

EdD THESIS

**FACILITATING THE INCLUSION
OF PUPILS WITH
ASPERGER'S SYNDROME
IN MAINSTREAM SCHOOLS**

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ABSTRACT

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FACILITATING THE INCLUSION OF PUPILS WITH
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By Anna Marion Hobbs

As there is a movement towards greater inclusion of pupils with special educational needs, many pupils with Asperger's syndrome are now taught in mainstream schools. However, as these pupils tend to have difficulty relating appropriately to others, they may need help with this in order to be successfully included. This research aimed to address this issue by providing an intervention for six male pupils in mainstream schools who had an ICD-10 diagnosis of Asperger's Syndrome and who showed weaknesses in their social interaction skills. Using peer group support and social stories to address a particular area of weakness relating to social interaction, the aim was to help these pupils to improve their ability to join in with their peers during unstructured times, such as on the playground.

The intervention was carried out by the researcher over a period of at least six weeks with each target child, who was supported by a Learning Support Assistant and a small peer group ranging from two to six children. The sessions of between 30 and 60 minutes involved playing games which addressed observational skills, listening skills and social skills. Each target child was provided with a social story, which was introduced at approximately the halfway session and shared with his Learning Support Assistant between the sessions to reinforce a particular behaviour which was considered to need some improvement.

The measures taken to identify progress included playground observational data and semi-structured interview data obtained both before and after the intervention. These measures indicated small amounts of progress but anecdotal evidence and excerpts from the research diary suggested that each child had made improvements in both his play skills and in his ability to interact socially with his peers. As a result of this research recommendations for helping other pupils with Asperger's syndrome and weak social interaction skills were presented in a protocol for use by staff in mainstream primary schools.

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GLOSSARY

Asperger's syndrome (AS)	Condition first described by Hans Asperger in 1944, now regarded as an autistic spectrum disorder, usually characterised by normal intelligence, poor social communication skills, circumscribed interests and motor clumsiness
Autistic spectrum disorder (ASD)	Developmental disability usually characterised by deficits in social interaction, communication and involving circumscribed interests and/or repetitive behaviours
Circle of friends	Group of peers who aim to support another child who may have poor social skills and/or difficulty in forming friendships (originally used for the physically disabled)
Comic strip conversation	Interactive drawings used to teach social skills with appropriate words (and colours) to depict emotions. Introduced by Carol Gray.
DSM-IV	Diagnostic criteria as listed in the <i>Diagnostic and Statistical Manual (Fourth Edition)</i> produced in 1994 by the American Psychiatric Association which includes list of diagnostic criteria for Asperger's syndrome
Executive function	Ability to plan while carrying out cognitive tasks that is influenced by frontal lobes of brain
High-functioning autism	Autism where there is average or above-average intelligence
Hypothesis	A predicted relationship between variables
ICD-10	World Health Organisation system of classification of diseases in use since 1995 and which includes a list of diagnostic criteria for Asperger's syndrome
Inclusion	Full-time attendance at local mainstream school where child is taught with peers for whole of school day and where learning environment aims to fit requirements of individual child

Integration	Attendance at mainstream school or unit where special arrangements are made to enable child to spend some time with peers during school day but often fitting individual child into existing learning environment
Intervention	Using therapeutic or educational methods to improve certain aspects of a situation for a particular individual, group or organisation
Learning Support Assistant (LSA)	Adult who supports child(ren) with Special Educational Needs
Likert Scale	Scale on questionnaire where respondents indicate level of agreement or disagreement with series of statements (usually an odd number)
Local Education Authority (LEA)	Local government organisation with responsibility for education in a designated geographical area
Mainstream school	Local school taking children living in its catchment area regardless of disabilities
Moderate Learning Difficulties	Having below-average ability (usually within the IQ range of 50 and 70)
Null hypothesis	Prediction that there is no relationship between (the independent and independent) variables
Outreach	Specialist or expert from one institution or organisation providing advice to another that lacks this level of experience
Pervasive Developmental Disorder (PDD)	General term used in DSM-IV to describe those with deficits in social skills and communication but children with this label are not always given diagnosis of autism or Asperger's syndrome
Rank order	Method of ordering scores listing them from lowest to highest

