsic reinforcers tend to be provided to encourage positive responses. However, the ultimate objective of all interventions is to work towards rendering artificial reinforcers redundant, by teaching children to respond to natural and social reinforcers. The process where artificial reinforcers are faded, giving their place to natural motivators is known as the fading procedure and should be incorporated in all behavioural intervention plans. The progress from edible to social and activity reinforcers is accomplished by pairing the primary reinforcers of tangible rewards, such as sweets and toys, with the secondary more abstract reinforcers, such as praise and hugs (Keenan et al., 2000). Decreasing the rate of reinforcement from continuous to intermittent may serve in reducing dependency and external control, as well as promoting generalisation by approximating what the child will find in the natural environment (Leaf & McEachin, 1999).

Reinforcers are not the only variables that play a part in modifying behaviour. The context in which the learning takes place, and the schedule of reinforcement also play an important role. The context, is known as the discriminative stimulus because it enables the learner to discriminate the circumstances in which the reinforcer will be delivered,

setting the occasion for the response. The schedule of reinforcement is another important variable that has an impact on behaviour. Different schedules of reinforcement, have different effects on behaviour (Ferster & Skinner, 1957).

Differential schedules of reinforcement serve different objectives in behavioural therapy. Continuous reinforcement, is when every response is reinforced. It is often used to avoid confusion at the initial stages of therapy where predictability and consistency is required so that the child understands what is expected of him/her. On the other hand, the disadvantage of continuous reinforcement is that it is not realistic and the behaviour acquired in therapy is on high risk of extinction in naturalistic settings where continuous reinforcement is rarely the case (Thorpe & Olson, 1990).

To tackle this problem, alternative schedules of reinforcement, such as partial or intermittent reinforcement, have been developed. In the intermittent reinforcement schedule, where reinforcement is only delivered for some of the responses the subject produces, the effects of extinction may be delayed as the learner cannot easily discriminate between the learning and the extinction phase. Resultantly, intermittent reinforcement usually produces behaviours that are more resistant to change. When the child doesn't know whether the reinforcer is coming next time, s/he is more likely to keep trying just in case, as in gambling, or slot machines (Keenan et al., 2000).

A distinction between reward and reinforcement is made in 'operant learning terminology'. Whilst both are stimuli and meant to encourage people to perform certain behaviours, reinforcers, unlike rewards that may only be delivered after the completion of the learning process, are frequently delivered in the course of the learning process, forming an intrinsic part of behaviour modification programmes (Thorpe & Olson, 1990).

Another important distinction needs to be made here, between reinforcement and bribery. Whilst, the former follows a behaviour as its natural consequence, the latter precedes the behaviour, in the form of a promise of a reward. When reinforcement is not correctly used, it may appear as bribery, and can lead to overdependence on rewards that may reduce children's motivation to perform any given behaviour unless rewarded (Leaf & McEachin, 1999).

Teaching Format

Discrete Trial Teaching (DTT) is a format sometimes used in ABA, based on operant reinforcement principles. The word trial stands for a basic teaching unit and the word discrete refers to the fact that each task has a distinct beginning and end (Leaf & McEachin, 1999).

DTT involves the assessment of the subjects' current skills, and the presentation of numerous systematic instructions, where correct responses are positively reinforced. It also involves breaking down a skill into its smaller components and teaching one sub-skill at a time through repeated practice, until it is mastered and new information is presented. DTT, stands in sharp contrast to traditional teaching methods of continuous trials that present large units of information with no clearly defined target responses, as it requires immediate response from the students to small units of information (Keenan et al., 2000).

DTT is an ABC contingency, where the (A) could be a verbal instruction, a discrete event or a visual stimulus that will indicate at the start of the trial, that the desired behaviour will be positively reinforced. Such indicators are known as *Discriminative Stimuli.* (B) Is the student's response that follows the discriminative stimulus and (C) is the consequence following the response. During phase A, prompting is often used to indicate the desired response, especially at the initial stages of an intervention, yet prompts should be faded quickly to facilitate independence and generalisation of behaviour to naturalistic settings (Leaf & McEachin, 1999).

To facilitate independence Leaf and McEachin (1999) propose setting up the stage for the target behaviour to occur, using the least directive approach, and then reinforcing it. Instead of instructing the child on what to do, the desirable behaviour is indirectly encouraged and then reinforced. In Skinner's terms the former is known as *instructional* control and the latter as *reinforcement control* (Skinner, 1953). The advantage of the reinforcement over the instructional control is that it facilitates generalisation and internalisation by reducing external control.

Furthermore, in terms of structuring trials Leaf and McEachin (1999) recommend to start with high probability response trials, to increase compliance, before more demanding tasks are included in the process. Easier tasks, or fully mastered tasks that increase motivation, should be interchanged with more difficult tasks. This is in line with the behaviour momentum paradigm (Mace, et al., 1988) designed to increase compliance with requests to engage in low probability behaviours. The behavioural momentum procedure involves the reinforcement of high probability requests before more demanding low probability requests are made. According to the behavioural momentum theory, once behaviour of compliance is initiated and reinforced, it is likely to persist even when low probability requests are made.

To conclude, it is imperative that certain procedures are put in place when using reinforcers to modify behaviour. First, emphasis should be placed on selecting reinforcers that are actually reinforcing the desired behaviours. Second, consideration should be taken in using age appropriate reinforcers that could serve to facilitate peer acceptance, as well as to promote generalisation and a healthy self image. Third, the reinforcers should vary to reduce the possibility of satiation, whilst novel and unpredictable reinforcers should be incorporated in the plan to increase motivation. Fourth, provision should be taken so that primary reinforcers are gradually paired with social that approximate real life, to promote generalisation. Finally, whilst, at the start of a programme, reinforcers should be delivered immediately after the occurrence of the desired response, to enhance the association between the behaviour and the response; an intermittent schedule of reinforcement should be gradually adopted, so that the need for reinforcement is faded over time (Leaf & McEachin, 1999).

2.3. Social Learning Theory (SLT)

"Social learning theory is defined as the learning theory of socially expected and therefore socially appropriate and desirable behaviours" (Khan & Cangemi, 1979, p.45). Social learning involves not only learning to perform target behaviours, but also to discriminate their appropriateness in different contexts. According to Levy (1970) SLT is an ideological umbrella, that embraced theorist with an interest on interpreting behaviour in relation to a given social context. SLT brought together the principles of classical conditioning and operant learning, with cognitive processes. According to this view behaviour is controlled by three systems. The system of reflex and conditioned responses, that of behaviours controlled by their consequences, and finally the system of behaviours controlled by cognitive processes.

Bandura (1971a) argued that behaviour is not just the result of the interaction between the individual and the environment, as Skinner had claimed (1952), but rather one of the interactive determinants. This concept is known as reciprocal determinism (Thorpe & Olson, 1990). According to this view, people do not passively respond to objective contingencies, but rather to their view of what those contingencies are. Social Learning Theory places an emphasis on the importance of cognitive factors like expectations, to explain behaviour and influence treatment's outcome. Expectations are defined as cognitions that explicitly anticipate future event, and are considered to be of two kinds, outcome and efficacy expectations. The former refer to the client's belief that a particular course of action will produce the desirable outcome and the latter to the client's belief in his/her ability to perform this action.

A number of studies have demonstrated that clients' expectations play an important role in therapy (Schachter & Singer, 1962). Bandura (1971b) claimed that the most important target in all treatments should be to develop the clients' sense of self efficacy in coping with the problem situation. In view of developing clients' self efficacy techniques such as self control and self management were developed.

Self control & Self management

In self control and self management procedures, the clients are actively involved in the therapeutic process rather than being passively conditioned by the therapist. These techniques are consistent with Skinner's (1952) claim that people control their behaviour, in the same way that anyone's behaviour is controlled, by changing the contingencies that influence it. Clients take control of their therapy by altering the variables that control it, providing reinforcement when the desired response occurs, and withdraw any reinforcement that maintains the undesired behaviour (Thorpe & Olson, 1990).

To deal with the latter, *stimulus control* is an important component of the process. This involves removing oneself from the reinforcing environment that may instigate the undesired behaviour to occur. In this way the undesired behaviour is disconnected from the context that functions as a discriminative stimulus, maintaining the unwanted behaviour (Thorpe & Olson, 1990).

The importance of the *self reinforcement* in the therapeutic process cannot be overemphasised, as it epitomises the clients' central role in therapy. The clients are not passively responding to conditioning but actively engaged in evaluating their performance and deciding whether reinforcement should or should not be delivered (Thorpe & Olson, 1990).

Behaviour theory acknowledges the various types of learning to be fundamental in the understanding of behaviour and conceptualisation of treatment. Bandura (1971c) pioneered in acknowledging the importance of cognitive factors like expectancy in learning associations among stimuli, pacing the way to cognitive psychology.

2.4. Cognitive Psychology

Cognitive psychology grew out of the dissatisfaction with the behavioural approach that viewed behaviour solely as the outcome of the interaction between the individual and the environment, and instead proposed that mental events such as beliefs, thoughts and expectations influence behaviour. Cognitive psychologists contend that psychological disorders are the result of disordered cognitive processes and suggest changing these cognitions as a means of alleviating the disorder (Rosenhan and Seligman, 1995).

As a result the primary objective of cognitive therapists is to identify the clients' problematic thoughts and help them alter them, by drawing their attention to their distorted thoughts and then having them confront contrary evidences that will enable them to see the true picture. A number of techniques under the broad label cognitive restructuring were developed to achieve this purpose (Thorpe & Olson, 1990).

2.4.1. Cognitive Behaviour Modification

This is a set of procedures that aim to verbally persuade the clients to change their views on the problem situation, by providing them with pre-treatment coaching on how to replace unhelpful thoughts with helpful. The process involves the client repeating the therapist's instructions to themselves, whilst confronting the anxiety provoking situation. Research has shown that changing self instruction may improve the clients overall coping skills performance. This approach involved self instructional training and stress inoculation training (Meichenbaum, 1977).

Self Instruction Training and Stress Inoculation Training (SIT)

This is a proactive procedure that aims to enable clients to foresee potential problems as a means of pre-empting them. It operates in three phases:

1. The Educational Phase

During this phase the clients are briefed on how negative thinking patterns may lead into negative emotions and maladaptive behaviour.

2. The Rehearsal Phase

This phase involves practising helpful self statement and coping skills to deal with anxiety provoking situations. It includes, preparation to confront the stressor,

confrontation with the stressor, coping with the feeling of anxiety and congratulating oneself for doing so.

3. The Application phase

This involves real life confrontation with the anxiety provoking situation.

2.4.2. Rational Emotive Therapy

The Rational Emotive Therapy was developed by Ellis (1962) and is based on the assumption that people do not respond to objective events but rather to their own views of these events. As a result, the therapy consists of disputing the views that cause the dysfunctional behaviour. The session begins with the last part of the ABC contingency, the **C**onsequence, the client's presentation of the disturbing emotion to the therapist. Usually clients attribute C to A, this is the 'active event' that they think instigated C. Therapy involves challenging the clients' assumption that C is caused by A and prompting them to see that it is the belief they hold about the A that causes C. The role of the therapist is to encourage real life confrontation that will serve as a means of disputing irrational ideas by indicating that they are erroneous and unhelpful (Engel, 1993).

2.4.3. Beck's Cognitive Therapy

Beck's (1967) cognitive approach, was primarily developed as therapy for depression and was later expanded (1976) to include anxiety disorders. Beck maintained that cognitive processes play an important role in interpreting reality based information. His treatment focused on facilitating the accurate interpretation of situations in the clients' everyday lives. The process involved identifying the clients' distorted ways of thinking and changing them by challenging their unhelpful thought patterns and prompting them to experiment with real life situations that would refute their erroneous assumptions on given situations.

2.4.4. Cognitive Restructuring

The Cognitive Restructuring method was developed by Lazarus (1971) and was based on the belief that cognitive distortion was at the core of dysfunctional emotions and their corresponding behaviours. The aim of the therapy was therefore to enable clients become aware of harmful thought patterns, learn to challenge them and replace them by positive ones. Rational arguments and self talk were used as tools to rectify the clients' misconceptions.

2.4.5. Coping & Problem solving

According to Goldfried (1980) an effective treatment should not only aim to address the clients' specific problems but rather focus on helping them develop the ability to solve problems in general. He proposed problem solving as a therapeutic strategy. This technique encouraged patients to be actively involved in the problem solving process. The model was initially developed by D'Zurilla and Goldfried in 1971, and involved four stages: defining the problem, searching for alternative solutions, decision making (the process involved selecting the optimal solution in relation to potential outcomes), and rehearsing the best solutions offered through role-play. Each component was taught separately and was evaluated through multiple base-line design.

2.5. Behavioural and Cognitive views on fears and phobias

The aim of this section is to define fears and phobias from a behaviour analytical and cognitive perspective in terms of their origins and the techniques developed to address them.

2.5.1. Phobias and fears

Simple Phobias, such as the fear of dark, the fear of animals and many others are a common occurrence in young children (Morris & Kratochwill, 1985). Whist some fears are simple, age specific, and wear out as children grow up, others are more persistent and their intensity may cause great distress in their life. Debilitating fears of that kind that interfere with the children's normal functioning, may fall under the category of anxiety disorders as defined by the DSM-IV (American Psychiatric Association, 1994). DSM-IV describes phobias as irrational fears towards specific objects or situations that cause the phobic individual to avoid them at any cost.

A number of studies (Howlin, et al., 1973; Jackson & King, 1982; Love, Matson & West, 1990; Luiselli, 1978) have indicated that children with autism suffer from intense fears. The cause of these fears is rarely identified, yet it is speculated that it might be related to the difficulty these children have to cope with novel situations, auditory and sensory stimuli (Hemsley, 1978).

2.5.2. Fear Explanations

A number of behavioural theories were developed to explain the origins of fears and phobias, each of which has led to differential treatments. Techniques based on the principles of behaviour therapy (classical and operant conditioning), social learning theory and cognitive therapy will be discussed in this section.

Classical & Operant Conditioning

In line with the classical conditioning theory, fear is acquired when an aversive event, the unconditioned stimulus, is accidentally paired with an innocuous situation, that becomes the conditioned stimulus, that will trigger anxiety in future occasions (Thorpe & Olson, 1990). The conditioning theory on fear was supported by Watson's and Rayner's (1920) experiment on little Albert, an 11 month old boy, to whom they induced and later eliminated a fear for white rats through classical conditioning (Valentine, 1930).

However, some later experiments (King, Hamilton & Ollendick, 1988; Davey, 1992) failed to replicate Watson's and Rayner's (1920) findings and hence questioned the adequacy of classical conditioning theory to account for all fear responses. These theorists argued that classical conditioning failed to explain why certain stimuli elicit more phobic responses than others (e.g. the fear of dark, spiders, heights, are much more common than the fear of houses or trees), as well as why people are afraid of situations they have never experienced in the past. In response to this challenge Seligman (1971) suggested that certain stimulus response connections are biologically important and are formed more quickly than others, having been potentially threatening to our pre-historical ancestors. However, his theory failed to explain the fear for situations, never experienced. To fill this void Rachman (1977) argued that classical conditioning is not the only pathway to fear and proposed that fear could also be experienced vicariously, by observing others.

Marks (1981) on the other hand attempted to shift the focus of research from the question of how fear is acquired to why it does not extinguish naturally when an aversive event (unconditioned stimulus) is no longer paired with the conditioned stimulus; as extinction trials in the lab had demonstrated. Mower (1960) in the 'Two Factor Theory' attempted to shed some light on the problem, by asserting that classical conditioning is not the only factor in operation behind maladaptive anxiety, but operant conditioning is also involved. He claimed that whilst accidental classical conditioning could only account for how a fear is acquired, operant learning principles could explain why the fear does not extinguish when it is no longer paired with the unconditioned stimulus. According to the operant learning theory, escape and avoidance responses, are followed by anxiety reductions, and therefore maintained through negative reinforcement (Gosh, Flannery-Schroeder, Mauro & Compton, 2006).

" Many behaviours in everyday life are maintained by negative reinforcement through escape, e.g. leaving the house to escape an argument. Avoidance behaviour allows the individual to prevent or postpone contact with the aversive event. Avoidance learning may develop after an individual learns to escape an aversive event. Through classical conditioning, a previously neutral event acquires the capacity to elicit escape behaviour. The escape behaviour is automatically reinforced by terminating the conditioned

aversive event. Thus avoidance involves classical conditioning and operant conditioning. Avoidance refers to escape from a conditioned aversive event" (Kazdin, 1984, p.120).

Similarly, Skinner (1938) and Karoly (1975) have attributed the maintenance of phobic responses in the absence of the unconditional stimulus to the relief of anxiety experienced by the phobic individuals when escaping the conditioned aversive event, that negatively reinforced their avoidance behaviour, and in so doing strengthening their phobia.

Although operant learning principles may not explain how fear is acquired, they play an important role in understanding how escape and avoidance behaviours are maintained. Awareness, of how the environmental contingencies can positively or negatively reinforce anxiety responses is vital for developing effective treatment. For example, a child's fearful response, may be unwittingly positively reinforced by parental attention or negatively reinforced by reduction of demands, hampering extinction procedures. Furthermore, failure to reinforce adaptive behaviour may also delay extinction. Astute manipulation of the behavioural contingencies can enhance treatment effectiveness (Gosh, et al., 2006).

Mower (1960) explained that in order for extinction to take place not only did the conditioned stimulus have to be present without the unconditioned (alarming event) but it also had to be present for more than a brief moment (i.e. if the person runs away there is no time for the fear to extinguish). As a result extinction, is unlikely to take place when the phobic individual refuses to enter in the fear provoking situation or only stays in it for a short period of time (Kazdin, 1984).

Social Learning Theory

Social learning theory is principally based on the model of operant conditioning and observational learning. According to this theory direct traumatic experience is not the exclusive cause of fear, but it can also be acquired vicariously, through observation. Research has documented that children often acquire fearful responses by observing these behaviours on family members, peers and the media (Bandura, 1977; Rachman, 1977).

Cognitive explanations

A number of studies have indicated how cognitive processes play a central role in the acquisition and maintenance of anxiety responses (e.g. Barlow, 1988; Beck, Emery & Greenberg). Cognitive behavioural therapy was developed to address anxiety disorders. Extensive research has demonstrated its effectiveness in dealing with children phobias (Dadds, Spence, Holland, Barrett & Laurens, 1997; Kendall, 1994; Short, Barrett & Fox, 2001; Silverman, et al., 1999). CBT integrates behavioural and cognitive strategies in treatment programmes, and current applications support the involvement of the family in the process (Gosh, et al., 2006).

Cognitive behaviour therapy, interprets children's phobias as the outcome of the interaction between cognitive and environmental factors, and views phobic responses as being rooted in maladaptive cognition.

2.5.3. Methods to eliminate fears

Although the origins of childhood phobias are difficult to be determined, a number of behaviour interventions have proved to be effective in treating phobic children (King & Ollendick, 1977). The common denominator of all behavioural procedures is the exposure of the phobic individual to the fear provoking situation, until anxiety is reduced (Marks, 1975).

A number of procedures for treating phobias in children were based on behavioural concepts such as classical and operant conditioning; social learning theory and cognitive theory (King & Ollendick, 1997; Ollendick, Davis & Muris, 2004). These treatments involve in vivo and imaginal desensitisation, modelling, contingency management, and cognitive behavioural techniques (King, Muris & Ollendick, 2005).

Techniques based on:

i) <u>Classical or vicarious conditioning</u>

Techniques based on the principle of classical and vicarious conditioning include Systematic Desensitisations, Graduated Real Life Practice, Flooding, and Prolonged Exposure methods.

Systematic Desensitisation (SD)

Systematic Desensitisation is one of the most popular techniques for eliminating fear and anxiety that developed from the model of classical conditioning (Wolpe, 1958). It entails imaginal gradual exposure to the fearful situation in the absence of the alerting event that elicited the conditioned anxiety in the first place. The process also involves the pairing of deep muscle relaxation, with the presentation of items from an anxiety hierarchy list. The therapist usually describes precisely each of the items in the list, whilst the clients are encouraged to imagine them for a few seconds. The clients have control over the experience, and can terminate the process at any time they feel an increased anxiety and revert to the relaxation state. To proceed from one item of the anxiety hierarchy list to the next, the clients must not show any signs of anxiety (Thorpe & Olson, 1990; Kazdin, 1984).

Wolpe (1958) emphasised that exposure alone cannot lead to the extinction of the fear, since anxiety is not counteracted by reactive inhibition, and argued for the importance of encouraging the clients to engage in a competing response to the anxiety behaviours (e.g. relaxation) to counter the anxiety. This process was based on the principles of counter conditioning (Guthrie, 1952) that involved the replacement of an old response with a new one (e.g. anxiety replaced by relaxation) and was labelled *Reciprocal Inhibition* (Wolpe & Lazarus, 1966). To account for this Wolpe (1995) used Sherrington's (1961) physiological concept of reciprocal inhibition which contends the mutual exclusion of incompatible physiological states. Hence, relaxation excluded anxiety (Tryon, 2005).

Graduated real-life practice (GRLP)

This technique is similar to Systematic Desensitisation (SD) in that it involves the gradual exposure of the client to the feared stimulus. However, unlike SD, in GRLP exposure is not imaginal and does not involve relaxation, or any other technique to reduce the clients' anxiety. This approach is based on the principle of stimulus generalisation, and involves presenting the clients with stimuli that resemble the fear eliciting stimulus, yet evoke less anxiety. Not being overwhelmed with anxiety the clients learn to use their coping skills to deal with increasingly anxiety provoking stimuli; replacing their initially maladaptive responses with adaptive ones (Thorpe & Olson, 1990).

Flooding and Prolonged exposure methods

Flooding (Marks, 1972, 1975) and *Implosive* therapies (Stampfl, 1961), in line with most treatments for anxiety, involve confrontation of the client with the feared stimulus. Whereas in implosion therapy the confrontation is exclusively imaginal, in the flooding confrontation can be both imaginal and real (Groden & Cautela, 1981). However, unlike systematic desensitisation and graduated real-life practice, the presentation of the feared stimulus is not withdrawn when the client experiences increased anxiety (Marks, 1978). The session continues until reduction of anxiety in response to the fearful material is established (Stampfl & Levis, 1967). By blocking the escape response until the anxiety decreases, escape reaction is no longer negatively reinforced, and resultantly extinction may occur (Goisman, 1983). Similarly, Exposure *in Vivo*, also involves prolonged exposure to the feared situation until anxiety is reduced, yet the confrontation is not imaginal but real (Thorpe & Olson, 1990).

Variations of Systematic Desensitisation, such as *graduated real life desensitisation, imaginal graduated exposure and in vivo exposure* (Pomerantz, Peterson, Marholin, & Stern,1977) are often used with children, to match their developmental age.

Emotive imagery, is another variant of Systematic Desensitisation often used with children and involves the child's imaginal gradual exposure to the fearful situation through narrative stories. The child is led through a story to confront his/her fear with the assistance of super heroes (Lazarus & Abramovitz, 1962; King, Cranstoun, & Josephs, 1989; King, Molloy, Murphy, & Ollendick, 1998). However, research has indicated that *In vivo desensitisation,* is superior to the imaginal (Ultee, Griffioen & Schellekens, 1982).

ii) Operant learning principles

Following the operant learning principles a number of procedures have been developed to eliminate phobic responses. These procedures involve the manipulation of environmental contingencies to alter phobic responses. Techniques such as shaping, reinforcement, and extinction are central to the treatment (Morris & Kratochwill, 1983).

iii) Observational learning

The modelling technique is based on the principles of observational learning and vicarious conditioning. The disinhibitory effect of modelling has been studied, as an anxiety reduction technique. This method involves the client observing the model experiencing and coping with an anxiety provoking situation. Its effectiveness, very much depends on the attitude the model adopts in dealing with the anxiety provoking situation. A mastery model would involve the model confronting effortlessly the situation, and making no mistakes; whereas a coping model would be that of struggling initially, yet eventually succeeding in the given challenge. A number of studies have shown that models that resemble the patients in terms of competence are more effective in therapy as they enhance a sense of self efficacy in their ability to learn the modelled skills (Bandura, 1986; Mahoney & Arnkoff, 1978).

The modelling technique is often used to help children conquer their fears (Bandura, 1969.) It involves demonstrating to them adaptive responses to fearful stimuli and teaching them coping skills. A variant of modelling, is the *participant modelling technique,* where the phobic child is not only observing a model performing the appropriate behaviour but also has the opportunity to interact with the model/therapist, and the fearful situation.

iv) Cognitive Theory

A number of strategies have developed based on the principles of cognitive theory. These, mainly focused on changing the clients' perception of the phobic object in view of altering their maladaptive responses. Such strategies include, the self-instruction training, and stress inoculation training earlier described in this chapter (see section 2.4.).

2.6. Summary

Behaviour therapy (BT) defines behaviour as the outcome of the interaction between the individual and the environment, and suggests altering the contingencies that maintain maladaptive behaviour as a means of changing the behaviour. Cognitive therapy (CT) on the other hand, is based on the belief that cognitive factors, such as thoughts and beliefs influence behaviour, and as a result suggests changing cognitions as a means of altering behaviour.

From these two schools of thought a number of techniques have emerged that aim at changing peoples' maladaptive responses to given stimuli. Whilst BT techniques are principally designed around the concept of reinforcement as a way of changing behaviour, organising the contingencies so as to promote certain behaviours and decrease the occurrence of others, based on the stimuli that follow the behaviour; CT techniques are based on the concept of cognitive restructuring and focus on changing views of the presented problems or situations replacing unhelpful with helpful thoughts.

SLT, can be viewed as bridging the gap between these two seemingly opposing schools of thought, suggesting that both cognitive and environmental factors influence behaviour, and incorporated techniques from both approaches in therapy; the focus being to correct the clients distorted thoughts as well as engaging them in new adaptive behaviours.

The present study does not adhere rigidly to any specific theoretical orientation. However, awareness of the existing orientations and the techniques derived from them, provided insights into the cause of behavioural difficulties and guided the development of an intervention model to address them.

Chapter 3
Drama in Education

3.1. Introduction

The aim of this chapter is twofold. First, to describe the aims and principles underpinning Drama in Education, and how these guide choices in structuring dramatic activities; and second to give a brief overview of the procedures and the learning opportunities that various techniques may offer. It is hoped that this section will provide a structure on how techniques can be used not in isolation but in view of the overall goals and objectives of a DIE programme.

3.2. Drama origins and principles

Theatre, has its origins in the Greek word theatron, a place for seeing. Wilshire (1988) suggested that the word 'theatron' is related to the word theoria, that has a dual meaning, spectacle and speculation or theory, and concluded that theatre is about speculating and theorising about human nature and actions (Bolton, 1999). Consistent with this view is the assertion by Heathcote (1975) that drama can be a way of enabling children to make sense of the world. Bolton (1984) also acknowledged the role of drama as a means of exploring human interaction and suggested that a child playing with a doll is attempting to explore the mother–baby relationship, seeking him/herself within the rules. Morgan and Saxton (1983) also argued that the content source of process drama is the range of human experience and Neelands (1990, p.69) defined it as *"the direct experience that is shared when people imagine and behave as if they were others than themselves in some other place at another time"*. However, whilst in theatre the roles of actor and spectator are clearly defined, in drama these two roles are fused together, and the emphasis is placed on developing an understanding about both human experience and the art form itself (Neelands, 1990).

No consensus has been reached between educators regarding what is taught in classroom drama. As a result whilst many teachers claim to use drama in their classrooms, the content of their sessions may greatly vary in terms of the activities they use (performance, improvisation, role play, simulation, drama games, experiential drama etc) and their overall objectives (McGregor, Tate, & Robinson, 1991). The debate regarding

drama for content and drama for form has prevailed in the literature of drama in education over the last two decades. Heathcote (1975) standing on one end advocating process drama and Hornbrook (1989) on the other, endorsing performance. Whilst the focus of the former is on using drama as a medium to explore content, the latter emphasises on the importance of teaching the art form, and focuses on theatre skills. It is beyond the scope of this thesis to get into this debate, suffices to say that the position adopted here is that content and form are of equal importance and inextricably linked to one another. The art form is not the means of expressing an already existing meaning but rather the medium through which the meaning is created. The form determines the meaning and the meaning the form (see Bolton, 1989, 1992).

"The meaning of an event is encapsulated in its form... The form of an event implies its importance, the positioning of a judge's chairs, a monarch's throne, the style and colours in costumes...simple ritualistic gestures such as handshakes... All these are examples of an aesthetic dimension, that is where the meaning of the event is, at least partially encapsulated in the form... It seems to be a basic human urge to bring order to social activities by investing the meaning of the activity within its form" (Bolton, 1992, p. 19).

Similarly, the learning taking place in the arts is unique, but not confined to the artistic experience and cannot occur in everyday life. In this sense, DIE is not seen as a substitute for real life experiences, but rather as a unique experience, through which such understanding may be obtained. To parallel an artistic experience with that of real life, not only trivialises the art but underestimates its potential (Best, 1992). Real life experience may fail to bring about the understanding that engagement with the arts could. The intention of DIE is not in other words to mirror or substitute real life experience but rather provide participants an understanding that real life may fail to illuminate.

DIE is improvisational in nature, there is no script and participants behave as if they were others than themselves confronting situation as they actually unfold around them. It is also called process drama as it is not geared towards an end product (performance) but concerned with the process itself. DIE is about problem solving, making choices, and facing the consequences of these choices within the safety of the make-believe. It is the tight structure of drama as an art form that provides protection for the participants, encouraging them to see things from another perspective and empathise with others.

Participants are engaged in a collaborative enterprise, expressed in language and action and determined by the culture. As in real life social events, drama requires from the participants the negotiation of meaning through verbal and non verbal communication. Participants make drama happen and watch it happen in the here and now of the situation, as in any social event. Each participant has multiple roles within the drama, that of the dramatist, the director, the actor and the spectator, and through theses roles they have the opportunity to explore the rules governing social interaction by practising various plots and dialogues and reflecting on them, as both participants and spectators.

The aim of drama in education is to provide an existential experience to the participants that will be meaningful to them. DIE is not about propositional knowledge of skills and facts but rather about understanding what this knowledge amounts to (Bolton, 1998). It is this principle that draws the line between drama in education and drama as simulation, or mere role-play. The essence of the difference between DIE and drama as simulation, is clearly reflected in Bolton's (1992) example of the Road Safety Code (RSC) lesson. Whilst in a simulative type of drama the objective of a RSC lesson would be to teach specific skills to the participants, for example looking right and left before crossing a road, and therefore the drama would be organised so as to provide participants' with opportunities to practise these skills; the objective of a DIE lesson would be to illuminate what neglecting to learn the (RSC) amounts to, and would therefore be organised so as to provide the participants with the opportunity to experience the implications of failure to learn the road safety code (e.g. the consequences of an accident in a family member). DIE, is unique because it is existential in character, non repeatable and in that sense akin to real life experiences.

Bolton (1992) parallels the process of experiencing in drama to that of experiencing in real life social situations. He argues that in both cases participants make an effort to establish the context of the social interaction, by labelling the social situations and signalling to each other the tacit rules of the interaction, so that they feel in control of the experience, before submitting to it. He claims that our dependency on the labels that define our behaviour is clearly evident when we find ourselves at loss, in their absence. For example, when someone that we cannot quite place greets us, and we worry that our response, may not meet the tacit rules of the given relationship. Whilst, in most real life situations the rules of the interaction are so familiar to the participants that they make no

conscious effort to submit to them (e.g. in a meeting, they automatically adopt their attending meeting behaviour), there are other occasions, where this effort is particularly evident and resembles the effort made to build belief in classroom drama. For example, when participants are new to a situation, (e.g. make oneself credible to others when chairing a meeting for the first time) or when trying to re-establish a social context that has been disrupted (e.g. re-establish the party atmosphere after someone has fainted).

In other words, in drama as in real life social situations, before submitting to any given experience, we first consciously or unconsciously make an effort to abide by the tacit rules of the interaction by imitating the expected behaviour, until belief in the given context is established. Only when this is achieved, do we allow ourselves to submit to the experience and live spontaneously in the here and now of the situation. Bolton (1992) compares this process of belief building to that of a swimmer who is in control of the water whilst submitting to it, and emphasises on the importance of simulation as a means towards experiencing. However, he claims that it is often the case that classroom drama remains at this descriptive mode, to which he refers to it as instant coffee and compares its relevance to the dramatic activity to that of diagrams to visual arts.

Bolton (1992) claims that participants cannot be forced to submit to the dramatic experience, but can be led from the descriptive to the experiential mode through careful structuring. This requires the sequencing of the tasks to have internal coherence for the participants, meeting their level of engagement at each step of the way, as well as incorporating the elements of the art-form in the process, that would protect the participants by drawing the line between reality and fiction.

The importance of understanding the art form cannot be overemphasised, as it is the form that provides the participants with safety and gives meaning to their experience. Therefore, the elements of drama should never be neglected if one wishes to move from the descriptive mode, of imitating life, to the experiential; relating the dramatic experience to real life, and learning from it. In other words, the theatre elements are the necessary components that would breath life to the experience, 'that would transform Pinocchio into a real boy' and simulation to dramatic activity. It is therefore necessary at this stage to open a parenthesis and outline the dramatic elements and discuss their role in drama in education.

Key Dramatic Components:

- Problem
- Something at stake
- Objective
- Constraint
- Tension (manipulation of space and time)
- Given Roles (characters)
- Relationships
- Subtext

A problem to be solved and a reason as to why it is so important to be solved (what is it at stake?) are the prerequisites for any dramatic activity. The principle component of the art form is the dramatic tension. The dramatic tension is created primarily by the conflicting objectives of the characters in a story and the constraints that impede them from achieving their objectives. It is the constraints that build the tension and once they are removed the drama is concluded.

To describe the process it is best to consider a specific example of a DIE fictional framework. The fictional situation that will be considered is a teacher reproaching a pupil for arriving late in class. The participants are requested to enact this situation. In order to turn this simulative activity into drama as an art form a number of dramatic components need to be employed.

Firstly, procedures need to be put in place to establish the relationships between the characters (i.e. how long do they know each other, what is the nature of their relationship, do they like/dislike each other). Secondly, the objectives of the characters need to be determined (i.e. the teacher wants to maintain control; the child wants to avoid punishment). Thirdly, the constraints need to be defined (i.e. the child cannot reveal the truth to defend himself for being late, because he feels embarrassed. His mother, who has alcohol issues, did not wake him up in the morning). Fourthly, something must be at stake for each one of the characters (i.e. for the child: the dignity of his family/ for the teacher: her good reputation/ her ability to keep discipline).

Fifthly, manipulation of dramatic components such as time and space should be given great consideration as they significantly contribute to the dramatic tension and by implication to the outcome of any interaction. If for example the conversation between the teacher and the pupil was taking place in the classroom in front of all the students the outcome might have been very different, than if it was taking place, when alone at the head teacher's office. Similarly, it would be very different if the conversation was taking place 8.00 o'clock in the morning or 12.00 o'clock mid-night. Time and place determine the expectations and subsequently the outcome of the interaction. Finally, attention should be drawn to the subtext, what is left unsaid. It is the subtext that draws the line between simulation and dramatic activity bringing another level to the experience, illuminating what lies beneath the words. The subtext is determined by the characters' objectives and constraints, and dictates how the 'text' will be interpreted. The teacher may be reproaching the child who came late in class to maintain discipline yet empathising with the drama that the child is going through, or he may genuinely resent the child for challenging her authority. The same text can be interpreted differently, given a different subtext.

The integration of the dramatic components into a given action is the essence of drama as an art form. The relationship of the characters, the objectives and the constraints, as well as the manipulation of time and space, will build the dramatic tension, and influence the outcome of the interaction. Within the particulars of a given dramatic context, the characters will be called to take decisions (i.e. would the child trust her problem to the teacher? Would the teacher punish the child?) and face the consequences of these decisions.

The complexity of the dramatic situation as described above is what makes it relevant to real life experiences. Part of the process requires the participants to evaluate the circumstances in the given context, weigh the pros and the cons and make decisions. The demands placed on the participants to solve a problem within the make believe are similar to the demands of real life. The role of drama in education is to pose questions rather than give answers and to encourage a way of thinking that is relevant to real life issues.

As mentioned earlier the prime objective of DIE is to enable the participants to look below the surface of actions to their meaning, and make sense of the world they live in. To this end Heathcote developed a model to explain human behaviour, in both drama and life, known as the *5 layers of explanation* (Gillham, 1988). According to this theory, action is the explicit behaviour, and is defined by motivation, investment, model and stance. Motivation is the immediate reason, why someone does what s/he does, investment refers to what is at stake for the participant, model refers to where s/he has copied or rejected the behaviour from and stance concerns the question, why life is as it is. Awareness of the five layers of meaning is a pre-requisite for structuring drama that will enable participants to engage in the experiential mode of dramatic activity that will bring a new insight into the situation explored in drama.

The layers of explanation can also be used as a tool in the hands of the drama teacher to slow down the action and prompt participants to reflect upon it. For example, when the participants suggest action (e.g. let's do a murder), the teacher can draw on the layers of meaning to help the participants reflect on the motivation and implication of such a decision, using questions such as, what would drive someone to kill? Or is killing the solution? What are the implications? What is at stake for the killer? Where have we learned this behaviour?

Simulation on the other hand is an oversimplified version of real life interaction, where participants role play prescribed scenarios, drawn out of context and as no one situation is identical with another, there is little to be learned.

3.3. Structuring Drama in Education

The aim of this section is to outline the rationale underpinning the structuring of dramatic activities, as well as give a brief overview of the techniques available to serve this purpose.

3.3.1. Rationale

The aim of DIE is to provide participants with the opportunity to engage both intellectually and emotionally in the drama process, so that a new insight in a given situation is achieved. To this end the facilitator should structure the dramatic activity so that participants feel intrigued and safe to submit to the experience. Whilst the *choice of topic* may play an important role in initially triggering the participants to engage in the drama, it is the *choice and sequencing of tasks* that will maintain their interest and also influence the quality of their experience.

The choice and sequencing of the tasks should be tailored to meet the needs of the participants, and the objectives of the drama, rather than following the chronological sequencing of the plot. This is a dynamic process that cannot be predetermined as it constantly requires the facilitator to re-evaluate the participants' level of engagement and accordingly adjust the material. The pace by which different groups engage with the drama depends on a number of factors, such as the dynamic of the group, their experience with drama, their intellectual abilities, the mood of the day, etc. However, irrespective of the particularities of each group, there are a number of steps that need to be taken in any drama to ensure that the structure of the sessions facilitates the participants' engagement in the process.

One of the most important considerations is to maintain focus on the teaching objective of the drama whilst pursuing the fictional objectives, keeping the balance between action and reflection tasks. The layers of explanation can serve as a compass for the teachers when planning the drama, that will guide them towards tasks that will bring depth into the experience, slowing down the action and offering opportunities for reflection. Furthermore, the notions of internal coherence and protection into emotion are central to effectiveness of the dramatic activity.

Internal coherence

The facilitator should structure the drama so as to have *internal coherence* for the participants. This is to say that the sequencing of the tasks should not only be designed to follow the logic of the plot, but also to be in approximation with the participants' level of involvement in the fictional framework, so that participants neither feel underestimated nor threatened by the demands placed upon them (Frost, 1994). In other words the facilitator should constantly monitor the participants' engagement in the drama and accordingly adapt the tasks to meet their needs. The primary obstacle, for experiential drama is the participants' resistance to submit to the experience due to self consciousness, when high demands are placed too soon and participation becomes forced rather than natural. To surmount this obstacle, low focus tasks should be placed at the start of the session, to reduce self consciousness, and as self confidence increases, higher focus tasks can be progressively incorporated in the structure. A smooth transition from low to high focus tasks can be achieved, by gradually leading participants from passive to active projected activities and ultimately to non-projected play. This format is particularly useful, for groups that have little experience in drama and may feel intimidated by the idea of jumping into role.

Passive projected activities are non threatening, as they immediately let participants off the hook, by placing them in the role of spectators. For example the facilitator in role as a detective may say: "I called this meeting because I would like you to watch me interviewing a suspect and give me your expert opinion..." or s/he may ask participants to listen to a tape or look at pictures related to the story under investigation. This type of tasks take away the focus from the participants, whilst at the same time offering them a frame through which to look at the events, and a reason why it is important to do so. The transition from passive to active projected activities could be as simple as requesting from the participants to keep notes whilst watching the 'detective' interviewing the suspect or asking them to model the facilitator in the role of the suspect. Active projected activities encourage participants' to move one step closer to non-projected play, by actively involving them in the process, whilst still protecting them by channelling their attention away from themselves. Furthermore, they are particularly useful in planting the seeds for the participants' investment in the drama, offering them the opportunity to slide into role when they feel ready.

Protection into emotion

Another important consideration when structuring drama work is to protect participants into emotion, and not from emotion, since emotional involvement is a pre-requisite for experiential learning. This is to say that dramatic tasks should be organised so as to provide the opportunity to the participants to emotionally engage in the process whilst ensuring that the emotional demands placed on them do not jeopardise their personal defences and dignity. The term 'scaffolding' may better describe the notion of 'protection into emotion' as it implies a careful grading of structures that would gradually enable the participants to feel safe in the fictional context so as to submit into it (Bolton, 1984).

A number of choices are available to the facilitator as a means of 'protecting participants into emotion' when handling painful or controversial material. These may include, introducing the drama *obliquely* with a series of activities that build belief in the dramatic context, until participants are ready to deal with the main issue; using an *angle of detachment* to distance the participants from the characters in the main story, placing them in roles that are of a professional rather than personal nature (e.g. detectives as opposed to members of the victims family); or using *analogy* as a protective device, changing the historical setting of events. The aforementioned protective devices may also serve as a means to slow down the action, offering participants the opportunity to reflect on it (Bolton, 1984).

Having established the importance of internal coherence and protection into emotion, another important aspect in structuring dramatic activity is knowledge of the art form, and awareness of how the *manipulation of the dramatic components*, such as time, space, sound and silence, can serve as a means to build belief in the drama and create dramatic tension. To achieve the former the facilitator can use ritual and ceremonies, for *"...there is nothing quite like will the court be upstanding to make you feel you are there... or the metallic intrusion on the silence, by the stranger in the sanctuary who has to hammer three times before the monks at the prayer rise and let him in..."* (Bolton,1992, p.21).

To achieve the latter, the facilitator may use the elements of space and sound. S/he may for example assume the role of an authority figure who requires from the participants to walk across the room to his/her desk, where s/he keeps them standing, and then allows a silence to fall before answering their request (Bolton, 1992).

To conclude, knowledge and astute manipulation of the dramatic components is of both theoretical and practical significance, as it can serve as a tool to communicate and enhance the meaning of the dramatic experience. There is a wide variety of techniques that the facilitator can draw from to achieve the learning objectives of the drama. A comprehensive review of most DIE techniques can be found in Jonathan Neeland's (1990) book, 'Structuring drama work'. I will only refer here briefly to those techniques that are relevant to my study.

3.3.2. Techniques

Teacher in Role (TinR)

Teacher in role, is a fundamental technique of the DIE approach that involves the facilitator playing a role in the drama process. This technique offers the facilitator the opportunity to monitor the dramatic experience and the participants' behaviour from within the drama, giving them autonomy when s/he feels they are ready to assume it. Each Different role, offer different opportunities to the facilitator to relate with the students. A brief review of the various roles the facilitator may assume and the learning opportunities they offer is given below:

1. Authority roles or power roles, are those where the facilitator is in control of the experience. The advantage of authority roles is that they offer the facilitator the opportunity not only to control the pace and the dramatic tension but also to maintain the discipline from within the drama, and to challenge the children on many levels, (e.g. verbally, intellectually, etc). Examples of these roles include, the Head of a mission, the doctor, etc.

2. Second in Command or Middle Rank, are roles where the facilitator does not have the absolute authority, but acts as a liaison between an authority and the participants. The advantage of these roles lies on the flexibility they offer to the facilitator to shift status from one moment to another, taking on and relinquishing authority when appropriate.

3. One of the Gang or reciprocal status roles

Unlike authority roles, reciprocal status roles do not endow the facilitator with high status, or expert knowledge. The facilitator relinquishes all his/her authority, and his/her opinion carries no more weight than that of the students. This type of roles, allow the

participants to take greater responsibility, whilst the facilitator can still manipulate the dramatic components through questioning.

4. The Helpless or Low status roles

The facilitator here relinquishes all authority and entrusts the drama to the children's hands. Yet, can feed clues through questions and comments. The responsibility for decision making is handed over to the children, and control may be jeopardised if the class is not ready for the challenge.

Through TinR, the teacher can hold the drama together, manipulate the dramatic components and the learning area, as well as offer the participants the opportunity to learn to be flexible in dealing with different characters. Furthermore, through various roles the teacher can challenge the students to formulate arguments, defend themselves, convince others, help others, and give directions. A fuller account of the TinR technique is given by Wagner (1990).

Mantle of the Expert is a basic DIE technique developed by Dorothy Heathcote (Bolton & Heathcote, 1995) designed to empower the participants by endowing them with expert knowledge in a given field that is essential for the resolution of the problem posed within the dramatic context. For example, in a mystery drama, the participants may assume the roles of detectives, or in a drama about bullying they may assume the roles of social workers. This technique is particularly effective in raising the children's self esteem and self-confidence, and redressing the balance in the teacher-student power struggle. It also provides participants the opportunity to distance themselves from emotionally disturbing experience by prompting them to adopt a professional stance (e.g. reporters as opposed to members of the family of the deceased).

Still Images is one of the most popular techniques in DIE. It is particularly useful in helping participants to move from projected to non-projected activities in a non threatening way. The 'Still Image' technique involves the group creating images using their bodies to represent a particular moment, or theme. Some members are the models and others the sculptors. This technique epitomises the interdependence of content and form and encourages an understanding of body language as a means of communicating meaning. It can trigger conversation and reflection.

Diaries, Letters, Journals, and Messages are often used in drama to give credibility to the fictional context, build the dramatic tension, push the plot forward with new information, or as a means of reflection on the action. They may also encourage perspective taking, when these are read as other peoples' views, or when written in role by the participants. Finally, they may serve to slow down the action, allowing time for reflection.

Meetings This technique fosters team spirit and provides opportunities for negotiations and collective decisions. Children are encouraged to express their opinions and make choices, whilst the facilitator has the opportunity to evaluate the dynamics of the group. It is a highly structured activity where the facilitator is often in control through his/her role as chair of the meeting. Finally it can be used as a means of summarising and reflecting on the action.

Interviews/ Interrogations/ Hot seating These techniques are 'designed to reveal information about the characters and their motives, as well as to offering opportunities to the participants to learn how to ask questions to elicit specific responses, decide on what information is necessary, and make sense out of this information. They also serve to encourage perspective taking and insight into the characters motivations and relationships, as well as to develop social skills.

Overheard Conversations This is a useful technique in terms of recognising peoples' feelings based solely on the information that can be derived from the voice, without having the aid of the facial expression. It can also encourage speculation when the participants listen only to one side of the conversation and have to figure out what is going on. Finally, it can serve to add the element of surprise and dramatic tension.

Rituals This technique requires the participants to take part in group rituals (e.g. a tribe's oath, attending a funeral) and serves to build their belief in the fictional context, offering a structure that is easy to follow. "*This is a stylized enactment bound by traditional rules and codes, usually repetitious and requiring individuals to submit to a group culture or ethic through their participation*" (Neeland, 1990, p.40).

Defining Space This technique is about 'representing meaning spatially'. It offers participants the opportunity to create something and reflect upon its meaning, in terms of how personal choices are culturally defined.

Games Traditional games can be incorporated in the action, to lighten the atmosphere, establish relationships of trust amongst participants, as well as offering some tension release after highly demanding activities.

Unfinished Material, such as a letter torn into pieces or a half erased entry in a diary can serve as a pre-text to start a drama session, triggering the children's curiosity and imagination. This technique is used to encourage speculation and develop the children's ability to look at the details and figure out the bigger picture, as well as to provide opportunities for participants to work as a team, and influence the development of the plot.

Making Maps/ Diagrams These are techniques that due to their concrete nature are used to used to provide focus, and can serve as a way to start off the drama in a non threatening way, taking the focus away from the participants. They can also be used as a means of reflecting on the action and decision making.

Noise Off This technique is all about the tension created by an imaginary presence, an imminent danger from which the children have to protect themselves. It encourages problem solving, co-operation and decision making under pressure.

Masks can be used to create distance from the experience and also protect children from being embarrassed, as well as to encourage perspective taking, and reading emotion in the voice.

Thought-Tracking is a technique that slows down the action and encourages reflection, revealing the participants' thoughts at a given moment of the action, highlighting the subtext. The action is frozen and participants are tapped on the shoulder to speak out the characters' thoughts (e.g. secret fears, hopes, etc). For example, in a drama about refugees, half of the group could be miming a family leaving their home, whilst the other

half would be standing next to each one of the 'family' members, speaking out their thoughts as they are packing.

Voices in the Head is about highlighting conflicting thoughts in peoples' heads during difficult decisions. One participant may play the central character and the others will have to speak out the conflicting thoughts in his/her *head 'or act as collective conscience, which give the character advice on moral issues'* (Neelands, 1990, p.58). It encourages awareness about the complex motivations that underpin human behaviour.

Having outlined a number of techniques available to facilitators in structuring dramatic activities, it is important to reiterate that these techniques are not to be used in isolation as dramatic exercises but in the context of the overall objectives of the drama, and the opportunities they offer to engage participants' both intellectually and emotionally in the dramatic experience. An extensive guide of the DIE techniques described above can be found in Neeland's (1990) book, *Structuring Drama Work.*

3.4. Summary

The philosophical divergences within the field of drama in education in relation to the objectives of classroom drama, are reflected in the pertinent debate about drama for content versus drama for form. Whilst the advocates of the former place emphasis on using drama as a medium to explore content, the advocates of the latter see drama as an end itself, and emphasise on the importance of teaching theatre skills. As a result, drama practitioners who may all claim to be teaching the same subject may in fact very much differ in their approaches and objectives. This being the case it is important to clarify that the approach adopted in this study views both content and form as equally significant and inextricably linked to one another, as the form determines the content and vice versa.

The emphasis of this approach on both content and form is not only of theoretical but also of practical significance. The drama sessions are structured so as to provide the participants with opportunities to use problem solving as a means of exploring the use of the art form to create meaning, as well as to read the meaning encapsulated in the form. The approach is improvisational in nature and the participants behave as if they are others confronting situations as they unfold around them. It stands in sharp contrast to a form of drama often used in schools and commonly referred to as simulation or role-play, that it is principally designed to teach skills and facts to the participants.

What distinguishes the drama approach advocated in this study from simulation or role play is the protection that it offers to the participants, through the incorporation of the dramatic components (objective - constraint - dramatic tension). The fictional characters' objectives, and the constraints imposed by the structure of the art form build the dramatic tension and take the focus away from the participants and redirecting it to the here and now of the fictional situation. Therefore, it is not the participants' personality that is being judged, but rather the choices of their fictional characters in a given fictional context. The principle objective of this DIE approach is to use the art form to provide participants' the opportunity to gain a new insight into the world, illuminating it from a different perspective, through experiencing.

Chapter 4

Reinforcers in Drama in Education

4.1. Introduction

The purpose of this study is to examine an alternative to the traditional behaviour-analytical explanation which suggests that secondary reinforcers may only acquire their reinforcing value through association with primary reinforcers. It proposes that dramatic investment can serve as a means to this end. Two experiments, involving 8 children on the autistic spectrum between 6 and 7 years of age, were conducted to test this hypothesis and systematically replicate an observation made during therapeutic sessions suggesting that neutral or even aversive stimuli can be converted into positive reinforcers through investment in drama.

4.2. Context of the study

Behavioural therapy, views behaviour as the outcome of the interaction between the individual and the environment and places a special emphasis on the role of consequent stimuli in understanding and modifying behaviour. Consequent stimuli that strengthen the behaviour that precedes them are known as reinforcers, and are at the centre of all behaviour therapy interventions. This being the case, the importance of identifying powerful reinforcers cannot be overemphasised (Amari, Grace & Fisher, 1995).

Identifying stimuli that can serve as reinforcers is a challenging and time consuming task, that needs to be repeated regularly during an intervention programme, since reinforcers especially the primary (e.g. tangible rewards such as food and drink), are subject, to satiation and need to be constantly re-evaluated and replaced by new ones. Furthermore, primary reinforcers are not always accessible or easily administered, their consumption may interrupt the learning process and create a very artificial learning environment, making generalisation unlikely to occur when the contingencies that operate in the applied settings are withdrawn (Keenan et al., 2000).

In an effort to address the aforementioned considerations, a chief objective of behaviour modification programmes is to teach children to respond to secondary reinforcers (these are more abstract rewards often of a social nature, e.g. praise), that are less subject to

satiation, more easily administered, always accessible, and more relevant to naturally occurring consequences. This builds a bridge between the applied setting and real life situations; and thus encourages the generalisation and maintenance of skills acquired within the therapeutic context. Whilst primary reinforcers are intrinsically reinforcing, secondary reinforcers acquire their reinforcing properties only through association with the primary. The transition from primary to secondary reinforcement is inbuilt in behavioural modification programmes and accomplished by pairing the former with the latter (Leaf & McEachin, 1999).

This study suggests an alternative method of converting neutral or even aversive stimuli into reinforcers to the traditional approach of conditioning. It proposes engagement in drama as a means to this end. This process is not only of theoretical but also of practical significance. By rendering primary reinforcers redundant and directly using secondary reinforcers to modify behaviour, the time consuming and stressful task of constantly selecting and evaluating reinforcers is eliminated, and an unlimited choice of reinforcers becomes automatically available. This being the case, the reinforcers used in a drama programme can be directly related to the behavioural objectives of the intervention, and as a result increase the likelihood of maintenance and generalisation.

The process through which drama may transform any stimulus, even an aversive one into a reinforcer, we shall call investment. The process involves the facilitator setting the fictional context, using a combination of narrative and dramatic action to engage the children's interest in the drama. Once this is accomplished, s/he introduces a fictional problem that the participants are invited to solve, and as the drama progresses, and when s/he feels that the participants' investment in drama has reached its peak, s/he introduces the target stimulus, in the form of an element indispensable for the resolution of the fictional problem. For example, in a study designed to deal with a child's fear of hand-driers that will be discussed in detail in chapter 6, the aversive stimulus was introduced in the form of 'a dragon' that held all the clues for the whereabouts of the child's missing friends (the fictional problem).

This study and my general experience as a DIE practitioner seem to suggest that a neutral or even aversive stimulus can become a positive reinforcer through investment in drama. The purpose of the present study is to systematically replicate this observation.

4.3. Experiment 1

4.3.1. Participants & Setting

Four children (2 males, 2 females) ranging in age from 6 to 7 years old, participated in experiment 1. All four were recruited from a special school for children with ASD. The experiment was conducted at the children's school, and lasted 60 minutes.

4.3.2. Procedure

The experiment was conducted in three phases. In phase one, the children were asked to select between 5 potential reinforcers, a puppet dog, a packet of jellies, a Kit-Kat, blank sheets of paper and a silver ball. Once the children had made their choices they were allowed to have access to their chosen objects for a few minutes or until they were consumed, before phase two, took place.

In phase two the children were asked to participate in a drama session. The aim of the drama was to transform the least attractive of the aforementioned objects into a reinforcer. In this case it was the blank sheets of paper. The entire drama was devised to serve this objective. The drama was introduced by a puppet duck, who narrated to the children his adventures from his trip to the beautiful land of Utopia. According to the story, Utopia was a magical place full of chocolate mountains, candy trees, and all kinds of toys; where all children's wishes could come true. The children were intrigued by the story, and unanimously decided to visit Utopia; and asked the duck for advice on how to get there. The duck informed them that the only way to get to Utopia was by flying with magic carpets, and guided them through a series of challenges to get all the necessary materials to create their own carpets.

They first had to get the magic crayons that they would use to design their carpets, then they had to look for the magic thread to sew fringes on their carpets, and last they had to get a special paper that would serve as the material for their carpets. This last task led to the third phase of the experiment where the participants had to choose once again from the same list of potential reinforcers they were presented in phase one.

4.3.3. Results

In phase one, every child opted for a different object from the list of potential reinforcers, none of which was the paper (target object). In phase two, the preferences of all four children shifted to the target object. Yet, only for three of the four children was this a spontaneous decision, as for one this was the result of peer pressure.

It is interesting here to note that not all children made their decision at the same pace and with the same confidence. Whilst, two of them (Anna and Paul) immediately opted for the paper, one (Mary) asked for a moment to think about it before answering, and finally, John who had initially opted for the jellies was 'coerced' by his peers to change his preference towards the target object.

The distinct manner by which each child responded to the second stimulus preference assessment is indicative of how investment in drama determines the success of converting a neutral stimulus into a reinforcer, and how the children's responses are influenced by the expectations attached to the target objects. Anna and Paul, who had attentively engaged in the dramatic process, immediately opted for the paper, as they knew exactly what it stood for and consequently what to expect from it. Mary on the other hand, who at times seemed to be day dreaming during the session, needed a moment to remember what the paper stood for, and finally John, who had failed to follow the plot as he often withdrew in his own world, opted for the jellies unable to view the paper as a reinforcer, and only when reminded by his peers did he change his mind.

Through investment in drama, the ordinary paper gained its reinforcing value by becoming the magic paper that would allow them to fly.

4.4. Experiment 2

4.4.1. Participants & Setting

Four boys ranging in age from 6 to 7 years old, participated in experiment 2. All four were recruited from a special school for children with ASD. The experiment took place at the children's school, during school hours, and it was conducted in three consecutive hourly weekly sessions.

4.4.2. Procedure

The experiment was conducted in three phases. In phase one, the children were asked to select between 5 potential reinforcers, a puppet dog, a packet of jellies, a Kit-Kat, a chair and a silver ball. Once the children had made their choices they were allowed to have access to their chosen objects for a few minutes or until consumption, before phase two, took place.

In phase two the children were asked to participate in a drama session. The aim of the drama was to transform the least attractive of the aforementioned objects into a reinforcer. In this case it was a brown plastic chair. The entire drama was devised to serve this objective. The story was about the kingdom of Sunshine. An evil witch had stolen the king's magic throne and the kingdom had descended into darkness. The children were sent on a mission to get the throne back. This was a difficult challenge, for to get the throne back they had to resist all temptations that the evil witch presented them with. The children's meeting with the evil witch led to phase three, where the children had to choose again between all the potential reinforcers they were presented in phase one.

4.4.3. Results

In phase one, every child opted for a different object from the list of potential reinforcers, none of which was the chair. In phase two, the preferences of all four children shifted to one object, the chair. Through investment in drama, the chair gained its reinforcing value, and was transformed into a throne.

Three out of the four children (Alex, Walter, and Eric) immediately opted for the target stimulus, the throne, whilst one initially opted for the Kit-Kat and changed his choice

later due to peer pressure. Similarly, to the first experiment the three children who opted for the target object had followed the plot attentively, and had understood the reinforcing properties attached to the new identity of the target object, whilst the child who did not opt for the throne, had been withdrawn in his own world during the drama activity and as a consequence did not benefit from the process. The extent to which investment in the drama directed the children's choice and empowered the reinforcing value of the target object is clearly reflected in their responses.

Alex who had opted for the Kit Kat in the pre-intervention stimulus assessment, insisted that he wanted the throne in the second assessment. The following conversation is indicative of his clear determination:

Facilitator: *Which object would you like to choose?*
Alex: *I' ll pick the throne.*
Facilitator: *Wouldn't you prefer some sweets or a Kit-Kat?*
Alex*:* *No! no! no!*
Facilitator: *I think the Kit-Kat is much better. Don't you prefer the Kit-Kat?*
Alex: *No! Nothing else! I just need the throne!*

Similarly, Walter who had also opted for the Kit-Kat in the pre-intervention stimulus assessment, also opted for the throne in the second assessment. His confidence in choosing the throne is also reflected on how he responded in the second assessment.

Facilitator: *What would you like? You only have one choice. You can have these lovely sweets or these toys or an empty chair, a nice Kit-Kat or the silver ball. What would you like?*
Walter*:* *... the dog!*
Facilitator: *Oh! The dog! Great! It's the best thing you can have.*
Walter: *(jokingly) No!!! Only messing with you!*
Facilitator: *You are messing with me? What would you like then?*
Walter: *Nothing! Nothing, else! I hate everything on the chairs!*
Facilitator: *So what would you chose?*
Walter: *The throne!!!*

Eric, who had opted for the jellies in the first stimulus preference assessment, also opted for the throne in the second stimulus preference assessment. His certainty is reflected in the following conversation:

Facilitator: *What would you like?*

Eric: *The throne!*

Facilitator: *The throne?*

Eric: *The throne!*

Facilitator: *Don't you prefer the Kit-Kat?*

Eric: *No, I ate too much sweets today.*

Facilitator: *Maybe try the Jellies?*

Eric: *No! Too much sweets today!*

Facilitator: *Maybe you would like to play with this lovely dog.*

Eric: *but I already have a dog. Maybe you can't see it but I have it. (He takes an imaginary little dog out of his pocket).*

Facilitator: *Maybe you would like to play with this lovely ball.*

Eric: *No I don't want to play.*

Facilitator: *What would you like?*

Eric: *The throne! (As he takes the throne, he whispers to one of his peers) The Queen is going to be proud of us.*

Finally, Darren who in the first stimulus assessment had opted for the puppet, in the second stimulus assessment opted initially for the chocolates, and subsequently changed his choice due to peer pressure 'say the throne!' and asked for the throne.

4.5. Discussion

Results from the two experiments indicated that all eight children's preferences shifted towards the target stimuli in the post intervention stimulus assessment, that none had opted for in the first stimulus preference assessment. For six of these children this happened spontaneously without prompting or peer pressure, for the other two it was the intervention of their peers that influenced their choice. Whilst the six children who spontaneously opted for the target objects had attentively participated in the drama the other two were withdrawn for most of the process. These findings revealed a strong correlation between the children's responses and the level of their investment in drama, supporting the experimental hypothesis, that investment in drama can serve as a tool to convert neutral stimuli into reinforcers.

Even though all children demonstrated a shift in their preference, and their preferred items were used as reinforcers for their later behaviour in drama; the study could be criticised for not having tested whether the behaviour would have been performed without reinforcers, and as a result the items' reinforcing function may be questioned. Acknowledging this, we cannot state categorically that the new preferred items, the paper in experiment 1, and the chair in experiment 2, operated as reinforcers. Yet, it is very likely that they did, based on substantial behavioural documentation that recommends preference tests of the type used in this study as a method of selecting reinforcers in behaviour modification programmes, and literature indicating that highly preferred items are effective reinforcers (e.g. DeLeon, Iwata & Roscoe, 1997; Green, et al., 1988).

To conclude, although this study may have not proved unambiguously that the neutral stimuli became reinforcers, the shift of preference for six of the eight participants towards these stimuli in the post intervention stimulus preference assessment clearly suggests that they did acquire reinforcing properties. This raises the question of how this was achieved since no association with primary reinforcers was organised.

According to the traditional behavioural approaches there are two categories of reinforcers, primary and secondary. The former are intrinsically reinforcing and the latter acquire their reinforcing properties through association with the primary reinforcers. The transformation of the paper and the chair from neutral stimuli to preferred ones does not fit in neatly to either of the aforementioned categories, because neither were they

intrinsically reinforcing, nor did they acquire reinforcing value through association with a primary reinforcer, because no such association occurred. Therefore, we need to explain this using another framework. One possibility is, the cognitive behavioural approach, which talks about the meanings of items being determined by the perspective by which they are viewed.

Following the cognitive behavioural approach, human behaviour is not the outcome of an arbitrary interaction between the individual and the environment, but rather one of the interactive determinants (Bandura, 1971a). In other words, people do not respond to objective events but rather to their own view of these events (Ellis, 1962), and cognitive factors such as expectation play an important role in determining behaviour. This being the case, a number of cognitive restructuring techniques have been developed aiming to alter the clients' behaviour by changing their perception on the presented problems (Thorpe & Olson, 1990).

The role of the facilitator in drama could be paralleled with that of the therapist, who in cognitive restructuring procedures uses instruction to change the clients' perspective on a given situation, as a means of changing their responses (Meichenbaum, 1977; Ellis, 1962, Lazarus, 1971). Only in the case of the children in these experiments, the facilitator did not dispute the participants' view of the stimulus but rather changed their perspective by reintroducing it with a new identity within the fictional framework. Once the view of the object or situation has changed new expectations are created, and when these expectation are related to positive consequences, the stimulus is successfully converted into a reinforcer, that can potentially change the children's responses.

The conversion of any neutral or aversive stimulus into a reinforcer, seems to operate in two phases. In phase one, the object is illuminated from a different perspective, and in phase two, this new perspective gives birth to new expectations. Whilst, cognitive restructuring procedures can account for phase one, it is covert conditioning principles that can exemplify phase two, as the neutral stimulus acquires its reinforcing value, through its imaginal reinforcing consequences (Cautela & Kearney,1986).

Finally, it can be claimed that the drama context, serves as a discriminative stimulus, setting the occasion for all these new expectations that alter the interaction between the

participants and the environment, and can only be materialised within the context of drama.

An alternative explanation could be that drama itself is a primary reinforcer, in the sense that it is intrinsically reinforcing, and thus any stimulus that becomes associated with it, acquires reinforcing properties. The view of drama as an intrinsically motivating activity can be supported by Deci's (1975) definition of intrinsic motivation suggesting that it refers to activities that are not controlled by external rewards but that are rather internally enjoyable. Yet, in this case the process of association is not achieved by the mere simultaneous presentation of the neutral stimulus with the primary reinforcer, but is rather built in the process incorporating the principles of cognitive therapy and covert conditioning, as earlier illustrated. It is also the case that not all stimuli in drama acquire reinforcing properties. It is only those stimuli that are explicitly illuminated from a different perspective within the fictional context that acquire reinforcing properties.

In summary, whilst in ABA an important part of the intervention is the identification of potent reinforcers, in DIE the reinforcers can be created out of neutral stimuli. The least attractive objects can be converted into reinforcers not through their association with primary reinforcers but through investment in the dramatic process. The effect of the drama process in changing children's choice of objects can be exemplified in terms of cognitive restructuring procedures and covert conditioning. Finally, using drama as a means of converting neutral stimuli into reinforcers, has a number of practical advantages. It is time effective, in the sense that no time is spent in constantly trying to identify new reinforcers, the issue of satiation is consequently eliminated and an abundant choice of reinforcer becomes available. This being the case, the reinforcers could be chosen to be relevant to the behavioural objective of the intervention or real life consequences so that generalisation is more easily accomplished. Finally, the liberty to convert any object into a reinforcer may be particularly useful in dealing with issues such as resistance to change (e.g. a child insisting to drink only from a red cup) and phobias. In the first case, alternative choices can be used as reinforcers (e.g. converting the blue cup or the green cup, into reinforcers) and in the latter case by converting the phobic stimuli into reinforcers. Future research is needed to systematically examine the aforementioned possibilities.

Chapter 5

DIE model as applied to Social Competence

Theory & Practical Applications

5.1. Introduction

The present study examined the effectiveness of DIE as a medium to enhance the social and communication skills of children on the autistic spectrum, as well as addressing specific areas of concern for individual participants. The DIE model adopted here, is specifically designed to meet the needs of children with ASD, integrating the DIE methodology with the principles of behavioural and cognitive therapy.

The aim of this section is twofold. First, to introduce the rationale and theoretical underpinning of the proposed model, and second to exemplify the process so that replication of the study is possible. To achieve the former an attempt will be made to justify how DIE relates to the needs of children on the autistic spectrum and how cognitive and behavioural theories and procedures relate to the DIE methodology. To achieve the latter a detailed description of every step of the process and the logic underpinning it will be attempted.

5.2. Rationale of the model

5.2.1. DIE's relevance to the needs of children with ASD

Drama in education is about exploring human relationships and therefore by definition relevant to the challenges encountered by individuals with an ASD, who find it difficult to understand the rules governing social interaction. The relevance of DIE to the needs of these children, is clearly reflected in Gavin Bolton's (1992) writings on drama as a social context, where he compares the effort made to build belief in drama, to that of building belief in real life social situations. To illustrate his point Bolton draws on the social rules we take for granted and highlights the implicit effort made to seemingly effortless social situations (see chapter 3). And although Bolton's only intention in doing so is to exemplify the drama process, his analysis of the process of experiencing in real life social situations can also serve as guide-lines to all the aspects of the difficulties that children on the autistic spectrum encounter (see Bolton, 1992). A parallel can be drawn between the effort made by individuals on the autistic spectrum to understand every day social

interaction, to that made by their typically developing peers to build belief and spontaneously interact in drama.

This being the case, drama can offer children with autism, who fail to learn from life experience, an opportunity to practise social interaction skills within the safety of make believe. The advantage of drama over life is that the action in drama can be slowed down, forwarded, or rewind to allow opportunities for reflection. Furthermore, DIE addresses all the aspects of the triad of impairments that characterise individuals on the autistic spectrum and also relates to the three major theories of explanation for autism.

5.2.2. The triad of impairments map on the overall strategies of DIE

Children with ASD are characterised by the triad of impairments (in socialisation, communication and imagination) as discussed in chapter one.

Impairment in social interaction

Drama as a social art form is by definition geared to exploring human relationships and therefore addresses the impairment of social interaction that characterises individuals on the autistic spectrum. Drama, invites the participants to work with each other, engaging them both intellectually and emotionally in the dramatic process. Participants are encouraged to put themselves in other peoples' shoes and explore life from different perspectives.

Impairment in communication

Furthermore, drama is in its essence a medium of communication and as such addresses the second aspect of the triad, the impairment in communication (verbal and non verbal). Engaging in the art-form either as audience or participant, one is prompted to look for meaning in what is said and not said, yet non-verbally implied, in order to understand the behaviour of the characters, and make sense of the situation.

Impairment in imagination

Finally, drama works on the premise of accepting a fictional framework as real. It pre-requires in other words the ability to engage in two worlds simultaneously, dealing therefore by implication with the third aspect of the triad, the impairment in imagination.

5.2.3. Drama in Education and Cognitive Theories of Autism

Dramatic activity deals with the three major cognitive theories of explanation for autism; Theory of Mind (ToM), Weak Central Coherence (WCC) and Executive Function (EF). By teaching drama one inevitably addresses:

Theory of Mind

prompting the students to put themselves in other peoples shoes and see things from different perspectives (i.e. examine the intentions and expectations of characters, learn to anticipate consequences).

Weak Central Coherence

Drama fosters global processing of information, prompting the students to make meaning from small details and look at the bigger picture, (i.e. looking at the costumes and the set, one is prompted to figure out the period of a play; by examining the words, the pauses, the body language, one attempts to understand the relationships between the characters).

Executive Function

To engage in drama one has to suppress all external stimuli to follow the internal coherence of the activity, and live in two worlds simultaneously, the real and the fictional. Ability to withhold information is an integral part of the process as it builds the dramatic tension (i.e. the children cannot reveal to the bad witch where the chocolate factory is), which is key for any drama to take place.

Having illustrated the relevance of drama to the needs of children on the autistic spectrum, it seems apparent, that involvement in any kind of dramatic activity would be beneficial for this population. However, it will be argued that the effectiveness of a drama intervention could be enhanced when it is specifically designed to cater for the specific needs of children on the autistic spectrum, and also taking into consideration the individual characteristics of each member of the group.

Research on teaching methods for children on the autistic spectrum has revealed that due to the heterogeneity of their needs, individually tailored programmes are required to cater for the individual characteristics of each child (Lansing & Schopler, 1978; Marcus, 1977; Smith,1993; Jordan & Powell, 1995). Acknowledging this, the model proposed in this study not only aims to create a drama curriculum for high functioning children with

autism, where the learning area will be primarily determined by the characteristics of the condition, but one that will also take into consideration the individual needs of the specific participants. These may include specific areas of concern, such as behavioural deficits or excesses, that they may additionally hamper the individuals' social interaction, causing distress in themselves and their families.

The proposed DIE model draws on social and behavioural psychology, to address these problems, as they have proved to be instrumental in explaining and modifying behavioural difficulties that often characterise children on the autistic spectrum (Schribeman, 1996).

5.2.4. How social and behavioural psychology relate to the proposed model

The common denominator between drama and behavioural psychology, is the attempt to explain behaviour in terms of cause and effect. Whilst however behavioural psychology views behaviour as the outcome of the interaction between the individual and the environment, drama in keeping with social learning theory views behaviour as one of the interacting determinants. According to this theory, cognitive processes such as perceptions, thoughts and beliefs, influence behaviour and may in turn alter environmental events. "*For example a person who believes that other people are friendly may initiate social interaction with strangers. The belief, cognitive processes, leads to greeting and chatting, the behaviour, that in turn generates environmental consequences (e.g. reinforcement from others). These consequences are likely to affect the person's perception and behaviour in the future* (Kazdin, 1984, p. 211).

Current cognitive behaviour modification approaches (Ellis,1962; Meichenbaum,1977; Beck, 1976) acknowledge the interdependence of cognitive and environmental factors in shaping behaviour. In line with this view the model proposed in this study, incorporates concepts and techniques derived from both cognitive and behavioural paradigms, such as reinforcement, modelling, habit training, behaviour momentum, coping and problem solving, pivotal response training, and self efficacy.

Before explaining how each one of these techniques relate to the proposed DIE model, it is necessary to clarify the practical implications of the integration of cognitive and

behavioural theory to the DIE ideology, in terms of how autism is viewed, the role of the participants in the learning process, and their relationship with the facilitator.

Firstly, in line with behavioural theory the model adopted in this study makes no distinction between normal and abnormal behavioural and views the behavioural difficulties frequently experienced by children on the autistic spectrum to be determined by the same principles of learning as all behaviour. Secondly, similarly to the CBT model the participants in the DIE approach are actively involved in the learning process. Finally, unlike typical behaviour modification programmes, the DIE model challenges the traditional relationship between the child and the teacher, where the teacher is always the one who knows best and to whom the child must comply, and alternatively proposes a more dynamic relationship. In DIE, through the technique of teacher in role (TinR) the facilitator may relinquish her authority by adopting various roles of equal or lower status to those adopted by the children, and by so doing offer them the opportunity to take control over the experience, think for themselves, take decisions, and gain confidence in their own abilities.

Having briefly outlined the theoretical underpinning of the proposed DIE model, I will now attempt to explain how the aforementioned behavioural, and cognitive behavioural techniques relate to the rationale of the interventions and how they can be used to serve the overall objectives of the programme.

5.2.5. Behavioural and Cognitive theories and techniques inform the intervention

Reinforcement

The notion of reinforcement prevails in all behaviour modification programmes, and it is a principal technique used to modify behaviour. The teacher is setting up a behavioural contingency with a view to reinforce adaptive behaviour. Whilst, the power of reinforcement is acknowledged in the proposed model, concrete reinforcers are rarely used. Reinforcement is achieved by devising intrinsically reinforcing tasks, rather than providing contrived reinforcers that bear little relevance to the task. The advantage of this approach is that the consequences following the tasks resemble real life consequences and behaviours can be generalised and maintained outside of the therapeutic context. The

drive to keep succeeding is what will motivate the children to perform the target behaviours. The concept of reinforcement in DIE was discussed in detail in chapter 4.

Self efficacy

The DIE model adopted here, in line with Bandura's (1971b) view on self efficacy, acknowledges that developing the participants' sense of effectiveness in coping with problem situations, should be the principal objective of any programme. Hence, dramatic activities are designed to offer participants the opportunity to influence their environment, make things happen, and by so doing develop their confidence and belief in their personal power to effect change. Furthermore, the pattern of success that is implicit in the structure and sequencing of the dramatic tasks further contributes in enhancing the children's confidence in their self efficacy. It is hoped that if participants' view of self effectiveness changes, a new behaviour may be adopted that may in turn trigger reinforcing consequences. For example, when someone adopts a positive behaviour, positive responses from others may reinforce this newly acquired response (Kazdin, 1984).

Habit Modification

According to Guthrie (1935) people tend to do what they did last in the same situation. By breaking the pattern once it is likely that the new behaviour will be repeated in similar future occasions. Similarly, by establishing a pattern of success in drama, a new behavioural trend is likely to emerge. Guthrie's (1935) contiguity theory of learning stressed the importance of pairing of events, not just stimulus-stimulus pairings, as in classical conditioning, but also stimulus response pairings, irrespective as to whether specific reinforcement was provided. This being the case, following a pattern of success established in the drama, it is hoped that the participants will also embrace challenges presented in real life.

Behavioural Momentum

According to the principle of behaviour momentum the likelihood of complying with low probability requests increases when these are preceded by high probability requests. In other words compliance is increased when a sequence of preferred activities is set prior to the less preferred ones (Lee, 2006). In keeping with this principle, the DIE model is structured so that enjoyable high probability tasks related to the children's strengths and

special interests are introduced at an early stage in the programme, whilst more challenging activities that address areas of concern are presented later in the process.

Motivation & Habit

The importance of motivation and competence is clearly expressed in Hull's writings. According to Hull (1952) the likelihood of engaging in a behaviour is a function of habit and motivation. He claimed that if any of the two were absent there would be no behaviour. By motivation he meant the reason to act and by habit 'the know how'. In agreement with Hull's theory, the proposed model assigns great significance on both motivation and habit. To achieve the former, the choice of topics and tasks in a drama is based on the participants' special interests. To achieve the latter, tasks that provide participants opportunities to practise skills they might be missing are also included. However, it is important to note that habit, is not only seen in the narrow sense of teaching participants specific skills, but rather in providing them with opportunities to develop the ability for problem solving in general.

Coping & Problem Solving

Problem solving is a central component of the DIE model. A fictional problem is posed within the context of drama and the participants are requested to search for a solution. Smaller problems are set as stepping stones leading to the resolution of the bigger problem. The fictional problem is used as a pretext in drama for the participants to engage in the target behaviours. The value of problem solving lies in the opportunities it offers to the participants to think for themselves, take decisions and look at the consequences of these decisions within the safety of make believe.

The value of problem solving as a component of the therapeutic process has been acknowledged by Goldfried (1980) who argued that clients need to be taught how to solve problems in general, rather than be given specific solutions to particular problems. Through problem solving he claimed, people are given the opportunity to take an active role towards resolving their problems, as they are encouraged to take some distance from them, define them and come up with a number of alternative solutions and try them out.

Goldfried's (1980) coping skills training focused on four areas: problem solving, relaxation, cognitive restructuring and communications skills. Elements also incorporated

in the DIE approach. However, in the DIE approach the participants' do not discuss and evaluate the solutions offered on a given problem, nor do they act out these solutions to be evaluated in terms of their performance, but rather spontaneously respond to given problems in the here and now of the dramatic experience, in real life interaction pace. This approach has a number of advantages over Golfried's. First, it resembles real life interaction as the participants have to think on their feet and come up with solutions to problems in real time. Second, the solutions offered by the participants are not evaluated in the abstract, in relation to hypothetical consequences but rather tried out and evaluated in relation to the outcome of the given interaction. Third, the participants are focused on solving a particular problem which will lead them to their objective rather on themselves and the audience. As a result they are less self-conscious and protected during the problem solving process.

Finally, unlike Goldfried's Coping Skills Traning, in DIE 'problem solving' is not seen as a two-component process (the practical and theoretical) where each component is taught and evaluated separately but as a dynamic process where content and form are interrelated. Hence, the solutions offered are evaluated in terms of their effectiveness in serving specific objectives in the given context.

Modelling

The modelling technique is based on the principles of observation learning and vicarious conditioning. People do not only learn from direct experience but also by observing others actions. Through this process of observation the observers may be encouraged or discourage to perform certain behaviours based on the consequences that these behaviours have for the model. The technique of modelling is used in behaviour therapy, as a means of prescribing 'appropriate' responses to given stimuli. The children are explicitly instructed to watch a model performing a target behaviour, so that they learn the target behaviour. Although the technique of modelling plays an important role in the DIE approach, it is not used in the form of explicit instruction, but rather takes the form of incidental learning, resembling real life experiences. In the course of the drama the facilitator and the other children may serve as models indicating to each other the consequences of various behaviours.

Pivotal Response Training (PRT)

In line with the PRT model, the DIE approach adopted in this study views motivation and the ability to respond to multiple cues as pivotal skills that when addressed, may benefit other areas of behavioural competence, not specifically targeted by the intervention. The motivational strategies incorporated in PRT programmes such as children's choice, task variation, and provision of naturalistic reinforcers are also relevant to the strategies used in the proposed DIE model. The tasks incorporated in the DIE programmes are primarily selected to meet the participants' interests, are varied so as to reduce the effect of satiation, and motivation is build on naturalistic as opposed to arbitrary reinforcers. Finally, the most important similarity between the DIE approach and the PRT model lies in the naturalistic way in which target skills are taught to the children. DIE in line with PRT approach does not teach individual behaviours one at a time, but rather targets pivotal areas (such as motivation) that would lead the children into performing other target skills (e.g. if they are motivated to solve the fictional problem, they would communicate with various characters to get to their objectives).

Having briefly referred to the techniques and concepts drawn from behavioural and cognitive models that informed the proposed DIE model, I will now attempt to describe how these translate practically into the structure of the model.

5.3. The Model

5.3.1. Brief overview of the procedures

There are four main phases in developing a DIE intervention for high functioning children with autism. Phase one consists of gathering data about the participants; phase two identifying individual objectives for each participant, phase three selecting a topic and organising the tasks to address their needs, and phase four, implementation.

Phase one, involves compiling an initial profile for each participant, including information such as their strengths and weaknesses, their language skills (verbal & written), their ability to follow directions, their ability and willingness to engage in role play, their special interests, and their concentration levels. This information can be obtained from multiple sources (e.g. interviewing the parent and teachers, observing the children at the school setting) and is fundamental for tailoring the intervention to cater for each child's individual characteristics and needs. Based on the information gathered in phase one, phase two involves setting individual objectives for each participant, and phase three involves selecting topics and tasks that would not only address the set objectives, but would also appeal to the children's interests and strengths and serve as a means of motivating them to engage in the process.

Although initially, phases 1 to 4 occur in chronological order, an aspect of DIE is that assessment and planning are ongoing processes, kept under constant review. So the process of information gathering and objective setting described in work phases 1, 2, and 3 are issues that occur concurrently throughout the DIE process.

Motivation is the fundamental component of the DIE approach. The success of the intervention relies on the children's motivation to solve the problem posed within the fictional context of drama. Their desire to solve the problem should be strong enough, so as to urge them overcome any obstacles and challenges that may stand on the way to their goals. Yet, although the choice of topic and tasks, may initially intrigue the children to engage in the drama it is the sequencing of the tasks that is particularly important in maintaining their motivation. The dramatic tasks should be intrinsically reinforcing for the participants, gradually increasing the dramatic tension and the children's motivation

to solve the fictional problem, as well as offering participants the opportunity to practise the target skills.

In summary, the tasks should be selected carefully so that they not only serve the overall objectives of the intervention but also maintain the children's interest in the drama. In order to achieve both objectives, principles from DIE, behavioural and cognitive therapies have been incorporated in the proposed model.

5.3.2. Rationale of the model

The DIE approach advocated here sees self esteem as its primary aim and any other objectives stand secondary to this. This being the case, every task is structured so as to ensure the well being of the participants, improving their self confidence and reducing the self consciousness.

In this effort DIE takes the focus away from the students and the behaviour that is aiming to tackle and focuses on a fictional problem that needs to be solved. For example, if the objective of a lesson is to teach eye contact, then the drama is structured so as to provide the participants with opportunities to practise this skill by creating the need for its use, without however drawing the participants' attention to it (i.e. the old lady that holds the secret map to the chocolate factory, is deaf and mute; in order to get the information they need the children have no other option but to look at her).

Drama is not dictating to the participants what to do but rather gives them *reasons* for doing it, relying on the logic that characterises individuals with ASD. The children are empowered to think for themselves and choose the route that will lead them to their objective. DIE does not offer external rewards to the children when achieving the targeted skills (i.e. establishing eye contact), nor are the skills per se the objective of the drama. The objective of the drama is to enable the children make sense of these skills. The skills are the children's vehicle to achieve their objective. Skills in drama, much as in real life, are seen as a means to an end. The learning in drama is implicit, resembling the incidental learning that life offers.

In DIE, it is not the participants' personality that is being judged but the characters' they are portraying. The art form is protecting the participants from being exposed. It is a

specific fictional interaction that is scrutinised in drama, not in view of criticising the skills of the students, but rather evaluating the outcome in relation to the characters' objectives. Understanding how different behaviours, and choices affect the outcome of an interaction and looking at alternatives options, is the ultimate goal of DIE.

Unlike behavioural modification programmes DIE does not prescribe appropriate behaviour to the participants but rather offers them the opportunity to explore the implications of various behaviours within the safety of make believe, and to choose those that would better serve their objectives. DIE is not about instilling knowledge but rather illuminating what this knowledge amounts to (Bolton, 1992).

5.3.3. Structure of the sessions/ sequencing of tasks

Having already outlined the rational of the DIE model adopted in this study and how it relates to the principles of DIE and cognitive and behavioural therapy, I will now attempt to describe how these are incorporated into the design of the programme in terms of the nature and sequencing of the tasks.

The model proposed in this study, is structured along the DIE principles, extensively described in chapter 3. However, whilst a traditional DIE programme would be primarily designed to lead the participants through a series of problem solving challenges to the resolution of a fictional problem, that would bring a new insight into a real problem or situation; the model proposed here, mainly focuses on incorporating in the drama process challenges that would give participants' the opportunity to practise real life skills they might be missing.

The facilitator's priority is to establish a relationship of trust with the participants, as well as to enable them to build belief and investment in the fictional context so that they would be interested to solve the problem posed. To this end, the tasks are organised along the principle of internal coherence. According to the principle of internal coherence, the tasks should be sequenced to be in keeping with the participants' abilities and level of engagement in the drama so that they feel safe to submit to the experience (Bolton, 1998).

Low focus non threatening projected activities that the participants would likely enjoy are therefore set at the start of the programme, as a means of positively predisposing the participants towards the drama process and the facilitator, before more demanding tasks are set. This not only establishes a pattern of compliance as the behaviour momentum model suggests (Lee, 2006) but also offers the participants' protection into role, adding layers to the characters' they play in the drama, and by so doing drawing a line between the participants' personality and their roles. Protection into role is particularly important as it allows the facilitator to challenge the participants, without reducing their self esteem and confidence, which is protected by the meticulously structured roles.

Furthermore, projected tasks such as setting the space of the fictional context, finding names for the characters, drawing maps, etc., are incorporated early in the programme as a means of reducing the participants' self consciousness taking the focus away from themselves to the execution of these tasks. As the participants' confidence increases more demanding higher focus activities are gradually incorporated in the process, such as 'still images', 'voices in the head' that are designed to lead the participant to engage in non-projected experiential play.

It is important here to note that the technique of teacher in role (TinR) is particularly useful in smoothly leading the participants from projected to non-projected play, and framing them into roles. For example, from a projected task such as creating the space of a court room, the facilitator in role as judge, may frame the participants into their roles as jury, just with a simple phrase such as, 'You may all now rise'. The importance of incorporating the dramatic elements into the process is not only of theoretical but also of practical significance as they not only serve to protect the participants personality during a process of practising social skills, but also to create existential non repeatable experiences, that resemble real life social situations.

To summarise, the proposed model is based on a problem solving methodology that does not aspire to give solution to specific problems but rather enhance the participants self esteem in their abilities to solve problems, and practise problem solving, within the safe context of drama. Furthermore, the children have the opportunity to learn to benefit from incidental learning, as throughout the process they are given a number of opportunities to watch each other and learn vicariously.