Reliability	Extent to which using same procedures in research leads to same findings
Self-esteem	Feeling of self-worth and pride in oneself
Social story	Story appropriate to level of understanding of child who shares this with adult to learn appropriate responses for certain social situations. Introduced by Carol Gray.
Sociometry	Method of indicating social status of each individual within group as determined by choices made by these individuals
Statement of Special Educational Needs (SEN)	Legal document stating child's Special Educational Needs and provision required to meet objectives and targets set
Statistical significance	Where result shown by statistical analysis is unlikely to have occurred by chance
Theory of mind	Where beliefs of others are understood without direct information to indicate what these beliefs might be
Triangulation	Gathering data from several different sources to help eliminate bias and in order to validate research findings
Validity	Extent to which what is measured is actually measured in reality
Wilcoxon signed ranks test	Statistical test where two related samples are ranked and the rankings compared between two separate conditions

Chapter 1: INTRODUCTION

1.1. The Context for this Study:

Life in mainstream schools can be a particular challenge if a child finds it difficult to understand what is going on and has problems with joining in games and activities with peers. A group of pupils for whom this is especially challenging are those who have poor social interaction skills, such as those experiencing what is known as Asperger's syndrome (AS). In the words of a 13-year-old boy who has AS (Jackson, 2002):

“Everything is so busy at school and everyone else, all the kids and all the teachers, seems to have a purpose and I never have quite fathomed out what that purpose is. I know we are there to learn, but there seems to be so much more going on than that. It is like beginning a game without knowing any of the rules or passwords.”
(p. 114)

Increasingly mainstream schools are being encouraged to include pupils who have a variety of special educational needs, including those who have been diagnosed as having AS or an Autistic Spectrum Disorder (ASD). The Government has been actively promoting inclusion of this group of children and in a booklet produced by the Department for Education and Science (2002) it has been suggested that “the majority of mainstream schools will have one or more children with an ASD” (p. 11). This obviously has important implications for mainstream school staff, who are required to address the needs of each individual child, while at the same time delivering the national curriculum to pupils with a wide range of ability, including those with different rates and styles of learning. At the same time school staff need to keep up with the planning, assessment and record keeping associated with their teaching so this can be very demanding for them, especially if they have had no training to prepare them for the needs of these children.

This policy of inclusion also has implications for the pupils themselves. Those who have a diagnosis of an ASD or AS may find it difficult to understand what they are required to do, particularly outside the classroom. These pupils vary considerably in their ability to cope because no two children with the diagnosis of AS show exactly the same pattern of behaviour. This means that some of these children may find the social

demands of unstructured times more difficult to cope with than others. Likewise school staff may vary in their ability and willingness to work at supporting some of these children, particularly if they show challenging behaviour. The variety of children with AS may require school staff who have worked with one particular child to adjust their strategies when working with another such child.

While adjusting to the demands of inclusion, the typical mainstream school is under pressure from the Local Education Authority and Government to improve its standards and its position in the league tables for standardised test results. At the same time there is a national problem with the recruitment and retention of school staff. Parents are also likely to have higher expectations of schools now that more money is being spent on education, adding to the pressure on school staff to produce better outcomes. This in turn may lead to less willingness to face the challenge of supporting the needs of children who require special understanding and a flexible approach to facilitate both their academic and social learning. It has therefore become increasingly important for schools to develop strategies for addressing the needs of this particular group of pupils.

One area that has been relatively neglected in the research into facilitating the inclusion of pupils who have AS is that of unstructured periods of the school day including playtimes. Anecdotal reports by adults who have received diagnoses of AS after they have left school suggest that whereas the average pupil views playtime as a chance to release energy and be amongst peers in a play situation, the pupil with AS finds the playground a confusing, noisy and frightening place (e.g. Gerland, 1997; Lawson, 2000). These children tend to have little idea of what to do, often staying on the periphery and alone rather than joining in play activities with other children (Gray, 1993). As this is the time when teachers themselves have a break, the playground is supervised by relatively fewer staff and the support the children may need to benefit from a playtime is therefore less available.

The researcher's experience as a practising educational psychologist has provided many examples of children with AS experiencing problems at playtime. For some the problems have led to aggression against other children, while for others the child has withdrawn into his or her own world. For this doctoral research the social aspect of life in mainstream schools during playtimes was chosen for investigation and it was

hypothesised that with appropriate support and opportunities for learning to play with their peers, these children could join in activities with their peers and play in a more cooperative way. By co-operating on the playground and relating appropriately with their peers during unstructured times, the particular problems at playtime could perhaps be avoided and as a result there would be an increased likelihood of successful inclusion within their local mainstream school.