5.4. DIE applications in the context of Social Competence

Three distinct interventions were devised to address the social and communication deficit of high functioning children with autism. Each one of these interventions was specifically designed to address the individual needs of the participants. A pilot study was carried out on a single subject, and was followed by two group interventions. The first group intervention was designed to address the specific needs of a group of young children between 6 and 7 years old, and the second intervention was carried out to a group of adolescents between 12 and13 years old. Whilst the pilot study solely relied on the researcher's anecdotal observations in the course of the intervention and on parental reports in measuring the subject's progress, the later two studies used more systematic instruments to assess the subjects' progress.

5.4.1. Pilot Study: Kieran 'Siblings' relationship'

Participant

Kieran, was diagnosed with Asperger Syndrome. He was 11 years old when the intervention began and was attending a special unit in a mainstream school. A couple of weeks before this intervention started Kieran was participating in a large group DIE programme for children with Asperger Syndrome. This was the second year of his participation in that programme, and had been asked to discontinue due to frequent tantrum episodes. This programme is not part of the current study.

Kieran was a very intelligent and highly verbal child, with a good sense of humour. However, he lacked the social and communication skills to form peer relationships appropriate to his developmental age. He was very friendly and chatty, and often initiated conversations with adults and peers. However, his ability to sustain a conversation was limited. He lost interest in conversations as soon as he finished what he had to say, disregarding his interlocutor's response. Kieran often withdrew to his fantasy world, and lost touch with what was happening around him. As a result, he often unwittingly ignored social initiations made by others, or responded inappropriately (e.g. He would often walk away, ignore any questions or comments, or give irrelevant answers). Kieran's behaviour was also characterised by sudden outbursts, which could have been due to his oversensitivity to sensory stimuli such as sound and touch or to certain fixations. For example, he would lash out of the bathroom screaming if the hand-driers were in use, or

would attack a child who accidentally touched him, or storm out if he saw his name misspelled. Kieran's awkward responses and sudden outbursts with no apparent reason had made him unpopular amongst his peers, and an easy target for teasing. Children would intentionally lead him into a tantrum by gentle provocations, such as tapping him on the shoulder or singing a tune he didn't like.

Pre-intervention pre-requisites:

Having worked with Kieran for one year prior the intervention, the pre-intervention pre-requisites had already been established. A detailed profile of Kieran had been drawn, a relationship of trust had been established and Kieran was very enthusiastic about drama.

Knowing Kieran for a year was a major advantage as I had obtained a very detailed profile that included, his strength, weaknesses, likes, dislikes, and sensitivities, that allowed me to predict how he would react in most occasions.

Kieran's Profile:

- He had very good verbal and written skills.
- He loved drawing and writing.
- He was very focused on writing tasks.
- His concentration on verbal instructions was limited.
- He liked solving puzzles.
- He liked solving mysteries.
- He loved animals.
- He hated being tapped or patted on the shoulders.
- He loved jokes and puns.
- He was good at languages.
- He was very sensitive to peoples' feelings, at least within the context of drama. He would always try to comfort unhappy characters, or offer to help them out of a troublesome situation.
- He hated hand-driers.
- He had an obsession with the spelling of his name. His name can be spelled in two ways, and Kieran would have a tantrum if it was not spelled the way he wanted it, on that particular day. His preference would vary from day to day.

- He hated being last (e.g. in the queue).
- He always wanted to win.
- He frequently needed to be prompted to respond to a question.
- He responded well to humour.
- He liked certain physical activities.
- He enjoyed achievement.
- He had unexpected tantrums.

Kieran's characteristics as detailed in his profile were taken into consideration in designing the programme.

Setting

The intervention was carried out in different rooms within Trinity College.

Measures

The following measures were used to evaluate the effectiveness of the intervention:

- Pre-intervention discussions with the parents
- Post-intervention semi-structured interviews with the parents

Procedures

Overall design

The programme was conducted in three phases:

Phase one: Pre-intervention

Before the beginning of the drama programme, informal discussions with Kieran's parents were used to establish the baseline and set the objectives of the intervention.

Phase two: Intervention

The sessions lasted sixty minutes and were run on a weekly basis for six weeks. In designing the tasks for Kieran, his excellent verbal and written skills, along with his limited concentration on verbal instructions were taken into consideration. A lot of the instructions were given in the form of letters or diary entries and emphasis was placed in balancing the intellectual with the physical activities. After highly demanding intellectual

activities, physical activities would follow as a tension release, allowing Kieran time to relax and refocus on the next task.

Phase three: Post Intervention

After the end of the intervention informal interviews with both parents were carried out as a means of evaluating Kieran's progress in relation to set objectives.

Background

It is important to note that the intervention described in this chapter is only a small part of a larger programme. The overriding aim of that programme was to help Kieran develop his ability to relate to other people and engage in reciprocal social interaction. However, in the course of the first 5 sessions working on that objective I incidentally identified Kieran's intense fear of the hand-driers and decided to set it as a priority given its intensity and how much it affected his everyday functioning. During these sessions another issue emerged, Kieran's oversensitivity to being touched, and this was set as my next priority, as it also vastly interfered with his everyday functioning. Two separate interventions were hence designed to address these issues. These will be discussed in detail in the following chapter. Once these two interventions were completed and Kieran's fear issues were successfully resolved, dealing with his difficulty to relate and communicate with others became the focus of the programme. A third intervention was hence designed to serve this purpose. This will be described in this section.

Aim

Although, I had worked with Kieran on a one on one basis in the two previous interventions, working on one to one in this one, I felt would not be as beneficial. It appeared to me that my exclusive focus and attentiveness to Kieran's needs would create a situation that did not resemble natural real life interactions. Kieran needed to learn to listen and take turns in a conversation that involved more than one person. Involving his younger brother in the drama I thought could serve as a stepping stone in this direction. Kieran would not only have the opportunity to practise these skills in the drama class, but also develop a relationship with his brother. Through the drama sessions the two children could learn how to play with each other imaginatively, having a common interest to which they could both relate. Kieran could then generalise these skills with his peers.

Process

Three different scenarios were devised for these series of sessions, 'The Shipwreck', 'The Orphanage' and 'The Chocolate Factory'. Each scenario was covered in two sessions. This swift change of topics aimed at keeping the children interested in every new drama.

The first cycle of sessions was based on Kieran's suggestion to do a drama about a shipwreck. The drama was about solving the mystery of a suspicious shipwreck. The focus of the drama was to provide the siblings opportunities to collaborate with each other and have fun. To this end, I designed activities that would 'oblige' the two children to work as a team, and listen to each other. For example, one of the activities required the children to create fictional identities for their new mission, including personal information, which they then had to share with each other. To be eligible for the mission they then had to prove their team spirit, by favourably presenting each other to the director of the mission, as well as demonstrating their trust to each other, by allowing themselves to be led by one-another blind-folded around the room.

In the next cycle, I decided to do a drama about an orphanage. This topic was selected because the subject could promote solidarity. The mistress of the orphanage was treating the children badly and they had to work on a plan to escape. Philip (Kieran's younger brother) and Kieran managed to overcome their personal conflicts and collaborated to succeed on their mission. For example, at a point, where they had to deceive the orphanage mistress, and Kieran kept revealing the truth unable to grasp the concept of deception, Philip took him on one side of the room and explained to him the plan again. Kieran, listened to his brother and changed his attitude.

In the final cycle, the children had to restore the chocolate factory. Amongst other tasks they had to design 10 chocolates each, and then present them for a competition. Each child had to present the chocolates that his sibling had prepared. Phillip grasped the concept of the competition and presented well and promoted Kieran's chocolates. Kieran, also successfully presented his brother's chocolates, remembering the names of all the chocolates Philip had created and complementing them. However, at the end of his presentation, Kieran couldn't help himself from adding that his chocolates were better.

All sessions were structured in a way, that 'forced' the children to work together in order to succeed on their objectives. By the end of the programme I noticed a considerable improvement in how the two children related to each other. Whilst in the initial sessions Philip would constantly ignore any contribution made by Kieran, behaving as if his brother didn't exist, as the sessions advanced he would ask for Kieran's help in completing certain tasks (e.g. in reading something, solving a riddle) as well as inviting him to join him in the activities. At the end of the fourth session, and outside the context of drama, I also saw Philip for the first time inviting Kieran to play with him. Kieran accepted the invitation and joined him.

Results

In the post-intervention interview, both parents reported that the siblings now played more together. Kieran's mother said she had noticed a big difference and that they interacted more with each other, and Kieran' father reported they were more tolerant of each other, and had seen Kieran inviting his brother to play. Kieran's mother had also heard them talking with each other about the drama; initiating more interaction with each other.

5.4.2. Group Intervention 1 (for 6 to 7 years old children)

Purpose of the study

The purpose of this study was to examine the effectiveness of a model integrating principles and techniques from Drama in Education and cognitive and behaviour therapy, in helping high functioning children with autism develop their understanding of the world around them, and by implication improve their social competence. Having established in the previous chapter how DIE relates to each one of the triad of impairments (socialisation, communication, imagination) that characterise individuals on the autistic spectrum, the focus of the intervention was to help the participants develop in those areas. Based on the currently most prominent theories of explanation for autism, specific measures were selected to evaluate the participants' progress in relation to their understanding of the mind. Impact measures were also used to examine whether changes on the specific measures were translated into global changes in the children's social competence.

Participants & Setting

A convenience sample of four boys ranging in age from 6 to 7, participated in this study. All four were recruited from a special school for children with ASD. The experiment took place at the children's school, during school hours, and it was conducted in 14 hourly weekly sessions. The names used for the purpose of this study are pseudonyms.

Darren was six years old when the intervention began and was diagnosed with Asperger Syndrome. The interview with his mother revealed that Darren showed little interest in other children, rarely made eye contact and had very poor listening skills. He was often locked into his own world, playing with imaginary characters, such as Sponge Bob, talking to himself and refusing to let them go and settle into the 'real' world. According to his mother he had a hard time understanding how people behaved around him, and would often resort to sudden tantrums.

Alex was six and a half years old when the intervention began, and was diagnosed with ASD. The interview with his mother revealed that Alex was very literal in his understanding and use of language. His own speech was repetitive, and had no understanding of pretend play, besides repeating verbatim the line of characters in books or films. Alex had also great difficulty in dealing with change.

Walter was seven years old at the time of the intervention, and was diagnosed with ASD and ADHD. According to his parents, Walter was a very sociable child who enjoyed playing with other children. He had a tendency to follow the rules to the letter and always corrected others when they failed to do the same. Walter had difficulty in reading emotions in others and would avoid eye contact, especially with strangers.

Eric was diagnosed with ASD. He was six years old when the intervention began. According to his mother Eric was a sociable child that would seek other children's company. He loved imitating T.V characters and acting out stories mainly drawn from films. Eric's mother major concern at the time of the interview was his unreasonable fear of hair dressers. Eric would adamantly refuse to have a hair-cut and would resort into a tantrum every time the issue of visiting a hair-dresser was raised.

Measures

Hughes and Sullivan (1988) claim that two types of measures should be incorporated in every research design that aims to evaluate the effectiveness of an intervention, these are: specific and impact measures. The former are used to evaluate whether a target behaviour was changed as a result of the intervention and the latter whether this change was translated in the overall social competence of the participants.

Specific Measures

The children were tested individually in a small classroom in their school.

1st order false belief test

A slightly modified version of the 'Sally and Ann' change of location task (Baron-Cohen et. al., 1985) was administered. The participants watched a story acted out by puppets. The scenario was as follows: A duck and a frog were playing with a ball. After a while the duck got tired, put the ball in a pink bag and left the room to go for a nap. In the duck's absence the frog took the ball from the pink bag and placed it in a white box. The children were then asked the following questions:

1. Where is the ball now? (reality question)
2. Where will the duck look for the ball? (false belief question)

To pass the false belief test the children had to indicate the actual location of the ball in question 1 and the former location of the ball in question 2. Participants received a score of 1 if they answered correctly both questions, and a score of 0 if they failed the false belief question. Participants who failed the reality question were scored 'untestable' and the task was discontinued.

2nd order false belief test

The story was acted out by puppets. The same scenario as in the 1st order test was re-enacted. Only this time the duck did not go for a nap but stayed behind the door and watched from the keyhole the frog moving the ball from the pink bag to the white box. The children were then asked to reply to the following three questions:

1. Where is the ball now? (reality control question)
2. Where will the duck look for the ball? (control question)
3. Where will the frog think the duck will look? (false belief question)

To pass the second order false belief test the children had to indicate the actual location of the ball in question 1, the actual location of the ball in question 2 and the former location of the ball in question 3. Participants who answered all three questions correctly received a score of 1. Incorrect replies in any of the control questions disqualified participants from proceeding to the false belief question, and were scored 'untestable'. Participants who replied correctly in the control questions, yet failed the false belief received a score of 0.

Appearance reality test

The test described below was based on Perner's deceptive box test (Perner et al., 1987). A smarties box containing pins was used as the deceptive item. Children were shown the smarties box and asked what they thought was inside. Only when the children answered smarties or candies the experiment could proceed. Next, the box was opened to reveal that it contained pins and not smarties. The box was then closed and the children were asked again what was inside. Only when they had answered pins (control question) the experiment continued. Next, the children were asked to predict what their teacher who had never opened the box would say was inside, if they called her in and asked her (false belief question).

Participants received the score 'untestable' if they answered the reality question incorrectly, and the test was discontinued. If they answered the reality question correctly, yet failed in the false belief they received a score of 0, and only if they answered both questions correctly they received the passing score of 1.

Inhibitory control test

In the inhibitory control test the children were introduced to two puppets, the nice duck and the naughty frog, and were instructed to listen to the duck's orders only and ignore the frog. The two puppets talked interchangeably and dictated to the children the following ten actions:

10 Actions:

1. Stick out your tongue.

2. Touch your ears.

3. Touch your teeth.

4. Touch your eyes.

5. Clap your hands.

6. Touch your feet.

7. Touch your head.

8. Touch your tummy.

9. Touch your nose.

10. Wave your hand.

A control test was conducted prior to the actual test, where the experimenter dictated the above ten actions to the participants. Failure to respond to the experimenter's instructions disqualified participants from the inhibitory test. Children who failed the pre-test, were scored 'untestable'. Children who failed to grasp the concept of the inhibitory control test received a score of 0; children who did grasp the concept of the game and made from 0 to 3 mistakes received a passing score of 1.

Deception test

The test described below was based on Sodian's and Frith's (1992) deception task. In the deception test the participants were given one 'gold' chocolate coin and were instructed to hide it underneath one of the two cups, placed upside-down on the table in front of them, either the yellow or the red. They were then told that if they helped the duck to find the chocolate she would give it to them, whereas the frog would keep it for himself. To make sure that the children understood the rules of the game they were asked what would happen if each one of the puppets found the coin. Once they had answered correctly the above question, the naughty frog appeared before them and asked them for the 'gold' (e.g. Could you please tell me under which cup is the gold the red or the yellow?). Next, the nice duck appeared and repeated the same question.

Participants received a score of 1 if they indicated the false location of the chocolate to the frog, and the correct to the duck. They received a score of 0 if they indicated the actual location of the chocolate in both puppets, and were scored 'untestable' for other irrelevant answers.

Impact Measures

Social Responsiveness Scale, SRS, (Constantino and Gruber, 2005).

The SRS questionnaire was administered as a pre and post intervention measure. This is a 65 item questionnaire, in a four Likert scale format, that aims to determine the extent of behavioural difficulties on a wide range of symptoms that characterise individuals on the autistic spectrum. These include interpersonal skills, communication difficulties and repetitive/stereotypical behaviour. The questionnaire is designed to be completed by parents and teachers who regularly observe the children's social interactions on naturalistic settings. The sum of responses to all 65 questions reflects the severity of autistic traits. This is a quantitative measure that is intended to identify changes in behaviour over time as a result of treatment.

The Pervasive Developmental Disorders Behaviour Inventory, PDDBI, (Cohen, Schimdt-Lacker, Romanczyk & Sudhalter, 2003).

The PDDBI was also administered as a pre and post intervention measure. It is a 180 item parent and teacher report questionnaire that relies on naturalistic observations to measure

a wide range of skills, including problem behaviours and social and communication abilities. Parents and teachers were asked to rate the frequency of the participants' behaviour on a four point Likert scale (0 – 3).

Intervention's Evaluation Report

The purpose of this questionnaire was to inquire whether any changes in the children's behaviour had been observed in the course of the intervention that may not have been picked up by the other two measures. The quantitative nature of the SRS and the PDDBI may not have been adequate to measure qualitative changes in children's behaviour. It was therefore hoped that this report would offer the opportunity to the informants to include any information they found relevant that might have not been included in the other two questionnaires, including their opinion on the effectiveness of the specific intervention in relation to areas of concern raised during the baseline interview, as well as their own perception of the participants' response to the intervention, in terms likes and dislikes. The report was completed by the parents and the classroom teacher of the participants.

Qualitative Observation of In-Session Behaviour

All children were observed throughout the programme and their contributions to the sessions were documented on a research journal. All sessions were recorded on video and analysed in relation to individualised objectives. This is not a quantitative but a qualitative measure, that focuses on recording and analysing responses that were relevant to each child's areas of concern. For example, in the case of a child who had difficulty in following the plot of the drama, relevant and irrelevant contributions were documented and analysed, and in the case of a child that had difficulty with ToM tasks, responses that revealed a lack or a shift in his understanding were recorded.

Overall Design

Four boys participated in a fourteen week DIE programme. They were assessed before and after the intervention on a battery of tests. These included first and second order false belief tests, and an inhibitory control test. In addition to these, at the same points in time parents and teachers were asked to complete two types of questionnaires, the *Social Responsiveness Scale* (SRS) and the *Pervasive Developmental Disorders Behaviour Inventory* (PDDBI). After the completion of the intervention an evaluation report was also sent to the parents and the teacher of the participants.

The study was conducted in three phases:

Phase one: Pre-intervention

- Informed consent letters were obtained from all parents, prior to the commencement of the intervention.

- Permission to conduct the study was obtained from the school's principal.

- Baseline semi structured interviews with the parents and the classroom teacher of the participants were carried out. A semi structured interview schedule was developed to guide the interview process. A copy of this schedule can be found in Appendix 2. The overall purpose of the interview was to obtain as much information as possible about the participants so as to devise an intervention that would meet their individual needs. The questions in the interview related to the parents' current areas of concern, the children's special interests, difficulties, likes and dislikes. The purpose of these questions was twofold. First, to set individualised objectives for each participant, where necessary, and second to devise an intervention that would not only appeal to their interests, but also be at their level of abilities.

- The SRS and PDDBI questionnaires were sent to all the parents and the classroom teacher to be completed and returned to the researcher before the commencement of the intervention.

- Baseline tests were administered to the participants.
  The tests were carried out in a classroom in the children's school, and lasted approximately 25 minutes.

- The data from the informal interviews were analysed, and individual profiles for all the participants were created. The profiles included their special interests and particular areas of concerns, as well as individualised goals for each child.

Phase two: The Intervention

The DIE sessions took place at the participants' school, lasted sixty minutes and were run on a weekly basis for 14 weeks. The main objective of the intervention was to enhance the participants ability to take perspective and improve their overall social competence, as well as addressing specific areas of concern for each participant.

Phase three: Post intervention

- Post intervention tests were administered to the children after the completion of the programme.

- Post intervention questionnaires were sent to all parents and the classroom teacher, after the end of the programme.

- Evaluation reports were sent to all parents and the classroom teacher.

- All post intervention results were analysed against the baseline results to measure the participants' progress in the target areas, and by implication the effectiveness of the intervention.

The intervention

The aim of the intervention was to help children develop an understanding of the mind, as a means of developing their social competence. Four different stories were used as a pretext to work with the children on these areas: 'The trip to Utopia', 'The zoo', 'The throne' and 'The chocolate factory'. I will indicatively describe in detail only the first story in order to introduce the process to the reader and the rationale underpinning it. I will only briefly refer to the other three stories, since they follow the same structure and rationale.

Cycle One: UTOPIA

The primary objective of the first session was to establish a relationship of trust with the children, engage their interest in the story, and build belief in the drama, so that they would be motivated to participate and work with each other to achieve the objectives of the drama, and by implication the intervention's objectives.

As I had never worked with this group before I felt that the children might feel intimidated to interact with an adult 'stranger' and that they might be more receptive and comfortable with a puppet. I therefore decided to use a puppet duck to introduce the drama. Hence, after introducing myself, I presented the duck to the children and through the duck asked them to tell me their names. This proved to be a good decision, in terms of warming up the atmosphere as the children appeared very excited to talk with the duck. They found it very funny when the duck responded to them calling their names, and seemed interested to hear his story. The duck talked to them about a trip he had gone in a land very far away, called Utopia[1]!! He said that Utopia was an amazing place with ice-cream mountains, chocolate rivers, trees with candies, and wonderful fun-parks where you could find anything you could dream of. He then asked the children questions about their favourite toys, games, food, sweets, clothes, etc., and reassured them that they could find all these things in Utopia.

The purpose of this task was twofold. First, to gain as much information as possible about the children's interests, favourite foods and activities that could serve as reinforcers at a later stage in the process; and second to build ownership in the drama by allowing the

[1] Introduction to the story through narrative.

children to invest their own views and dreams on Utopia, so that they have a personal interest to get there (something at stake, see chapter 3/ drama components).

Next, the duck asked them to show him what they loved doing the most. I volunteered an answer first and demonstrated my favourite activity[2]. I said it was horse ridding, jumped on a chair as if it was a horse, and invited the children to join me. They all joined in enthusiastically, and in no time had they all found their imaginary horses (chairs) and were 'riding' them. Next, every child had a chance to represent his favourite activity, whilst the rest of us joined in. The task served to introduce the notion of symbolic thinking to the children (e.g. using chairs as horses), and also offered them the opportunity to have a further input in the story, fostering on building belief and ownership in the drama[3]. Furthermore, the task served as a means of shifting the participants from projected to non projected play[4], through the use of modelling. Whilst in the previous tasks the children were in role as audience in the drama, they were now actively participating in the process by demonstrating their favourite activities to each other. Their participation was reinforced by their peers' acceptance, who followed their lead[5]. Finally, another important function of this task was to keep the balance between physical and intellectual activities. The children were sitting down for a long time listening to the duck's story and needed a physical activity to release their energy before moving to the problem solving task that would require more concentration.

Once the children's interest in Utopia had been established, the problem was posed. How do we get there? At this stage, the children were very eager to find out, so in role as the team leader, I told them that I had some top secret information to share with them. At this point I introduced the element of dramatic tension by lowering my voice (manipulation of sound) and calling them to sit close to me and to each other (manipulation of space), in order to reveal the secret information, and by so doing creating a momentum, that something important was about to happen[6]. I gave each child a card with a letter facing down, and as soon as they all had a card in their hands I instructed them to silently turn them around and read out the word. After a short debate they concluded that the word

[2] Use of modelling as a means of introducing the task.
[3] Building belief and ownership in the drama are the basic components of the DIE intervention.
[4] Moving from projected to non projected play to ensure that the tasks are internally coherent for the participants.
[5] Use of social reinforcement as a means of sustaining the participants motivation.
[6] Introduction of the element of the art-form (manipulation of time and space to create dramatic tension).

was M A G IC! I congratulated them for their accomplishment, and told them that I had another secret word to reveal to them, but that I couldn't say it out loud in case someone was listening. I whispered the word to the child sitting next to me and asked him to pass the word around, until it got back to me to confirm it was the right one. The task proved to be a bit difficult, but after a couple of attempts the children managed to pass the word around. The word was C A R P E T.

The dramatic tension served as a means of building belief and credibility in the dramatic experience, moving the drama from the descriptive to the experiential mode, and in so doing, motivating the participants to work with each other towards a common purpose (find the secret words, that would reveal the way to Utopia). Finally, the tasks were designed to offer the children the opportunity to believe in their ability to solve problems, and instil a sense of self efficacy[7].

After the second word was revealed, I asked the children to put the two words together and tell me what did they think they meant? What was the secret? And whether they had any clue on how to get to Utopia? They unanimously agreed that they probably had to use magic carpets to get there. This led to the subsequent tasks which included designing their own magic carpets and then sending them to be audited by the carpets' master, in order to get their flight permissions.

Inviting the children to design their own carpets, was a lengthy process that included drawing the designs, picking the colours of wool for the fringes, cutting them, sewing them onto the 'carpets' and then signing their names on them. The task was designed to foster further ownership in the fictional context, so that the children would have something personal at stake[8] to sustain their interest in the drama, and motivate them to undertake any challenges on their way. The auditing of the carpets, on the other hand was used as a means of creating the dramatic tension that would in turn enhance the importance of the challenge, increasing the significance of their achievement, and by so doing enhancing their self esteem. Finally, the actual award ceremony of the flight permissions was used as a means of further reinforcing the children for their

[7] The notion of Bandura (1971) self efficacy is central to the structure of the intervention.
[8] D.Heathcote's layers of explanation (see chapter 3, for details).

achievement, as well as ending the session on a high note that would increase their anticipation for the flight in the next session.

In the subsequent two sessions the children had to overcome a number of obstacles in order to get to the magic land of Utopia. The challenges included learning to fly their carpets, getting the secret map that revealed the way to Utopia, deceiving the evil bear that was trying to impede them from getting there, passing the forest of the dangerous creatures and many more. The focus of these tasks was mainly to enable the children practise the target skills of the intervention, such as perspective taking and social skills. I will indicatively describe a few of the tasks in order to acquaint the reader with the process.

The deception of the fierce bear

On their way to Utopia the children had to go through the forest of the dangerous creatures. As they were approaching the bear's cave the duck got scared and went to hide behind the tree with the blue leaves, and asked them to promise that they wouldn't say where she was hiding if the bear asked. When the bear came out of the cave, she asked the children if they had seen a duck? When the children replied they hadn't, to further challenge them she told them that she knew that the duck was around, but just wasn't sure if it was hiding behind the red or the blue leaf tree. Success in this task required the children to exercise inhibitory control and refrain from revealing to the bear, the duck's real hide-out.

The naughty frog

The purpose of this task was to give the children the opportunity to practise inhibitory control. On their journey to the fun park of Utopia the children arrived before a path of colours. They knew that this path was magic and only if they stepped on the right colours could they get to the park, but didn't know the magic combination. Suddenly, a frog appeared before them that held all the answers. I told them that if they wanted to get there they had to listen to his instructions, yet there was a little twist. The frog loved teasing people and had this habit of saying the opposite of what she meant. So, in order to succeed they had to do the opposite of what the frog told them. Each child had a go on the magic path of colours, all following the same ritual. They asked the frog which colour

to follow, and if the frog said red they had to step on the green. If he said green they had to step on the red, if he said purple they had to step on the blue, and so on.

Path of Colours

Flight instructions

The purpose of this task was to develop listening and collaborative skills. According to the flight instructions only good friends could fly, so the children had to prove their friendship for the magic to work.

The task required the children to work in pairs and learn three things about each other:

i) favourite colour

ii) favourite food

iii) something they hated or feared

They were then tested individually and if they answered the questions correctly they were granted the magic to fly. The 'Utopia' session ended when the children had returned safely back home from Utopia after having played with their imaginary toys and eaten their imaginary sweets.

Cycle Two: The Zoo

This story was about six animals who felt very miserable in their cages in the zoo, and needed the children's help to escape. The children had to pass many challenges to get to their objective, which was to lead the animals safely in the land of freedom. The challenges were designed to offer the children the opportunity to practise the target skills and included deceiving evil characters, sneaking into forbidden places, etc. In this story emphasis was placed on developing the children's empathy and sensitivity to the needs of others. For this purpose tasks like feeding the animals, caressing them, telling them bed night stories and finally saying goodbye to them at the end of the mission were incorporated in the process.

Cycle Three: The Chocolate Factory

The fictional objective of this drama was to build a chocolate factory from scratch. The process involved deciding on the name of the factory, the logo, making a chocolate selection and 'selling it' to the government to get funding.

The chocolate factory story was based on the same principles as the two previous stories. Yet, now that the children were more familiar with the process less time was spent on scaffolding activities (building belief tasks) and emphasis was placed on practising the target skills. More theory of mind tasks were therefore included in the process. For example, when the children went to visit the old lady that made the most delicious chocolates in the world, to ask her for her secret recipe, she asked a huge favour in return; their help to catch the person who was stealing her cherries when she was going to bed. In order to help her, the children stayed in her house overnight, hid under her bed and followed her routine. They saw the old lady (TinR1) putting the cherries in a silver box on the top of her fridge and then a person dressed in black (TinR2) coming in, taking the cherries from the silver box and placing them in a bucket behind the curtains. There, the action was stopped and the children were asked to predict where the old lady would look for the cherries when she woke up? Next, the old lady came back in, looked for the cherries where she had left them and when she couldn't find them asked the children to explain to her what had happened. When they did, the old lady took the cherries from the bucket and placed them back to the silver box. Next, the children were asked to predict where the man in black would look for the cherries if he came back in? After this, they hid again and witnessed the man in black coming back in and looking in the bucket for his cherries and getting really upset when he couldn't find them. This was the part that the children enjoyed the most, and kept them motivated to do and redo tasks of this nature.

Besides the ToM tasks that children practised in this story, working as a team was another major objective. This story demanded a lot of team work since the children had to take decisions together and also sell each other's ideas in order to get the government funding. For example, in order to convince the government committee to give them the funding, each child had to remember what chocolates the other three had made and also say something complimentary for their colleagues creations.

Results

The results are presented in three sections. The first section presents the group results on the specific measures, in a quantitative format. In the second section, results are presented in the form of single case studies and include analysis of each participant's performance on the specific measures, qualitative analysis of their classroom contributions, and presentation of the parents' and teacher's evaluation reports. Finally, in section three the results from the impact measures are presented.

Group results from the pre and post intervention tests

Theory of mind

1st order false belief test. – In this task, virtually none of the children were able to score a pass in the baseline assessment. However, in the post intervention test three out of the four children passed the test. Table 5.1 summarises the data of condition one and two.

2nd order false belief test. – Whilst none of the participants was able to pass the test during the baseline assessment, two out of the four participants did pass it in the post-intervention assessment. Data from the second order false belief test, are also summarised in table 5.1.

Appearance reality test. – In the baseline assessment one child passed the test, one failed it, and two children were scored 'untestable', as they were unable to understand the instructions and failed to reply to the preliminary question: 'what do you think is in this box?' In the post intervention test, both children who had scored pass in the baseline assessment also scored a pass as predicted, and from the two children who had scored 'untestable' in the baseline assessment, one scored pass, and the other fail (see table 5.1).

The deception task. – Two children passed and two children failed this test in the baseline assessment. In the post intervention assessment all four children passed the test (see table 5.1).

Inhibitory Control Test. - In the baseline test three out of the four children scored pass and one fail, as he was unable to grasp the concept of the test altogether. In the post intervention test the three children who had scored pass, scored pass again, and the child who had failed in the baseline test, also failed in the post intervention test (see table 5.1).

The overall results on the post intervention tests (see table 5.1) revealed that all children had benefited to a certain extent from the intervention, since all four participants improved in at least one of the skills tested. Darren improved in one test out of the five tests that he failed during the baseline assessment. Alex improved in three out of the four tests that he had failed in the baseline assessment. Walter improved in two out of the two tests he failed in the baseline assessment, and Eric improved in three out of the three tests he failed in the baseline assessment (see table 5.1).

Table 5.1

Summary of the scores on the pre and post intervention measures for each child.

	Pre - Intervention					*Post – Intervention*				
Participants	*1st*	*2nd*	*A/R*	*D*	*IC*	*1st*	*2nd*	*A/R*	*D*	*IC*
Darren	0	0	N/A	0	0	0	0	0	1	0
Alex	0	0	0	0	1	1	0	1	1	1
Walter	0	0	1	1	1	1	1	1	1	1
Eric	0	0	N/A	1	1	1	1	1	1	1

1st: First order false belief task

2nd: Second order false belief task

A/R: Appearance reality task

D: Deception task

I.C: Inhibitory Control task

Scores:

Pass = 1

Fail = 0

N/A = 'untestable'

Individual Results

Walter

Results on Specific Measures

The results from the baseline tests revealed that Walter had partial understanding of ToM. Whilst he successfully performed in the deception test, he failed to correctly respond to the first and second order false belief tests. He immediately grasped the inhibitory control test and completed it with no mistakes. Furthermore, the baseline assessment showed that Walter had a very positive personality, enjoyed pretend play, and had no problem in understanding instructions.

Results from the post intervention tests revealed that Walter had developed in the areas he had difficulty prior to the intervention, as he passed both the first and second order ToM tests, he had failed during the baseline assessment.

Evaluation Reports

Consistent with the classroom observations, the evaluation reports suggested that Walter enjoyed the DIE programme. Changes in Walter's behaviour were identified by both his mother and teacher. According to Walter's teacher, Walter had become more confident as a result of the DIE intervention, more receptive to corrections and less anxious to please her. Whilst prior to the intervention Walter would get very upset when corrected, he was now taking corrections as normal. Furthermore, Walter's teacher had noticed that during the course of the drama programme his obsessive talk about his imaginary friend Thomas had stopped. However, this change was not maintained after the end of the intervention.

Changes in Walter's behaviour reported by his mother, are consistent with the results on the specific measures. Walter's mother reported that Walter enjoyed playing tricks to the family and had become more aware of keeping secrets and understanding pretence.

In-Session behaviour observation

Whilst the baseline assessment had revealed that Walter had difficulty in solving first and second order false belief tasks, in the course of the programme he fully developed an understanding of ToM. Walter, without any explicit instruction had mastered the skill of solving both first and second order ToM tasks.

From the first session Walter was very enthusiastic about the drama, volunteered in all the tasks and fully followed the plot. He was full of ideas and led the group in all the activities. Throughout the drama Walter was the one who would remember the details of every session, and would help the other children in all the tasks. His participation in the drama revealed that not only did he have an excellent understanding of pretend play and symbolism, but had also mastered the art form, as he was able to manipulate the dramatic components and inject dramatic tension at crucial moments in the story (e.g. by changing the tone of his voice or switching off the lights).

Eric

Results on Specific Measures

The baseline assessment revealed that Eric had only partial understanding of ToM. Although, he failed both first and second order ToM tests, and was scored 'un-testable' in the appearance reality test, he passed the deception and inhibitory control tests. Irrespective of Eric's performance in the tests, in terms of pass or fail, the manner in which he replied to certain questions revealed that he was very literal in his understanding of speech. For example in the appearance reality test he insisted that he didn't know what was inside the smarties box since he hadn't had the chance to look inside, and in the inhibitory control test, he took the instructions too literally. When for instance I was dictating the actions to Eric, *stick your tongue out, touch your ears, touch your head*, I had to explicitly instruct him to release one action before proceeding to the next (e.g. put your tongue back in, hands down, etc).

Results from the post intervention tests, revealed that Eric had developed in all the areas of difficulty. He now scored pass in the first and second order false belief tests and the appearance reality test. Furthermore, there was no indication of literal thinking in any of his responses. For example in the post intervention inhibitory control test, Eric spontaneously responded to all the instructions in a more naturalistic manner, as he was able to infer the actions that weren't explicitly dictated to him, unlike the baseline assessment where additional instructions had to be given.

Evaluation Reports

The evaluation reports of both informants, Eric's mother and teacher, in line with my in-session observations, suggested that Eric enjoyed the drama programme. Furthermore, changes in his behaviour were also identified by both informants. Eric's teacher reported an improvement in Eric's ability to deal with new situations and an overall positive change in relation to his well being. She suggested that Eric who used to be "rather sulky, grumpy and moody" had transformed into a happy and funny child.

Eric's mother reported that in the course of the intervention Eric had become more confident and that over the last year he enjoyed school more. Furthermore, she reported that Eric engaged more in imaginary play, yet she was not sure if this could be put down to the drama sessions.

In-Session behaviour observation

Eric was a very lively child, who seemed to enjoy the drama from the first session. He followed the plot and always made witty comments and gave very imaginative solutions to all the problems posed throughout the drama. Eric was a leading figure in the group, had a great understanding of pretence and interacted well with the other children. During the course of the sessions Eric confidently solve first and second order false belief tasks, without any explicit instruction. Finally, it is important to note that baseline results, especially in relation to Eric's concrete thinking were vastly contradicted by his classroom participation where he revealed a great understanding of pretence and symbolic thinking. Eric was also very resourceful in his solutions to all the problems posed in the drama.

Alex

Results from the Specific Measures

The baseline tests revealed that Alex had no understanding of ToM, as he failed all four ToM tests; the first and second order false belief tests, the appearance reality test and the deception task. The deception task was particularly frustrating for Alex, who kept revealing the true location of the chocolate to the nasty frog, despite the fact that he kept loosing the treat. Alex, unable to grasp the concept of deception would hit and curse the frog for taking the chocolate.

The inhibitory test on the other hand, showed that Alex almost fully possessed the ability to control his impulse responses since he only made two mistakes. However, his idiosyncratic responses in the test revealed the extent of Alex's concrete thinking. For example, when prior to the actual inhibitory control test I ran the instructions with him, to make sure that he understood them, Alex kept objecting, not to be oppositional but because he was taking the instructions too literally. For example when I asked him to touch his eyes he objected by saying that this would make his eyes sore; when I asked him to stick his tongue out, he said that this was a bold thing to do; and when I asked him to touch his nose he objected again by saying that it had snots. It was only after long deliberations where I explained to Alex that his eyes would be ok, that sticking his tongue out wasn't bold, etc., that he agreed to follow the instructions. He later objected on another couple of occasions, but carried on after further reassurances.

Alex's post intervention results revealed that his understanding of the mind had significantly developed, since he successfully performed in three out of the four ToM tests, in which he had failed during the baseline assessment. He passed the first order false belief test, the appearance reality test, and the deception test and only failed in the second order false belief test. Alex was now confident in his ability to solve first order ToM tests and derived great pleasure from it. Not only did he give the correct answers but also volunteered to justify them (e.g. the duck would look for the ball where she left it). The deception task was Alex's favourite. Whilst Alex would hit and curse the naughty frog in the baseline test to stop him from taking the chocolate, he was now able to deceive him and enjoyed doing so. He was so proud of his newly acquired ability to trick the frog that he would ask me to repeat the task several times: *'let's trick him again!'*

Finally, Alex's perfect performance in the inhibitory control test also indicated an improvement in his ability to control his impulse responses. However, it is not the improvement in the skill per se that is so significant, since his baseline performance was relatively good to start with, but rather the manner in which he responded to the instructions that suggested improvement in his ability to read information contextually. This time, Alex spontaneously responded to all the instructions without protesting or necessitating additional clarifications. Furthermore, his response to the task revealed that he was very proud of himself for not falling into the trap and listening to the frog's instructions.

Evaluation Reports

Reports from both informants (parent and teacher) suggested that Alex enjoyed the drama sessions. However, according to his teacher Alex had not benefited from the intervention. Although she reported that he had become more lively in the course of the DIE programme, she did not attribute this to the drama. Alex's teacher also noted that he reverted into his own world after the completion of the programme. Contrary to his teacher's report, Alex's mother reported that Alex had benefited from the drama, and he was now engaging much more in pretend play, and in imaginative conversations with his younger brother. Alex's mother also noted that in the course of the programme Alex had become more receptive to the idea of the difference between reality and DVD. However, this change was not maintained after the intervention. Finally, Alex's mother reported that Alex's trips to the barber had become easier, as a result of the intervention.

In-Session behaviour observation

Taking the information from the baseline tests into consideration, the main focus of the intervention was to develop Alex's understanding of ToM and his ability to take perspective. It was hoped that through engagement in pretend play, Alex's literal way of thinking would be reduced and that he would learn to interpret communication contextually, looking at the global picture and not its parts. The information from observing Alex in the classroom is particularly significant not only in interpreting the results of the ToM and executive function tests but also in evaluating his overall development in relation to the areas of concern.

Specific measures

Alex's progress in terms of his *understanding of ToM* was gradually manifested in the classroom. Whilst in the initial sessions Alex would be at loss every time a ToM problem was posed in the drama, and would stay quiet, or wait for the other children to reply and repeat their answers; towards the end of the programme Alex would be confident in his ability to solve ToM tasks and would volunteer an answer first. In the final sessions Alex also succeeded in solving second order ToM tasks. However, his understanding of second order false belief tasks was not replicated in the post intervention assessment. I believe this was due to the fact that his newly acquired understanding of second order false belief, was not consolidated when the intervention ended and was therefore lost in the two week period that elapsed between the last session and the post-intervention assessment. Alex needed more time in order to fully master ToM, so that this skill could be retained permanently.

Alex's understanding of the *inhibitory control* was clearly reflected in his performance in classroom activities (e.g. excellently performed in the path of colours, where he had to refrain from listening to the frog's instructions).

Overall progress

Alex was very quiet in the first couple of sessions, and seemed to have a great difficulty in following the plot and understanding the verbal instructions. As a result, he was reluctant to volunteer to lead any of the tasks or be the first to respond to a question. Despite this, it was apparent that he wanted to be part of the group, as he made every

effort to follow the lead of his peers. However, his irrelevant comments often revealed his inability to make sense of what was going on around him.

Alex's confidence steadily increased in the course of the intervention and from the third session onwards he started volunteering to lead certain tasks or respond to questions first. Furthermore, as his confidence developed Alex became more assertive and unlike earlier in the programme where he would follow his peers unsure of what to do unless explicitly told; he would now always make sure that he didn't miss his turn in any task.

I believe Alex's increased confidence was very much related to his improved ability to make sense of the drama sessions and the tasks. For example, his newly acquired understanding of ToM played an important role in building his self esteem, as many of the tasks towards the end of the programme required the ability to solve false belief tasks. Alex, no longer waited for the other children to respond to a question first to repeat their answers but had a voice of his own.

Session 7 was a turning point for Alex, who for the first time showed an understanding of false belief and it was also the first time he gave an original response to a question and did not reiterate someone else's answer. For example, on the question how would you name our hair dressing salon, Alex for the first time refrained from repeating what the child preceding him had said, 'hair cutter' and offered a slightly changed version 'hair barber'. In the same session it was also the first time that Alex was able to offer an opinion and justify it. While discussing on how to get the animals to the land of freedom, Alex proposed to take them on a boat as opposed to a plane because the boat was bigger and they would fit better.

In session 8, it was the first time that Alex contributed in the recap at the beginning of the drama, and summarised what had happened in the previous session. In the same session Alex also gave another indication of his increased ability to follow reciprocal conversation, when in response to me saying that the journey on the boat was going to be long and tiring, he proposed to take a speed boat instead of a regular one.

In session 9, in a discussion about how to help the animals escape from the zoo, Alex proposed that we should give the guard a pill to fall asleep in order to sneak the animals

outside of the zoo. However, in the next few sessions Alex showed some signs of regression, as he gave irrelevant answers and kept saying that we had to find the witch. The witch was a character we had met in a story a hew weeks ago, that had somehow stuck in his mind. However, when I brought to his attention that this was a different story he went along with it.

Overall, Alex's performance was inconsistent in terms of his ability to maintain reciprocal communication and read information contextually as opposed to literally; despite evident improvements in his self confidence and his ability to solve false belief tasks.

It is important to note, because of Alex's interest in other children, modelling proved to be a powerful medium of instruction. Alex, would initially copy what his peers were doing until he had acquired the necessary skills and confidence to offer original responses.

Darren

Results from the specific measures

The baseline results from the tests revealed Darren's inability to tune in and participate in reciprocal interaction, as he was scored un-testable in most tasks. Darren could not tune in long enough to listen to the instructions, and as a result gave irrelevant answers to most questions. Darren failed the first and second order false belief tests, the deception task and was scored 'un-testable' in the appearance reality test, as he could not answer the preliminary question 'what do you think is inside this box?'. First, instead of answering he replied with a question 'is it a secret?', and continued with more questions (e.g. is it a lizard?') trying to guess the content, without however taking clues from the picture on the box. Darren also failed the inhibitory control test. At the time of the testing, it was unclear whether Darren failed because he was unable to grasp the concept of the game altogether, or because he was unable to inhibit his impulse reactions.

Comparing Darren's pre and post-intervention results, it seems that little progress had been made since measurable improvements were only noted on one test (the deception task) where Darren's performance shifted from fail to pass. However, I would argue that Darren's overall demeanour did indicate progress since the base line assessment was

conducted. Whilst during the baseline assessment, Darren was locked into his own fantasy word talking to himself most of the time, and giving irrelevant answers in the rare occasion he did reply to my questions; in the post-intervention assessment Darren, did tune in, and his false yet relevant answers in the first and second order false belief tests showed that he was listening to my instructions, yet he still lacked the ability to pass these tests. Similarly, Darren's response in the inhibitory control test in the post intervention assessment, revealed that he now understood the instructions, yet found it extremely difficult and frustrating to refrain from responding to the nasty frog.

Finally, Darren's success on the deception task is particularly significant in understanding the extent of his progress, since it did not only indicate improvement in his understanding of the mind but also in his ability to disengage from his fantasy world and tune in into the real. Furthermore, success in the deception task also indicates improved listening skills. In order to give the correct answers, Darren had to listen to the story so that he knew which puppet was good and which was 'evil', so that he helped the former and deceived the latter.

Evaluation Reports

Reports from both informants (parents/teacher) suggested that Darren enjoyed the DIE sessions and benefited from the programme. Darren's teacher reported that he had become much more tolerant of noise and would even let children laugh occasionally without resorting to a tantrum, as he used to do in the past. His parents also reported that Darren's overall capacity to communicate had improved as well as his confidence to use different phrases and quite complicated sentences. They also mentioned that he had initiated imaginative games with them at home.

In-Session behaviour observation

i) Quantitative Observation

Taking into consideration the results from the baseline assessment and the interview with Darren's mother, the primary objective of the intervention was to help Darren 'tune in' more into the real world. Whilst the aforementioned tests were meant to measure Darren's progress in terms of his understanding of the mind and only dealt by implication with his ability to tune in and participate in real life social interaction, the class records and video records may be used to serve this purpose. However, before attempting to

discuss Darren's progress in relation to the given objective it is essential to define what 'tuning in' stands for. By 'tuning in' I mean Darren's ability to disengage from his fantasy world and participate in the drama.

One way of measuring Darren's ability to 'tune in' would be to measure the time he spent participating in the drama in every session, from the beginning to the end of the programme and then compare how much time he spent in the initial sessions, with the amount of time he spent towards the end of the programme. Although this approach seems ideal in quantifying Darren's participation, it is hampered by a major obstacle, the nature of drama itself. The activities included in a drama lesson, vary from session to session, and thus the amount of time a child spends 'tuned in' in each session is more likely to signify the child's interest in the particular activities rather than an actual progress in terms of social motivation.

Despite this obstacle an attempt was made to quantitatively measure Darren's participation in the programme from session one to fourteen. Darren's participation was monitored for 3 minutes every 10 minutes in each session. A score of 1, indicates that Darren followed the activities in the group for the entire 3 minute duration of the monitoring. A score of 0.5 indicates that Darren was either partially involved in the drama process, or that he was involved for less than 3 minutes. Finally, a score of 0 indicates that Darren was locked into his own world and did not follow the activities in the drama. The results that are illustrated in table 5.2, show no quantitative progress in Darren's ability to 'tune in' throughout the intervention. Looking at graph 5.2., it is rather evident that Darren's participation followed an inconsistent pattern, increased halfway through the programme, and decreased towards the end.

Table 5.2

The number of ten minute intervals per session in which Darren was rated in terms of his participation in the drama.

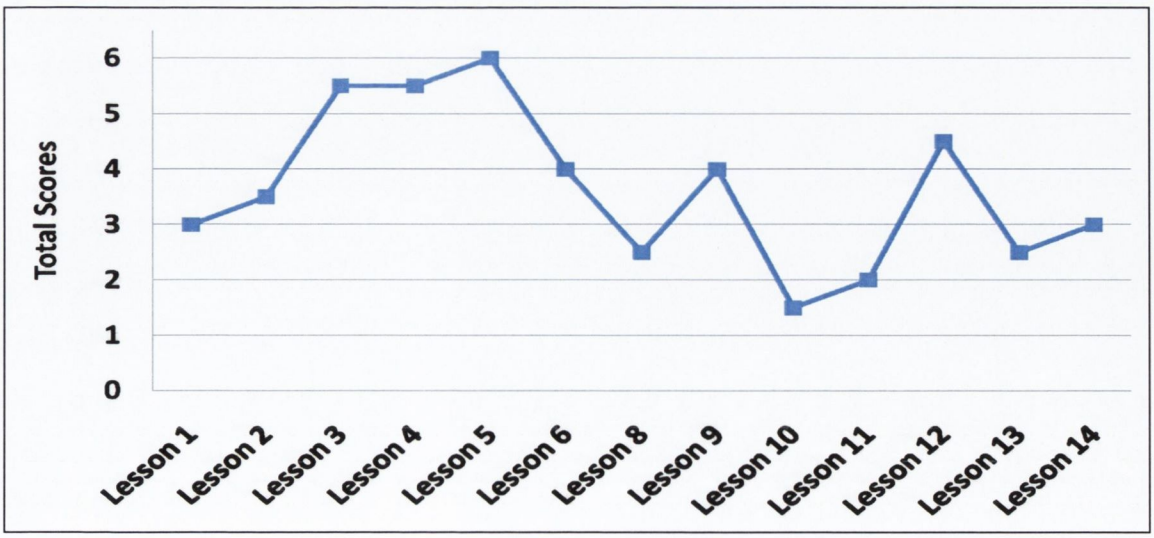
Sessions	*0-3*	*10-13*	*20-23*	*30 -33*	*40-43*	*50-53*	*60-63*	*Total*
Lesson 1	1	1	1	0	0	0	0	3
Lesson 2	A	A	0.5	1	0.5	0.5	1	3.5
Lesson 3	0.5	1	1	1	1	0	1	5.5
Lesson 4	0	1	1	1	0.5	1	1	5.5
Lesson 5	1	1	1	0.5	0.5	1	1	6
Lesson 6	0	0	0	1	1	1	1	4
Lesson 7	-	-	-	-	-	-	-	-
Lesson 8	0.5	0.5	0	0.5	0.5	1	A	2.5
Lesson 9	0	0.5	1	1	0.5	0.5	1	4
Lesson 10	0.5	0	0	0	0	1	0	1.5
Lesson 11	0	0	1	0.5	0	0	0.5	2
Lesson 12	0.5	1	0.5	1	0.5	0.5	0.5	4.5
Lesson 13	1	1	0	0	0	1	0.5	2.5
Lesson 14	0	0	0	0	1	1	1	3

0 : withdrawn

0.5 : partially involved in the drama

1 : actively participating

A: absent



Graph 5.1: Graphic Representation of Darren's classroom participation, as presented in table 5.2.

Interpreting the quantitative increase or decrease in Darren's participation as progress or regress in his ability to 'tune in' may however be misleading for a number of reasons. First, it is likely that the quantitative increase or decrease in Darren's participation from one session to another is related to the nature of the tasks he was requested to engage in, in these particular sessions (e.g. physical or intellectual, and their level of complexity) and not to his overall ability to 'tune in'. This hypothesis is supported by the noted decrease in Darren's participation towards the end of the programme, where the sessions had become increasingly more demanding.

Second, even if the aforementioned obstacle could be surmounted and the tasks did not vary from session to session, the measure itself is inadequate to capture what is intended to be measuring, the child's ability to 'tune in' into the drama process. 'Tuning in' implies an understanding of the process, and apparently cannot be measured quantitatively, based on the amount of time a child spends on a task, but rather on the quality of his response to the task. Equating therefore a quantitative increase or decrease in Darren's participation with a qualitative progress in his ability to 'tune in', is arbitrary since understanding can only be inferred qualitatively and not quantitatively.

Third, it is often the case that children seem to be 'tuned in' when in fact their minds are somewhere else and vice-versa. This being the case quantitative measures that merely rely on the observation of children's responses on specific moments in time, are inadequate to detect qualitative improvement in their ability to 'tune in', as this may be manifested at a much later point in time, in the form of a comment, within or outside the context of drama. The latter is often the case with children on the autistic spectrum who are known to appear aloof, yet may absorb all the information in their environment.

Finally, the attempt to measure 'tuning in' quantitatively may lead to misleading results, since participation is often influenced by imponderable factors such as the child's mood of the day, that may affect the outcome, yet do not necessarily imply a genuine increase or decrease in the child's overall ability to sustain social interaction. Taking into consideration the limitations of quantitative measures, an attempt was made to closely examine Darren's participation in the classroom from a qualitative point of view. Hence, emphasis was placed on recording his comments and responses throughout the programme, rather than on specific moments in time.

ii) *Qualitative Observation*

- in relation to the general objectives, ToM & Inhibitory Control.

ToM

Darren initially failed to focus on the ToM tasks and gave irrelevant answers. However, towards the end of the programme he managed to tune in, and give relevant answers which still revealed his difficulty in taking perspective.

Inhibitory Control

Darren's difficulty with the inhibitory control test was clearly manifested in the classroom. In order to get to their fictional objective the children had to follow the path of colours. The naughty frog who always said the opposite of what he meant was going to be their guide. This task was particularly confusing and overwhelming for Darren who could not refrain from listening to the frog's instructions, despite the fact that the assistant teacher and his peers instructed him to do the opposite. On a couple occasions that he eventually succeeded to step on the opposite colour from the one the frog had suggested, he instantly corrected himself and returned to the colour the frog had instructed him to go. After the completion of the task Darren withdrew into his own world, an indication I believe of his frustration, due to his inability to cope with a task that made no sense to him. On the other hand, Darren's response to the task was a clear indication of his improved ability in 'tuning in', since he asked the right questions, and attentively listened to the instructions, up until the point at which he switched off.

Deception Task

Darren's success in the post-intervention assessment on the deception task was also manifested in the classroom in the last couple of sessions. Darren who was very good with maps was requested to indicate the path that led to the chocolate factory. Darren correctly replied that it was the red path. I then told him that there was an evil man in the area who was looking for the chocolate factory, and would destroy it if he got there first. In order to save the factory he would therefore have to trick this man. Darren succeeded on this task; and when the stranger asked him which path led to the chocolate factory he said the green, although he knew very well that it was the red. Despite the fact that he succeeded in deceiving the stranger, Darren found deception frustrating and would

always suggest another solution (e.g. put the evil man in prison, ditch him in the waterfall, etc).

Darren's understanding of deception was also evident on a similar task. The children had a big pot of the 'magic snow' that would put the chocolate factory in operation. I told them not to reveal to anyone that this was the magic snow, and asked them to think of something else to say if anyone asked them. Darren then proposed: 'Could it be ice-cream?' This answer also revealed a progress in his understanding of symbolism.

Overall progress

At the beginning of the programme Darren was locked into his own fantasy world and would often withdraw into a corner of the class, and talk to himself. He would show no interest in the other children and would need regular prompting to join the group. It was only during the physical tasks, such as the journey under the tunnel, or over the mountains, that Darren would show an interest and join the group on his own initiative.

Halfway through the programme a significant increase in Darren's social motivation (interest in belonging in the group), was observed. He would now come into the classroom and sit next to the other children in the circle without any prompting, and would even ask them to open up the circle if there wasn't enough room for him to join in (session 5). He would participate with no prompting in all physical activities and would even protest if he missed his turn. Despite his improvement in social motivation, Darren still found it very difficult to follow the plot of the drama and would often give irrelevant answers to questions related to the story.

In session 7, it was the first time that Darren showed evidence that he was following some of the action in the story. In a task where the children were requested to trick a frog by hiding his food in a different location from where he had left it; and were then asked to guess 'where would the frog look for it on his way back?' Darren replied that the frog would look for the food in its actual location. Although his incorrect answer reveals Darren's lack of understanding of the mind, it is also indicative of a progress in his ability to 'tune in' and follow at least part of the dramatic action.

In session 9, Darren appeared more confident, actively followed most of the instructions and even led one of the activities, where he was requested to read out loud a note left on a secret path.

In the subsequent sessions Darren's improved ability to 'tune in' and more actively participate in the drama was manifested in many occasions. For example, in session 10 he would listen to the instructions the frog gave him on how to pass the path of colours, in session 11 he would remember all the fruits he had to get from the forest to make the magic potion, in session 12 he would find the chocolate factory in the map, and in lesson 14 he would remember exactly the magic ritual that would deliver to him the chocolates of his preference.

Furthermore, it is important to note further improvements in Darren's social motivation. Towards the end of the programme Darren would show more actively his interest in being part of the group, which was not only revealed in his participation as earlier illustrated, but also indicated in phrases such as 'I have to go to the toilet... you wait for me!!' Overall, there was an improvement in Darren's willingness to communicate and sustain social interaction, although on various occasions he still found it difficult to make sense of what was going on around him and withdrew into his own world.

Results from the impact measures

i) Results from PDDBI parents' reports

Table 5.3. reveals that according to the parents' reports the overall picture of 2 (Walter and Eric) out of the 4 children that participated in the intervention improved, whilst the other 2 (Darren and Alex) worsened.

Table 5.3.

Parents' PDDBI ratings for each participant in study 1 prior to and following the DIE intervention

Participants	*Baseline*	*Post - Intervention*
Daren	50	55
Alex	76	80
Walter	41	33
Eric	34	28

ii) Results from PDDBI teachers' reports

Table 5.4. indicates, that according to the teachers' reports, the performance of three out of the four children that participated in the study improved (Darren, Walter, and Eric) after the intervention, whist one of the children (Alex) vastly deteriorated.

Table 5.4.

Teacher's PDDBI ratings for each participant in study 1 prior to and following the DIE intervention

Participants	*Baseline*	*Post – Intervention*
Daren	79	63
Alex	47	62
Walter	39	28
Eric	58	22

The vast discrepancy of scores amongst raters poses questions in terms of the reliability of the measure, in identifying the severity of the social deficit in individuals on the autistic spectrum, and by implication in its accuracy as a means of evaluating the participants' progress throughout the intervention.

iii) Results from SRS parents' reports

Results from the SRS parents' reports revealed that 3 (Darren, Walter, Eric) out of the 4 children that participated in the study showed a decrease in the severity of autistic symptoms over time, whilst 1 (Alex), showed an increase. See table 5.5.

Table 5.5.

Parents' SRS ratings for each participant in study 1 prior to and following the DIE intervention

Participants	*Baseline*	*Post - Intervention*
Daren	85	81
Alex	104	114
Walter	86	70
Eric	63	51

iv) Results from SRS teachers' reports

The results from the teachers' reports revealed that 2 children progressed (Walter and Eric) in the course of the intervention whilst the other 2 regressed (Darren and Alex). See table 5.6.

Table: 5.6.

Teacher's SRS ratings for each participant in study 1 prior to and following the DIE intervention

Participants	*Baseline*	*Post - Intervention*
Daren	65	84
Alex	71	76
Walter	55	47
Eric	81	61

Similarly, to the PDDBI the discrepancy in the scoring amongst raters, questions the validity of the measure.

Overall the results from the impact measures are very inconsistent and it is not possible to draw any valid conclusions. The inconsistency in results is not only reflected in the discrepant scores amongst the two different instruments but most importantly in the vast discrepancy in scores amongst raters, within each instrument.

Discussion

The present study attempted to examine whether a DIE intervention specifically designed for high functioning children with autism and most particularly tailored to cater for the needs of a specific group of children, was effective not only in terms of helping them develop target skills, but also their overall level of social competence. Specific measures were used in order to evaluate the children's progress in relation to the target objectives and impact measures were used to assess whether progress identified by the specific measures was translated into global benefits.

The results from the specific measures indicated that the intervention was successful in helping each participant to develop at least on one of the skills taught in the programme. The impact measures on the other hand, due to the wide discrepancy in scores amongst

measures and informants, proved to be an unreliable source to determine whether these newly acquired skills influenced the overall development of the participants' social competence. Qualitative reports of each child's participation in the classroom in the course of the intervention and feedback from their parents and classroom teacher was hoped to serve as a means of evaluating whether the changes identified by the specific measures yield global changes.

Whilst classroom observation was particularly useful in revealing how the two participants' who had the lowest scores in the baseline assessment developed in specific areas of concern, such as social motivation for Darren and cognitive development for Alex, as earlier described; it did not help in evaluating the overall progress of the other two children who had started with higher scores on the baseline assessment. This was due to the fact that that both these children were very enthusiastic about the drama, their participation in the classroom was excellent, and no behavioural problems were manifested within the context of the drama. In order therefore to see whether the progress manifested on the specific measure was translated into global benefits, the reports of the parents' and teacher was the only valuable source, as these informants had the chance to observe them on different settings.

In keeping with the classroom observations, the evaluation reports of all the parents and the classroom teacher, suggested that all participants enjoyed the DIE programme. This is a particularly important statement, especially when it is referring to a group of children, who according to the mainstream literature on autism are characterised by the triad of impairments (in communication, socialisation and imagination); given that the nature of the art form they enjoyed being engaged in, tapped on all the areas of their deficit. Most importantly, the fact that these children who are characterised by lack of social motivation and communication deficit, enjoyed an activity that solely relies on communication, is particularly significant as a stepping stone towards the appreciation of the pleasure that can be derived from communication that is beyond the functional level.

The findings of this study show that all the children who participated in the programme learned some of the skills that the model was designed to teach. However future research is needed to determine whether these skills can be translated into global changes.

5.4.3. Intervention 2 (for a group of 12 to 13 years old children)

Purpose of the study

The purpose of the study was to explore whether the DIE model can help high functioning children with autism understand the rules governing social interaction, and by implication help them improve in their social competence. The participants' responses in pre and post intervention semi-structured classroom conversations were recorded on video, and compared to determine progress in relation to their overall communication abilities, as well as individualised set objectives. Global measures were also used to examine whether the changes observed in the classroom were translated in other settings.

Participants and setting

Four boys ranging in age from 12 to 13, participated in this study. All four were recruited from a special class for high functioning children with autism, at a mainstream school. The experiment took place at the children's school, during school hours and was conducted in 14 hourly weekly sessions. The names used for the purpose of this study are pseudonyms.

Kieran was diagnosed with Asperger Syndrome. He was 12 years old when the intervention began and had already a two year experience of drama in education. I had worked with him in a group setting for a year and on a one to one basis for another year prior to the commencement of the intervention (refer to section 5.4.1. for Kieran's detailed profile). Kieran was a very intelligent child and had excellent verbal skills, yet had great difficulty in relating with his peers, and participating in two way interaction.

Joseph was diagnosed with ASD. He was12 years old when the intervention began, and was very excited to participate in the drama programme. The baseline conversation revealed that Joseph was an intelligent child, who had good verbal skills, and was perceived positively by others. According to his mother Joseph was a very easy going and well behaved child, yet she felt that he was a bit childish for his age and also lacked the confidence to get out of the house on his own.

Sean was diagnosed with ADHD at the age of 4, and Asperger's Syndrome at the age of 7. He was 13 years old when the intervention began. Sean responses in the baseline conversation revealed that he was an intelligent child, who was able to follow a two way conversation, and give relevant answers, yet had a blank facial expression and lacked the self confidence to speak up, and mumbled his answers. Whenever, he was told to repeat an answer that was inaudible, he would shut down, and say 'I don't know'. His lack of confidence was also reflected in his body posture, as he tended to lean forward and pull his hands, whilst speaking. Sean's mother was also concerned that he was very self conscious and lacked the confidence to interact with his peers. She mentioned that he would often try to hide himself when children of his age group were around or would start pulling on his hands. Furthermore, she was concerned that Sean had difficulty putting himself in other peoples' shoes, had violent outbursts, and often his facial expression was inappropriate. Finally, according to his mother, Sean did not understand the symbolic use of objects, and only rarely engaged in imaginary play with his peers, and even then this would only entail repeating verbatim lines from films or books.

Fred, was diagnosed with Asperger Syndrome. He was 13 years old when the intervention began. I met Fred at his home for the fist time when I went to visit his mother for the baseline information interview. Fred's mother warned me that Fred did not like drama and said it was for "gays". Her concern was that Fred had anger issues, felt that the world was against him, and got overemotional when people did not understand his way of thinking. According to his mother, Fred also had difficulty in understanding other peoples' emotions and would often misinterpret them. He did not engage in pretend play, and when he engaged in any kind of game, it most often ended into an argument as he always wanted others to follow his lead. His facial expression was mostly blank, or angry. He lacked confidence and was very self conscious with his peers. On the other hand, Fred had a verbal ability of a 17 year old, according to the results of a verbal skills assessment he had undergone earlier this year.

When I first met Fred, I talked to him about the nature of drama in education and explained to him how it was not about performing but rather about solving problems, and probably similar in that sense to some of the video games he loved playing. I asked him to brief me on his favourite games so that I could incorporate some of these ideas into the drama programme. Fred got very excited and described to me his favourite games in

detail, until his mother interrupted him. When later in the week I met Fred again at his school, he was the first to volunteer to participate in the drama. He had a very positive attitude and was able to concentrate throughout the process of the baseline assessment, established good eye contact and gave relevant answers to all questions.

Measures

In order to evaluate the effectiveness of the intervention both specific and global measures were used.

Specific Measures

The specific measures were used before and after the intervention as a means of measuring the participants' progress in relation to the set objectives.

Semi-Structured Conversation

The children's responses on two semi-structured classroom conversations, before the beginning and after the completion of the intervention were analysed and compared to determine their progress in relation to their ability to follow the pace and flow of a two way conversation. The discussion was organised in two parts:

In part one, the children's responses on a single question were timed and the speed of answering was used as a means of measuring their progress. This part of the discussion required the participants to answer concrete questions such as, 'name 20 objects that can fit in your pocket', '20 things to put on a hook', '20 things you can put into a cup', etc., as quickly as they possibly could. Each participant's speed of answering in the pre and post intervention condition was timed and a comparison was made.

In part two, the children's responses on four questions were rated in terms of their relevance to the questions asked. The participants were requested to give their opinions on various rule changes in their school, such as getting rid of the uniform, abolishing homework, etc., and justify them. The participants' responses were rated, as follows: no justification at all or irrelevant justification (0), idiosyncratic (1), relevant (2), relevant and elaborated (3). The lay-out of the discussion and the precise questions can be found in appendix 3.

Finally, specific behavioural excesses or deficits that characterised individual participants, such as mannerisms identified in the pre-intervention conversation, were monitored and compared with ratings in the post intervention discussion to determine their progress. In the case of Joseph, the target mannerism identified was rocking, in Fred's case it was a ritualistic movement with his legs, in Kieran's case, it was hand flapping, and in the case of Sean the mannerism identified was the pulling of his hands. The frequency of these mannerisms in the baseline discussion was recorded, and compared to their performance in the post-intervention conversation. For clarity purposes the participants' behaviour was only monitored when they were actively involved in the conversation answering the questions. Each question was scored using 0 to 1 scoring system, where 1 indicated the occurrence of ritualistic behaviour when responding to the question and 0 indicated the absence of such behaviour. The scores of the pre-intervention conversation were compared with those of the post-intervention conversation to determine changes in the participants' mannerisms.

A fourth rating related to inappropriate interruptions of the session was also incorporated in the dependant variables. This was only measured for Kieran who had been noted to interrupt the session inappropriately in the baseline conversation. However, unlike the mannerisms referred above that were only recorded when the children answered questions, for obvious reasons interruptions were recorded for the entire duration of the conversation, and not just when Kieran was answering questions.

Impact Measures

Impact measures were also used to explore whether any changes in the specific measures were translated into global changes in the participants' overall level of social competence. These included the *Social Responsiveness Scale*, *the Pervasive Developmental Disorders Behaviour Inventory*, the *Intervention's Evaluation Report for parent and teachers, and Qualitative observation of in-session behaviour.* The measures are described in section 5.4.2.

Overall Design

Four boys participated in a fourteen week DIE programme. The study was designed to assess the children's progress on the basis of their responses on two semi–structured classroom discussions conducted before and after the intervention, as earlier detailed. In addition to this, at the same points in time parents and teachers were asked to complete two types of questionnaires, the *Social Responsiveness Scale* (SRS) and the *Pervasive Developmental Disorders Behaviour Inventory* (PDDBI). After the completion of the intervention an evaluation report was sent to the parents and the teacher of the participants.

The study was conducted in three phases:

Phase one: Pre-intervention

- Informed consent letters were obtained from all parents, prior to the commencement of the intervention.

- Permission to conduct the study was obtained from the school's principal.

- Baseline semi structured interviews with the parents and classroom teacher of the participants were carried out. Details in relation to the content and rationale of the interview can be found in section 5.4.2.

- A baseline assessment was conducted in the form of a semi-structured conversation with the participants. This was carried out by their teacher, at the participants' regular classroom and lasted approximately 45 minutes.

- The SRS and PDDBI questionnaires were sent to all parents and teachers to be completed and returned to the researcher before the commencement of the intervention.

- The data from the informal interviews with the parents were analysed, and individual profiles for all the participants were created. The profiles included their special interests and particular area of concerns, as well as individualised goals for each participant.

Phase two: The Intervention

The DIE sessions took place at the participants' school, lasted sixty minutes and were run on a weekly basis for fourteen weeks. The main objective of the intervention was to enhance the participants' ability to take perspective and improve their overall social competence, as well as address specific areas of concern for each participant.

Phase three: Post intervention

- A post intervention semi-structure discussion with the participants was conducted after the completion of the programme.
- Post intervention questionnaires were sent to all parents and the classroom teacher, after the end of the programme.
- Evaluation reports were also sent to all parents and the classroom teacher.
- All post intervention results were analysed against the baseline results to measure the participants' progress in the target areas and by implication to evaluate the effectiveness of the intervention.

The intervention

Introduction

The aim of the intervention was to help the participants develop their social competence by helping them to understand the rules governing social interaction. The proposed model does not prescribe appropriate behaviours to the participants, but rather offers them the opportunity to interact with many different characters, in different contexts within the drama, and benefit from a kind of learning that resembles the naturalistic learning that real life experience has to offer. Yet, unlike real life, the action in drama can be slowed down, paused or rewind, enabling children with autism who have difficulty in following the pace of real life experience to benefit from the opportunities artistic experience has to offer.

The main focus of the programme was to develop the participants' flexibility in terms of adapting to different situations and characters, prompting them to look for verbal and non verbal cues such as body language and facial expression, as a means of understanding mental states, interpreting behaviour, and anticipating consequences. Emphasis was also placed on enabling the participants realise the impact of their own behaviour on others and how different responses produce different outcomes. It was hoped that by helping the children realise the instrumental role they played in determining the course of events, their anxiety of living in a world where they felt had no control would be reduced.

The programme was based on a problem solving methodology that gave participants the opportunity to practise skills necessary for the resolution of problems in general, such as perspective taking and global processing of information, as a means of empowering them to take control of their lives, and building their self confidence. Finally, the design of the intervention was organised to provide children the opportunity to practise working in a team, using different language registrars, formulating hypotheses and arguments, reading peoples' emotions, adjusting their responses to meet their interlocutors' expectations, etc.

Two different stories were used as pretexts to work with the participants on the above objectives: 'The Detectives' and the 'The Gang'. Whereas in the first scenario the participants followed the action from a detached angle, framed in the roles of detectives, in the second scenario they were at the centre of the action, as members' of a vendetta gang.

From these two conflicting roles, one of the law enforcers and the other of the outlaws, the participants had the opportunity to explore issues of trust, power, friendship, parent-child relationships, dilemmas, stereotypes, motives and intentions, from two different perspectives.

Cycle One: 'The Detectives'

The 'detectives' scenario can be summarised as follows: A concerned mother went to the police to report that her 14 years old daughter Annie, who had left her home in Dublin on July the 13th 2006 to go on a summer camp in Paris for two weeks, had gone missing. She had been trying to contact Annie since, but her mobile phone was always switched off, and the summer camp's lines always busy. The investigation was assigned to a team of experts in cases of missing people. The participants in role as the team of experts had to look for the leads that would take them to Annie.

The topic was chosen to appeal to the children's natural curiosity to solve mysteries and also to provide them with opportunities to practise working as a team, solving problems, focusing on body language and facial expressions to derive meaning (e.g. to determine whether the suspects were saying the truth or not), process information contextually (e.g. by looking at the clues to formulate hypotheses) and also evaluate the impact of their own behaviour on others and adjust it to get to their objectives (e.g. change attitude to get the suspect confess, etc.).

Structure of the drama

I introduced the drama by challenging the participants to create a detectives' agency that would appeal to an international clientele and emphasised the importance of finding the right name, logo and slogan for their agency that would achieve this objective. Bearing in mind that this was the first experience of DIE, for three of the four participants, the focus of the first session was to establish a relationship of trust between the children and the myself, as well as captivate their interest in the drama process, so that they would feel motivated to participate in all the tasks set to address the target behaviours. To this end, the primary objective of the initial low focus, low demand tasks was to reduce the participants' self consciousness by directing their attention away from themselves to the execution of these tasks, and by so doing helping them to feel at ease within the fictional context, whilst at the same time enabling them to take ownership in the process.

Once the children had decided on the name, logo and slogan of their agency, I asked them to use the material available in the room to physically represent their agency, in a

way that would impress potential clients[9]. The objective of this task was to give participants the opportunity to work as a team and collaboratively create the fictional context where the drama was going to take place. Furthermore this task served to encourage belief in the fiction, as well as raise the children's awareness on how meaning can be represented spatially and how different uses of space, may create different impressions and expectations.

Before meeting their first potential client, the children had to establish their fictional identities by deciding on their names and job titles (e.g. investigator, forensic scientist, psychic, etc.) as well as building their agency's profile and history (e.g. What was their experience? How many years had they been working together? How many and what kind of cases had they solved?). The aim of this task was to provide participants the opportunity to work as a team, listen to each other, and make collaborative decisions, in relation to the fictional context, that would further enhance their investment in the drama, whilst still being engaged in projected play.

Next the children were told that in order to get their licence to open their agency and meet their first potential clients they had to pass a number of physical challenges to ensure they were fit to take on a mission. These challenges included a number of obstacle course activities. The reason of incorporating the physical challenges at this stage was threefold: First, to gently lead the participants from projected to non projected play, through the use of non threatening, low focus, fun activities, as stepping stones. Second, to give them a break from all the intellectual tasks they had been engaged up to that moment, offering them the opportunity to release their energy before engaging in another intellectually demanding task, such as the meeting with their first potential client. Third, these challenges were meant to give the participants a sense of achievement that would equip them with the confidence to deal with the forthcoming difficult challenge of convincing their first client to assign them his case (high focus - non projected play).

An award ceremony followed the training, to mark the children's achievement, and further enhance their self confidence, before their important meeting with their first potential client. Their objective in this meeting was to convince him that they were trust

[9] The 'Defining Space' technique is used here (see chapter 3, for derails).

worthy, had good experience, and a team spirit. During the meeting the participants had the opportunity to show hospitality, introduce each other (this required them to remember each others fictional names, and jobs), formulate arguments to convince him to assign them the case, and show team spirit by supporting each others contributions in the discussion. The session ended on a high note, with the client congratulating the 'agents' and assigning them their first mission.

Client:

"I trust you with this very important case, because I am convinced you are the best for the job... We are suspicious of the director of a summer camp in Dublin. She took the students to the Disneyland in Paris. She maintains that everything is fine and that they all have a great time. But the parents are concerned because none of the children has been in touch with them and they are unable to reach them. It is the mother of one child in particular Annie that was the most concerned and initiated this investigation. Our colleagues in Paris found this bag which belongs to the director of the summer camp, please examine it carefully and inform us as soon as possible on your conclusions".

In the following session, all the 'agents' were requested to sign their names on a 'contract' legally binding them to solving this case. The signing of the contract was used at this stage of the process as a means of marking the importance of their commitment, enhancing the significance of the moment, and by so doing building the participants' investment in the fictional context[10].

Next the children, in role as investigators, had to examine the evidence in the bag to determine whether the principal was implicated in the disappearance of Annie. However, before asking them to examine the bag I handed to each one of them a pair of plastic gloves, as a means of helping them to build belief in the fiction, and in their expert status[11]. The bag included items such as a blond hair colorant, a torn up letter, the battery of a pink mobile phone, and two theatre tickets for Alice in Wonderland. The aim of this task was to train the children to read information contextually, and try to make sense out of it. To do so, participants had to infer from the evidence whether any of the items could implicate the principal (to whom the bag belonged) to any of the allegedly missing children.

[10] The technique of 'Ritual' was used here to enhance the meaning of the action (see chapter 3 for details).
[11] Props are here used to build the participants' belief in the fictional context.

The evidence from the bag proved to be insufficient to draw reliable conclusions, so the agents decided that a trip to Paris and more specifically a visit to the hotel where the children were allegedly staying, would help them to solve the case. To avoid alerting the suspects who could try to cover their traces, the agents decided to secretly sneak into the hotel, through a secret tunnel. They only had 60 seconds to crawl quietly under the tunnel (a line of chairs) that led to the hotel before the alarm was set off. The aim of introducing a physical task at this stage, such as passing through the tunnel, was to maintain the children's interest in the drama, which might have been jeopardised if the time spent on discussions exceeded their concentration limit. Furthermore, the element of dramatic tension added to the task meant to enhance the significance of the challenge so that success would be more meaningful to the participants.

The dramatic tension was created through the manipulation of the dramatic elements (space, sound, and time). The children had limited time to move quietly through the restricted space of the tunnel. Once they had succeeded in sneaking inside the hotel, their next challenge was to find Annie's room and collect anything that could serve as a lead for their investigation. Limitation of time and noise, were the dramatic elements used in the challenge to create the dramatic tension. The agents not only had limited time to get out of the room before the cleaners came to tidy up, but also had to be very quiet so that they didn't alert the guards. These physical tasks served to offer participants a sense of achievement and build their confidence in their abilities to solve problems[12]. Furthermore, they served to give the children a break from the intellectual tasks that could sometimes be too intense as they related directly to areas of difficulty.

Next the agents' examined the evidence they found in Annie's room, and tried to infer from the state of the room and her belongings (e.g. books, CDs, photos, etc.) what kind of person Annie was, (e.g. her interests, her hobbies, her friends, etc.) and her emotional state at the time of her disappearance. They hoped that this information could help them figure out whether she had been kidnapped or had run away; as well as provide them with leads on where to look for her (e.g. possible places she might have gone, people she might have met)[13]. They also compared the items from her room with those they had found in the principal's bag, in order to determine whether the principal was involved in

[12] The concept of Self Efficacy is here evident.
[13] This is a task that focuses on developing global processing.

her disappearance. Critical thinking and ability to look at pieces of information and infer the bigger picture was required for this task.

Results from the comparison suggested that the principal might be implicated in Annie's disappearance, yet the evidence was not sufficient to incriminate her. The clues that led them to this conclusion included, a pink mobile phone found in Annie's room, a pink battery found in the principal's bag, and a letter found in Annie's room that very much resembled, one found in the principal's bag. The agents decided to keep the investigation secret, until they had more evidence to arrest her.

In the course of solving the case the agents had the opportunity to meet a number of people that could serve as leads to Annie's whereabouts. These people included the principal, Annie's mother, and Annie's close friend, Rania. Before each one of these meetings took place, in role as the chief investigator I briefed the agents on the specifics of each meeting, (e.g. where it was going to take place, what was the nature of the meeting formal/informal, individual characteristic of each informant, etc). Taking these into consideration, the agents had to set the objectives for each meeting in terms of the information they wanted to draw out from each one of the informants and the strategy they would use to elicit it. This task served a dual purpose:

- to provide participants the opportunity to practise perspective taking as a means of inferring the kind of information that each one of the informants held, based on their relationship with Annie,

- to practise using the context as a source from which to derive information regarding the tacit rules of each specific interaction, and appropriately adjust their questions, based on the time, place, and nature of the interaction, and the expectations and constraints that these created.

Having established the objectives and constraints for each interaction, the seeds for the dramatic tension were planted and the participants, protected by the art form could safely submit to the experience. I will now attempt to give a brief account of each one of these meetings, illustrating how the dramatic components were incorporated in the process, and

highlighting the learning opportunities that each specific interaction offered to the participants.

The fist person that the agents decided they needed to meet, in order to proceed with their investigation was Annie's mother. The primary objective of the agents in this interview was to find out the nature of Annie's relationship with her mother, in order to determine whether she was indeed kidnapped or whether she had run away. The constraint of the meeting was that the mother was hyper-sensitive and any such insinuation could induce a tantrum. Therefore, to explore the mother daughter relationship, the agents had to address the issue indirectly. Instead of asking her how she got on with Annie, they had to figure out questions from which they could infer the relationship without openly asking about it. The questions the children decided to ask included 'what are your daughter's hobbies?', 'what is your opinion of these hobbies?', 'what are the things that she liked talking to you about?'

During the interview, the children had to monitor constantly the mother's behaviour, reading her verbal and non verbal cues such as, body language, facial expression, and tone of voice, to determine whether she felt comfortable in the interview and accordingly adjust their attitude to meet her needs (e.g. proceed with more questions, pause the questioning, change the nature of the questions, etc).

After the interview with Annie's mother, the agents had a meeting to summarise the information they had gathered from her responses, as well as to evaluate the truthfulness of her responses, and decide on what needed to be done next.

Summary of the participants' finding after the interview with Annie's mother:
Annie's mother, Mrs O'Neil, had a new born child, and it seemed that she did not have much time for Annie. Mrs O'Neil was critical of her daughter's passion to become an actress, and often scolded her for spending too much time with her friend Rania rehearsing parts. She also mentioned that Annie's latest infatuation was Alice in Wonderland.

Taking the information from the meeting with Mrs O'Neil into consideration, and also relating it with some of the evidence they had found in Annie's room (e.g. a press

clipping about an audition for Alice in Wonderland), the agents decided to inquire about the audition. In the course of the investigation it turned out that the principal of the summer camp had organised the audition. Being already suspicious of the principal, yet not having enough evidence to confront her, the agents decided to go to this audition under cover, as contestants, to find out what was going on there. It is important here to note that only if the agents succeeded in the audition, they could have access to the restricted rehearsal area, where they hoped to find the leads they needed to arrest the principal.

Before going to the audition, the agents had to create their new 'fake' identities of contestants. This involved deciding on their new names, and preparing to answer questions, such as 'Why do you want to become an actor?' 'How did you hear about the audition?', etc. By assuming a different identity for the audition the children had the opportunity to experience the different expectations associated with their new roles, and adjust their attitude to meet these expectations, as well as to develop an awareness of the factors that affect the tacit rules of social interaction such as age, status, and occasion of the interaction. Whilst, for example, in the interview with Mrs O'Neil, the children from their role of detectives' could speak to her as equal to equal, in their encounter with the principal, as children auditioning for a part, they had to adjust their attitude to reflect their 'lower status'.

Furthermore, the competitive nature of the audition task served to provide the contestants with the intrinsic motivation to succeed, as well as to build the dramatic tension which in turn served to take the focus away from themselves and their social 'deficit' to achieving their fictional objective. In other words, the children instead of focusing on themselves, protected by their detectives-contestants roles they focused on delivering the optimal responses; not only in terms of succeeding in the audition but also in terms of avoiding blowing their cover. It is interesting to note that to succeed in this task the children had to interact simultaneously in 3 different dimensions, the two fictional ones (detectives-contestants) and the reality of the interaction.

During the audition, in role as the principal, I challenged the participants to prove to me their commitment to the production with questions such as 'why are you here?', 'who is the best director?', meanwhile indicating to them with my demeanour that I was

expecting from them to flatter me and show me their enthusiasm for my production. To answer these questions required the participants to take perspective and read the contextual cues to infer the principal's expectations, and accordingly adjust their responses to meet these expectations. Besides finding the appropriate words to express their enthusiasm and admiration to the principal, the participants had to portray these emotions in their body language, facial and vocal expression.

The aim of this task was to address the children's difficulty in communicating their emotions effectively, by providing them with the opportunity to develop an awareness of how their body language, facial and vocal expression often conveyed a different message, from the one they wanted to communicate, and the implications that this had on how they were perceived by others, and their overall communicative success.

Being in role, as the wicked principal, I had the opportunity to challenge the children with comments such as 'I don't believe you really want this!' or 'You look bored to me!', indicating to them when their non verbal cues such as their body language, facial and vocal expression did not match their statements. I often paused the action and slipped out of role to reassure the children that they were doing well and that they should not feel intimidated by the principal's nasty remarks, but rather use them to adjust their attitude and responses to get to their objective. Through this process the participants had the opportunity to learn not only from direct instruction, the comments that the principal made to them, but also vicariously, as they observed each others responses and the ensuing consequences.

After all the children had been interviewed by the principal, she asked them to leave the room, and wait outside for the results. A few seconds later the principal invited them back in, asked them to line up, and formally announced the results, by calling each contestant's name. Next, she told the contestants what a huge opportunity this production was for their future career and how she was going to turn them into Hollywood stars, but that before giving them their contracts to sign she had to make sure of their commitment. During this process Mrs O'Neil asked the contestants a number of personal questions, such as the professions of their parents, their financial status and finally asked them to prove their commitment to the project by sharing their most intimate secrets. In order to succeed in setting up the principal, the children from their role as detectives not only did

they have to be convincing in their new undercover contestants identities, but also to infer what the principal wanted to hear in order to recruit them (e.g. what kind of profession would make the greater impression, what kind of secret would be credible) and appropriately adjust their responses and attitude.

After this the agents held a meeting where they discussed the entire audition procedure and explored questions such as why they thought the principal was asking such questions. Or, why did the contestants have to share their secrets? After long deliberations the agents unanimously agreed that something fishy was going on (e.g. that she was recruiting only wealthy children and blackmailed them with their secrets to get money out of them) and decided to go back to the theatre and bug the place in the hope to get the evidence they needed to arrest her. This task gave participants the opportunity to examine and discuss the intentions behind peoples' actions.

In the following session the agents went back to the theatre under the pretext of a rehearsal. As they were waiting for the rehearsal to begin, a young girl rushed in (TinR). She seemed upset and kept speaking on her mobile phone. From the conversation she had on the mobile it appeared that she was speaking to someone who was trapped somewhere. It turned out that the girl was Annie's friend Rania. She had come to the theatre to audition for a part.

It was the agents' opportunity to find out, if she had any idea where Annie was. The constraint here was that there were cameras everywhere. The agents' had to find an excuse to pull Rania away from the cameras and talk to her. This task was mainly designed to give participants the opportunity to practise small talk, in view of getting to their objective.

Next the agents made a plan on how to distract the principal during the rehearsal and bug the place. The session ended when the agents had managed to bug the place and safely sneak out. This task required from the participants to work together towards a common goal, as well as keep the excitement of the drama and conclude the session with a sense of achievement and anticipation for the forthcoming final session.

In the following session I presented a tape to the agents, where Mrs O'Neil was speaking on the phone with an accomplice, suggesting that they should get rid of Annie. Following the clues from the information they heard on the tape and other incriminating evidence they found in her office, the agents managed to get to Annie.

After a long journey, the agents found Annie locked up in a 'dungeon', in a secluded area. She was sleeping on the floor, and talking to her sleep. When she woke up she seemed very frightened and was reluctant to talk to the agents. The objective of the agents was to gain Annie's trust and take her back to her mother. This task was meant to give the participants the opportunity to show sensitivity in approaching Annie, at the right moment and in the right manner, constantly monitoring their behaviour in relation to her responses. Furthermore, the children had the opportunity to reflect and practise the necessary skills required to build a relationship of trust.