1.2. The Purpose of This Study:

This study aimed to investigate the following hypotheses:

1. Pupils with AS can be taught to play specific games with a supportive group of peers.
2. This intervention can improve their ability to join in similar games and activities with their peers on the playground.

The main objectives of this study were:

1. To ascertain what works in facilitating the inclusion of pupils with AS in unstructured social situations, particularly on the playground.
2. To produce a protocol for school staff in mainstream primary schools to facilitate the inclusion of pupils with AS in games with their peers on the playground.

1.3. Rationale for This Study:

The rationale for investigating this particular area in relation to the inclusion of pupils with AS was the acknowledgement by researchers (e.g. Attwood, 2000) that a major area of difficulty for these pupils was their poor social interaction skills. There was also a lack of research into playground games and activities both in relation to children generally and also concerning these pupils. Research has already shown that a well-structured classroom and appropriate teaching methods could provide security for children with AS in class (Cumine et al, 1998) but the playtimes in the typical school day, during the middle of the morning and in the lunch hour, have apparently been neglected as opportunities for intervention. Yet if this time of day could lead to these children becoming involved in misunderstandings or could cause them unhappiness, it

seemed to be important when considering the issue of successful inclusion for this group of children. Ways of helping these children during the unstructured times in the school day should therefore be investigated to promote successful inclusion.

1.4. The Focus of This Study:

For this study six target children were provided with an intervention programme involving games that they could play with their peers. Most of these games were suitable for playing on the playground but some other listening and watching games were included in order to prepare these children for days when the weather was unsuitable for them to be outside. The target children's weak listening skills and difficulty in co-operating in play situations with their peers were therefore also addressed by means of this intervention. A small group of supportive peers was provided for each target child in order to allow for rehearsal of these games as well as using them to model the appropriate behaviour. This group situation allowed the target child to learn with other children who could join in the games on the playground in unstructured times, if they chose to do so. It was hoped that this protective learning environment would boost the target child's confidence and encourage him to co-operate more willingly with his peers. However, to reinforce skills in a particular area of weakness, a text supported by visual prompts known as a social story was used to convey the message as to how the target child could respond more effectively in certain situations.

Quantitative measures were obtained via playground observation and interviews with the target child's mother and either his class teacher or Learning Support Assistant both before and after the intervention, while qualitative data was gathered through ongoing diary records and informal observations, thus giving a wealth of data. Following analysis of this data, it was intended to produce a protocol as a guide for school staff to use with other children with AS as well as other pupils experiencing problems with play skills and social interaction skills.

1.5. Outline of Chapters:

This thesis has been divided into the following chapters:

- Chapter 1 provides a short introduction to the reasons for carrying out this research into improving the play skills and social interaction skills of pupils who have AS
- Chapter 2 presents a review of the available literature relating to issues concerning inclusion, AS and social behaviour on the playground. It also examines some of the methodological and ethical considerations involved in carrying out research with children where the researcher is involved both in gathering the data and in intervening to bring about a change in the behaviour of a target child.
- Chapter 3 describes the method used in this study to research the topic.
- Chapter 4 presents the results obtained both from the quantitative analysis of the playground observations and the social skills ratings and also from the qualitative data obtained from the interviews and observations both before and after the intervention. In addition information from the researcher's diary describes the progress of each of the target children.
- Chapter 5 discusses how these findings compare with the available literature and examines some of the implications of these findings.
- Chapter 6 summarises the factors that were found to facilitate inclusion of pupils with AS in mainstream primary schools and suggests future directions for research. Finally a protocol is provided for use by staff in mainstream schools who are attempting to include children who have this diagnosis or who are experiencing similar difficulties in playing appropriately with their peers.

Chapter 2: LITERATURE REVIEW

2.1: Introduction to Literature Review:

As far as the researcher is aware, the behaviour at playtimes of pupils with a diagnosis of Asperger's syndrome (AS) has been a relatively neglected area of research.

Therefore this review of the current literature will look at individual aspects of this research topic in turn and examine some of the most relevant issues. Difficulties with social behaviour are one of the main areas of weakness for pupils with AS (Attwood, 1998) yet to include them successfully in their local mainstream schools, greater attention may need to be given to how they are coping during the unstructured times of the school day, which can add up to an average of an hour and a half in some primary schools (Blatchford, 1998). As this is substantial proportion of the time children spend at school, this aspect of school life for pupils who find it difficult to cope socially would benefit from further investigation.