Once the children had gained Annie's trust, they accompanied her to her home. Annie was scared to see her mother. She was frightened that she would never forgive her. The technique of 'conscious alley'[14] was incorporated to conclude the drama as a means of offering participants' the opportunity to influence the imminent action. The participants formed a line which represented the alley that led to Annie's home. Annie was placed at one end of the alley, indecisive as to whether to proceed or turn back. The group spoke as the voices in her head that encouraged her to go home. I on the other hand, spoke the voices in her head that discouraged her from doing so. Every time Annie heard an argument she had a choice to move forward, stay still or move backwards depending on how convincing the argument was.

The drama ended with Annie, opening the door to go and meet her mother.

END OF CYCLE 1

[14] This technique is also called 'voices in the head' and is detailed in chapter 3.

Cycle Two: 'The Gang'

The drama traces the adventures of 4 children, who seeking to overcome their loneliness and fear of being bullied, joined a vendetta gang. The implications of their decision for them and their families, are being explored through the process experiential drama.

The 'Gang' was the theme of the second cycle of sessions and was chosen to give participants the opportunity to experience a contrasting role to that of the detectives they had previously experienced. Furthermore, based on research indicating that children with autism are often bullied by their peers (Montes & Halterman, 2007), a primary objective of the intervention was to empower the participants by offering them the opportunity to experience being on the other side, that of the bullies instead of the victims, in order to help them see that these people are not better, or stronger than they are but just scared people who have disguised their insecurities under a tough exterior.

Furthermore, another important objective of the 'Gang' story was to provide participants the opportunity to practise formulating arguments to defend themselves when unjustly accused, as well as to use their body language and facial expression to support their defence. This objective was set based on my observation of children being scolded at school due to their inability to use verbal and non verbal language effectively to argue their case.

The 'gang' theme also served as a pretext for the children to practise a number of skills such as learning from observation, reading and interpreting emotions from body language, facial expression and tone of voice, as well as monitoring the impact of one's own behaviour on others and adjust it to get to ones objectives.

Structure of the drama

The aim of the drama was to lead the participants to experience how it feels to be a gang member. As already discussed in chapter 3, the sequencing and choice of the tasks is particularly important in leading the participants from the descriptive mode to the experiential following the principle of internal coherence. Bearing this in mind, the 'Gang' story was structured to be in keeping with the participants' abilities and engagement in the fictional context, starting with low focus, low demand projected activities and gradually leading them to high focus more demanding non projected tasks.

Yet, since the children had already built a relationship of trust with the facilitator, had developed a positive attitude towards the drama, and an understanding of the process, less time was now dedicated in low focus projected activities and more demanding high focus non projected tasks were incorporated earlier in the process.

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I introduced the drama, by asking the participants to create their own gang, and prompting them to decide on a name and an emblem for it. These low demand high probability tasks were set at the start of the new drama as a means of giving the participants a sense of ownership in the process, and also establishing a pattern of compliance in keeping with the behavioural momentum model (Lee, 2006).

As the children could not come to a unanimous agreement about the name and emblem they wanted for their gang, I suggested that they voted for their preferred ones. The name and emblem with the most votes was then used in the drama. The winning name was 'The Game' and the winning emblem was a drawing of a weapon.

Next, using the technique of role on the wall[15], I led the participants through questions (such as, what kind of clothes would a gang member be wearing? what kind of language would he be using? what kind of activities would he be involved in? etc.) to create a stereotype of a gang member. The children suggested that a gang member would be big and strong, with a tough personality, wearing bandanas and hoods, and with knives and guns in his pockets.

The purpose of creating a stereotype was twofold. First, to serve as a diagram, explicitly outlining the expectations associated with the part, in terms of the external characteristics, that could aid the participants at the initial descriptive stage of the drama process, where imitation is used as a stepping stone towards experiential drama (Bolton, 1998). Second, to offer participants the opportunity to break this stereotype later in the process, and gain a new insight on how it feels like to be a member of a gang, and the implications of such a life choice.

[15] The technique of role on the wall is detailed in chapter 3.

Taking the concept of the stereotype a step further, I then asked the participants to use props and materials they could find in the classroom such as tables, chairs, and paper, etc., to create the bed-room of a gang member, as each one of them imagined it[16]. I also asked them to include in their rooms 3 object of personal significance (e.g. a photo, an award) that would help them to further establish their belief in the characters that they were later asked to portray.

I then used the technique of still image[17], as a means of facilitating the transition from projected to non projected play with a high focus activity, which placed little demands on the participants; and asked them to find a place in their rooms and sit or stand as they thought the owners of the room would sit, or stand.

Next, I told the children that the time in our drama had been rewound back to the date that each one of the gang members had decided to join the gang, and used narration to give them information about the fictional context, and the emotional state of the characters on that date.

'You are alone in the house... It is your birthday.... It seems that everyone has forgotten it... There is a note from your mum on the fridge, saying that she had to go out to run some errands and that she might come back late. You are pretty upset, but you are the type of person who would keep your feelings to yourself '.

I then asked the children to reply to the note on the fridge, and also make an entry with their real feelings on their personal diaries. These tasks served to offer participants the opportunity to have their personal input into their roles, as a means of further building their ownership and investment in the drama, as well as prompting them to see that appearances may be deceptive and that people may not always say what they mean. These tasks hinted on the complexity of human interaction, which was further explored in the succeeding sessions, and also served to create the mood that would determine the characters' response in the forthcoming challenge.

[16] The 'defining space' technique is detailed in chapter 3.
[17] The 'still image technique' is detailed in chapter 3.

Next, in role as the gang leader I paid a visit to one of the participants' room, and asked the remaining 3 children to join me as gang members. I then told the child whose room I was visiting that I had been observing him in the school yard and at home and that it seemed he was having a hard time. I promised him, that his life would change and would never feel lonely again should he wish to join our gang. We would be his new family that we would always be there for him, and defend him from all the bullies that may be bothering him. Yet, to join the gang he had to prove to me that he was 'gang material'. I therefore proceeded with questions such as 'do you think you are tough enough to join our gang?' or 'what king of brave deeds have you done?' etc., and finally told him that I will be watching him, in order to make my final decision. Next, the child interviewed assumed the role of the gang leader and visited the room of another aspiring gang member repeating the routine. This continued until all the children had an opportunity to experience both parts.

The leader's visit had a number of functions: First, to serve as a model on how gang members are expected to behave. Second, to feed further information on the roles the children were asked to portray, adding another layer, indicating what lies beneath the surface of the tough exterior gang members are expected to portray (e.g. these were children who were bullied at school). Third, to lead the participants from the descriptive to the experiential mode of dramatic activity, through the manipulation of the dramatic components. The facilitator from the high status role of the gang leader could take control of the dramatic experience protecting the participants by providing a tight structure that could enable them to submit to the experience, uninhibited from the insecurity of not knowing what to do. The children's objective was to convince the gang's leader that they were good candidates for the gang and the facilitator through the role as the gang leader was empowered to use the dramatic elements to maintain the dramatic tension. It is important here to note how the children were gradually led from the descriptive to the experiential mode through the careful sequencing of the tasks, and how each task served to add another layer to their roles, building the participants belief in the fictional context and by so doing protecting them from feeling threatened by the challenges. Fourth, the encounter with the leader gave participants the opportunity to reflect on the factors that affect ones choices, in view of helping them understand how behaviour is influenced by mental states, and subsequently develop their ability to predict behaviour in relation to this new understanding.

2

The main objective of the next session was to further develop the children's investment in their gang, and in their identities as gang members, so that they would be interested enough to defend it, later in the drama when an opposing gang was about to attack them.

I introduced the next session by informing the participants that the leader of the 'Game' gang was about to visit them in their school, and observe them in the yard in order to pick those that he thought had the qualities to join. The children had to create a still image that would reflect their tough persona, to impress the gang leader. The purpose of this task besides further building the participants' belief in their roles was to help them explore how body language and facial expression can be used as a medium of communication, as well as developing their self awareness in terms of body posture and facial expression through a process of trial and error.

Although from the discussions that preceded the still image task it was apparent that the children had a clear idea of how a gang member should look like, they had difficulties in portraying this in their still images, as their facial expression often did not match their body posture and vice versa. To help them in this task, in role as the leader I started talking on my mobile phone, as if to another member of the gang, explicitly outlining what I was looking for (e.g. I am looking for tough boys with serious faces, who can stand up right like soldiers, etc). As I was speaking on the phone the children adjusted their body posture and facial expressions to meet my briefing. To help them even further I mentioned on the phone that I was looking for someone that would behave like me, to drop the hint that they should learn the appropriate gang attitude through observation. Another important objective of this task was to teach children how to learn from observation.

Next, still in role as the gang's leader I asked all the 'aspiring members' in turn, to tell me their names, and to explain their 'still images'. The purpose of this task was to develop the participants' awareness of vocal expression and how different volume and pitch make a different impression. In this task I also implicitly instructed them to use the gang leader as a model.

I then moved on into selecting the members of the gang. I started by picking those children that responded best to the briefing so that they could serve as models for the others. During this process the children were constantly looking at me (TinR as gang-leader) and at each other, in order to improve their posture and facial expressions in response to my comments.

The techniques of 'still image' and 'voices in the head'[18] were used to help the participants explore their own means of expression, without however jeopardising their dignity and reducing their self confidence by drawing their attention to their 'deficit' as it is often the case in many social skills trainings, but rather protecting them through the art-form. It was not the participants' personality that was being judged in terms of how effectively they were dealing with the given situations, but rather the specific characters, in the specific fictional context.

After I (TinR, as gang leader) had picked each one of the aspiring gang members for my gang, I told them that they had to pass a number of physical challenges, before I made my final decision. The purpose of these physical tasks was to serve as a tension release for the children, who were tired having been standing still for a while, offering them the opportunity to have a bit of fun, keeping the balance between the physical and intellectual activities, and by so doing keeping the teaching objective implicit. It is particularly important to maintain the participants' focus on the fictional objective at all times and distract their attention from the teaching objective as this may not only jeopardise the effectiveness of the intervention but also the relationship between the children and the facilitator. Finally, the success experienced by overcoming these challenges served to further boost the children's self esteem and confidence in their ability to overcome obstacles. This is in line with Bandura (1971b) concept of self efficacy.

Next, still in role as the gang-leader I asked all the new recruits to line up and repeat after me the gang's oath, in which they swore everlasting loyalty to the gang. The ritual[19] of the oath was here used as a means of enhancing the importance of the moment, through form.

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[18] Both of these techniques ('still image' and 'voices in the head') are described in detail in chapter 3.
[19] The value of ritual has been extensively discussed in chapter 3.

The final task of this session required the participants to use material from the classroom to create the hide-out of their gang. This was another task that aimed at building the participants' investment in the drama. At this stage the children were committed to the drama and worked well as a team to create their hide out. Their investment was reflected in the work, energy and enthusiasm they put in creating the hide out, using the material in the room in a more imaginative manner than they had done earlier in the process, when they had been asked to create the gang-members rooms. It was impressive, how they used sheets and paper-tape to create the wall of their hide out, and tables to create the tunnel leading to it.

As soon as they finished their construction, in role as the gang leader, I asked them to find a place in their hide-out to 'sleep'. I switched off the lights, and a moment later I raised an alarm and told them that invaders had trespassed on their hide out, and asked them to look for clues to find out who might have done this.

After a game of hot and cold the children found all the clues left in the room, and put them together (pieces of paper with a letter of the alphabet written on each one of them). These read as Black Tiger. Their leader informed them that the Black Tigers (BT) were a rival gang. The session ended with the gang-members joining hand and swearing to teach the Black Tigers a lesson.

3

In the next session the Game gang members decided that in order to get back at the BT's gang they would have to discover their darkest secrets. I told them that I knew that the BT's held weekly meetings where they discussed all their top secret affairs, and that if only they could get there they could have all the information they needed for their revenge plan. I also warned them that the BT's had a very good security system and that only members were able to get access to the meeting area. The children decided to find the BT's hide out, observe their rituals, codes of conduct, and mannerisms, and then use them to sneak in their meetings in disguise.

Hence, after they found the path to the BT's hide out on the map, they followed it, and after a series of physical challenges, they got there. They hid behind the bushes and

observed the BT's leader (TinR) calling his members for the secret meeting. Whilst the BT's leader was performing the ceremony, the children were taking notes.

In this task the children had to carefully observe the BT's rituals which they would later have to repeat in order to get to their objective, pass as BTs and take part in the top secret meeting. The aim of this task, was primarily to give the children another opportunity to practise learning from observation, as a means of helping them to become flexible to adapt to different people and situations.

Once the ceremony was completed, the Game members went back to their leader and reported what they had observed. The children's reports included:

- A secret code for the entrance to the BT's meeting area.
- A tune they played on the tambourine.
- A specific march on the above tune.
- The 'rainbow of emotion' challenge (This challenge involved portraying a range of emotions. Each gang member had to pick two cards from two different piles. One card had a phrase written on it, such as 'Good morning' and the other an emotion (e.g. happy, sad, angry, etc). Each gang member was then requested to say his phrase out-loud conveying the emotion that was written on his card. To succeed in the challenge the participants had to be able to express and read emotions.

After giving their reports, the 'Game' members, created the masks that they would wear in the BT's meeting, and then practised with their leader the rainbow of emotion challenge.

4

In the following session the 'Game' members focused on practising the BT's rituals, with special emphasis on the rainbow of emotions, where they had the opportunity to practise portraying as well as reading a variety of emotions in the voice or the eyes, when wearing their masks, and the entire face and body posture, when they were not wearing the masks.

As in many social skill training programmes (SST) the main focus of this session was to give participants the opportunity to work on areas of their 'deficit', such as expressing

emotions and reading emotions on others (Yirmiya, Kasari, Sigman, & Mundy, 1989). Yet, unlike SST programmes, where the participants' objective is to improve their social competence, here the participants focus was drawn away from themselves to their fictional objective, passing as BT's in the meeting. In other words, the participants were not treated as having a deficit that they had to improve through practising a set of skills; instead practice was presented as one more challenge amongst many others that they had to confront to get to their objective. Additionally, the motivation provided in the drama and the dramatic tension served to further divert the participants' focus from themselves as the dramatic components created a state of urgency to which the participants had to respond. Hence, their self consciousness was reduced, as they didn't feel that they were personally challenged in an area that has been highlighted to them, as 'deficient'.

Once the children had practised the 'rainbow of emotions' and felt confident in themselves, they headed for the big challenge; the encounter with the BTs. Each child was tested individually before being admitted in the meeting. There, something unexpected happened. Instead of finding the dark secrets of the BT's gang, the children found out that their leader had set them up from the start. It wasn't a coincidence that they had all joined the gang on the day of their birthday, nor that none of their families was with them on that day. Their leader had orchestrated the entire thing. He had phoned their parents and told them to rush to the hospital under the pretext of an accident that had occured to a member of their families.

The information shook the children's trust to their leader, who decided to confront him.

5

In the following session, the children had the opportunity to confront their leader, who denied all the accusations. This task gave the participants the opportunity to formulate questions, and also use verbal and non-verbal language to intimidate their leader.

Next, the school's principle (TinR) called them in his office and accused them of assaulting a four years old child. The children denied all accusations, yet were incapable to state their alibi, as they were involved in the illegal trespass of the BT's hide out at the time of the assault. The principal gave them two days to get their act together and confess before referring them to the police.

The principal's accusation was incorporated in the programme to serve a number of purposes:

- First, to give participants the opportunity to reflect on their decision to join the gang, and the consequences of this decision.

- Second, to help them realise that even in the worst circumstances there are still choices that can be made which may improve or aggravate the outcome (e.g. the choice of truth over lies).

- Third, to acknowledge that injustice is a fact of life and that different attitudes may lead to different outcomes. For example explaining the reality of a situation may have a better outcome, to that of getting aggressive, or shutting down. This was a particularly important lesson that I wanted to teach the participants of this group who often lost their temper when they were unjustly accused by their teachers and ended up in trouble even when they were not at fault.

- Fourth, to develop their awareness on how body language, facial and vocal expression, create impressions on others, and how a different use of these media of expression may alter the outcome of the interaction. This was particularly important for the members of this group, who I had observed getting into trouble, when they unwittingly conveyed non-verbally a different impression from what they intended (e.g. giggling at inappropriate moments, or showing disinterest with their body language, and facial expression when in fact this was not the case).

Next, the children decided to go back to the BTs and request a meeting with the BT leader to get more information about their leader. After a number of challenges, physical and intellectual, they were told that incriminating evidence for their leader could be found in the secret area 25. When the children got there they found a number of incriminating leads amongst which many toys and puppets, that were probably used by their leader as baits for the little child.

6

In the final session the children had to defend themselves to a 'panel of teachers', about the little child's assault. Before going to the panel, and after discussing various courses of action, the children unanimously decided to confess the whole truth.

A panel of teachers was going to question them and decide on how they were to be dealt with. During this process 3 of the participants played the roles of the teachers, whilst one of them at a time was being questioned. All children took turns in both roles. This task gave participants the opportunity to view the same situation from two different perspectives, as well as to practise their flexibility in terms of adjusting their attitude to meet the expectations attached to each role. The teachers' objective was to push the children to say the truth, and the children's objective was to convince them that they were innocent to avoid punishment. To achieve this, the children not only had to explain themselves and their motives for joining the gang, but also present themselves in a way that they would be likable, constantly aware of the impressions they made on the panel, not only verbally but also non-verbally. With this objective in mind, the children also had the opportunity to practise holding their temper even when they were unjustly accused. During this process it was impressive to see how some of the children managed to change their attitude for each role they played and their growth in terms of their ability to effectively pursue each character's objectives.

The session ended with the teachers' verdict, which was voluntary work at the children's hospital.

7

In the final session the participants improvised a puppet show for the children in the hospital. This verdict served as a means of vindicating the children for confessing the truth, without however, disregarding that bad choices have consequences. The task itself gave the participants the opportunity to work as a team towards an end product (the puppet show), enjoy the creative process and finish a relatively heavy going drama on a high note, and with a sense of achievement.

END OF CYCLE 2

Results

The results are presented in three sections. In the first section the group results from the pre and post intervention classroom conversations are presented in a quantitative format. In the second section, the results are presented in the form of single case studies and include, analysis of each participant's performance on the pre and post intervention classroom conversations, qualitative analysis of their classroom contributions, and presentation of the parents' and teacher's evaluation reports. Finally, in section three the results from the impact measures are presented.

Group Results

The participants' responses in the baseline semi-structure conversation were compared with those of the post intervention conversation to determine their progress, in relation to their speed of responding, the quality of their answers and the target mannerisms. The results from these comparisons are presented below:

Part 1: Speed of Responding

The participants were given up to 2 minutes to name 20 uses of an everyday item or 20 items for a given use. The idea was that the number of correct answers in that time would provide the measure. However, because of the naturalistic manner in which this measure was obtained, precise timing wasn't used and some children were given additional time. Moreover, some children came up with 20 responses in less than the 2 minute time allocated. For this reason I calculated the number of responses given per minute for each child in the baseline and post-intervention conditions. This adjusts for the differential times used up by different children and allows for straight forward comparisons. The data presented are the number of correct responses per minute.

The results from the comparison revealed that the speed of answering had vastly increased in three out of the four participants and decreased in one child, as indicated in table 5.7. It is important here to note that the child who showed decrease in the speed of responding had reached the highest score in the baseline conversation.

Table: 5.7

Number of correct responses given per minute by each participant in the baseline and post intervention conditions.

Participants	*Baseline*	*Post - Intervention*
Sean	4.10	8.84
Joseph	8.30	14.08
Kieran	16.26	9.85
Fred	7.84	13.51

Part 2: Quality of responses

The participants were requested to give their opinions on five hypothetical rule changes in their school and justify them.

Comparisons between baseline and post intervention scores of the children demonstrated that the overall performance of all four participants improved in the post intervention condition. For example, in the case of participant Sean who scored 0 on question one on the baseline phase and 3 in post-intervention phase, the results suggest that his response had gone from irrelevant to relevant and elaborated. Similar improvements were observed on all 4 cases. Overall, apart from Joseph on question 3, the responses of all children in all questions, either remained stable or improved, as indicated in table 5.8.

Specifically, two out of the four children improved in all four questions (Sean and Fred), one child (Kieran) improved in three out of the four questions and remained stable in one, and one child (Joseph) improved in three out of the four questions and showed regress in one.

Table 5.8.

Classification of participants' responses to four questions in the baseline and post-intervention conversations.

Questions	*Baseline*				*Post –Intervention*			
	Sean	Kieran	Joseph	Fred	Sean	Kieran	Joseph	Fred
1.	0	1	1	2	3	2	3	3
2.	2	1	2	0	3	3	3	3
3.	1	1	3	1	3	1	1	2
4.	1	2	1	2	3	1	2	3

0 : No justification or irrelevant justification

1 : Idiosyncratic justification

2 : Relevant justification

3 : Relevant and elaborated justification

Target behaviour/ mannerisms

Specific behavioural mannerisms were identified for each child. The frequency of these mannerisms in the pre-intervention conversation was compared with their frequency in the post-intervention conversation, to determine progress. Results from the comparison revealed a decrease in mannerisms in all participants, as indicated in table 5.9.

For clarity purposes mannerisms were only recorded when the participants were responding to the questions and not throughout the conversation.

Table 5.9.

Pre and Post-Intervention ratings of the presence or absence of target mannerisms

Questions	*Pre-Intervention*				*Post –Intervention*			
	Sean	Kieran	Joseph	Fred	Sean	Kieran	Joseph	Fred
1.	0	0	1	0	0	0	0	0
2.	0	1	0	0	0	1	0	0
3.	1	1	0	0	0	0	0	0
4.	0	1	1	1	0	0	0	0
5.	1	1	0	0	0	1	0	0
Total	**2**	**4**	**2**	**1**	**0**	**2**	**0**	**0**

0 = Absence of target mannerisms

1 = Presence of target mannerisms

Individual Results

The scores of the individual participants can be seen in tables 5.7, 5.8 and 5.9 where the overall group data are presented. These will be summarised for each child, and contextualised in terms of other quantitative and qualitative observations.

Kieran

Results from the classroom conversations

The baseline conversation revealed that Kieran had the ability to respond quickly to concrete questions, as indicated by his high score in the first part of the conversation, yet his answers were often idiosyncratic, as indicated by the second part of the conversation. His body language was also often awkward as he tended to flap his hands and jump up and down when responding to questions, and his behaviour was occasionally disruptive. Kieran interrupted the session 5 times during the baseline discussion, either by crying, screaming, or making irrelevant comments. His idiosyncratic mannerisms were manifested in 4 out of the 5 questions asked.

The results from the post intervention conversation showed an overall improvement in all aspects of Kieran's behaviour. Kieran only showed a decrease in terms of the speed of his responses (from 16.26 to 9.85 responses per minute), yet this is by no means an indication of any kind of difficulty, since his speed of responding was particularly high to

start with and did not constitute an area of concern. Furthermore, due to his ability to respond with great ease the teacher challenged him in the post intervention conversation by not accepting some of the answers she had accepted during the baseline questioning. In terms of his ability to give relevant answers, Kieran's scores showed that he had improved his answers in 2 of out of the 4 questions asked, as indicated in table 5.8.

Furthermore, Kieran's target mannerisms also decreased in the post intervention discussion. Whilst, in the baseline discussion Kieran flapped his hands when responding in 4 out of the 5 questions, in the post intervention discussion, his flapping was manifested in only 2 responses.

Finally, as indicated in the method section, due to the fact that Kieran had exhibited disruptive behaviour during the baseline conversation, a decision was made to record the number of interruptions in the pre and post intervention conditions to determine whether there would be a decrease of such behaviour following the intervention. The results from the comparison of both conditions, suggest that the number of interruptions had decreased from 5 to 2.

Evaluation Reports

The evaluation reports from both Kieran's father and teacher suggested that he had enjoyed and benefited from the drama sessions. According to his father, the drama had helped Kieran to cope with stressful situations. His teacher reported that Kieran had benefited in terms of his ability to work as a member of a team and had improved in turn taking.

In-Session behaviour observation

My main concerns for Kieran, was his difficulty in maintaining concentration on external stimuli and engaging in a two way social interaction for a prolonged period of time. Kieran had a hard time following the plot of the drama from the beginning to the end, and would often withdraw into his own fantasy world and become fixated with characters from films or comics which he occasionally insisted on incorporating into the drama. As a result, Kieran's contributions to the drama were often irrelevant following his own track of thoughts, annoying his classmates, who felt that he was ruining the drama

experience. However, when concentrated in the drama Kieran would offer insightful and valid responses.

Kieran's overall participation in the programme was inconsistent in terms of his ability to tune in and follow the story and his performance very much depended on the mood of the day. However, half way through the programme Kieran, showed a slight improvement in terms of his ability to follow the sequence of the drama, yet this attitude change was only maintained for a few sessions, as he regressed again towards the end of the programme.

Fred

Results from the classroom conversations

The results from the classroom conversations revealed that Fred had improved in all three areas measured. His speed of responding vastly increased as suggested by his speed scores (7.84 responses per minute in the baseline and 13.51 in the post intervention discussion). The quality of his answers also improved in all four questions. Finally, in terms of mannerisms the baseline conversation did not suggest that Fred had a significant problem, as he shown stereotypical behaviour (awkward foot and hand movement) only when responding in 1 out of the 5 questions. In the post intervention conversation this behaviour was decreased to 0.

Evaluation Reports

Both Fred's mother and teacher reported that Fred had very much enjoyed the drama sessions, and had benefited from the programme. According to his mother, Fred had developed his confidence, was more positive and seemed calmer. His teacher also noted a change in Fred's temper. She reported that Fred had matured through the programme, had learned to hold back his anger, for the sake of drama, and had become more patient.

In-Session behaviour observation

Based on the baseline interview with Fred's mother, the principle objective of the intervention for Fred was to help him develop his tolerance with others, build his confidence and help him gain a more positive attitude. Fred participated with enthusiasm in the drama programme from the first session until the last. He volunteered in all the activities, took initiative and fully invested into the fictional context. Throughout the programme Fred assumed a leading role in the drama and was looked up to, by his peers.

This, I believe helped him develop his self esteem and confidence, which in turn improved his overall state of well being.

Joseph

Results from the classroom conversations

Joseph's speed of responding vastly improved from the baseline to the post-intervention conversation from 8.30 to 14.08 responses per minute. The quality of his responses also improved in 3 out of the 4 questions, showing an enhanced ability to offer justification for his answers. In terms of mannerisms, the baseline had revealed that Joseph had a tendency to rock back and forth when feeling uncomfortable. Whilst, this behaviour was manifested in 2 out of the 5 questions during the baseline conversation, in the post intervention conversation, it was reduced to 0.

Evaluation Reports

Both Joseph's mother and teacher reported that he enjoyed the drama very much. His teacher also noted that Joseph had become more confident volunteering his opinion in the classroom.

In-Session behaviour observation

Joseph, had a very positive attitude throughout the drama programme, and was able to work well together with all the children in the group. My only concern for Joseph, was that he appeared a bit naïve for his ages, and his facial expression and body language were not always appropriate to the situation. When he was nervous he had the tendency to giggle, fidget and rock back and forth. Throughout the programme Joseph had the opportunity to play many different roles, that enabled him to develop an awareness of his body language and facial expression, and adjust them to serve the objectives of the character's he was portraying.

Sean

Results from the classroom conversations

The results from the baseline conversation revealed that Sean was very slow in answering questions, had a great difficulty in justifying his answers and also tended to pull his hands when he felt uncomfortable.

The results from the post intervention conversation revealed that Sean had shown improvement in all the above areas. His speed of answering had increased and whilst in the baseline speed question he had only named 4.15 items per minute, in the post intervention, he succeeded in naming 8.84 items per minute. Furthermore, his ability to justify his answers had also vastly developed, and had shown improvements in all 4 questions. Finally, his mannerism that manifested in 2 out of the 5 questions asked in the baseline condition was reduced to 0 in the post intervention condition.

Evaluation Reports

Sean's mother reported that he had very much enjoyed the drama and often talked about the fun he had. She also stated that she had noted growth in his confidence, and thought that he had benefited from the opportunity to engage in an extra-curricular activity, and interact with his peers, outside the regular school context. Sean's teacher also reported that Sean had enjoyed the drama programme and was now more confident and willing to give his opinion in the classroom. She also mentioned that Sean had become more tolerant with others.

In session behaviour observation

Sean, seemed very apprehensive at the start of the drama programme and very reluctant to give his opinion and volunteer in any of the tasks. His lack of confidence was further manifested in his body language, facial and verbal expression. Sean, avoided eye contact and tended to have his head down and his shoulders turned inwards when talking. Furthermore the volume of his speech was very soft, almost inaudible, and he tended to mumble his answers, and giggle inappropriately when feeling uncomfortable. Through the course of the intervention Sean's willingness to participate vastly increased, and after the first couple of sessions, he would volunteer in most of the tasks. Half-way through the programme Sean started contributing more, justifying his answers and showing an understanding of the drama process. His body language and verbal expression also indicated an improvement in his self confidence.

Results from the impact measures

i) Results from PDDBI parents' reports

Table 5.10. reveals that according to the parents' reports the overall picture of only one out of the 4 children that participated in the intervention improved, whilst the other 3 worsened.

Table 5.10.

Parents' PDDBI ratings for each participant in study 2 prior to and following the DIE intervention

Participants	*Baseline*	*Post – Intervention*
Sean	48	35
Fred	36	40
Kieran	39	42
Joseph	44	52

ii) Results from PDDBI teachers' reports

Table 5.11. indicates that according to the teacher's reports, the performance of all four children that participated in the study improved after the intervention.

Table 5.11

Teacher's PDDBI ratings for each participant in study 2 prior to and following the DIE intervention

Participants	*Baseline*	*Post – Intervention*
Sean	40	28
Fred	39	31
Kieran	58	47
Joseph	31	26

The vast discrepancy of scores amongst raters poses questions in terms of the reliability of the measure, in identifying the severity of the social deficit in individuals on the autistic spectrum, and by implication in its accuracy in evaluating the participants' progress throughout the intervention.

iii) Results SRS parents' reports

Results from the SRS parent's reports revealed that 3 out of the 4 children that participated in the study showed a decrease in the severity of autistic symptoms over time, whilst one remained the same, as indicated in table, 5.12.

Table: 5.12.

Parents' SRS ratings for each participant in study 2 prior to and following the DIE intervention

Participants	*Baseline*	*Post – Intervention*
Sean	80	69
Fred	87	87
Kieran	78	73
Joseph	76	67

iv) Results SRS teachers' reports

The results from the teachers' reports revealed that 3 children progressed in the course of the intervention, and one slightly regressed, as indicated in graph: 5.13.

Table 5.13.

Teacher's SRS ratings for each participant in study 2 prior to and following the DIE intervention

Participants	*Baseline*	*Post – Intervention*
Sean	58	49
Fred	55	51
Kieran	71	67
Joseph	48	49

Overall the results from the impact measures are very inconsistent and it is not possible to draw any valid conclusions. The inconsistency in results is not only reflected in the discrepant scores amongst the two different instruments but most importantly in the vastly discrepant scores amongst raters, within each instrument.

Discussion

The present study attempted to examine the effectiveness of the DIE intervention, as a method of addressing the specific needs of a group of high functioning adolescents with autism. The programme was designed to address the general needs of this population, as well as to deal with the individual needs of each one of the participants. The overall objective of the intervention was to improve the children's ability to engage in reciprocal social interaction as well as helping them develop their self esteem and confidence.

The results of the study indicated that the DIE intervention was successful in helping the participants develop their ability to effectively participate in reciprocal conversation. All four participants showed gains in all the areas measured (speed of responding, ability to justify their answers, mannerisms). The results from the comparison of the pre and post intervention discussion revealed that the participants' speed of responding had increased, their ability to give relevant and elaborated answers to given questions had improved and their mannerisms had reduced. Furthermore, in line with my own observations, the parents and the teacher of the participants all agreed that the children had enjoyed the programme and had benefited from it. Three out of the four parents also noted a positive change in their children's confidence, which is also consistent with my own observations and the overall improvement in their performance in the post-intervention conversation.

The results suggested that this was a positive experience for the participants and their families. Limitations of this study include the small size of the sample, and the limited opportunities to measure generalisation of the skills taught in drama outside the therapeutic context, given that the impact measures used proved to be an unreliable source of information. Further research is needed to determine appropriate methods to promote generalisation, and to evaluate progress more systematically in different contexts, and over a greater length of time.

Chapter 6

DIE model as applied to phobias

Theory and practical applications

6.1. Introduction

The purpose of this chapter is twofold. First, to introduce a DIE model specifically devised to address fears and anxieties of children with high functioning autism, providing a description of the model and the rationale underpinning it. Second, to present the implementation of the model on three distinct intervention-programmes designed to reduce the phobic responses of two high functioning children with autism on given stimuli.

6.2. The Model

The proposed DIE model is designed to deal with phobias in children on the autistic spectrum, incorporating principles and techniques from behaviour and cognitive therapy. The aim of this section is to describe the model and the principles underpinning it so that it can be applied to a wider group of people and the study can be replicated.

Following the behavioural model of phobias, on classical fear extinction, one of the aims of the DIE approach is to create a situation in which the phobic child is exposed to the feared stimulus for a prolonged period of time, so that the extinction procedures are put in place. When dealing with phobias in children, a common occurrence is that it is not their choice to overcome their phobias but a decision made by their parents, to which they have not consented (Costello & Angold, 1995). Feeling threatened, children may exhibit challenging behaviour during therapy that may in turn hamper the therapeutic process. To overcome this obstacle, the fear issue is addressed indirectly and the therapeutic objective of the drama sessions is not disclosed to the participants.

Because children with phobias have no personal interest or desire to overcome their fears, motivation is provided within the dramatic context. The drama is designed to capitalise on the children's strengths and special interests in order to enhance their self confidence and subsequently tackle areas of concern. A problem related to the children's special interests is posed. Resolution of the problems is only possible if the children decide to

confront their fears (for example in the case of a child who was afraid of the hand-driers, overcoming his fear was the only way to save his friends from the fierce dragon who blew hot-air and fire out of his mouth).

The feared stimulus is re-labelled and presented 'in disguise' as one more obstacle amongst many others that the children have to confront to get to their objective (e.g. the hand driers were presented as a fierce dragon that blew hot air and fire out of his mouth).

6.2.1. Rationale of the model

Re-labelling the feared stimulus, and creating a fictional context where the child's fear is justified and perceived as rational has a number of advantages:

First, by showing no awareness of the child's fear the facilitator has the opportunity to establish a positive relationship with the child. This could be jeopardised had s/he tried to address the fear early or directly.

Second, the child is free to adopt a different role in the drama from the one s/he usually takes in real life (i.e. the role of the brave person who fears nothing and is able to pass all challenges to get to his/her objective). There is no precedent of an established behaviour, nor a predetermined label and as a result no set expectations to which s/he will have to conform to.

Third, the child's self-esteem is not compromised but protected by the acknowledgement of the severity of such a confrontation.

Fourth, by converting the irrational fear into a rational one, cognitive restructuring procedures can be put in place, to dispel erroneous assumptions. The belief that A is the cause of B can be challenged. If the fear is irrational, assumed to be driven from unknown inner forces, then there is little that can be done. Rational arguments cannot serve to deal with the irrational. However, if the fear is justified, then we can rely on the child's logic to overcome it. For example, in the case of the child who feared the hand-driers, these were converted into a dangerous dragon that blew hot air and fire out of his mouth. Fearing the hand-driers was an irrational fear, since hand-driers are used by people to dry their hands and are harmless. Trying to convince the child that they were

harmless, would have been futile since there was no logic to sustain his fear and therefore any such attempt could only lead to a paradoxical debate. However, the fear of a fierce dragon that blows hot air and fire out of his mouth is a perfectly rational one and therefore amenable to logical arguments. If the child discovered on his journey that the dragon was harmless then his fear would cease to exist. Since, reasoning within the paradox is futile, reason is created within the fiction to deal with the paradox.

Fifth, by converting an irrational fear into a rational one we are changing the nature of the behaviour, and taking control over it. The irrational and internally controlled fear, becomes logical and therefore amenable to external control and change. Leaf and McEachin, (1999) in a discussion about self stimulatory behaviour suggested that *'by establishing a contingency you are taking control of the behaviour subtly altering it, placing limits and conditions on it... By moving the behaviour from internal to external control, you have created the effect of reducing its reinforcing value'* (p.75). Similarly, by creating a fictional context where the child's fear is legitimate, we are moving from internal to external control.

Sixth, the feared stimulus can then be broken down into its fearful properties, the elements that provoke the sense of anxiety (i.e. hot air, loud sound). Each of these elements can be then challenged in turn and solution to overcome each one of the problems (i.e. ear plugs for the loud sound, information on how hot is the air) may emerge.

Finally, re-labelling the feared stimulus and re-introducing it with a new identity within the fictional context, may serve to change the expectations attached to it. These new expectations created from the object's new identity, if associated with positive consequences, may in turn serve to convert the aversive stimulus into a reinforcer, and as a result alter the phobic child's response towards it. The process through which neutral stimuli acquire reinforcing properties from procedures that cannot be accounted for in terms of conditioning, is described in detail in chapter 4.

As previously stated, the conversion of any neutral or aversive stimulus into a reinforcer, seem to operate in two phases. In phase one, the object is illuminated from a different perspective, and in phase two, this new perspective gives birth to new expectations.

Whilst, cognitive restructuring procedures can account for phase one, it is covert conditioning principles that can exemplify phase two, as the neutral stimulus acquires its reinforcing value, through its imaginal reinforcing consequences.

6.2.2. The process: nature and sequencing of tasks

Following the principles of GRLP model (detailed in chapter 2), the drama is organised so that the children are gradually exposed to stimuli that resemble the fear eliciting stimulus, yet evoke less anxiety. Not being overwhelmed with emotion, children may learn to use their coping skills to deal with increasingly anxiety provoking stimuli (for example in the dragon's scenario, exposure to a hair-drier preceded the exposure to the hand-drier).

In keeping with Guthrie's (1935) *contiguity theory of learning*, that stresses the importance of pairing of events, not just stimulus-stimulus pairing, as in classical conditioning, but also stimulus-response pairing, it is hoped that by breaking the pattern once, and establishing an antecedent of an appropriate response, it is likely that the new behaviour will be repeated in similar future occasions.

Furthermore, based on Hull's theory (1952) that the behavioural potential in a situation is the product of *motivation* (the reason to act) and *habit* (the know how), the DIE intervention is designed to build the children's motivation to get to their objectives, as well as to provide them with opportunities to learn and practise the necessary skills to cope with the fearful situation.

Motivation (the reason to act)

Unlike behavioural modification programmes that rely on contrived reinforcers as a means of motivating children to perform target behaviours, the DIE model provides a reason for doing so. In other words, the children are not instructed to perform a target behaviour to be rewarded, but rather given a reason to wish to perform the target behaviour. The DIE model is structured so that the target behaviour becomes intrinsically reinforcing for the children. Based on a problem solving methodology, the drama is organised so that the children are led to understand the function that the target behaviour serves, as well as feeling motivated to perform it to get to their objective.

In line with the Pivotal Response Training (PRT), the DIE model is structured to build on intrinsic motivation. A contingency is established within the fictional context where the target behaviour is followed by stimuli relevant to real life occurring consequences, rather than external rewards, so that the target behaviour is more likely maintained and generalised outside the therapeutic setting.

The challenges that precede the confrontation with the feared stimuli are primarily designed to ensure that the participants enjoy the drama process, feel safe with the facilitator, and motivated to solve the fictional problem, so that a pattern of compliance is established. To this end the initial tasks are organised in line with the behavioural momentum theory. According to this theory, behaviour much like physical objects, possesses a momentum, that is determined by mass and velocity. In behaviour mass is translated into the level of reinforcement associated with the specific stimulus condition, and velocity with the rate of responding. It is the element of velocity in the behaviour momentum paradigm that increases the compliance to non preferred low probability requests when these are preceded by a sequence of high probability requests (Lee, 2006).

In keeping with the behaviour momentum theory the DIE model is structured so that phobic children are exposed to multiple high probability tasks that they would join enthusiastically prior to being confronted with items from the anxiety hierarchy list (low probability tasks). *'The response generated by the high probability request sequences carries over and increases compliance to the requests that had previously resulted in non-compliance'* (Lee, 2006, p.313). Furthermore, the success experienced after every challenge serves as a reinforcer, encouraging the children to carry onto the next task. The drive to keep succeeding is what motivates the children to finally confront their fears. The same principle also applies to the ever so popular video games. Their addictive effect lies on an in-built reward system. You are good, you get better, you change level, 'going up the ladder of success'.

Besides establishing compliance, high probability tasks (unrelated to the items of the anxiety hierarchy list) also serve to divert the children's attention from the feared stimulus, to the goal of resolving a number of problems. The focus is thereby taken away from the feared stimuli to solving the fictional problems that would lead the children to their objectives. Overcoming their fears is just a means to this end and not an end itself.

Moreover, the success experienced after every challenge, serves to enhance the children's self esteem, and confidence in their abilities to overcome obstacles. A pattern of success is gradually built that will equip the children with the confidence to encounter the feared object. According to Bandura (1977) people are not passively responding to objective contingencies but rather to their view of those contingencies. Their belief in their self efficacy plays therefore a vital role in successful coping behaviour. *'Clients may successfully overcome phobias through a process of positive change in self efficacy expectations'* (Thorpe & Olson, 1990, p.74). This view is clearly reflected in the structure of DIE approach where every task is designed to develop self efficacy, constantly reassuring the children of their ability to influence their environment and make things happen, so that belief in their personal power of effectiveness will equip them with the confidence to confront their fears.

In addition, the sense of self efficacy and pride derived from succeeding in challenges that precede the confrontation with the feared stimulus, serves to neutralise the fear. This view is in line with Wolpe's (1969) theory on counter-conditioning suggesting that causing a response that is incompatible and antagonistic with fear to occur at the same time as the feared stimulus is presented, may weaken the fear response. Counter-conditioning is an essential part of the systematic desensitisation therapy and involves pairing positive emotional states that are considered to be incompatible with fear and anxiety (e.g. relaxation, pleasure, pride) with gradual exposure to the feared stimulus. The objective being to so ensure that the phobic client keeps experiencing a positive emotion while exposure is increased.

Having already established the importance of organising the tasks so that they build on the children's motivation to overcome all obstacles to get to their objectives, developing their competence to confront the object of their anxiety is another indispensable element. Taking this into consideration, the challenges that precede the confrontation with the feared stimulus are organised to build the children's competence by providing them with opportunities to learn and practise the necessary skills to cope with the fearful situation.

Habit (the know how)

This being the case, another important consideration when structuring the drama intervention for phobias is to provide the phobic child with an alternative appropriate behaviour prior to the exposure to the feared stimulus (e.g. the child is given precise instructions to complete a concrete task). This serves a dual function. To reduce the fear by taking away the focus from the feared object to the successful execution of a precise task, as well as establishing an antecedent for appropriate responding, that will be repeated in future occasions, following Guthrie's (1935) *contiguity theory of learning*.

Besides, including tasks that offer participants the opportunity to develop their competence, 'the habit' in Hull's terms, to deal with the fearful situation, the DIE model emphasises on enhancing their overall ability to solve problems. The beneficial effects of problem solving have been supported by research indicating that improved ability on problem solving increases self esteem (Heppner, Reeder & Larson1983; Hay, Byrne & Butler, 2000; Tellado, 1984; Elliot, Godshall, Shrout & Witty, 1990) and decreases irrational beliefs and anxiety (Nigro, 1996; Heppner, et al., 1983).

Having explained how the DIE model is structured based on the principle of motivation and habit, I will now attempt to explain how other principles from behaviour and cognitive therapy are incorporated into the DIE model on phobias.