2.2: Issues Concerning Inclusion:

(i) What is meant by "Inclusion"?

Inclusion describes the process by which a school attempts to respond to all pupils as individuals by reconsidering its curricular organisation and provision. Through this process, the school builds its capacity to accept all pupils from the local community who wish to attend and, in doing so, reduces the need to exclude pupils. (Sebba and Ainscow, 1996) (P.9)

The term "inclusion" is used in education to refer to educating all children in their local mainstream school regardless of any disability or special educational needs which may affect either their learning or behaviour. A movement towards greater inclusion has been active for some time in Canada, where strategies have been introduced to include children with disabilities in mainstream classes by engaging both adult and peer support (Pearpoint et al, 1992). However, in this country there has been a long tradition of segregated provision for children with special needs, starting with the setting up of voluntary schools for those who were deaf or blind in the eighteenth century. These were followed from the mid-nineteenth century by schools for those who were either physically or mentally handicapped (Wedell, 1990). The 1944 Education Act required children considered to be "ineducable" to be cared for by

Health Service staff. Then following the 1970 Education (Handicapped Children) Act, Local Education Authorities were made responsible for educating all pupils. The 1944 Education Act had named eleven categories of handicap and encouraged the segregation of these children from their peers within special schools, where they were taught by teachers specially trained to address their particular handicaps. Only during the last two decades has it become gradually more acceptable for children to be integrated into their local mainstream schools. Previously most children with significant special educational needs would have been sent to specialist provision but nowadays the assumption that special schools can best meet the needs of these children is being challenged and many children with special needs are being supported in their neighbourhood schools. This process has been taking place gradually since the Education Act of 1981 allowed for a continuum of special educational needs. This also led to the introduction of statutory assessments and the provision of “statements of special educational needs,” which stipulated how to provide for the needs of particular children meeting the criteria.

Prior to “inclusion” there was “integration,” where some children with special needs were allowed to attend mainstream schools. The Warnock Report (1978) described three kinds of “integration.” These ranged from “locational integration,” where pupils with special educational needs were placed in units within a mainstream campus but had no contact with their peers, to “functional integration,” where all pupils were taught in mainstream classes with peers of the same age. In between there was “social integration,” where teaching was segregated but the children would mix for breaks and lunchtimes (Farrell, 1997). The assumption behind integration was that the individual child should fit in with the existing system rather than the school changing to cater for children with a wide range of special educational needs. Yet with the move to greater inclusion there is now a focus on the schools themselves needing to adjust to the needs of each individual child. As described by Corbett (1999), “integration is about fitting in with us,” while, “inclusion is about creating a climate which welcomes, supports and nurtures diverse needs” (p.128). It is now recognised that for schools to become fully inclusive, they need to accept all children regardless of their particular special needs and share in contributing to their learning (Thomas et al, 1998).

Many governments around the world have been encouraging greater inclusion since the UNESCO Salamanca World Statement on Special Needs Education was issued in 1994, calling for all children to be educated in regular schools. The Green Paper on Special Educational Needs issued by the UK Government (DfEE, 1997) endorsed this move towards greater inclusion but allowed for the possibility of “compelling reasons for doing otherwise” and recognised that there should still be a continuum of special educational needs provision (Hornby, 1999). This appeared to be in conflict with the UK Government’s own plans to improve school performance, which led to a climate where schools tended to be in competition with one another. By publishing league tables for results and insisting on regular school inspections to ensure that schools remained effective, the UK Government made it increasingly difficult for mainstream schools to welcome pupils with special needs. Corbett (1999) pointed out that schools have tended to be viewed as “effective” if they come near to the top of league tables, even though they may have high-achieving pupils who are socially advantaged. On the other hand she noted that a school with a special unit might suffer from poorer exam results and a lower position in the league table because it included children with special educational needs so this provided little incentive for schools to take on less able pupils. She claimed that the parents of more able children would probably seek alternative schools as the “culture” of effectiveness had led to individualistic values replacing the very community values that inclusion was meant to foster. More recently a “value-added” aspect has been introduced to these league tables so that baseline scores and test scores at each Key Stage of the National Curriculum are examined when pupils enter a school and compared with examination results obtained later so this should in theory take into account the scores of disadvantaged pupils.