Based on the behavioural modification model, a key feature of the DIE approach to phobias involves the systematic manipulation and alteration of the three term contingency. Following the principles of behaviour therapy, behaviour is considered to be the product of a three term contingency, the antecedent (A), the behaviour (B) and the consequences (C). The behaviour can be modified by altering either parts (A or C) of the equation. These contingencies play an important role in determining which behaviour will be strengthened and which will be discouraged. In the cases of phobias, a phobic response may be encouraged by the attention the phobic child may be receiving, or by escaping the aversive event. Therefore, altering the consequences of the response to the feared stimulus may modify the behaviour. Taking this into account, the DIE model uses reinforcement to encourage children's adaptive responses when presented with items from the anxiety hierarchy list. Yet, reinforcement in drama does not rely on external rewards, but rather on the structure of the process. It uses intrinsically reinforcing

activities that motivate the participants to perform target behaviours to get to their objectives. The motivation in drama is not therefore controlled by stimuli external to the task, but is rather attributed to intrinsic motivation, such as the pleasure derived from succeeding in the challenges set, the need for achievement (McClelland, Atkinson, Clark & Lowell, 1953), the need to be effective and competent in dealing with one's environment (White, 1959), the need to conceive oneself as the centre of causality (De Charms, 1968), and the need to be self-determining and competent (Deci, 1975).

Furthermore, reinforcement in drama can be both direct and vicarious. The children do not only learn from their own experience which behaviour will be reinforced but also by observing their peers performing the behaviours. The technique of modelling as a means of demonstrating adaptive responses to feared stimuli, is an important component of the drama structure, and its effectiveness has been advocated by a number of theorists (e.g. Banduras 1969; Mc Donald, 1975).

Another form of reinforcement that is also used in drama, is negative reinforcement. The drama is often structured so that participants are prompted to perform the target behaviour in order to avoid aversive consequences. For example, in the dragon's scenario, the child who feared the hand driers had to keep quiet (target response) in the bathroom while the hand driers were in operation so that he did not offend the dragon. This constraint prevented him from throwing a tantrum.

Finally, reinforcement in drama is also provided by re-labelling the object of anxiety and converting it from and aversive stimulus to a reinforcer, as earlier discussed.

Having described how the principle of reinforcement is incorporated into the DIE model on phobias, as a means of changing maladaptive responses towards the feared stimuli, I will now attempt to exemplify how the antecedent is used to serve this purpose. To this end, two methods that are based on changing the antecedent of a target behaviour are incorporated in the DIE model for phobias. These are the *behavioural momentum*, and the *paradoxical suggestion* techniques. Whilst, the former establishes an antecedent of compliance using a sequence of high probability tasks, prior to the low probability target behaviour, as earlier described, the latter focuses on modifying the antecedent by reversing the habitual sequence of events.

The facilitator in drama, unlike most adults in the children's everyday life who would usually prompt them to confront their fears, discourages them from doing so. This is a defiance based technique derived from family therapy and is designed to deal with persisting patterns of behaviour that direct interventions such as logical explanations and rational arguments have failed to address. The success of this technique lies on the child defying the adult's suggestion to refrain from confronting the feared stimulus. By reversing the usual attitude and adopting a new one it is hoped that a paradoxical response will be elicited. *"The success of reversal depends on the person being surprised and reacting spontaneously to an unexpected change of attitude"* (Minuchin, 2002, p. 245).

Having attempted to describe how the DIE model on phobias is structured so that phobic children are exposed to the feared stimuli, it is essential before concluding this section to stress the importance of providing opportunities for maintenance and generalisation throughout the programme. Once the phobic children are confronted with the fearful stimuli within the drama, opportunities for exposure in different settings, and for prolonged periods of time, should be organised. Failure to do so could cause relapse, as phobic children may fall back to their previous habitual responses, whose link with the fear stimulus is more strongly established than the newly acquired adaptive response.

6.2.3. Summary of DIE methodology in relation to fears

The intervention is organised in several steps:

1. Establish a relationship of trust between the facilitator and the child.
2. Use the child's special interests to engage him in the drama.
3. Build belief, ownership and investment in the drama.
4. Design challenges that the child would enjoy and would instil a sense of
5. success and achievement.
6. Introduce a problem in the drama that would interest the child to solve, based on
7. his /her special interest, so that he would be intrinsically motivated to confront his fear.
8. Use this problem as a pretext to gradually expose the child to the feared situation.
9. Offer opportunities for maintenance and generalisation of the newly acquired behaviour

Models underpinning the intervention:

- Problem solving
- Systematic desensitisation
- Gradual Real Life Practice (GRLP)
- Modelling
- Reinforcement
- Self efficacy
- Coping and Problem Solving (Goldfried, 1980)
- Guthrie's contiguity theory of learning (CTL)
- Paradoxical suggestion
- Reciprocal inhibition
- Hull's theory (1952)
- Contingency management procedures
- Counter conditioning
- Cognitive restructuring
- Habit training

Principles underpinning the intervention:

- Empower the child by giving him/her choices and control over his/her fear and also by creating a pattern of success.
- Change the ABC contingency
- Teach a skill that might be missing
- Give an alternative behaviour.
- Create another routine (habit modification)
- Foster the development of an emotion incompatible to fear (e.g. pride)

6.3. DIE applications in the context of phobias

Having outlined in the previous section the DIE model for phobias and the principles underpinning it, the aim of this section is to offer a detailed description of the implementation of this model on three distinct interventions, as a means of evaluating its effectiveness in reducing phobic avoidances in high functioning children with autism. Furthermore, the descriptions could also serve as guidelines for the practical application of the model so that replication of the study is possible.

This section contains descriptions of three separate DIE interventions intended to reduce the phobic responses of two high functioning children with autism. Two of these interventions were designed to address two distinct fears of the same child, Kieran, and involved a fear of hand-driers and an extreme reaction to being touched by other people. The third intervention was an attempt to help another child, Eric, overcome his fear of hair-dressers. All three fear interventions formed part of larger programmes principally designed to develop the participants' abilities to engage in reciprocal social interaction. The aspects of these programmes that relate to social competence were discussed in the previous chapter.

Case study 1: Kieran

Aim

The aim of the two interventions described in this section was to help Kieran overcome his fear of hand-driers, as well as to address his oversensitivity to being touched. As mentioned earlier these two interventions formed part of a DIE programme primarily devised to develop Kieran's ability to relate to other people and engage in reciprocal social interaction. However, during the course of the programme these two fears were identified and given priority over other objectives due to their intensity and the disruption they caused in Kieran's life. Tackling these two objectives was considered particularly important as his extreme reaction to these stimuli not only impeded Kieran's normal functioning, but also negatively affected how he was viewed by his peers.

Setting

All drama sessions took place in different locations within Trinity College. The drama sessions were conducted by the researcher.

Participant

Kieran's profile was presented in detail in chapter 5.

Measures

The following measures were used to evaluate the effectiveness of the intervention:

- Pre-intervention discussions with the parents
- Post-intervention semi-structured interviews with the parents
- Kieran's post intervention self report
- Faces' happiness rating scale (only used for the 'fear of being touched' intervention)

Procedures

Overall design

The programme was conducted in three phases:

Phase one: Pre-intervention

Before the beginning of the drama sessions, informal discussions with Kieran's parents were conducted to establish the baseline and set the objectives of the intervention.

Phase two: Intervention

The DIE programme (in relation to phobias) lasted sixty minutes, and was run on a weekly basis for 12 weeks. The sessions were designed to lead Kieran to a gradual exposure to the feared situation by motivating him to solve an intrinsically rewarding problem. A variety of challenges were set within the dramatic context that culminated to the confrontations with the fear stimuli.

Each cycle of sessions was built around problems that the researcher thought would appeal to Kieran's interests. The choice of topics was based on the belief that Kieran's interest in solving mysteries and his empathetic nature, would urge him to confront all challenges to save anyone in danger. Yet, although interest in the topic is a necessary component for the effectiveness of an intervention, it is not a sufficient one. The choice

and sequencing of the tasks play a much more important role in maintaining the participants' interest in the drama, as detailed in the previous section.

The sequencing of the tasks was organised so as to serve the overall objectives of the intervention and gradually expose Kieran to the feared situations, meanwhile abiding to the rules of the art-form.

Phase three: Post Intervention

After the end of the intervention informal interviews with both parents were carried out as a means of evaluating the outcome. Kieran also completed a self report.

6.3.1. Intervention (1): Fear of Hand-driers

Background

Kieran's intense fear and avoidance of hand-driers constituted a major problem in his life. For the last 9 years Kieran had never used hand-driers and would refuse to enter a bathroom where hand-driers were in use. This was particularly problematic in the school setting where all toilets have hand-driers and in family trips where access to public toilets without hand-driers is limited.

Intervention

The intervention consisted of five, sixty minute weekly sessions.

Aim

The aim of this intervention was to help Kieran overcome his fear of hand-driers. Principles drawn from behavioural approaches to fears and anxieties, informed this intervention. In line with the graduated real life practice (GRLP) principles detailed in chapter 2, the intervention was organised so that Kieran would be gradually exposed to the feared object (hand-driers).

Process

1

The aim of the first session was to engage Kieran's interest in the fictional context, and build belief and investment in the drama, so that he would be motivated to solve the problem posed.

At the beginning of the session Kieran was introduced to the fictional problem in a narrative form. I started the drama by telling him that five young people that lived in a remote village of Ireland had disappeared and that no one knew what had happened to them. I explained to him that they might be in danger and asked him if he was willing to go on a mission to find them. Kieran eagerly agreed to take on the mission and that's how our drama started. I then told him about a rumour I had heard that the missing people had passed the night before they disappeared in a cave. I asked him to have a look on a map of the area and try to locate the place. Kieran immediately spotted the cave on the map. I then asked him if he thought we should go over there and examine the evidence. Kieran agreed and this led to the next task, where he had to prepare his suitcase for the journey. This activity was designed to give Kieran ownership in the drama by providing him the opportunity to make his own decisions on the fictional context.

By choosing what he needed to take with him, Kieran was actually deciding on the setting of the drama and the duration of his journey. Once, he had made his suitcase I asked Kieran to choose the transport. Kieran decided to go by car. He created the car with a couple of chairs that were in the room and 'drove' to the location in question. This task gave Kieran the opportunity to slip gently into role, and move the drama from projected to non-projected play (see chapter 3 for definition).

On his way to the cave where the missing people were allegedly last seen, Kieran found a huge foot-print (represented by a paper in the shape of a foot-print). I asked Kieran to tell me to whom he thought this foot-print might belong and he replied that he thought it belonged to a dragon. I then asked him if he thought that this foot-print could be related to the disappearance of the people we were looking for and he said he thought it did. I then prompted Kieran to continue his journey in search for more evidence. When we arrived at the cave, Kieran found one of the missing people, whose name was Tom,

trapped inside (teacher in role/ TinR). This was Kieran's chance to find out what had really happened.

Kieran greeted Tom (TinR) and asked him what had happened, but as soon as Tom started telling him the story, Kieran appeared fidgety, distracted and kept looking away. In order to address this issue I decided to insert the element of surprise, and create the dramatic tension, that would hopefully intrigue Kieran to re-engage in the drama. Tom, had suddenly lost his voice. There was silence. Kieran, was taken aback by the silence and turned to see what had happened. He found Tom in a state of panic, trying to communicate something to him in gestures.

At this point I slipped out of role to explain to Kieran, that we had very little time to find out what had happened (adding the element of time limitation to increase the dramatic tension) before it was too late for his friends. I also took this opportunity to clarify the task by explaining to Kieran that because Tom had lost his voice, probably due to the shock, he would have to read his lips to find out what had happened. I acknowledged that this was a very difficult task and that it would be a great accomplishment if he achieved it. Converting the narrative into a challenge, proved to be an effective way not only in re-engaging Kieran into the drama but also in helping him focus to the task as it became more concrete. In order to succeed in his challenge Kieran had to stop fidgeting and carefully observe Tom.

Tom communicated with Kieran, sometimes in gestures, others in half phrases and others in whispers. Kieran was now listening to him attentively, showing a clear interest and investment in the drama. This was the right time I felt to plant the seeds that would enable Kieran overcome his fear of the hand-driers, at a later stage.

In role as Tom, I told Kieran that a very dangerous dragon that blew fire and hot air out his mouth had kidnapped my friends and advised him to run away. Kieran said that he was brave and that he wanted to find the dragon and save my friends. To prepare him for the hand-driers and make sure that he understood the up-coming challenge, I deliberately emphasised the fact that the dragon blew hot air out of his mouth. The more I insisted that he should stay away from the dragon, the more adamant Kieran became in his decision to confront him. This strategy is consistent with two principles I have described

earlier in this chapter, involving a change in the antecedent or alternatively conceptualised as paradoxical suggestion.

Despite Kieran's insistence, I felt that it was too early and risky to expose him to the feared situation in the first session. I decided that intermittent steps needed to be taken to ensure that Kieran was able to handle his fear successfully, before the confrontation. So, instead of having Tom directly leading Kieran to meet the dragon, he gave him a map outlining the challenges he had to pass in order to gain access to the dragon's palace. By delaying the confrontation the dramatic tension was increased and so was Kieran's anticipation for the encounter. The feared situation was now presented as a reward that Kieran had to earn and the intermittent challenges as means of preparing him for the confrontation; building his confidence in his ability to overcome all obstacles. This technique is in line with the principle of self-efficacy described in chapter two.

The first session ended when Kieran passed under the laser beam and entered into the dragon's territory; leaving the drama at its peak so that he would be eager to come back for the sequel.

Before concluding the session I asked Kieran to write down the highlights of the drama, in an attempt to understand how he felt, and plan my next steps accordingly.
Kieran wrote:

- *Peter was a brave person*
- (Peter was the name Kieran had picked for his character in the drama)
- *Entered the cave*
- *Swam the lake*
- *Dashed through a forest*
- *Fought really hard*
- *Best bit: the lake and swimming*
- *I still want to face my fear of falling* (Kieran was here referring to a challenge he had most enjoyed during the drama and wanted to repeat in every session/ walking blind folded on the tables).

2

His notes led me to believe that he had enjoyed the challenges and that he felt proud of himself. Taking this into account I decided to plunge deeper into the next session and gradually exposed him to the feared situation. To this end principles from Graduated Real Life Practice (GRLP) were taken into consideration. Instead of exposing Kieran to a meeting with the dragon (the hand-drier) I chose to introduce him first to his son (my hair-drier). I thought that because the hair drier made less noise and the air was less strong, it would be less intimidating for Kieran and could therefore serve as a stepping stone for the bigger challenge. The meeting with the son of the dragon was organised so that Kieran would have exclusive control of the experience. In order to communicate with the dragon's son, Kieran had to give a password (giving control of the experience to the participant). He was very excited to meet the dragon's son and did not hesitate to give the password that activated the hair-drier. Once the channel of communication was activated, the dragon's son requested Kieran to get closer to him and then asked him why had he come to visit the dragon's Kingdom. Kieran, approached him confidently and said that he was looking for 7 people that had gone missing. The Dragon's son told him that he had no idea where these people might be, but hinted that his father may know. When Kieran asked him to see his father, he informed him that the great dragon lived in seclusion for the last 100 years and refused to see any humans. As Kieran insisted, the dragon's son gave him a tip: *"Make him a gift. I'll take it to him. If you impress him, he might agree to meet with you"* and also warned him that his father was more intimidating than he was (made louder noise and blew warmer air) and that he would feel very offended if he sensed that he was afraid of him. Kieran, assured him that he was brave and wanted to meet the dragon.

At this point I stepped out of role, gave Kieran some modelling clay, and asked him what did he think a person that had been so long in isolation might need? And what present did he have in mind to make, to impress him. Kieran, said: *'I will make him a friend'* and created a small man out of play-dough and gave it to the Dragon's son. The dragon's son left the room saying that he was going to deliver the present to the Dragon and he would come back to give him his verdict. A few seconds later he came back and said:

'Peter I have news for you... I gave your present to the dragon... he was impressed! ... and is now looking forward to meeting you. But before you go I have to give you a last

piece of advice. There is a precise code of conduct that needs to be followed during all meetings with the big dragon. Five birds will accompany you to the Palace, each bird is carrying a message for you. These are the rules that you need to follow.... Read them carefully and execute them to the detail...'

On his way to the palace Kieran had to catch the birds (little pieces of paper glued on a string that I was holding up high) and read the instructions:

1. Find the pink liquid.
2. Pour it on your hands.
3. Pour water.
4. Press the dragon's cheek (button to activate the hand-drier).
5. Only if you feel brave put your hands in front of the dragon's mouth.
6. Don't go there alone!!

These instructions were meant to equip Kieran with an alternative to the habitual tantrum behaviour during the encounter with the dragon, as well as take the focus away from the fear situation to the correct execution of the prescribed tasks.

When we entered the dragon's palace, Kieran was very excited. He was holding the small pieces of paper in his hands and was carefully reading the instructions. When he was about to wash his hands Kieran said to himself: *'I can't believe I am doing this'* and the following conversation ensued:

H: Are you sure you want to do this?
Kieran: I don't know.
H: You don't have to.
Kieran: Are these hand-driers very noisy?

This was a tricky question. Kieran was gracefully passing the responsibility for his forthcoming experience to me. Reassuring him could mean accepting this responsibility and repeating a familiar pattern where Kieran would be rebelling against the 'responsible' adult. To change the pattern, Kieran needed to know that the choice was his, and had no one to blame other than himself. Furthermore, replying to a question that

was rooted in reality, could jeopardise the fiction and the protection it offered, drawing more attention to the feared situation.

So instead of giving Kieran the comforting answer he was seeking, I pointed to the gift he had made for the dragon that was on the top of the hand-drier, and told him that he could use it as ear-plugs if the noise was too loud, but he had to act quickly before the dragon woke up. I inserted the element of dramatic tension, creating a state of urgency, to divert Kieran's attention from his fear, whilst providing him with a practical non negotiable solution to his problem. In this way, I was acknowledging his anxiety, without however assuming responsibility for his decision.

Kieran seemed really excited at this point and after a pause, he said: *"I can try anything once"*, yet he was still very reluctant to move towards 'the dragon'. In role now as his partner I kept prompting him to hurry up before the dragon woke up. The reason I kept putting the pressure of time was so that he did not have time to think what he was about to do and dwell into his fear. When Kieran made a few steps towards the Dragon I played the first recording. The dragon was shouting: Go away! Don't you dare touch me!' I explained to Kieran that the Dragon was probably scared of people. The actual purpose of the recording was twofold. First, to make Kieran empathise with the dragon, taking the focus away from his own fear to comforting him, and second revert the habitual pattern of events, where Kieran was prompted to deal with his fear of hand-driers and he resorted to tantrums. The dragon instead of inviting him to come to him, he was discouraging him from doing so. Kieran seemed intrigued, and apprehensively yet very excitedly walked towards the dragon and pressed the button of the hand-drier. A note torn in 4 small pieces fell out. The purpose of the fragmented note was to encourage longer exposure into the feared situation that would allow time for the conditioned anxiety to extinguish.

Instead of pressing the button and running away, Kieran had to stay near the hand-drier in order to gather all the pieces of the note and put them together. At this point Kieran was deeply engaged in the drama and did not seem to be bothered about the sound of the hand-driers, being preoccupied with his task. The note read: *'I am so scared and so lonely'*. As soon as Kieran read it, he rushed to hug the hand-drier and said: *'don't be scared'*. I then played the next recording. The dragon was now confessing that he had

felt depressed and lonely all these years, and that he was hurt by all those people who were scared of him and had rejected him. Kieran listened attentively to the tape and when it finished he gave another hug to the dragon. I then prompted him to press the button once again, to prove to the dragon that he was different and did not feel scared of him. Kieran agreed to do it, without hesitation.

As we were walking out of the bathroom Kieran was still very excited and told me that he couldn't believe that he had befriended a dragon. To conclude the session I asked him to give a title to our drama. He said: 'Pete Meets a Dragon'. I then asked him to write down what he did today and what he thought he had learned outside the drama.

He wrote:
Pete made friends with the dragon, Ryan Laurence.
Pete learned you can conquer your fears.
Pete: "I' d try anything once!"
I then asked him what fear exactly did he overcome. He replied in writing:
"I overcame my fear of hand-driers"

I told him he was very brave and that is how we ended the session. On his way out of the building, and just as I was about to greet him good-bye I asked him if he wanted to say a last good-bye to the dragon. Kieran eagerly agreed, rushed into the bathroom pressed the button and immediately run away. I felt that Kieran was still a bit scared of the hand-driers yet able to deal with his fear, so I decided to push him a bit further. I told him that running away might hurt the dragon's feelings. Kieran took the hint and walked a couple of steps forward, closer to the dragon, and stayed there until the hand-drier stopped and I indicated that we could now go.

Kieran, had made a huge step in this session towards overcoming his fear. He had decided to confront it and it appeared that he had enjoyed the experience and felt proud of his success. Now that his fear was confronted successfully once, my next objective was to ensure that his confidence would be maintained and generalised in other locations.

3

In the next session, I attempted to plant the seeds for generalisation outside the Trinity environment and invited Kieran's father to participate in the process. I briefed him on his role, and then in role as the dragon I asked Kieran to convince an adult to come with him to my Palace. Kieran agreed. As I was leading Kieran outside the Palace (bathroom) and back into our drama room, I asked him if he could think of anyone that we could ask. Kieran's father was waiting outside the room. When Kieran saw him, he immediately rushed and asked him to join him. His father then told him that he thought it might be too dangerous and that he was afraid to go. Kieran in an effort to convince him, said: *'You don't have to be afraid. You are with me, Peter, the brave-heart! I will protect you!'* and dragged him inside the bathroom.

At the end of the 3rd session Kieran wrote:

'One more person tried to survive the journey. They were scared, but they were with Peter the Braveheart. They searched many places, but couldn't find a single dragon that breathed paper. The person with Pete the Braveheart Peter said: "Don't be scared. You can overcome your fears." The button was pushed, but not a shred of paper came out. We'll try later. Quotes from Outstanding Contribution's founder Kieran Bolton: "We won't give up. We'll try other toilets. We are aiming to accomplish everything we can accomplish." David will come to the rescue and overcome his fears.' (David was a child I had told Kieran was going to join our drama).

4

From this time onwards Kieran was requesting to see the dragon in every session, and showed no sign of fear. In my effort to promote generalisation we visited many different bathrooms within Trinity. At the end of the 4th session he wrote:

"*Interview with Peter*

So Peter, tell us about the dragon!

Peter: I am a daring fellow. I never cower. I put my hand in the dragon's mouth and give him a hug. I am the first ever person to experience. But I won't be the last! Peter, will you bring a second dared evil along with you?

Peter: My Pal David, but I call him Daredevil Dave. He was petrified, but he's going to be brave.

Interviewer: Thank you. Long live Dave."

5

Kieran's diary entries and desire to meet the dragon in every session clearly indicated that he was very proud of himself, for having overcome his fear of hand driers and took every opportunity to show it off. In an effort to acknowledge his accomplishment I organised an award ceremony for the final Dragon session.

At the end of the ceremony Kieran wrote:

'*Dear Dragon,*

I have accomplished my breakthrough task – and no one can control my excitement!!! I was thrilled upon entering the stage and receiving my Note of Completion. Nine hundred thousands euro is on the way. I think I'll spend it on a speedy Laborghini and some Dragon Chewies for you. I can't believe this spectacle. My excitement is uncontrollable! Yours heart-swallowing, Peter James Smith.

P.S

Dragon – you're invited to my birthday. You'll even get a ride in my brand – new Laborghini.

A few months later his parents reported that they had visited several hand-driers outside the drama successfully.

6.3.2. Intervention (2): Fear of being tapped

Background

When we started the 'tapping' intervention, Kieran's oversensitivity to being tapped was at its peak. He had daily tantrums, and was constantly getting in trouble with his peers at school, who had picked up on it and took every opportunity to tease him. Kieran's extreme oversensitivity to being tapped was a source of great frustration for him, to the extent that he would opt out from activities he would otherwise enjoy (e.g. playing in the yard, going to drama).

I was aware of Kieran's issue with tapping for quiet a while, but it wasn't until it manifested in one of our drama sessions, that I realised the magnitude of the problem and decided to attempt tackling it. I had tapped him accidentally, and Kieran had started hitting himself and telling me that he wanted to leave. When I asked him why he was

hitting himself, he replied because it hurt and he wanted to make it even worse so that he didn't feel the pain anymore. As I felt Kieran was upset with me at this point, I asked him if he wanted to tap me too. He did so, and then started crying and saying that he wanted to go to his grand-parents. At the beginning of his tantrum I thought he was putting on an act, but he soon worked himself up, to the point that he was genuinely upset. In response to his plea to leave and go to his grand parents, I explained to him that they wouldn't be expecting him until an hour later, and meanwhile he could rest, if he wanted. Kieran agreed and went to lie under a table and closed his eyes. A few minutes later, as he had calmed down I asked him if it was ok, if I narrated a story to him and he agreed. As I was narrating, I gently started asking him questions, in relation to the development of the plot, until he had completely recovered, and told me that he was ready to move on with the drama.

This experience gave me a first-hand insight into how debilitating Kieran's fear of being tapped, really was; and intrigued me to find out more about the source of his frustration. In the next session, when Kieran was calm, I asked him why he had reacted the way he had. He replied that he hated being tapped. When I asked him why, he said that tapping was nasty, it was bullying, and he liked people to be gentle and nice with him. I then attempted to explain to him that tapping can also be gentle and nice and tapped myself to demonstrate. Kieran did not take this well, he kept repeating that he hated being tapped and was about to cry, until I alerted him to the fact that it was my hand and not his that I had tapped. At this point, to avoid his tantrum behaviour from escalating any further, I put an end to the conversation.

A few session's later and whilst still working on the dragon's story, Kieran amongst other adventures had to go to the zoo and befriend a lion. This was a physical task, where Kieran was playing with a lion (TinR), pushing each other and rolling on the floor. Seeing Kieran so happy and relaxed, I felt a sudden impulse to tackle the tapping issue, and included tapping in the physical game. My impulse proved right. Kieran, was so calm and content that hadn't even noticed that I kept tapping him. Not only did he not protest, but insisted that he played the game with the lion a bit longer. At the end of the session, in the routine entry to his diary Kieran satisfied with his performance in the drama wrote: '*Quotes from founder Kieran: He is so lucky to be getting the bravest job.*'

In an effort to get a better insight into how Kieran had experienced the game with the lion I asked him, if he thought he had learned something that could be useful to his life outside the drama. He replied that he hadn't learned anything. I then asked him if he had enjoyed the game with the lion. He said yes, and then I made the fatal mistake of prompting him to elaborate on the meeting with the lion. The following conversation ensued:

H: *but he did something you don't like.... And it was ok, wasn't it? He tapped you...*

K: *I hate being tapped!!! I hate it!!*

He started faking that he was crying. It was almost as if he was joking. But he worked up himself so much, that it escalated into a real drama. He was fine one minute and the next he was upset again. He said that he hated the Lion, he felt awful and suffered. I told him that I thought he had enjoyed it.

K: *I was shouting and crying and hated it.*

Whilst he was crying he would ask me if I thought the Lion had tapped him.

K: *Did the lion tap me? Did he?*

H: *I don't know. You are the one who is crying. Tell me, did he?*

K: *(as he was sobbing) You tell me!! I hate being tapped.*

H: *Would you like to kill the Lion?* (In response to my question Kieran gave me a punch).

H: *That hurts! This was me not the lion.*

I think here Kieran realised that he was out of line and to make it up asked me:

K: *Where is the lion?*

I pointed to my scarf. He then became very dramatic and told me that he wouldn't like to kill an animal. It seemed to me at this point that Kieran was looking for a pretext to have a tantrum. In response, I stated the obvious, that this was only an imaginary lion. Of course Kieran knew this very well, but by pointing it out to him, I just meant to show to him that he was unreasonable, and I was on to him. Kieran took the point and backed off for a while. A bit later, still looking for another pretext for a tantrum, he told me he had changed his mind and wanted to kill the lion. Yet, once he did ('punched' the scarf), he started crying again and told me that he had enough of this.

K: *That's the end of it. I enjoyed it, but that's the end.*

H: *Could you write down why?*

I asked him to explain to me in writing, because I had observed that writing had a soothing effect on Kieran, whist verbal communication had proved to be frustrating in the past. Furthermore, putting his thoughts in writing, would allow him time to think and calm down.

He wrote:
"Playing with the lion was awful. I never want to play with a lion again! I'm finished with lions, at least only playing with them. Goodbye. It was very nice knowing you but now our time to separate has come, it seems. I'll be back in September.
Kieran"

H: But please could you write down why?

"I've had enough. I enjoyed being with you. We are not leaving each other forever, we will reunite by the end of April."

By the end of the session Kieran had not completely recovered, but his mood had been steadily improving. Whilst at the start of his tantrum he had said that he didn't want to see me again, later he changed it into September, then to April and just a little while later, he had brought it down to two weeks. On his way out, as I way saying bye to him, in a slip of the tongue I said: 'See you next week'. He corrected me: 'Next time!'

Reflecting on the session, I felt that my mistake was to bring prematurely to Kieran's consciousness something that he was not ready to accept, that he was tapped and it was ok. It was as if Kieran was upset with himself for having allowed it to happen to him. Although, the attempt to tackle the tapping issue was unsuccessful, this episode was very enlightening as it revealed that Kieran's oversensitivity to tapping was not sensory, but conceptual. Kieran had equated tapping with bullying. It was the label and not the actual touch that had distressed him, as the game with the lion indicated. When he had no time to put the label 'tapping' (e.g. when playing with the lion) no sign of anxiety was manifested. Kieran's extreme reaction to the label 'tapping' also made me realise that the problem was more complicated than what I had assumed and needed careful handling if I didn't want to jeopardise his trust. Therefore, I decided to leave it aside for a while, until the dragon story was completed, and devise a new series of session specifically focusing on this issue.

Intervention

The intervention consisted of seven, sixty minute, weekly sessions.

Aim

The aim of this series of sessions was to help Kieran overcome his fear of being tapped. In line with GRLP technique the intervention was organised so that Kieran would be gradually exposed to the anxiety provoking stimulus. Given that Kieran's fear of being tapped was found to be based on the meaning that he had attached to the word, rather than on a sensory oversensitivity, cognitive restructuring principles played a key role in structuring the sessions.

The Process

Cycle One: Sophia's disappearance

1

The aim of the first session of the tapping cycle was to enable Kieran to see that tapping had a positive side to it too, and could also be used for good purposes. Principles from Cognitive Restructuring therapy, that would enable Kieran to dissociate the word tapping from its negative associations and attach a new positive meaning to it, informed the structure of the drama.

To this end, the first drama was organised so as to expose Kieran to an experience in which tapping had a life-saving function. Kieran's, objective in this new drama was to find a missing baby-girl and bring her back safe to her mother. However, in order to be eligible to take on the mission Kieran had to prove that he knew how to look after a baby. A 'training course' was therefore organised where Kieran practised holding a baby, feeding it, tapping it to burp and putting it to sleep. The purpose of this task was to shed a positive light to the act of tapping. The importance of tapping the baby after meals to burp, so that she didn't choke, was therefore emphasised during the 'training' session.

Kieran showed a great interest in finding the missing baby and in learning how to care for her, and even offered to write down the instructions, before going on the mission. However, although I had been using deliberately, exclusively the word tap in my instructions, Kieran had written 'pat the baby' in his notes.

Towards the end of the session Kieran found the baby, which was represented by a scarf. He carefully followed all the instructions and tenderly tapped her on the back.
At the end of the session Kieran wrote:

'Johnny (this was the name that Kieran had picked for himself for the new story)
I liked the story today. A 3 month old baby girl has gone missing at the circus and Johnny Byways, a young boy and father in training, with a teenage girlfriend, had to convince the circus that he was training to be an acrobat so he could get into the Circus and free baby Sophia. He nurtured Sophia and tried to save her before she choked. Then, he brought the baby to her home and the mother was delighted. Let's hear it for old Johnny'.

The session confirmed that Kieran had more of a problem with the label 'tap', than with the actual act of 'tapping'. In this first attempt to tackle the tapping issue, Kieran had made one tiny step towards overcoming his fear, he had allowed himself to 'tap' someone else, and had justified it to himself by renaming it as 'pat'. Prior to this session Kieran had claimed that he hated being tapped or patted. A few sessions later Kieran would draw a distinction between 'tapping' and 'patting'.

2

My objective for the next session was to maintain and reinforce Kieran's newly acquired understanding that 'tapping' other people was not an act of malice, but could serve various positive purposes (e.g. save the baby from choking, draw someone's attention, etc). Once this was established I was hoping we could move one step further, where Kieran would not only feel comfortable to tap others, but also to be tapped.

Since Kieran was now comfortable 'tapping' the baby, I decided to start from there and then generalise, by having him tap other characters in the story. I started the session by telling Kieran that baby Sophia had gone missing again and that there was evidence to believe that she had been kidnapped by the witch Edwina. Kieran agreed to take on the challenge. On his journey to find Sophia, Kieran had to get clues from different characters; amongst them, was the sleepy frog. Kieran went to meet the frog to ask him which way he should take next. But the communication proved challenging, as the frog was constantly falling asleep in the middle of the conversation. In order to get the

information he wanted Kieran had to regularly tap the frog on the shoulders to wake him up. The objective of this task was to motivate Kieran to practise the act of tapping, without however explicitly requesting him to do so, but rather providing him with a reason for doing it. The advantages of internal versus external control, earlier outlined underpin the rationale of this task.

Kieran enjoyed tapping the frog, who eventually revealed to him that the answer to his question was to be found inside 5 red apples in the apple orchard. He warned him though, that the security in the orchard was very tight, and that the only way to get the apples without being noticed was by eating them. There was one slight problem though. The apples were poisonous. The only solution to this was to ask a friend to tap him on the back, so that he threw up, as soon as he was at a safe place. Kieran, did not protest at this point, and proceeded with the journey to the apple orchard. As soon as we arrived, I reminded him what the frog had said, and prompted him to act quickly and eat the apples, but he refused.

Here, the dramatic components were used to create the dramatic tension that would serve to divert Kieran's attention from the feared stimulus, and direct it towards the execution of precise tasks leading to resolution of the fictional objective (the objective being to get the information from the apples, the constraint being that the apples were poisonous and the time to get them limited, before being noticed by the guards). However, despite Kieran's motivation to solve the problem and the introduction of the dramatic components, the process failed to fulfil its purpose. I believe the reason that this technique did not work here, lies in the fact that the dramatic tension was not introduced at the same time as the presentation of the feared stimulus and as a result lost its effectiveness.

As I felt Kieran was too tense at this point and that trying to convince him to eat the apples and allow himself to be tapped, would be a futile effort, I volunteered to eat the apples instead. Kieran agreed. After I had eaten a couple of apples and Kieran had tapped me to 'throw up', I told him that I was stuffed and couldn't eat any more. I then asked him if he could help me by eating some; whilst at the same time reminding him, that if he did, he had to be prepared to be tapped. The following conversation ensued:

K: *Haris you know how I hate being tapped in real life. I can't do it. I hate it I am allergic to being tapped. Hit me, bite me, torture me if you want but don't tap me.* (He started shouting, then paused for a moment to think it over and tapped himself gently, to see if he could take it. But, he soon changed his mind and started shouting again: *'No! I hate it! I hate it!').*

H: *Can you think of anybody that would not mind being tapped.*

K: *There is only one person Malfi.*

H: *Can you play that person?*

K: *I couldn't play a person that wouldn't mind being tapped. Because, me Kieran in real life I don't like it.*

H: *Yes, but can you do it in your drama? Pretend you are that person?*
Kieran gave it a thought for a second.

K: *No!* (He was now crying and shouting again, *I hate it! I hate it!).*

H: *Kieran, please be quiet, because they will kick us out of the building, in real life.*

K: *I was just pretending to be the baby crying.*

At this point I felt Kieran realised that he had taken it too far. I took this opportunity to move on with the drama offering him another solution for our problem with the apples. As it was evident that Kieran was not ready to allow anyone to tap him, and yet didn't want to give up the drama, I thought of an intermittent step. To ease Kieran's anxiety, I decided to hand the control of the experience over to him, using a puppet, as a helper. Kieran would eat the apples and the puppet that he would be holding, would tap him instead of me. Handing over the control of the fear stimulus to the phobic individual is in line with principle of Systematic Desensitisation, detailed in chapter 2.

H: *Ok. Maybe we could ask the friend of the frog to help us. If you want you can take him with you and he can tap you instead.* (The friend of the frog was a puppet that I suggested Kieran could hold).

K: *(shouting) I don't like anybody to tap me.*

H: *Nobody will. You will be in charge.*

Kieran was adamant that he wouldn't let anyone tap him, including himself. He took the puppet I had suggested, but instead of using it to tap himself after he had eaten the apples, he fed the apples to the puppet and then tapped the puppet to throw up. Acknowledging the resourcefulness of his solution and having felt that I had pushed him too far for one

day I let him get away with it. Kieran had managed to avoid the unpleasant task without resorting into a tantrum, whilst working within the rules of the drama.

At the end of the drama Kieran wrote:

"Dear Dragon,
I am helping Johnny on his mission. Edwina is planning to cook Sophia! Fortunately, I am going to rescue her. If that witch beats us, I'll be depressed. But Johnny and I are coming when they need us! We're Ok, so don't panic!
Write to you next week. Pete"

At the end of the session I felt I had overestimated Kieran's coping abilities in relation to tapping and had pushed him too far. I was afraid that if I kept on with that pace I could jeopardising his confidence in me and decided to give the tapping issue a rest for a while.

3

In the next session, I followed through the story of the disappearing baby, without however including tapping in any of the activities. My sole objective was to ensure that Kieran was enjoying the drama and was left with a sense of achievement.
At the end of the session, Kieran wrote in his diary:

"Dear Dragon,
Johnny and Peter went on another mission today. We were rescuing Sophia like real heroes..."

He then took a big piece of paper and wrote another note to the Dragon, but this time on the behalf of Edwina.

"Dear Dragon:
Phil the Ostrich is currently on a mission arrested in a hard cage! Try to free him! I doubt you'll succeed!!
Love, ?
EDWINA Aha ha ha ha"

Kieran's second note gave me the cue for the next drama.

4

Cycle Two: Free Phil Ostrich

Before starting the second 'tapping' cycle, I attempted to establish a baseline in relation to how Kieran felt in relation to being tapped. I used the 'faces happiness rating scale' to measure his discomfort with the tapping. His choices ranged from very happy to very upset. The questionnaire comprised 18 questions. Amongst questions like how does Kieran feel when he eats chocolate, there were questions such as how does Kieran feel when someone pats him and how does he feel when someone taps him. Kieran ticked ok for the former, and very upset for the latter. I did not comment on this, yet when he had completed the entire questionnaire he volunteered an explanation. He told me that there was a difference between tapping and patting. According to Kieran, in patting people used their palm whereas in tapping only two fingers. He then allowed me to pat him, but not tap him. I interpreted this new definition as a sign of progress, since Kieran had never before explicitly made such distinction, and had appeared equally upset when tapped or patted. It seemed that Kieran himself had applied the principle of re-labelling at this stage, and had drawn a distinction between an acceptable way of being touched, which he called pat and an unacceptable one, that he called tap.

Taking the cue from Kieran's last note to the dragon about Phil the Ostrich, I decided to use his idea as starting point for the new tapping cycle. This is in line with the principles of the DIE model earlier described, where the special interests of the participants are taken into consideration in choosing a topic for the drama that would be appealing to them, so as to maximise their motivation.

I introduced the drama, with a letter from the dragon asking Kieran's help to find his son, Dr Pat or alternatively known as Mr Tap. This is what the dragon wrote:

'Dear Pete,

Thank God, you are back! I received a message from Edwina that Phil the Ostrich is trapped in a cage! Please find him! He is the only one who knows where my son is... I really miss him. Can you help?

Yours,

Dragon'

Kieran was eager to help the dragon and very enthusiastic with the idea of freeing Phil. Having established Kieran's motivation for resolving the new problem, I felt that the timing was right to plant the seeds for the confrontation with the fear stimulus. Therefore, I warned Kieran that this was a very difficult mission and a long journey full of dangerous adventures lay ahead of us, and that amongst these adventures, he might have to go through the forest of the tapping rain. I then offered him an anti-tapping coat as protection. Kieran, tried the coat on and I then explained to him that for it to work he had to stuff it with 7 layers of scarfs. I handed one by one the scarfs to Kieran and helped him put them on his shoulders underneath the coat. The idea was to make Kieran feel protected in his coat, so that he would agree to be tapped. Once he was comfortable with being tapped wearing the coat, the layers would be gradually removed. This strategy is in line with the Graduated Real Life Practice technique described in chapter 2, and was meant to progressively expose Kieran from the least anxiety provoking stimulus (a very soft tap over all seven layers of scarfs), to the most anxiety provoking stimulus (a harder tap, once all layers had been removed) so that he would learn to use the coping behaviour demonstrated in the initial stages when increasingly anxiety provoking stimuli were introduced.

The first step of the process was to get Kieran to allow me to tap him. I tried to do this without yet drawing too much attention to it. So, as I was adjusting his coat, I said: 'may I see if it is working?' he nodded yes, and I tapped him very gently, on the padded area of the coat. Kieran did not protest. However, I could not consider this as a step forward because I had tapped him so gently that he hadn't felt anything. Tapping him a bit harder I felt could be risky, so I decided to pass the control of checking the reliability of the coat on to him. I suggested to Kieran to tap himself to check if it was working. Kieran refused to do so. He said he wouldn't like to tap himself. In an effort to change his mind, and yet prepare him to feel the tap, I explained to him that the anti-tapping coat was like a bullet-proof coat, where you feel the bullet but you don't get hurt. He said he wouldn't like to feel it. I insisted that he had to check if it worked for safety reasons. To lure him I offered him a checking device. This was a toy watch that made noise every time you moved your hand. I told him that if the watch made noise when he tapped himself that would indicate it was working. The purpose of the watch was not only to intrigue Kieran to tap himself but also to oblige him to do it properly. If he faked it, the watch would make no noise.

Kieran was intrigued to try it, and yet very reluctant to tap himself. For a long while he had the watch on his hand and stretched his hand back and forth until he eventually decided to tap himself. Once he had done it, he got very upset and started saying: *"I hope I didn't do that to myself! I hope I didn't tap myself"* and then kept asking me *"Did I? Did I?"* A minute later he would attempt to tap himself again and a new tantrum episode would begin. It was as if Kieran was in battle with himself. Intrigued on one hand to play with the new toy, and upset on the other for having overstepped his principles. To avoid his bad mood from escalating and in an effort to divert his attention from the tapping issue, I quickly engaged Kieran in a series of physical activities that he usually enjoyed (e.g. going over the mountains, under the tunnel, etc.). I kept switching swiftly from one task to another allowing him no time to dwell in his negative mood.

However, Kieran found an outlet for his frustration within the fiction. Whilst under the tunnel, he suddenly stopped moving and said he was paralysed and could not get out. Since, Kieran had decided to use drama to deal with his frustration I also tried to help him within the drama to get over it. I asked him if he wanted to drink some of the magic tap water. (I had introduced the notion of the magic tap water a bit earlier in the drama. The dragon had sent a note to Kieran telling him that to get rid of each one of the layers of scarfs padded on his coat, he had to drink 3 drops of tap water. This was meant to be used as a pretext for removing the layers from Kieran's coat once he felt comfortable with it). The reason I had chosen tap water to replace the layers of the anti-tapping coat was not purely coincidental nor solely a word play. My objective was to 'de-incriminate' the word tap, that Kieran had negatively associated with bullying and offer another non negotiable and familiar meaning for it that would enable him to see that words may hold more than one meaning. However, this technique backfired, and instead of shedding a positive light to the word tap from its association with water, it was the word water that acquired a negative meaning through this association.

Kieran refused to drink the tap water, saying that it would make him sick. I did not insist, and a few seconds later he asked me if it was clean. I said it was and he decided to give it a try. He drank a few drops and said he felt better and moved on with his journey.