The term “inclusion” itself has a number of interpretations but generally it is agreed that schools themselves become the focus of change rather than the children who have special needs and that ideally all children should have the right to attend their local school. Barton (1997) summed up this view, claiming that inclusive education involves:

“responding to diversity: it is about listening to unfamiliar voices, being open, empowering all members and about celebrating ‘difference’ in dignified ways. From this perspective, the goal is not to leave anyone out of school.” (p. 233)

Others, such as Dyson (2000), have pointed out that in practice “full inclusion” is perhaps an ideal rather than a reality because there is resistance in many schools towards having all children within their local mainstream school. Even in Local Education Authorities (LEAs), such as the London Borough of Newham, where inclusion has been actively pursued and all but one of the eight special schools have been closed, there have been limitations as to how far local mainstream schools could go in meeting the complete range of needs so some of Newham’s schools are resourced to cater for a particular group of special needs children (Jordan and Goodey, 2002). The intention is to extend inclusion further by training staff to take children with a wide range of special needs into their local schools but they claim that it is likely that resourced provision may need to remain in place for sensory impaired children and for those with profound and multiple disabilities.

The issue of funding to pay for inclusion, including the resourcing of mainstream schools and training required by staff, has been identified as leading to some of the resistance by mainstream schools towards catering for a wider range of special needs (e.g. Lee and Henkhuizens, 1996; Ainscow et al, 1999). It has been suggested by Ainscow (2000) that one way to use existing resources to support learning for all pupils might be for staff in schools to set up small “expert groups,” where the group members research a particular area of special need. Afterwards these group members could move away to form new groups, where at least one member of each group has knowledge of a particular special need to pass on to other group members, thus disseminating knowledge to other staff and at the same time encouraging greater collaboration. This assumes a willingness to take risks and to become what Ainscow referred to as a “moving” school. However, some schools may feel overwhelmed with existing pressures and staff may be unwilling to accept the ideals of inclusion (Norwich, 2000). Norwich carried out a survey among teachers and Local Education Officers and Support Staff which showed a tension between the ideals of inclusion, which 90% of those surveyed accepted as desirable, and the need to take responsibility for more challenging forms of special needs. The lowest level of support for inclusion was found for those pupils who were verbally aggressive and who showed challenging behaviour, where only 25% of those surveyed felt that the ordinary classroom with support was appropriate. Generally there has been a rise in exclusions of these pupils both in the primary and secondary sectors and with the competition amongst schools to

obtain good results for league tables, there appears to be less tolerance towards those with challenging behaviour. As Barton (1995) suggested:

“Managers within schools increasingly face the dilemma that giving too high a profile to SEN work may not match with concerns to promote a market image based on a high level of pupil achievement.” (p. 159)

This dilemma has resulted in schools having to decide whether to remain attractive to parents wanting the best education for their child or to take in all pupils regardless of their particular special educational needs. This has therefore made it difficult to adopt the ideal of a true “community school,” where all pupils living locally should be educated together.

In the debate concerning the benefits of inclusion, the claim that it is a “human right” for all children to belong to their own community is gradually replacing the traditional view of education as involving skill transmission. Kliewer (1998) felt convinced that “inclusion ‘works’ when we make it work.” He suggested that inclusion:

“cannot be full or partial. It is a way of looking at the world that enacts the fundamental meaning of education: full participation, full membership, valued citizenship.” (P.320)

Vaughn and Schumm (1995) agreed that the goal should be for all students to attend mainstream classrooms. However, they called for “responsible inclusion,” which recognised the different needs of each individual student, thus allowing for a continuum of services with effective procedures and outcomes for each child based on ongoing assessment and monitoring of the programmes being implemented.

(ii) Inclusion and Research So Far:

In spite of many governments around the world aiming to increase inclusion, relatively few researchers have investigated factors that can enable all pupils to attend their local school regardless of their special educational needs. Some have even questioned whether this is desirable and whether the approach is being managed effectively (e.g. Garner and Gains, 2000). Yet the publication in this country of the “Index for Inclusion” by the Centre for Studies on Inclusive Education (Booth et al, 2000) and the Department for Education and Employment agreeing to make this available to all 26,000 schools in England indicates that inclusion is an important issue which needs to be addressed. Norwich et al (2001) subsequently sent out a questionnaire to all LEAs

in England to discover whether they had been promoting the “Index for Inclusion.” Less than two in five of the 53 LEAs who responded indicated that it was linked to their Education Development Plan and half of those responding did not know about the uptake of the “Index” in their schools. Therefore in view of this apparent lack of commitment towards inclusion amongst many LEAs, in spite of the Government’s inclusive agenda, it is important for researchers to carry out research that looks at how best to facilitate this process.