After several adventures Kieran was about to meet Phil. Meanwhile, he had found out that only Phil himself knew the secret code that could set him free. Unfortunately, Phil

could not share his secret, Edwina had taken his voice. For the spell to be broken there was only one way. Phil had to allow someone to tap him, but for Phil, this was out of the question, he hated being tapped. Edwina knew that very well! Kieran could only free him, if he convinced him otherwise. The purpose of this task was to lead Kieran to a confrontation with himself, where he would have to argue against his own beliefs. It was hoped that in his effort to find arguments to convince Phil that tapping was ok, he would gain a better insight into his own feelings that he had long been trying to avoid. This technique is in line with the role reversal technique, used in psychodrama to promote perspective taking. The 'protagonist' assumes the role of another person (the auxiliary ego), as a means of experiencing a problematic situation from a different angle, and also observe his own behaviour from another perspective (Blatner, 1997).

Kieran was now about to meet Phil (TinR). He still hadn't fully recovered from his negative mood, so as soon as he saw Phil he relapsed into his tantrum behaviour crying and saying that he didn't want to do it, that he was a softy and hated tapping others, etc. I decided to handle this within the drama, in role as Phil. I told Kieran that he was absolutely right, tapping was an awful thing, and pleaded with him not to ever tap me. When I felt that he was about to cry, I (in role as Phil) cried before he did, and every time he was about to protest I protested before him. In line with the DIE model on phobias (outlined in section 6.2.1), in role as Phil, I explicitly acknowledged that his fear was rational and that tapping was indeed very bad, so that oppositional behaviour would be reduced and Kieran would be prevented from falling back to his habitual tantrum behaviour.

This technique worked, and Kieran's tantrum behaviour stopped from escalating. By agreeing with him every step of the way and pre-empting, almost stealing, his every move, Kieran was left with no 'script' to carry on. Furthermore, by disempowering myself saying that I was more scared, or softer than he was I was forcing him to adopt another role from the one he had opted for. By disempowering myself, Kieran was automatically empowered, and inevitably prevented from dwelling into his tantrum.

Once things had calmed down, in role as Phil, I asked Kieran to tell me the story he had come to tell me; the story that would convince me that being tapped was ok, and at last free me from the spell. Kieran agreed and said he would do it, although he hated it. At

this point Kieran was again in battle with himself, constantly changing his mind, until he suddenly tapped me. I thanked him for his effort but explained to him, that for the magic to work he had to convince me verbally. As there was little time left and Kieran was already too tense I decided to leave this task for the following week. To conclude the session I wrote in role as Phil: *"Thank you! But I still cannot speak. Will you come to meet me again?"* and Kieran replied also in writing: *"Sure. I am a rescuer. And after I free you, I'll save your Pals I haven't met!!!"*

At the end of the session Kieran wrote:
I met our 1st trapped Pal, Phil the ostrich. I talked to him about jail cells and how I'd rescue him. I need to come up with a good way if I'm to free Dr P and Mr T.

This was a particularly frustrating session, as Kieran was constantly at the edge of having a tantrum. I believe the root of the problem lay in the fact that the teaching objective of the drama had become very explicit, and as a result had led Kieran to become defensive. On the positive side, his motivation to solve the problem was still there, as reflected in his letter to the dragon. This encouraged me to carry on.

5

Phil Ostrich, Part: B (outdoors)

Today, Kieran's objective was to free Phil from Edwina's spell, by convincing Phil to allow Kieran to tap him. However, having experienced in the previous session Kieran's frustration in coming up with arguments to convince Phil that tapping was ok, and in fear of jeopardising his commitment to the drama, I decided to tackle the issue from another angle and offer Kieran a way out.

The session was introduced with another letter from the dragon enquiring how Kieran was getting on with Phil and directing him to listen to a recording he had left for him. In this recording the Dragon was telling Kieran that there were different types of 'tapping', such as patting, and 'scooding' ('scooding' was a word I had invented to replace 'tapping' that was as distressing for Kieran as a red rug to a bull), and that if he was to convince Phil, he had to learn to differentiate them. I then prompted him to look in the room for the note with the definitions the dragon had left for him. Kieran, after a game of hot and cold, found the note. This game, was intended to serve a number of objectives:

- To put Kieran in a positive mood, and establish a pattern of compliance before more demanding tasks were introduced. This was in line with the behavioural momentum paradigm.

- To take the focus away from the real objective of the drama (exposing Kieran to the fear stimulus) that had become very salient and had made Kieran very apprehensive in the previous session, and remind him the fun aspect of drama.

- To enhance his confidence in his ability to solve problems, before the confrontation with the feared stimulus, that would in turn increase his motivation to proceed with the subsequent challenges. This was in line with the self-efficacy principle.

The note read as follows:

Tap (origin of the word: Homo erectus)
Danger!
It is done with 2 fingers, with very long nails.
The nails are pierced into the skin removing flesh and blood.
It is not a friendly gesture. It is used for attack.
Promotes war. It is often confused with scooding and patting.
Patting is gentle and tender and is done with all 5 fingers.
Scooding on the other hand involves only 2 fingers.
It is gentle and used to alert somebody to danger or draw his/her attention to something.
It has to be gentle otherwise, it might be considered as tapping (an aggressive gesture) that may instigate war.

The impetus for providing Kieran with the definitions for the different kinds of touching, came from Kieran himself. A couple of weeks earlier, Kieran on his own initiative had replaced the word tap, with the word pat when writing the instructions on how to take care of baby Sofia, and had later explained to me that there was a difference between these two types of touching. According to Kieran tapping was done with two fingers and was an act of malice, whereas patting was done with all five fingers and was acceptable. Kieran, had here applied the technique of re-labelling in order to allow himself to touch baby Sofia, and it had worked. Taking this into consideration and following the rationale underpinning it, the purpose of the dragon's definitions was twofold: to acknowledge and

reinforce the distinction that Kieran had drawn between tapping and patting and also to draw another distinction between a good type of tapping and a bad one, by introducing a third word, that of 'scooding' that would serve to temporarily replace the word tapping that Kieran had negatively associated with bullying. Since Kieran had equated tapping with bullying, and had only one word in his vocabulary to describe this type of touching, both types had become problematic. Introducing a new label for the word tap, was intended to help him differentiate the kind of 'tapping' that was meant to annoy others, from the good type of 'tapping', that only meant to draw someone's attention.

It is important here to emphasise, that 'scooding' was a transitional word that was only meant to get Kieran used to the act of 'tapping' and being 'tapped' without the upsetting label, and was not intended for permanent use. The idea was that as soon as Kieran became accustomed to the act of tapping, this new word would be alternated with the aversive old word, until it was gradually faded out.

Kieran carefully read the dragon's definitions and on our way to meet Phil, we discussed at length all the different types of touch. Kieran was in a very good mood and as the weather was beautiful I decided to have the meeting with Phil in the garden. As we were walking in the garden I asked Kieran to start thinking of the story he would say to Phil to convince him that tapping was ok. I reminded him that he had to be careful, because Phil was very sensitive on the issue.

Elaborating on the dragon's definition, I emphasised that tapping only existed in the pre-historical times and had been abolished long time ago. I also clarified that in the modern world the word 'tapping' was used to refer to what was actually 'scooding'. The reason for doing this was to reassure Kieran that the meaning of the word tapping had changed and was no longer meant as a threat, so as to pre-empt potential tantrums that could be caused by the sound of the word tap. In the subsequent tasks, the two words were used interchangeably. I mainly used the word 'tapping' when it was referred to me (e.g. can you tap me?) and the word 'scood', that was less threatening for Kieran when referring to him (e.g. may I scood you?). Overall, my intention was, first to habituate Kieran with the act of tapping (it is ok to tap and be tapped) and then with the label. Once Kieran was happy to 'scood' and be 'scooded', I reminded him that this was also called 'tapping' and then attempted to use the word tapping more systematically.

I later explained to Kieran that maybe the reason that Phil was 'freaking out' every time somebody touched him, was because he couldn't differentiate between all different types of touching. I thus volunteered to show him how Phil was reacting every time somebody 'tapped' him. I asked Kieran to tap me and then demonstrated how Phil was freaking out, by shouting and rolling over on the grass. Kieran found this very funny, so we repeated the tapping and rolling many times. Once Kieran was entirely relaxed, enjoying the tapping and rolling game, I decided to take it a step further and asked him if I could 'scood' him. He said yes, and from that moment onwards I took every opportunity I could think to 'scood' him (e.g. look at this cute baby, that girl playing rugby, etc).

A number of behavioural techniques were here in operation that led Kieran to allow me to 'scood' him. First, the technique of modelling was used as a means of helping Kieran to see that 'tapping' was harmless. However, unlike, typical behaviour modification programmes where the model is used to demonstrate an adaptive behaviour to the anxiety provoking stimulus, that the phobic client would have to copy; here the model's eccentric response to the fear stimulus meant to emphasise the absurdity of such behaviour, so that the Kieran would adopt a different behaviour from that of the model. Second, in line with the systematic desensitisation technique (and the concept of counter conditioning), once Kieran was entirely relaxed in the presence of a lower item from the anxiety hierarchy list (allow oneself to tap someone else), a higher item from the list was introduced (allow yourself to be 'scooded'). Finally, in line with Guthrie's contiguity theory of learning, I attempted to establish a pattern of positive responding by providing Kieran with numerous opportunities to be 'scooded'. Every time I asked Kieran, if I could 'scood' him, he turned with a *'huh?'* and looked where I was pointing, showing no sign of frustration. It was our new game that Kieran appeared to enjoy.

My next objective was to move one step higher in the anxiety hierarchy list and use the label 'tap' (e.g. may I tap you?). To this end, principles from cognitive therapies were used. However, unlike most applications of cognitive therapy where therapists provide clients with a logical challenge to their faulty beliefs, and then require them to adopt this new rationale using the technique of self talk, thereby arguably disempowering them; in this instance the alternative framework was developed collaboratively with Kieran, and rather than asking him to apply it to himself he was encouraged to apply it to the fictitious character Phil. This method not only did it empower Kieran, by placing him in

the position of the expert, but also removed the focus from himself, whilst allowing him the opportunity to apply this rationale to his own fears.

Once Kieran's objective for his meeting with Phil was clarified and the arguments rehearsed, the encounter took place.

Phil: *why are you here?* (Phil was asking the questions in writing, as he was under a spell and could not talk).

Kieran started talking to Phil about tapping, and how it was different from patting and scooding, etc.).

Phil: *Is it bad?*

(From this question onwards Kieran took the initiative to reply in writing).

K: *Not really. But it's only meant to make you go, 'Huh?' It's not really a touch, its more of an attention drawer.*

Phil: *What is it?*

K: *Well, an attention drawer's name originate from "draw attention". For example if a poster catches your eye, you look at it…*

Kieran drew a boy and an arrow pointing towards a poster. The poster read:

Advert

Sexy Club

SHAKE YER ARSE

Then he explained to me that this was a poster that would draw a man's attention.

Phil:How do you do it?

Kieran attempted to tap me. I protested asking him to explain it to me in words.

He then drew a sketch of one character tapping another.

Phil: Would you mind if I tapped you? If you are ok with it, I might be ok too.

Kieran agreed to let me tap him. He turned with a huh? and told me enthusiastically that every time somebody tapped him he just went Huh? He enjoyed very much repeating this 'huh' in different ways and I took this opportunity and tapped him many times. Although, evidently Kieran had showed progress by allowing me to tap him many times during the session, he was still a bit sensitive to the word tap. When I mentioned the word he would automatically react to it by lifting up a bit his shoulders. However, at this point

he seemed aware of his reaction and able to control it. The session was concluded with Kieran convincing Phil to allow him to tap him and Phil finding his voice.

At the end of the session I told Kieran's father, who had come to collect him, about the different definitions of touch we had been working on, and how 'scooding' was ok and it was only meant to make you go 'huh?' I demonstrated this with Kieran's help. The reason I demonstrated this to Kieran's father was because I wanted Kieran to maintain and generalise his newly acquired comfort with being tapped, and needed the family's support to do this. I therefore asked Kieran's father to take every opportunity to tap him, until the following week.

In the following session Kieran's father reported that Kieran was ok with the tapping for a couple of days following the last drama session, but had suddenly regressed later in the week.

6

Cycle Three: Dr Tap and Mr Pat

Having freed Phil in the previous session, and tackled the tapping issue successfully, my objective today, was to make sure that Kieran's fear was permanently extinct. To this end I devised a story that would offer Kieran an experiential understanding, and a concrete reminder, that tapping was no longer a threat.

As a means of recapping before we got started, I asked Kieran to draw a sketch of Dr Tap, Mr Pat and Mr Scood, including the thoughts in their heads. Kieran drew the 3 sketches and wrote. 'Well done' in the bubble over the head of Mr. Pat, and 'hate you' in the bubble over the head of Professor Tap, who he had depicted with long ugly nails. His sketch of Mr Scood, depicted him 'scooding' another cartoon character named Cassius. In a bubble over Cassius head he had written 'huh?' Kieran explained to me, that the thought in Scood's head was to call Cassy's attention.

Having established that Kieran was clear on the usage of the three words for touching, we were now ready to start our drama. In an effort to reinforce his positive response to tapping and pre-empt any regression, I introduced the drama with a recording from the

Dragon, congratulating Kieran for his achievement in freeing Phil from the spell. The message ended with the dragon saying to Kieran that he was a true friend. In hearing this, Kieran's face lit up with a big smile and then said to himself proudly, *"that's what I am!"* To further prove his friendship and loyalty to the dragon, Kieran had to find his son and bring him back home.

The wicked witch Edwina, who hated that tapping was abolished from the world, and wanted to re-establish it, had cursed the nice and friendly dragon Mr Pat and turned him into the evil Dr Tap, with the long horrifying nails. To bring the young dragon safely to his father, Kieran would have to lift the spell first. Once the spell was lifted the world would be 'tap free' for ever, and Edwina would lose all her power to evoke pain.

Following Phil's advice, on how to lift the spell from the dragon's son, Kieran sneaked into Edwina's house, stole her special scissors and then went to find Dr Tap. He waited until he went to sleep and then tried to cut his nails without waking him up. The cutting of the nails task, aimed to serve as visual reminder, that tapping was abolished from the modern world, and that the word 'tapping' was now equivalent to the word 'scooding'. Although, the successful completion of the task gave Kieran great satisfaction and a sense of achievement, the quick pace of this highly dramatic activity did not lend itself for reflection. To this end the next task was targeted. For the spell to be completely lifted Kieran had to re-programme Professor Tap, by talking him out of tapping and into 'scooding', whilst asleep.

The purpose of this task was to provide Kieran with a concrete reminded that tapping was extinct in the modern world. The idea of having Kieran talking the definitions out loud, recording them on a tape and then listening to his own voice on the tape, was that the information would resonate in Kieran's mind and that he would no longer fear being tapped. The rational of cognitive restructuring underlies this technique, redefining the meaning of the words and by so doing changing the expectations attached to them.

Once Kieran, had converted the evil Dr Tap into the friendly Pat (who only knew how to scood & pat) he reported his achievement to the dragon. The session was concluded with a well done message from the dragon.

At the end of the session Kieran wrote:

"We've sailed to the island, of stolen scissors, and reprogrammed Professor Tap into Dr Pat. The Dragon gave me mail for congratulating me. Together with Cassius and Phil, we saved the day..."

Although Kieran's overall tolerance to tapping had changed radically for the better and was now even enjoying being tapped, his positive response to tapping had not yet been consolidated. At one point that I tapped him during the session, he got upset and told me that he was very sensitive to being tapped. Fortunately, I was in role as Phil at this point and responded that I hated it too, and prompted him to find the note with the definitions. I then asked him to read them to me, to make sure that we knew the differences between tap, pat and 'scood' so that we didn't make any mistakes. We then exchanged taps, pats and 'scoods', with no further ado. At the end of the session he was very relaxed about all three versions of tapping.

His positive reaction after reading the definitions was a clear indication that we were heading in the right direction. However, I felt that more systematic exposure was required in order for Kieran to maintain his tolerance to being tapped and be able to generalise his newly acquired response to tapping outside the drama context. To this end, not only did I take every opportunity to tap Kieran in all the subsequent sessions, even though the tapping cycle was now officially over, but also included his parents in the programme and asked them to do the same at home.

7

Having successfully completed the tapping cycle, in the next session I decided to give Kieran a break and let him decide on the content of the next drama. I followed his plan of going on a flight with a 'helicopter' he had constructed and took every opportunity to maintain the tapping. Amongst the character's Kieran had decided to take on board was Phil. I took this opportunity to practise some more tapping. I told him that we had to check the passenger's identities before allowing them to get on the helicopter. So when Phil (Kieran in Role), was about to get on the helicopter, I told him I had to tap him to make sure that he was the authentic Phil. Kieran had no problem with it. Quite the opposite, he still enjoyed going huh? It seemed that his response was becoming more

consistent in every session. In the following sessions although tapping was no longer the focus of our stories I kept finding excuses to make sure that Kieran maintained his ability to deal with it, in a positive manner.

Results

The post-intervention interview with Kieran's parents aimed at gaining an insight on the impact of the intervention to Kieran's life. Questions included how Kieran felt about doing drama, and whether they had observed any changes in relation to the two set objectives (hand-driers, and 'tapping' and siblings').

Kieran's parents reported that he had enjoyed the drama, and talked about the sessions occasionally with his grand mother. In relation to his fear of hand-driers, they said that since he was two years old, Kieran screamed and shouted every time he entered toilets with hand-driers and that it was in drama that he had used hand-driers for the first time. They said that he was now less stressed to go in toilets where hand-driers were in use, but that he would react in less familiar contexts, and would still not use hand-driers outside Trinity. Kieran's father reported an incident where Kieran refused to go inside a toilet where there were hand-driers. They were on a car journey, and had stopped at a restaurant. Kieran's father insisted that Kieran went in, as they had a long journey ahead, with possibly no access to toilet facilities. Kieran refused by saying that he couldn't stand the hand-driers; and did not go in until his father reassured him that he had switched them off. Kieran's father said that this was a very warm day and Kieran was tired and had been complaining about the heat for a long time. He suggested that Kieran's reaction might not have been the result of a genuine fear of hand-driers, but could be attributed to the fact that he was already tired and frustrated before the hand-driers incident.

Having observed Kieran using hand-driers, all over Trinity, for several weeks and often seen him standing between two hand-driers in use, without protesting, I was confident that Kieran's reaction was not the result of any kind of fear. I felt that he saw the hand-driers as the ideal familiar excuse to defuse his frustration. This is why I asked Kieran's father to give the hand-driers another go, using the dragon's story as pre-text. I had already told Kieran in our last session that the dragon would be expecting his visit in various locations such as restaurants, theatres, schools, etc. Kieran's parents were instructed to remind him of his promise to the dragon before exposing him to hand-driers,

by giving him a letter on his behalf, and then wait for Kieran to initiate the action; but should by no means prompt him to do so.

A couple of months later, Kieran parents reported that they had followed the plan successfully, and Kieran had used hand-driers without a problem in many different places.

In relation to the tapping issue, Kieran parents reported that his oversensitivity to being tapped was first observed when he was around 5 years old and had reappeared a couple of years prior to the intervention. Every time someone tapped him he screamed and shouted. The problem had escalated and Kieran had to stay inside the classroom during breaks, and tantrums were a daily issue. After the intervention his mother reported that the situation had improved a little and that he was now less aggressive. His father reported that he had noticed a big difference and felt that tapping was no longer an issue. He reported an incident were he had accidentally tapped Kieran, and to his great surprise he had not reacted at all.

Kieran in his self report said that he had liked the drama sessions, and had particularly enjoyed *Meeting the drag*on, *Playing Peter*, *Duck feeding* and *Feeding the baby.* He reported that he had learned that hand-driers are not scary and he had successfully overcome his fear of them, but that he still disliked being tapped.

The face rating scale questionnaire in relation to tapping, consistent with Kieran's report revealed that Kieran still disliked the tapping. However, it was now clear that it was only the word that bothered him and not the actual action, because when I replaced it with 'scooding' he said it was ok.

Case study 2: Eric

6.3.3. Intervention 3: Fear of Hair dressers

Background

The baseline interview with Eric's mother revealed that Eric had an intense fear of hair-dressers, to the extent that he would resort to tantrums every time the issue of having a hair-cut was raised.

Aim

Although, Eric's fear of hair-dressers could have been easily dismissed as it did not vastly interfere with his everyday functioning, its persistence indicated that failure to address it may have detrimental effects on his self esteem.

This being the case, treating Eric's fear of hair-dressers' became a priority of the intervention. Principles drawn from behavioural approaches to fears and anxieties informed this intervention. The intervention was organised so that Eric would be gradually exposed to the feared stimulus for a prolonged period of time, so that extinction procedures could be put in place.

Setting

The intervention took place at Eric's school, during school hours.

Participant

Details of the participant's profile can be found in chapter 5.

Measures

The following measures were used to evaluate the effectiveness of the intervention:

- Pre-intervention informal interview with Eric's mother
- Post-intervention informal interview with Eric's mother

Procedures

Overall design

The programme was conducted in three phases:

Phase one: Pre-intervention

Before the beginning of the drama sessions, an informal interview with Eric's mother was conducted to establish the baseline and set the objectives of the intervention.

Phase two: Intervention

The intervention consisted of nine, sixty minute sessions, over the period of 14 weeks. This study is an attempt to replicate the two studies on phobias previously described, that of the hand-driers and the other of the 'tapping'. However, in this case the intervention was not conducted on one to one basis, but the phobic child was part of a small group. Three other children, who did not have a fear of hair-dressers, also attended the drama programme. However, the intervention was specifically designed to address Eric's fear and was adapted along the way, taking into account Eric's responses in each session.

Phase three: Post Intervention

After the end of the intervention an informal interview with Eric's mother was carried out as means of evaluating the outcome.

Process

The DIE model of phobias described in detail in section 6.2. was adopted here, as a means of enabling Eric to overcome his fear of hair-dressers. Following the rationale of the model, before even attempting to tackle the issue of a child's phobia it is imperative to establish a relationship of trust with the phobic child as well as capture his interest for the drama. To this end, the first cycle of sessions, called 'Utopia', was dedicated. The 'Utopia' sessions were described in detail in chapter 5, as they also formed part of the social competence intervention for the younger group of children, where Eric was a participant.

Cycle One: 'Utopia'

*Sessions **1, 2 & 3***

Eric responded with enthusiasm to the drama from the first session, and was fully engaged and focused in all the activities. He volunteered in all tasks, and even helped the other children when they did not understand the instructions. Eric's enthusiasm for the drama was consistently maintained in the subsequent sessions, where he assumed a leading role in the group, and showed great motivation to solve all the problems posed. Given Eric's commitment to the drama, proceeding to address his fear of hair-dressers' was considered to be appropriate. In keeping with the DIE model for phobias, the second cycle of sessions called 'The Zoo' was designed to gradually expose Eric to the fearful situation.

Cycle Two: 'The Zoo'

4

Following the systematic desensitisation paradigm an anxiety hierarchy was designed. It is important here to note, that the anxiety hierarchy list cited below, was not pre-determined but shaped, as more information regarding the nature of Eric's fear was revealed in his responses through the course of the intervention. An actual hair-cutting experience in a hair-dressing salon was at the top of the list and cutting a small lock of Eric's hair within the context of the drama, unrelated to his fear of hair-dressers' was at the bottom of the list. The list looked as follows:

1. Actual hair-cutting experience in the context of a real hair-dressing salon.
2. Dramatic activity involving an actual hair cutting experience in the context of a hair-dressing salon.
3. Dramatic activity involving sitting in a 'hair-dressing salon', without however requiring from the phobic child to have a hair-cut.
4. Dramatic activity involving an actual yet very brief hair-cutting experience, in a setting that could be associated with a hair-dressing salon.
5. Dramatic activity involving an actual, yet very brief hair-cutting experience, unrelated to a hair cutting at the hair- dresser.

The first session of this cycle was therefore designed to expose Eric to the least fearful item of the anxiety hierarchy list. The objective of the session was to lead Eric through a

series of challenges to volunteer to confront the fear stimulus. The fictional objective was meant to serve as a vehicle for the real objective.

Given that Eric had no interest in overcoming his fear of hair-dressers, DIE was used as a means of providing him with the motivation to do so. The pretext was the disappearance of four animals from the national zoo. Eric's interest in getting these animals back (fictional objective) would serve as a vehicle to confront his fear (teaching objective). The stronger his motivation, the greater the likelihood that he would wish to overcome his fear, to get to his objective.

Therefore the first tasks of the session were designed to foster ownership and investment in the fictional context that would feed on motivation, so that when the problem (of the missing animals) was posed Eric would feel compelled to solve it. These tasks included:

- each child naming his favourite animal
- miming that animal
- drawing the animal of his choice
- giving a name to that animal
- feeding it
- putting it to sleep
- telling the animal a bed time story

Once the children had performed all the above tasks, that were intended to build belief in the fictional context and create a bond between each child and his protégé animal, the problem was introduced:

The alarm of the zoo went off and the guard (TinR) came in running and announced to them that all the animals had disappeared. Each child rushed to check on his animal, but none of them was where they had left them... They started shouting... 'My elephant is gone!', 'I can't find my crocodile!', 'My monkey is gone!' In role as the zoo keeper, I asked them if they were willing to join me on a mission to find the missing animals. They all eagerly agreed.

Having established that the children now felt motivated to solve the fictional problem (find the missing animals), the next tasks were organised to lead Eric through a series of challenges to confront his fear of hair-dressers. The children were told that in order to get their animals back, they had to find the happy bakery (this is where the hair-cutting challenge was going to take place) and order one magic cake for each one of them. Once they had eaten these cakes the missing animals would magically reappear.

To get there they had to cross the lake of sharks', walk through the haunted forest, and finally follow the secret path of signs. These challenges were set as a means of building Eric's confidence in his ability to solve problems successfully[20] and also to take the focus away from the forthcoming hair-cutting challenge and play down its importance by presenting it as one more obstacle amongst others.

Once the children had finally arrived to where they thought 'the happy bakery' was, an elderly lady (Tin R) answered the door and invited them in. When they asked her for the magic cakes she told them that she couldn't make them any longer. She explained to them, that the 'happy bakery' had been turned into the 'sad bakery' and had lost all its magic properties when her husband who owed it, lost all his hair due to old age, and with it his happy spirit.

Eric, who was listening to the old lady's story very attentively, interrupted at this point, and almost as if talking to himself, said that he thought that the bakery was now called sad because it didn't have any customers. Taking Eric's comment as an indication of his investment in the story, I proceeded into preparing the ground for the hair-cutting challenge.

In role, as the old lady I asked the children for their help to restore the magic, and bring the smile back to my husband's face. They all immediately agreed and Eric enthusiastically proposed that I gave vitamins to my old man for his hair to grow back. Eric's suggestion and overall participation indicated that he was fully committed to solving the problems posed in the drama, so proceeding with the hair-cutting challenge

[20] The rationale underpinning these challenges is based on the concept of Self Efficacy discussed in chapters 2 and 5.

seemed appropriate. Therefore, in role as the old lady I proposed that the children donated some of their hair to make a wig for my husband. They all agreed.

Eric found the idea hilarious, and immediately begun pretending to pull his hair off his head. In role as the old lady, I told him that he didn't have to do that, as I was going to bring my scissors, and take care of the hair cutting myself. As I turned away for a couple of seconds to look for the scissors, Eric and his friend Walter started talking and laughing visibly excited in the prospect of the hair-cutting.

Walter: Oh! Noooo!
Eric: (as if he was trying to sooth himself) She is just joking!
Walter: She is going to cut our hair!!
Eric: Are we going to have a bald head?

When I turned towards them again with the scissors in my hands, and asked who was going to be the first to donate a lock of his hair, Eric despite his excitement did not volunteer, but waited for all the other children to go first. This was the only indication that Eric was uneasy with the task, since it was the first time during the session that he hadn't volunteered to lead. Going last, gave Eric the opportunity to see how his peers coped with the experience and prepare himself. The technique of modelling was put in place by Eric himself, and his peers served as 'coping models', that enabled him to see that the experience was harmless.

Next, the children were requested to use the hair they had donated to create the wig for the old man. So, each child took some of the hair from the donation bucket and stuck them onto a clay that represented the 'base' of the wig. Once the children had completed the wig, the old lady thanked them and left for a couple of seconds to give it to her husband. The purpose of this activity was to serve as a concrete reminder for Eric, of his achievement. On her way back in, the old lady informed the children that her husband was happy again. She threw into the bin the old sign of the shop 'the sad bakery' and replaced it with a new one 'the happy bakery. This was meant to serve as a visual reminder and a concrete reinforcer of their achievement. The old lady then offered the children the magic cakes that would bring their animals back. The drama ended after the children had eaten the cakes, fallen asleep and their animals had returned back to the zoo.

The concept of reinforcement was incorporated in the process in many forms:

- The old lady's gratitude (social reinforcement)
- The change of the sign (a visual reminder of their achievement)
- The magic cakes (concrete reinforcement)
- The return of the children's beloved animals (more naturalistic and related to the story reinforcement).

Reflection on the session

Eric's contributions throughout the session clearly indicated his full investment in the story and his motivation to solve the problem posed. His response to the hair-cutting challenge revealed both his anxiety and his excitement to overcome his fear and get to his objective. Eric, took up the hair-cutting challenge and without letting anyone know about his fear, he worked out a way to cope with it. He decided to be the last to donate hair, and attentively observed each child that went before him. Eric's response to the first exposure to the feared stimulus demonstrated his ability to deal with it, at least in the context of the drama.

Given that the ultimate objective of the intervention was for Eric to be able to have a hair cut at a hair-dressing salon, the objective of the next session was to expose Eric to an experience that would be more closely related to a real hair-dressers experience, that would involve longer exposure and would also be more closely associated with a hair-cutting at a hair-dressers' salon.

5

The children were introduced to the second part of the 'Zoo story' through narrative. They were told that since the animals had returned back to the zoo, after their recent disappearance, they had been moved into a high security zone and were very unhappy. Next, the children had the opportunity to visit the animals in the new premises. As soon as they met with them, the animals (TinR) started complaining that they were miserable in the new zoo, as they were no longer allowed to wander around freely, and play with each other, and asked for the children's help to escape to the land of freedom. It was hoped that the special bond the children had formed with their protégés' animals in the previous session, would serve as a strong incentive to motivate them to overcome all

obstacles to help them. Another hair-cutting challenge was set for Eric in this session that aimed at bringing him one step closer to the fearful situation, by organising longer exposure in a more context related setting.

Once, all four children had agreed to help their animals, I told them that a person known as the scissors' hand man (SHM) held the map to the land of freedom, and that the first objective of their mission was to find him and convince him to give them the map.

After a long journey, and having gone through a number of challenges the children arrived at the SHM's house and knocked on his door. A young gentleman, who introduced himself as the SHM's son, answered. The children asked him if they could see the SHM, but he adamantly refused. When they insisted and explained to him that they were trying to save their animals, the SH's son softened up and offered to help them. He explained to them that his father, who was a notorious hair-dresser, did not welcome social visits and particularly resented children; and suggested that they disguised themselves as adults, and request a professional appointment, should they wish to meet him. He offered to assist them in disguising themselves and booking the appointment, yet he had to make sure beforehand, that they were able to cope with the challenge, since his relation with his father would be jeopardised if they failed. To this end, the SHM's son had to test each child individually. The challenge required from the children to sit on a stool outside the room where the SHM's hair-dressing salon was supposed to be, and stay still while the SHM's son would give them a trial hair-cut. The purpose of this task was to expose Eric to the second item of the anxiety hierarchy (an actual, yet brief hair-cutting experience, outside the context of a hair-dressing salon).

As in the previous session, Eric did not volunteer to lead this challenge, but rather organised all the other children to go before him, and watched them attentively as they were having their hair cut. When his turn came, he took his seat on the stool for the hair-cut without any prompting, or objections. At the beginning of the challenge I was very apprehensive and only simulated cutting Eric's hair. As I felt no sign of tension from his part, I cautiously attempted to cut a small lock of his hair, and as he didn't seem to be bothered I kept cutting bigger and bigger locks, in an effort to test his limits, and also make the experience as realistic as possible. Eric, did not show any sign of anxiety, but seemed rather excited during the entire process, to the extent that his friend Walter

became jealous and asked me to give him a hair-cut like Eric's. The session ended, with the SHM's son congratulating the children for passing the challenge and reassuring them that he would help them meet his father.

Reflection on the session

As in the previous session, where Eric had almost effortlessly donated a lock of his hair for the old man's wig, in this session he allowed the SH's son to give him a full hair-cut. Although, in both occasions Eric refused to lead the tasks, and arranged to be the last to take turn, a sign of uneasiness, he coped remarkably well, and showed no signs of anxiety, but of excitement, when he did perform these tasks. His excitement actually resembled that of a person who is watching a horror film, and enjoys the dramatic tension that the element of fear adds to the movie.

Eric's ability and willingness to deal with the feared stimulus in both occasions could be interpreted in many ways. One, as an indication of progress in his ability to take control over his fear. Two, as an indication that the motivation that the drama provided was stronger than his fear, and finally, that maybe his fear of hair-dressers was not so much related to the actual process of the hair-cutting but rather to the context in which the hair-cutting was taking place, as earlier hypothesised.

With the latter in mind, in the next session, I attempted to decorate the drama room so as to resemble as much as possible to an actual hair-dressers' salon, and offer Eric a more realistic hair-cutting experience.

6

In this session, the encounter with the SHM was going to take place. The children disguised as adults would use a hair-cut appointment as a pretext to meet him. Prior to the meeting, the children had to sneak quietly into the SHM's hair-dressing salon for their make over, without however waking the SHM up.

The purpose of this task was to offer Eric the opportunity to practise a behaviour that would be appropriate in a hair dressing salon, whilst removing the pressure of having a hair cut. This task also served to introduce a fun activity within a negatively associated context, in the hope that any negative associations would be replaced by positive ones.

The element of dramatic tension added in this task through the constraint of sound (the children had to keep quiet, so that they didn't wake the SHM up) was introduced as a means of diverting the focus from the feared stimulus to the fictional objective, and also justifying Eric's fear within the fictional context. Furthermore the sound constraint was also used to elicit the target behaviour (e.g. to sit still and quiet in a hair-dressing salon) from the children, without however explicitly requesting it. By leading the children to perform target behaviours as opposed to directly asking them to do so, may produce a number of positive outcomes:

- the risk of them becoming oppositional is minimised
- they learn to think for themselves and adjust their behaviour to the serve their objectives
- they have a sense of control over the experience
- their self confidence is developed
- the less the external control the greater the chance that the target behaviour will be maintained in a naturalistic setting

Contrary to my expectations the task failed to serve its objective. Eric appeared frightened and was very reluctant to enter the room where the SHM was sleeping. However, he did eventually follow the other children into the room. Once they were all in, in role as the SH's son, I invited each child in turn, to take a seat and asked them whether they wanted a beard, moustache or both and the colour of their preference. Eric, who was very tense at the start of the session, was starting to relax and giggled as he watched his friends' having their make-over. However, when it was his turn, he refused to participate in the task and threw a big tantrum. He said that he did not want a make-over and rushed out of the room. I explained to him that he didn't have to have a make over if he didn't want to and tried to convince him to rejoin the drama but he refused. Given his response, proceeding with the SHM encounter was out of the question.

I therefore decided to take the drama in another room and introduce a fun activity to defuse the tension and lure Eric back into the drama. The activity involved, stealing the keys from the SHM's dog (a puppet I was holding), so that they could sneak in the SH's salon whenever they wanted. Eric, who had refused at the start to participate, joined in as

soon as I introduced the puppet dog and asked me if he could play the dog's part. I gave him the puppet, and in role as the SH's dog he rejoined the drama. Seeing, the soothing effect that the puppet had on Eric I used it to help him cope with his fear of the SHM. I told him that the children were very scared of the SHM and asked him, in role as his dog, to reassure them he was harmless. Meanwhile, I had briefed the other children to ask him questions regarding the SHM character and also helped them to formulate these questions (e.g. is he scary? Is he mean? etc.).

The purpose of this task was to enable Eric to see the SHM from a different perspective, by 'forcing' him to find arguments to defend him, and convince the children that he was harmless. The rationale for this task is based on the logic underpinning cognitive restructuring procedures, where change in the emotional response towards a feared stimulus may be produced through change in the perception of the stimulus (Ellis, 1962).

Eric did an excellent job in reassuring the children that the SHM was harmless, by complementing the SHM's character. Seeing that Eric had now calmed down I decided to proceed with the original challenge, that of meeting the SHM. To make the transition smoother I explained to Eric that I was going to play the part of the SHM and asked him to be my dog assistant. Eric eagerly agreed.

Before proceeding to the meeting with the SHM, in role as his son I warned the children, that my father had a scary look and that only if they were brave enough to keep their cool, they should go to meet him. If they behaved childishly and blew their cover, my father would kick them out of there and their entire mission could be jeopardised. I reassured them that despite his ferocious look my father was a good man deep down, and narrated his sad story: *'100 years ago an evil wizard had cursed him and turned him into this freak, who had scissors instead of hands, and everyone was scared of, especially the children. The curse could only be lifted if at least four children volunteered to let him cut their hair. Over the years, thousands of parents have dragged their children to meet the SHM, in order to get the gold we offered as a reward, but none of them proved brave enough to sit for the challenge; they all ran away shouting and screaming as soon as they saw my father. A small piece from my father's heart was ripped out after every visit, until he decided he couldn't take it any more... and swore that no child would ever enter his hair-dressing salon again'.*

Next, still in role as the SH's son, I acknowledged once more the difficulty of the challenge, whilst emphasising that succeeding in it, not only would bring my father out of his misery but also enable them to reunite with their animals. *'When the spell is lifted, my father's broken heart would be fixed. He will be nice and gentle again and he will help you take your animals to the land of freedom'.* And finally asked them whether they thought they were brave enough to go ahead with it. *'Do you think you can do this?'*

Once, all children had confirmed that they were brave to meet the SHM, I, in role as his son, asked them to come back in the hair-dressing salon, and wait for my father. Next, the SHM (TinR) came in, introduced himself and invited each child in turn for a hair-cut. During this process Eric who was acting as my assistant, was placing the towels around each client's neck, handing me the scissors, and helping me with the styling. When all his peers had their turn, I invited Eric, who was still in role as the SHM's dog, to have a hair-cut. He now accepted.

At the end of the session the SHM thanked all the children for their help and gave them the secret map to the land of freedom. The spell was lifted, the scissors dropped and the SHM had hands again instead of scissors. He was at last able to hug his son again!!!

Reflection

Unlike every other session Eric had come to this session in a very negative mood, and kept saying that he was afraid of the SHM. Despite this, he did follow the other children when they went to meet him, but his mood soon escalated into a tantrum a bit later, and refused to participate in the drama any further. He decided to re-join the drama on his own initiative, a few minutes later, and used the dog puppet as a strategy, to cope with his anxiety. The puppet served to distract Eric from whatever was bothering him and enabled him to confront the fearful situation. Reflecting on Eric's overall participation in the drama and particularly focusing on his responses to each exposure to the feared stimuli, it seemed as if he had found his own mechanisms to control his anxiety (e.g. used modelling as a coping technique in the two previous sessions, and adopted the role of the puppet dog in this one, to deal with his anxiety of meeting the SHM).

Eric's fearful reaction to the SHM in this session raised a number of questions in relation to which component of the hair-cutting experience elicited his anxiety.

- Had his fear of the SHM any association with his fear of hair-dressers?
- What part of the hair-dressers experience did he fear? It seemed he was able to handle his anxiety during hair-cuttings.
- Was it the context of hair-dressers rather than the hair-cutting that scared him?

However, in the next session instead of exploring the above questions by exposing Eric once more to the feared stimulus, I attempted to approach the issue of the hair-dressers from another angle, that of detachment. My objective was to offer Eric the opportunity to experience the entire process of hair-dressers from another perspective that would hopefully enable him see the object of his fear in its actual proportions.

7

The technique of role reversal[21] was used in this session to enable Eric view the hair-cutting experience from another perspective, in the hope that this will give him a new insight into the hair-cutting experience that would reveal to him that it is harmless and enjoyable.

Whilst, in his role as a client Eric was only passively involved in the hair-cutting experienced and as a result overwhelmed with fear, of what was going to happen to him, that did not allow him to objectively view the situation. In his role as the hair-dresser he was in control of the experience, actively involved in the process and therefore 'forced' to become aware of what it entailed as he had to execute every action himself. Furthermore, by approaching Eric's fear of hair-dressers from an angle of detachment, he had the opportunity to gain the benefits that experiential learning has to offer, without however being overwhelmed by emotion.

This session started with a tape from the SHM, thanking the children for their help, and telling them that he had left a present for each one of them. Next, I handed them their presents, in personally addressed envelops that contained a thank you note and a pair of

[21] This technique is in line with the Role Reversal technique used in psychodrama.

scissors. I then explained to them that these scissors were magic!!! They could now open their own hair-dressing salon and earn enough money to buy a speed boat that would fit all their animals in, so that they could take them to the land of freedom.

After that, the children were requested to create their own hair-dressing salon[22]. They first had to decide on the name of their hair-dressing salon, and then find their individual spaces in the room and decorate them. Tables, chairs, scissors and towels were available in the room to serve this purpose. Once, they had all decorated their spaces, I told them that a number of VIP customers were about to come to inspect their hair-dressing salon and that if they convinced them to have their hair-cut, they could make enough money to buy the speed boat for their animals' journey to the land of freedom.

I formally announced the arrival of each customer. The various characters were played by another teacher, who appeared with a different hair colour each time (the hair was represented by paper rapped around her head). Each child had the chance to convince one customer to give him/her a hair-cut. Once the customers were convinced, each child in turn accompanied his client to his own space, and before proceeding to the hair-cut, he asked him/her what type of hair-style did s/he want.

Eric had the most challenging client to convince, the blue hair young prince who was terrified of hair-dressers, and would throw a tantrum if he was forced to have a hair-cut. Eric was very gentle with the child and reassured him that the hair-cut would make him look nicer, and that he was going to be very careful. The session ended when all the children had given hair-cuts to their clients and had gathered the money to buy the boat.

8

In this session the children loaded their animals on the speed boat they had bought, and sailed to the land of freedom. The only reference made to the hair-cutting was at the start of the session when I asked the children to recap on how they had managed to gather the money to buy the boat, and they told me how they had convinced the V.I.P clients to have their hair cut. To this question Eric proudly replied that he told his client that the hair-cut would make him look nicer, and that he would be careful.

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[22] The DIE technique 'defining space' detailed in chapter 3 was here used as a means of building the participants' ownership in the drama and investment in their hair-dressing salon.

Considering Eric's responses to all the hair-cutting challenges set in the previous sessions, and evaluating his overall performance in relation to his ability to cope with his fear of hair-dressers, I felt that he was now ready to have a real hair-cut at the hair dressers with his mother; and decided to give the hair-cutting a rest in this session for two reasons. First, because I was afraid that further emphasis could bring my objective to his attention and jeopardise his trust to me, and second, because I thought it was important to conclude the drama on a high note, taking the focus away from the object of his anxiety, to reinforcing his achievement, so that a further boost to his confidence was achieved prior to the big challenge.[23]

Having said that, I felt that Eric's visit to the hair-dressers' might be a big leap from the fiction to reality and that an intermittent step had to be taken prior this, not only to prepare him for the forthcoming challenge, but also to ensure that he was willing and ready to go ahead with it. This was particularly important, because if Eric was led to the hair-dressers prematurely and threw another tantrum, all the efforts made throughout the programme to disconnect the feared stimulus from the habitual maladaptive response and pair it with a new adaptive one, could be jeopardised.

In line with the Graduated Real Life Practice (GRLP) paradigm, Eric had been exposed throughout the programme to stimuli that resembled the fear eliciting stimulus, yet evoked less anxiety, so that not being overwhelmed with emotion, he would learn to use his coping skills to deal with increasingly anxiety provoking stimuli; and replace his initially maladaptive responses with adaptive ones. Furthermore, following the rational of Guthrie's (1935) contiguity theory of learning, by replacing maladaptive responses with adaptive ones, it was hoped that a new behavioural pattern would emerge, that could be repeated in future occasions.

However, if Eric was exposed prematurely to a fear stimulus that rose above his ability to cope, before an association between this stimulus and an adaptive response was well established, he could fall back to his habitual maladaptive response. This could in turn strengthen the link between the fear stimulus and the maladaptive response, reinforcing its re-occurrence, and jeopardising all progress made up to that point. Taking this into

[23] The concepts of 'Self Efficacy' discussed in chapter 5 is here evident in the structure of the drama.

account every precaution had to be taken to make sure that Eric was ready to deal with the real hair-cutting experience before any attempt to expose him to the feared stimulus was made.

Hence, after the end of the session I called Eric to the drama room to prepare him for his forthcoming visit to the hair-dresser. To make the transition from the fiction to reality smoother, I attempted to incorporate his visit to the hair-dresser into our drama story. I told Eric that the SHM was very proud of him and had an amazing surprise present for him... A special hair-cut, at a very special place!!

I then asked him to look for the surprise on the video, where I had recorded the hair-dressing salon where his mother had made a provisional appointment, and waited for my confirmation to go ahead with it, after the end of this session. However, before showing him the hair-dressers' shots, I showed him some snap-shots of the drama sessions, which he thoroughly enjoyed, as he kept laughing throughout it. As soon as he saw the hair-dressing salon on video, his facial expression changed, became very upset and the following conversation ensued:

E: Eric/ H: researcher

E: *(very upset) I know this place. They cut hair for real. This is not pretence! It is for real! I have been there with my mum. I don't want to go to this place!!!*

H: *Would you like to go with me? Or, with the dog?*

E: *I don't want to go to this place!! ('change of strategy') I only go with my parents. I don't think my parents would like me to have a hair- cut, right now. (As he walks towards the door) I think I have to go back to the classroom.*

H: *But why don't you like it? It's like a toy shop. You can even get a toy...*

E: *(on his way out, stops, turns towards me and says emphatically)... and you know something... They don't even give you a lollipop if you don't have your hair cut.*

Eric's attitude changed completely as soon as I showed him the video of the hair-dressers he used to go. Whilst, prior to this, he was happy and excited that I had picked him for an one on one drama and kept chatting and laughing, and elaborately explained to me how he had convinced the young prince to have his hair cut; after he had watched the video,

all he wanted was to go back to his classroom. His change of mood was signified by his refusal to talk about the young prince and his hair-cut. When I explicitly asked him how had he convinced him to have a hair cut, he would either ignore me or say he didn't know or couldn't remember.

Eric's extreme reaction to the video came as a great shock to me, given that he had dealt so well with every hair-cutting experience within the context of the drama. After the end of the session I reported the incident to his teacher who told me that a week earlier Eric had thrown another tantrum on a similar occasion. They were playing the hair-dressers in the classroom, only simulating washing and styling each others hair, when Eric threw a tantrum and refused to take part in the activity. It is interesting here to note that Eric had no problem with an actual major hair-cut within the context of drama, yet he could not cope with a simulation of a hair-cut outside the context of drama. This is a powerful example of the protection that the drama structure can offer.

After the session I also contacted Eric's mother to let her know of Eric's reaction to the video and also to suggest cancelling the appointment for the hair-cut.

In the subsequent three sessions I decided to avoid the subject of hair-dressers from fear of jeopardising the relationship of trust I had built with Eric. I was worried that if I pursued it further he might feel manipulated, and eventually reject the drama altogether.

It is interesting here to note, that in the following session Eric appeared more enthusiastic than ever to join the drama, as if he felt he had disappointed me in the previous session and was worried that I wouldn't invite him to the drama again.

Cycle Three: The Throne

9

Almost a month later, and just two sessions before the completion of the DIE programme I decided to revisit the issue of hair-dressers and devised another session to explore where Eric was at, in terms of his fear. To my great surprise Eric arrived in the classroom with a new hair-cut, that day. Despite this, I proceeded with the plan of the drama that included another hair-cutting challenge for Eric.

The drama was about a king who had lost his throne, and his kingdom formerly known as the kingdom of sunshine, had now sank into the darkness. The children had to go on a mission to find the throne. On their journey, they heard that the SHM had been captured. Hence, before proceeding to finding the throne, they went to free the SHM. As soon as they had set him free, the SHM revealed to them that an ugly wizard who wanted everyone to look as ugly as he did, had closed down his hair dressing salon and locked him up, to impede him from giving hair-cuts and making people look nice.

Eric, was very excited to see the SHM and listened to his story very attentively. The following conversation between Eric and the SHM is indicative of Eric's investment in the drama:

SHM: The Black Wizard imprisoned me because he wants all the people to have long hair. He is very ugly you see and he has to wear a mask. So he hates seeing beautiful faces. He wants his Kingdom to be in the darkness, and hair covering peoples' faces. I made people look beautiful and that's why he captured me.

E: Don't worry! What about all the other hair-dressers?

SHM: That's the thing. When he imprisoned me all the other hair-dressers got scared and run away. You have to help me open up my hair-dressers again. So they will all come back.

E: Wait a minute..!! You mean that all the other hair dressers are stuck in the shop and now the kids can't get in because (put his hands on his ears) but... (starts to speak very fast, over excited) because there is no way out on the inside and there is no way out... on the outside?

SHM: Yes... He closed my hair-dressing salon, because he wants everyone ugly.

E: I want my hair cut. Are you the SHM?

H: Do you have money?

E: We still have the money that these people we cut their hair gave us...

The SHM then told the children that he could help them to get to the black wizard's palace and get the throne. He also told them they could use the scissors he had given them to cut the fence of the palace and sneak in. Only their scissors were a bit too rusty and to restore their magic they would have to sit for another hair-cut. I had included this task in the drama, to offer Eric another opportunity to confront his feared stimulus. Eric

was the first to volunteer this time. The drama ended when the children after many challenges managed to get the throne back to the king. When I congratulated them for their achievement at the end of the session, Eric told me: *"...and tell the SHM that every child can get their hair cut at last! And not look horrible like the mean old wizard!!"*

Unlike all previous occasions where Eric stood back and waited for the other children to go first, when a hair-cutting challenge was set, this time not only did he volunteer to go first, but initiated the challenge himself and also took every opportunity to bring the subject around hair-dressers and hair-cuts. Eric's overall participation in the drama, and his excitement to interact with the SHM, and have another hair-cut, clearly indicated that he was relieved and proud of himself to have overcome his fear of hair-dressers.

Results

After the session, I called Eric's mother to inquire how she had convinced him to have his hair cut. She told me that Eric had made this decision all by himself. A week earlier, Eric had announced to his family over lunch that he wanted to go for a hair-cut and had left them speechless. His father promised him that he would take him for a hair-cut, and would also get him a present if he could just wait for a couple of days. A few days later, Eric's father took him to the hair-dressers. Eric had an uneventful hair-cut, and yet did not omit to remind his father to get him the present he had promised him.

A month later, I contacted Eric's mother again to check how Eric was getting on and she told that Eric had re-visited the hair-dresser with no problem. However, he had negotiated a reward prior to the visit. Eric's mother, in her evaluation of the DIE intervention, reported that Eric had overcome his fear of hair-dressers, and exclusively attributed this to the drama programme.

It is interesting here to note, that the mother of another child who participated in the programme, whose fear of hairdressers I was not aware of, also reported in her evaluation form, that the trips to the hair-dressers' had become easier for her child following the DIE programme.

6.3.4. Discussion

The results from all three interventions indicate the potential of the DIE model to eliminate fears in high functioning children with autism. Both participants overcame long standing fears that had shown no indication of spontaneous remission in the course of many years since their first manifestation. Most importantly none of the two participants had shown any sign of desire to overcome their fears prior to the interventions, but rather avoided the confrontation with the feared stimuli at all costs. However, when motivation was provided within the context of drama not only did they positively respond and decided to confront their fears within the fictional context but this positive attitude transferred into other settings.

It is important here to note that although none of the three interventions explicitly addressed the children's fears, but rather used the technique of re-labelling to protect the participants from associating the challenges in the drama with the real life feared stimuli, the children were constantly aware of both the fictional and real dimensions of all challenges encountered within the context of drama. This awareness was clearly illustrated in the children's responses to these challenges. For example, when I asked Kieran after his first confrontation with the dragon, to tell me what he had achieved in that session and whether he had learned something outside the drama, not only did he say he had befriended a dragon, but also that he had overcome his fear of hand-driers. In another session, where I was working with Kieran towards helping him to overcome his fear of being tapped and had asked him to tap himself in order to throw up the poisonous apples he had told me he couldn't do it because in real life he hated being tapped, clearly indicating his awareness of simultaneously living in two world, the real and the fictional. Similarly, Eric had also demonstrated his awareness of the distinction between fiction and reality, in a remark he made when I showed him on the video a real hair-dressing salon and told him that the Scissors' Hand Man had chosen him for a free treat over there. He said that this was not a pretend hair-dressing salon but a real one, and adamantly refused to go.

These examples clearly suggest that although the objectives of the interventions (enabling the participants to overcome their fears) were not disclosed to the participants, the children's decision to confront the feared stimuli within the context of drama was a conscious one. It seems that the drama served as a pretext for the children to tackle fears

that had been bothering them for a long time, and had been refusing to acknowledge up to that moment.

According to many researchers (Gullone, 2000; King, Hamilton, & Ollendick, 1988) most childhood phobias are outgrown by adulthood, without the necessity of an intervention; persisting fears or fears that interfere with the children's everyday functioning should be addressed as they may affect their overall sense of self confidence, as well as the way they are viewed by others.

Although both of Kieran's fears (fear of hand-driers and fear of being touched) were debilitating as they very much affected his every day functioning, such as going to the loo, or playing in the yard with the other children, and his extreme reactions did indeed affect how his was viewed by his peers; Eric's fear of hair-dressers did not vastly interfere with his every day functioning, since hair-cutting is not an everyday activity nor an essential part of ones' life. However, both Kieran and Eric seemed equally excited and proud of themselves once they had conquered them. This suggests that no matter how vast or slight the interference caused by a fear may be in a child's everyday functioning, fears should be addressed as they seem to play an important role for their self esteem and the way they view themselves.

The positive changes in self esteem and self confidence that may come about as a result of overcoming ones fears was evidenced in both Kieran's and Eric's attitudes. It is interesting to note that the behavioural changes in both children's responses towards the feared stimuli, in the course of the respective interventions followed very similar patterns. Whilst, prior to the interventions both Eric and Kieran became very tense when any reference to their feared stimuli was made, once they had confronted their fears not only did they seem at ease to talk about them, but frequently initiated such talks and repeatedly asked to be exposed to them.

Kieran's and Eric's initial reactions to my first attempts to address their fears are indicative of the similarities between the two cases. For example, when I first mentioned the word 'tapping' to Kieran at the end of a particularly enjoyable session, not only did his mood instantly changed and resorted into a tantrum but he also told me that he wanted to quit the drama. Similarly, when I first showed to Eric a video of a real hair-dressing

salon, his body language instantly changed and asked to leave the room and go back to his classroom. Equally, indicative of the similarities between these two cases are both children's responses after confronting their fears. For example, Kieran after his first encounter with the 'dragon' he would boast about his bravery, recount his achievement, and ask for further confrontations. Similarly, Eric after confronting his hair-cutting fear, he would talk incessantly about hair-cuttings, and hair-dressers and would repeatedly ask to see the Scissor's Hand Man for a hair-cut.

Since self confidence and a positive self image are fundamental components for the success of any intervention (Bandura, 1971), helping children to overcome their fears should become the priority of all programmes. Enabling children to confront their fears within the context of drama, and providing them with opportunities to learn to deal effectively with feared stimuli, establishes a precedent of an adaptive response, that reinforces its re-occurrence. Once the phobic child has successfully confronted the feared stimulus once, a new link between the stimulus and the new adaptive response is established, that may be repeated in future occasions. Whilst, at the same time connection between the fear stimulus and the maladaptive response is weakened.

Chapter 7
Discussion

7.1. Introduction

In this section, the theoretical underpinnings of the proposed model will be summarised in terms of their relevance to the needs of children on the autistic spectrum and the rationale behind the integration of Behavioural and Cognitive principles and techniques to the DIE model. In particular, the similarities and differences of these approaches will be highlighted in terms of their philosophies, techniques and overall objectives. The findings of the various applications will be then reviewed, including their limitations and recommendations for future research.

7.2. Theoretical underpinning of the DIE model and practical implications

The aim of this study was to create an intervention model that would address the needs of high functioning children with autism, integrating principles from behaviour and cognitive therapies with the DIE methodology.

First, as commonly acknowledged by all drama practitioners, drama is about making sense of the world we are living and therefore by definition relevant to the needs of children on the autistic spectrum who find it difficult to understand the rules of social interaction. Second, drama addresses all three aspects of the triad of impairments (impairment in communication, socialisation and imagination). It encourages the participants to use the art-form to communicate meaning (both verbally and non-verbally), as well as prompting them to interact with each other towards a common goal, whilst challenging them to use their imagination to solve a number of problems. Third, it also covers the three prominent theories of explanations for autism. The participants in drama assume many different roles and trough these roles they have the opportunity to see things from different perspectives and hence develop their understanding of mental states (ToM). The symbolic form of the dramatic art, also requires the ability to derive meaning from the context, offering the participants the opportunity to practise global processing of information (WCC), as well as the ability to disengage from the salient real world, in order to submit into the dramatic experience (EF).

Finally, the importance of pretend play in the development of human thought and its pivotal role in facilitating the understanding of mental states has been supported by many studies suggesting a correlation between pretend play and performance on ToM tasks (Lillard, 1994). This correlation is further confirmed by the inclusion of pretend play deficit in the DSM diagnostic criteria for autism, and research suggesting a ToM deficit in this population.

Having established the relevance of DIE to the needs of children on the autistic spectrum, it seems apparent that engagement in drama would be beneficial for these children. However, the model adopted in this study does not solely rely on the symptomatic overlap of the DIE construct and the characteristics of autism, but it is specifically designed to address the needs of this population. To this end, the DIE model adopted in this study was not only informed by literature on autism and its defining characteristics, but also by other approaches such as behaviour and cognitive therapy, that have been relatively successful in dealing with the behavioural difficulties associated with this population.

In an effort to provide a context for the proposed model, I will first attempt to briefly summarise the theoretical underpinning of the three main approaches incorporated in the proposed model in terms of their objectives and methodologies.

DIE, Behavioural and Cognitive Therapy are about exploring human behaviour, yet they very much differ in their objectives and methodologies. Whilst the primary objective of DIE is to enable the participants make sense of the world using the art form of drama as a medium, Behaviour Therapy and Cognitive Therapy focus on modifying maladaptive behaviour. The former using techniques based on the principals of operant and classical conditioning, and the latter using techniques that aim at changing the disordered cognitive processes that are assumed to be causing the maladaptive behaviour.

Although all three approaches are about the understanding of causal relationships, their divergent philosophical underpinnings have practical implications. Whilst the behavioural approach views behaviour as the outcome of the interaction between the individual and the environment, DIE in line with CBT views it as one of the interactive determinants. This being the case, the DIE approach does not solely rely on setting up

contingencies for the target behaviours to be performed but also focuses on enhancing the participants' understanding of the function these behaviours serve.

DIE is not about teaching target skills to the participants but rather about helping them to make sense of these skills by enabling them to understand other people's behaviour and the impact of their own behaviour on others. ABA is about establishing contingencies that would encourage target behaviours and discourage maladaptive ones, by the application of favourable or aversive consequences, through operant conditioning as opposed to understanding.

Whilst BT mainly relies on contrived reinforcers to motivate children to perform target behaviours, DIE relies on giving them reasons to do so. In DIE children are not expected to conform to requests to perform target behaviours that make no sense to them to get rewards, but rather led to understand the functions that these behaviours serve and given reasons to wish to perform them. For example, in teaching eye contact, whilst an ABA teacher may give the child a chocolate every time he made eye contact with him, a DIE facilitator would give a reason to the child to look at her (e.g. 'to get to the chocolate factory you have to ask the old lady for instructions, unfortunately she has lost her voice'. The only way to get the information is by reading her lips).

The model proposed in this study used the art-form of drama as a pretext to address areas of concern for the participants. Based on a problem solving methodology, the DIE model invited the participants to engage in the fictional context and through the process of investment motivated them to perform the target behaviours, as a means of getting to their objectives. Informed by the principles of behaviour therapy, the intervention-model was tailored to meet the needs of the individual participants in each group, and used specific measures to monitor their progress in the course of the intervention. Furthermore, a number of techniques derived from BT were also incorporated in the programme. These included modelling, vicarious reinforcement, behavioural momentum, habit training and pivotal response training. The concept of self efficacy was also incorporated into the model.

7.3. Summary of Findings

The integration of these approaches provided a dynamic model that was applied to a number of problems encountered by high functioning children with autism, such as difficulties in social interaction and phobias. Referring briefly to each one of these applications will serve to exemplify the rationale and methodology of the proposed model. The results from each one of the DIE applications will be discussed in the light of the objectives and methodologies of the respective interventions.

7.3.1. Reinforcers

Before attempting to use the DIE approach to address the needs of high functioning children with autism, I decided to explore the use of drama to transform neutral stimuli into positive reinforcers. To this end I conducted two experiments. The impetus for these experiments came from a number of studies indicating the difficulty of identifying effective reinforcers for this group of children that did not respond to social reinforcers; and the resulting limitations of over-reliance on primary reinforcers, such as the problem of satiation and the lack of generalisation of skills outside the therapeutic context.

The purpose of these experiments was to explore whether investment in drama could serve as an alternative to the traditional approach of conditioning in terms of converting neutral stimuli into reinforcers. To test this hypothesis, in both experiments the participants were requested to choose an item from a list of five potential reinforcers (including edibles and toys) prior to their engagement in the dramatic process. The least attractive items (those that none of the participants had chosen) were then selected to be converted into reinforcers, through the process of dramatic investment.

The process involved engaging the children in dramatic activities that would prompt them to resolve the fictional problems posed within the context of drama, and then re-introducing the target stimuli as indispensable elements for the resolution of these problems. Once their motivation to solve the fictional problems was at its peak the participants were asked to choose an item from the same list of objects, they had been presented before the commencement of the drama.

Results from both experiments demonstrated that the preferences of 6 of the 8 participants shifted from the items they had chosen in the baseline assessment towards

the target stimuli, in the later preference assessment. While, these results clearly suggest the effectiveness of drama in converting neutral stimuli into preferred ones, it does not necessary imply that these preferred items could operate as reinforcers, since their effectiveness to motivate participants to perform target behaviours was not tested. On the other hand, one can also argue that the preferred items did operate as reinforcers, interpreting the changes in children's preferences as behavioural changes, motivated by gaining access to the new preferred stimuli. Furthermore, support to the view equating the preferred items with reinforcers, comes from literature on behavioural therapy indicating that most behaviour modification programmes use such preference tests to determine potential reinforcers (DeLeon, et al., 1997; Green et al., 1988).

The process through which the neutral stimuli were converted into positive reinforcers can be explained by the principles of cognitive therapy. Cognitive restructuring procedures can explain how the structure of the drama process led the participants to shift their preferences towards the target stimuli, by illuminating them from different perspectives and associating them with reinforcing consequences. For example in experiment one, the blank piece of paper to which the children were indifferent in the baseline assessment acquired its reinforcing properties when re-introduced as the special material that would make their carpets fly. Similarly, in experiment two, the plain chair to which the participants were initially indifferent, acquired its reinforcing properties when re-introduced as the lost throne that would bring back the sun to the Kingdom of sunshine that had sunk into the darkness.

Using drama as a means of transforming neutral stimuli into reinforcers has a number of advantages: First, by rendering primary reinforcers redundant, the problem of satiation is eliminated and an unlimited number of reinforcers becomes available. Second, reinforcers can be chosen to be relevant to the target behaviours and closely related to naturalistic consequences to promote maintenance and generalisation of skills outside the therapeutic context. Third, it opens up the possibility of using aversive stimuli as reinforcers, to deal with phobic avoidances. Fourth, it can be particularly useful in dealing with issues such as resistance to change, opening the possibility of using novel objects or situations as reinforcers. Finally, the symbolic nature of the reinforcers may facilitate the internalisation of the target behaviours by reducing dependency on external rewards (control).

Having established the potential of the DIE approach for establishing effective reinforcers, later studies attempted to use those reinforcers to encourage new socially adaptive behaviours. This was done in two ways. One application was devised to target specific problematic behaviours, and in particular to address the phobic avoidances of the hand driers, the hairdressers and the fear of being 'tapped', and a second application aimed at developing the participants' social competence.

7.3.2. Application One: Fears

Taking into consideration that most children with phobias have no desire to overcome their fears, and that coming to therapy is a decision imposed to them by their parents, the first application was primarily designed to provide the participants with the motivation to wish to confront their fears, and dealt by implication with oppositional behaviour often encountered in such cases. To this end, an indirect approach to dealing with the children's fears was adopted. The objectives of the interventions were not disclosed to the participants, whose only concern was to have fun in the drama.

The method involved, leading the participants through a series of belief building tasks to invest in the fictional context, so that when the fictional problem was introduced they would feel compelled to solve it. Once motivation was established, the feared stimulus was introduced symbolically as one more challenge amongst many others that the participants had to surmount to get to their objective (process of converting aversive stimuli into reinforcers through drama). Instead of prompting the participants to confront the feared stimulus the facilitator discouraged them from doing so, and emphasised the difficulty of the challenge, providing them with a context were their fear was justified. Furthermore, access to the feared stimulus was hindered by a number of obstacles set on their way that served to increase the dramatic tension taking the focus away from the actual confrontation with the fear stimulus to the resolution of the fictional problem, while increasing the reinforcing value of the confrontation. In addition, the challenges that preceded the confrontation served to build the participants confidence in their abilities to overcome obstacles, as well as to offer the facilitator the opportunity to monitor their responses whilst gradually exposing them to increasingly anxiety provoking stimuli.

For example in the case of Kieran's phobic avoidance of hand-driers, the fear stimulus was relabelled and presented as a fierce dragon who blew fire and hot air out of his mouth, yet held the clues for the resolution of the fictional problem (the missing peoples whereabouts). To get to his objective Kieran had to get to the dragon's palace and confront him. However, the dragon's palace was made inaccessible to Kieran, who had to go through a number of challenges to find it. These challenges included physical tasks such as walking over the dark mountains, crawling under the tunnel or swimming in the lake of the sharks and intellectual tasks such as solving riddles and eliciting information from witnesses. Furthermore, other tasks were organised to prepare Kieran for the confrontation with the fear stimulus as well as to ensure that he was ready for such a confrontation. These included the meeting with the dragon's son, represented by a hair-drier, as well as the instruction of a ritual that had to be followed when Kieran got access to the dragon's palace (e.g. find the pink liquid and place it in your hands, the poor water, wipe your hand and press the dragon's cheek, etc.), that would provide him with an alternative behaviour to the habitual tantrum behaviour he was accustomed to.

This is a multidisciplinary approach, informed by Drama in Education, Behaviour Therapy and Cognitive Therapy. The overall structure of the intervention and sequencing of the tasks is primarily relying on the DIE model, leading the participants from low to high focus activities, to invest in the fictional context. The elements of the art form (such as objectives and constraints) are incorporated in the process, to build the dramatic tension and intrigue the participants to solve the problem posed in the drama. Behavioural therapy also informed the model, and principles from 'graduated real life practice', dictated the pace of the exposure to the feared stimuli, whereas elements from the 'behavioural momentum' paradigm suggested the nature and sequencing of the tasks. Furthermore, the concept of 'self-efficacy' was pivotal in the entire structure, and around it the activities that preceded the confrontation were organised. Other aspects of the therapy, such as discouraging the participants from confronting the feared stimuli, are supported by techniques such as the 'paradoxical suggestion' in family therapy.

Results & Limitations

The results demonstrated that the model was effective and positive outcomes were obtained in all three studies. Not only did the children overcome their fears within the therapeutic context, but according to parental reports the new behaviours were generalised in other settings. Further support for the effectiveness of the model came from a parent whose child was not targeted in the hair-dresser fear intervention, and yet reported positive changes in his behaviour in relation to hairdressers, after the intervention.

Despite the methodological limitations of this study such as the lack of control group that received no treatment or another treatment, and the small size of the sample, that may question the validity of the findings, there are two aspects of the results that lend confidence to the conclusion that the model was indeed successful. First, in the course of a short-term intervention, the children succeeded in overcoming life long problems that had shown no indication of spontaneous remission or easing through the years. Second, the changes observed in the participants' behaviour mapped on the changing expectations and demands gradually placed on them by the dramatic activities through-out the programme, indicating a causal relationship between the participants' increased tolerance towards the feared stimuli and the set tasks. This is in line with the Changing-Criterion Design which is sometimes used to demonstrate experimental control over changes observed on individual target behaviours that may be progressively decreased by an intervention (Barker, Pistrang, & Elliott, 2002).

An attempt to interpret the findings in terms of identifying which one of the components effected the behavioural changes observed in all three cases, is an impossible task, since the model adopted in this study integrated a large number of techniques that are derived from different approaches and interwoven to one another. Trying to break down the model to its components in order to determine which one may account for the changes observed in the participants would deny the dynamic nature of the approach. I believe that it is the interaction amongst the various techniques that accounts for the successful outcomes that the model produced and that this is what makes it unique and superior to other models.

It is unlikely that any one of the components in isolation could have produced the changes observed in all three subjects. Although the model was informed by behavioural therapy, it is improbable that a behavioural approach alone could account for the changes observed, since such an approach is lacking the pivotal component of this model which is motivation. On the other hand although the DIE approach can surely account for providing participants with the motivation to confront their fears which is central to the effectiveness of the intervention, had it not been informed by the behavioural and cognitive behavioural literature on phobias, it is unlikely that it would have the same impact. In particular, the results could have been sort-lived and limited into the therapeutic setting, had it not been for the strong emphasis that behavioural therapy places on planning for stimulus generalisation.

The concept of stimulus generalisation informed the design of the intervention, and after the acquisition of the new skills, tasks were designed to provide the participants with opportunities to perform the newly acquired skills outside the therapeutic context. To this end the parents of the phobic children were also involved in the programmes. They were given precise tasks to perform with the children outside the therapeutic context. For example in the case of Kieran's phobic avoidance of hand-driers, after Kieran's first encounter with the hand-driers, his father was involved in the process. Initially Kieran's father was involved in the drama process within the Trinity context and later was instructed to take Kieran to visit hand-driers outside Trinity and was given a script for the follow up of the story.

Furthermore, principles drawn from graduated real life practice (GRLP), reciprocal inhibition, and self efficacy, enhanced the potential of the approach by adding structure to the model, in terms of setting the pace for the exposure to be in keeping with the participants anticipated levels of tolerance, meanwhile engaging them in activities that served to build their self esteem and equip them with an emotion incompatible with the emotion of fear (e.g. pride for their accomplishments).

Finally, I believe that the validity of the model also lies in a number of aspects that are unique to it. These include:

- the inherent joy that engagement in the process of drama provides to the participants,
- the indirect handling of the fear issues that protects the participants' self esteem, eliminating the prospect of oppositional behaviour, whilst facilitating a positive relationship with the therapist/facilitator,
- the provision of a context where the children's fears are acknowledged as rational, so that the pressure of the confrontation is lifted, and their self esteem protected,
- the incorporation of the dramatic components to the process, that takes the focus away from the participants' performance to the resolution of the fictional problem in drama; and by so doing protecting them from feeling personally criticised,
- the motivation that the model provides to the participants, giving them 'a reason to act', as opposed to rewards,
- the conversion of the feared stimuli into positive reinforcers, as a means of changing the participants' perspective towards them and by so doing altering their responses.

7.3.3. Application Two: Social Competence

The next series of studies were different in the sense that these were group interventions designed to develop new skills as opposed to overcoming avoidances. In these cases dramatic activities were designed to develop skills and competences related to the core deficits that have been identified as being associated with autistic spectrum disorders, as defined by the triad of impairments (deficits in social interaction, social communication and social imagination). Activities were developed that provided structure and intrinsic motivation to encourage children to initiate social interaction, pick on social cues, interpret them, and respond appropriately. Such activities included assuming various roles and adopting their attitude to meet the expectations of their interlocutors in order to get to their objectives (e.g. adjust their body language and tone of voice to appear rough and tough in front of the gang leader, refined and professional, in their roles as detectives, in front of the client, and sensitive and understanding in front of Annie who seemed scared, in order to gain her trust and convince her to go back home).

Other activities were designed to capitalise on the three prominent theories of explanations for autism, ToM, WCC, and EF. The ToM deficit hypothesis was targeted

with activities that aimed at developing the participants' abilities to take perspective, and understand false belief. Such activities included, tasks overtly related to false belief tests for the younger group (e.g. spying on the thief who stole the cherries from the silver box where the old lady used to keep them, and then asking the children to predict the location that the old lady would look for them) and more complicated interpersonal problem solving tasks for the older group (e.g. asking them from their role as detectives to put themselves in Annie's shoes in order to guess where she might have gone). Such tasks as the latter also addressed the deficit in central coherence, as they required the participants to look the bigger picture by using the context as a source of information (e.g. infer from the items found in Annie's room what kind of person she was). Other activities were specifically developed to offer opportunities to the participants to tackle the executive function deficit. For example, in the chocolate factory drama the children had the opportunity to practise inhibitory control, since the duck that gave them directions on how to get to the chocolate factory, had the tendency to say the opposite of what she meant.

My original intention had been to use well-developed standardised instruments, such as the Social Responsiveness Scale, and the Pervasive Developments Disorders Behaviour Inventory to evaluate progress across a list of competences addressed in the intervention, either directly or by implication. These included, Social Awareness, Social Cognition, Social Communication, Social Motivation and Autistic Mannerisms. Unfortunately, both instruments proved unsuitable for the measurement of progress in the aforementioned areas due to the vast inconsistencies amongst raters. The specific measures produced clearer outcomes.

Study 1

In the case of the younger group, the findings from the specific measures suggested improvement in the participants' abilities to solve ToM tasks. However, given the resemblance of the specific measures with tasks practised in the course of the intervention, the possibility that these improvements are task specific and do not necessarily reflect an overall improvement in the participants' abilities to infer mental states, cannot be ruled out. Furthermore, even if these improvements do indeed imply changes in the children's ability to understand mental states, whether these changes translated into global changes in the children's social competence in every day situations

is another important question that needs to be addressed in evaluating the effectiveness of the intervention. Unfortunately, it had been hoped that answers to these questions would be obtained using the global measures that proved to be an unreliable source of evidence.

Another limitation of the study was the absence of a control group that received no treatment or another treatment that cannot eliminate the possibility that the progress noted in the specific measures is not the outcome of natural maturation. Yet, given the short length of the intervention (14 weeks), such a possibility is fairly unlikely as there is no evidence to suggest a correlation between the children's chronological age and the improvements shown in the specific measures.

Despite these limitations, there are a number of other sources such as the parental and teacher reports and the in-session behavioural observations that suggested the beneficial effects of the intervention on different aspects of the participants' behaviour. The parental and teacher reports indicated that all children had enjoyed their participation in the programme and had all benefited from the intervention in the specific areas targeted for each participant. These included benefits in areas such as confidence, flexibility to deal with new situations, tolerance, overall well-being, ability to differentiate between reality and fiction, and frequency and quality of engagement in pretend play.

In-session observation of the children's participation also corroborated the improvements on the specific measures as well as indicated the children's progress in various domains such as their flexibility to adopt new roles, their ability to respond to different characters, giving imaginative solutions to various problems, and their understanding of pretence.

The result of this study raise a number of questions, that need to be addressed in future research. First, if ToM can be taught, as the results are suggesting, what effects could this have on other areas of social functioning. Second, if ToM mechanism is not permanently deficient in children with autism, but just delayed as literature on autism suggests (Baron-Cohen,1995) could it be possible that early intervention may change the prognosis for these children? Third, if the deficit in pretence that is characteristic of autistic spectrum disorders is only on spontaneous and not elicited pretend play as the literature suggests (Jarrold, et al, 1996), could it be possible that engagement in elicited pretend play early in development could have an impact on other areas of social or cognitive functioning?

Finally, if pretend play is a precursor for Tom, could engagement in any kind of pretend play improve performance on ToM tasks?

Study 2

In the older group, the finding from the specific measures suggested improvements in the participants' communication skills as reflected in both their verbal and non-verbal responses, in the post intervention semi-structured conversation with their teacher. The participants' improvements were evident in the speed and quality of their responses, and the manner of responding. Not only did the speed of their responses increase, and the number of irrelevant answers reduce, but they also gave fuller justifications to their answers, and reduced socially inappropriate behaviours, including behavioural mannerisms and disruptive behaviour. Most importantly, these changes in the participants' ability to better express themselves, both verbally (e.g. relevant answers) and non verbally (e.g. improved eye contact, reduction of ritualistic mannerisms), suggest a significant growth in their confidence.

The positive changes noted in the participants by the specific measure corroborated the parental and teacher reports that also suggested positive changes in their overall behaviour, and more specifically in their self-confidence. In particular, the parents of three out of the four participants noted growth in the children's self esteem and confidence.

A number of methodological limitations of the current study should be taken into consideration. First, due to the absence of a control group that received no treatment or another treatment, the possibility that the improvements' noted in the children's behaviour was the outcome of natural maturation cannot be ruled out. However, this is rather unlikely given the short length of the intervention (14 weeks), especially when taking into consideration evidence suggesting that behavioural difficulties tend to become more conspicuous in adolescence, as oppose to decreasing.

A second limitation of this study lies in the assessment measures used to evaluate the effectiveness of the intervention. The impact measures proved to be unreliable to determine whether the changes noted by the specific measures yield global changes in the children's social competence, and although parental and teacher reports corroborated the

findings from the specific measures the possibility cannot be ruled out that their observations were influenced by the knowledge of the objectives of the programme. On the other hand, given that the specific measures bear no resemblance to any of the tasks practised during the course of the intervention the positive changes evidenced in the children's behaviour, in terms of their body posture, eye contact, vocal expression, and content of their answers, may indeed suggest a broader change in their social competence. Furthermore, these changes may also imply a growth in their social awareness, social communication, and self-confidence.

Finally, both studies could be criticised for not being clear about the variables that caused the behavioural changes in the participants. However, I would argue that it is the interaction among the different variables that caused the changes and that any attempt to pinpoint specific factors directly responsible for the children's progress by looking at the components in isolation would be as futile and senseless as trying to assess a symphony on the basis on of individual performances.

Despite the aforementioned limitations, the current study seems to offer a potentially powerful model of intervention to promote the social competence of high functioning children with autism.

Advantages of the DIE model in the context of social competence

Despite the aforementioned limitations, the current study seems to offer a potentially powerful model of intervention to promote the social competence of high functioning children with autism, as it addresses two of the major limitations encountered in previous studies; the lack of generalisation of skills outside the therapeutic context, and the lack of motivation from the part of the participants to engage in the therapeutic process. Furthermore, the model described in this study provides an ethically acceptable source for encouraging the participants to submit themselves to a programme intended to bring about positive changes in their behaviour, without compromising their self esteem.

- *Generalisation*

Although, a number of interventions have proved to be successful in producing changes in the participants' performance on a number of specific skills taught in the course of their programmes, research suggests that these changes are not always translated into global improvements in social competence (Spence, 2003).

I contend that the approach outlined in this thesis addresses the issue of generalisation in a number of ways. Firstly, according to Strain and Schwartz (2001) a possible explanation for the lack of skill generalisation, lies in the conceptual basis of most of these methods that fail to see social behaviour as a complex and dynamic process determined by cultural and contextual influences, and only view it as a set of discrete skills. Unlike these approaches the DIE model is not about teaching a number of out of context skills to the participants but rather enabling them to understand the functions that these skills serve by providing them with opportunities to explore their application in different contexts and situations.

Secondly, Leaf and McEachin (1999) have suggested that approaches that are less directive produce outcomes that are more likely to generalise, because this lack of external control and structure leads to the internalisation of skills. The DIE model in contrast with traditional social skills approaches is less structured and directive and therefore is more likely to lead to generalisation as the skills practised within the programmes are not subject to external control but are intrinsically motivating for the participants.

Third, many researchers have argued that intervention programmes should plan for stimulus generalisation once new behaviours are established, by incorporating in their structure variations of antecedents, in terms of requests, people and settings (Rinck & Becker, 2006; Anderson, Reder & Simon, 1996). This being the case a number of ABA programmes that initially rely on extrinsic reinforcers to establish new behaviours, use secondary reinforcers that relate more to naturalistic consequences at some later point to promote generalisation. However, such a provision is not necessary to the DIE model described in this study, as generalisation is an intrinsic component and not an added on element to its structure.

Fourth, some authors have suggested that incidental learning is a useful means for bridging the gap between the therapeutic context and the real world (McGee, Krantz, & McClannahan 1985; McGee, Morrier, & Daly 1999). Many ABA programmes use incidental learning opportunities as a means of achieving this to produce generalisation. Yet, in the DIE model incidental learning opportunities are not additional elements incorporated in the programme to promote generalisation, but an integral part of the process that relies on offering participants' opportunities to learn from observation as opposed to instruction. This is a natural outcome of the conceptual basis of the DIE model that focuses on promoting understanding rather than knowledge.

- *Motivation*

Research on the various approaches designed to address the social skill deficit in children with autism suggest that these methods seem un-engaging and irrelevant to the participants, who have no personal desire to overcome their deficits (LeGeoff, 2004). As a result, lack of motivation on the part of the children to engage in these interventions is a major obstacle to their success.

The inherently interesting and enjoyable structure of the DIE model, serves to address this limitation, as it does not rely on the participants' interest to overcome their deficits as a means of engaging them in the intervention but on the intrinsically motivating quality of the process of drama itself.

In fact, unlike all other approaches dealing with the social deficit in children with autism, the objective of the DIE intervention is not disclosed to the participants. This unique characteristic of the DIE approach is particularly important as it serves to protect the participants self esteem and confidence that seem to be compromised by approaches using labels such as social skills training that explicitly suggest that the participants have a deficit in this area that they need to address. Unlike such approaches that immediately draw the participants' attention to their deficits, reducing their self esteem, the DIE model is structured so as to draw their attention to their strengths, and boost their confidence. Based on the belief that expectations play an important role on the outcome of an interaction, the DIE model capitalises on the concept of self efficacy, and uses a number of strategies to instil confidence in the participants' abilities to engage successfully in interpersonal problem solving.

First, protection of the participants self esteem is provided through the application and manipulation of the dramatic components that create the dramatic tension and take the focus away from the execution of the target skill to the objective of the drama.

Second, as the participants are unaware of the real objectives of the intervention, and only concerned to get to the fictional objective of the drama, they are not self conscious when performing the target behaviours, since for them these are only a means to an end and not the end itself.

Third, techniques such as the 'Mantel of the Expert', provide participants the opportunity to practise target skills, whilst protecting them from feeling that they have a deficit that they need to address, raising their self esteem by giving them an expert status (e.g. psychologist, detectives, etc.). In other words, in sharp contrast to social skills training programmes, where participants are requested to practise a number of social interactions to improve their social skills; the DIE approach, through the mantle of the expert technique, invites them to engage in social interactions, as experts, whose expertise could be invaluable in helping others.

Overall, the major advantage of the DIE approach is that is pleasant, unobtrusive and does not stigmatise the participants, whose only incentive in engaging in the process is to have fun. Finally, the DIE model is an interactive programme placing the participants at the centre of the learning process, in line with research suggesting that such interventions have stronger effects than information based interventions (Tobler & Straton, 1997).

7.4. Considerations for future research

Although the study has demonstrated positive outcomes, several areas of improvement need to be considered both in terms of the methodological limitations in relation to the data gathering techniques, the instruments used to evaluate the effectiveness of the model, and also in relation of its practical application.

In order to be fully established as evidence based practice, one of the major limitations of this study that future research needs to address is an aspect of research design. For example, in single-case design, a more objective set of behavioural ratings or independent measurement could be put in place with additional observers and raters. This would ensure reliability and consistency in measurement.

Furthermore, future research should focus greater attention on finding adequate instruments to assess the children's progress in terms of their overall social and communications skills. It seems that parent and teacher questionnaires are too subjective and general to offer reliable results for the children's progress, and that more objective measures need be to found to address this limitation.

Future research projects should also include an assessment of the durability of treatment effects, in order to examine whether the improvements noted by the post intervention instruments were maintained over an extended follow-up period. Furthermore, there is a need for a longitudinal study to examine whether the improvements noted on the younger group's performance on ToM tests, could indeed change their prognosis in terms of their overall social competence later in development.

Future research should also consider a number of steps to improve the application of the current model that would possibly lead to better outcomes:

First, typically developing peers could be included in the programmes to serve as models, enhancing the opportunities for incidental learning, as well as providing the facilitator the opportunity to use this occasion to incorporate activities that would raise the status of the children with autism among their peers (e.g. by incorporating tasks in which these children may excel). Also, this opportunity can serve to teach both typically developing

children and children with autism to be more tolerant and empathetic with one another, by structuring the drama to encourage and reinforce positive interactions.
Second, a second facilitator needs to be assigned in every programme designed to address the needs of children with autism for a number of reasons:

- To deal with disruptive behaviour, and minimise the disruptive effects of such incidents that may spoil the belief in the drama, and thus reduce its effectiveness.

- To address the specific needs of individual participants, (e.g. explain a task, or calm down an anxious child, escort a child to the loo) without disrupting the flow of the session.

- To serve as a model for the participants, especially when typically developing children are not included in the programme.

- To protect the participants self esteem when challenged by aggressive characters (the other facilitator in role) by reassuring them that they are doing well, or by being the first to take the 'abuse'. The function of the second facilitator is particularly significant in such cases that would otherwise intimidate the participants, and reduce their self confidence.

Finally, future practice should further involve the parents in the programmes, in terms of giving them some kind of homework that could serve to promote maintenance and generalisation of the skills practised in the drama outside the therapeutic context. Ideally seminars for the parents would be conducted to help them implement these ideas.

APPENDICES

APPENDIX 1

'Sally and Ann' test, (Baron-Cohen, 1985)

This doll is called Sally, and this doll is called Ann.

Control naming question: Can you tell me the names of these two dolls?

Sally places her marble in her green box and then goes out to play.

Control memory question: Where did Sally put the marble before she went out to play?

While Sally is away, Ann takes the marble from the green box and moves it to the yellow box. Sally now returns for her marble.

False belief question: Where does Sally think the marble is?

Reality question: Where is the marble really?

APPENDIX 2

Semi Structured Interview Schedule for the parents

Date:

Personal Details:

Participant's Name:

Date of birth:

Gender:

Informant:

Informant's Relationship to participant:

School:

Siblings:

Special provision:

Diagnosis:

Medication:

Currents Concerns:

Information on the following:

- Language and communication
- Imaginative play
- Social development and play (e.g. eye contact, social smiling , willingness to share, interest in others, empathy, range of facial expressions, appropriateness of social responses, friendships, etc).
- Favourite activities
- Special abilities
- Likes
- Dislikes

APPENDIX 3

Conversation Schedule for the Baseline and Post-Intervention assessments

Task (1)

Participants had to 2 minutes for each question

1. 20 things you can put in a match box

2. 20 things you can put on a hook

3. 20 things you can put into a cup

4. 20 ways which you can use a peg for, or paper clip.

5. 20 things you can put in your track suit pocket.

Task (2)

Discussion: 'Rule changes'

1. No uniform at school
2. Getting rid of homework
3. School starting an hour earlier and finishing an hour earlier
4. Changing into a boarding school

Recap: What changes are we not having?

APPENDIX 4

Evaluation Report

1. Did your child enjoy the drama sessions? Are you aware of any particular aspects that he enjoyed or disliked?

2. In your opinion, has your child benefited from attending the drama sessions?

3. Have you noticed any changes in your child's behaviour since attending the drama classes?

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