Much of the research into inclusion to date has tended to focus on attitudes towards inclusion among teachers, parents and students. Most of the attitude studies among teachers have found that there is strong opposition towards inclusion initially but with personal experience of including a child in their class, these attitudes tend to become more accepting (e.g. Giangreco et al, 1993; Le Roy and Simpson, 1996; Villa et al, 1996). A research synthesis of 28 studies carried out into teacher perceptions of mainstreaming and inclusion between 1958 and 1995 (Scruggs and Mastropieri, 1996) led to suggestions of several factors that might increase the willingness of teachers to accept children with special needs in their classes, including:

- Non-contact time (of one hour daily) to plan work for these children
- Systematic and intensive training in how to help pupils with special needs
- Support staff to work in the classroom providing extra support for children with the greatest level of special need
- Advice from relevant professionals
- Appropriate curriculum materials and equipment
- Classes of fewer than 20 students

Generally it has been found that teachers who have had active experience of inclusion or who have received training in special needs have more positive attitudes towards inclusion. It has also been found that among educational professionals, it is usually the teachers who have the most concerns, followed by head teachers, who view inclusion with some caution, while those in administrative positions and school counsellors seem to show the most favourable views (Ward et al, 1994; Scruggs and Mastropieri, 1996). A study in one English LEA suggested that it is pupils with emotional and behavioural difficulties who cause teachers the greatest level of concern (Avramidis et al, 2000) and it was found in a survey involving Principal Educational Psychologists in England and

Wales that these pupils are those most difficult to place (Evans and Lunt, 2002).

Other research has looked at the impact on student achievement and behaviour resulting from having pupils with special needs educated alongside them. Baker et al (1995) looked at several studies of inclusive placements which had been carried out over a period of 15 years and they used meta-analysis techniques to show a:

“small-to-moderate beneficial effect of inclusive education on the academic and social outcome of special-needs students.” (p.34)

It appeared that the special needs students were generally able to perform better in mainstream classrooms than in separate (i.e. special) classrooms.

Bayliss (1995) chose to look at how inclusion was affecting peer relationships and he used taped evidence, which was subsequently transcribed to show how pupils with special needs tended to form asymmetrical relationships with their non-disabled peers. The latter often had “didactic” interactions with the disabled pupils rather than “familiar” interactions where they viewed them as their equals. Bless and Amrein (1992) reported that pupils with learning difficulties in integrative classes may also have an unfavourable social position as sociometric tests have shown a significant tendency for them to belong to the group of unpopular or rejected pupils. However, Staub and Peck (1995) suggested in their overview of research into the effects of inclusion on non-disabled peers that there were advantages as some studies had shown that non-disabled students in an inclusive classroom tended to gain in social and interpersonal areas, such as showing improved self-esteem and greater tolerance of others.

Other studies of inclusion have investigated what makes inclusion work effectively at the school level (Lee and Henkhuizens, 1996; Rouse and Florian, 1996; Thomas et al, 1998; Booth et al, 1998). These studies have found that having a common mission, working as a team to plan the way forward and encouraging a climate conducive to encouraging all learners were all essential in promoting inclusive schools.

Few studies have looked at the inclusion of pupils with AS, who are the target group in this study. A survey was carried out among a sample of mainstream and specialist teachers in Scotland into what they considered to be the advantages and disadvantages of teaching autistic children in mainstream schools (McGregor and Campbell, 2001). They found that of the 49 mainstream teachers who responded, 22 had taught a child with autism and 27 had not. Those with experience of autism felt more confident about teaching children with autism than those without experience but most mainstream teachers indicated that they were willing to receive training for this role. The 23 specialist teachers, who taught children with autism in units attached to mainstream schools, were generally more in favour of full-time integration but most of them pointed out that the success of this depended upon the individual child. The main advantages for the autistic child of being with mainstream peers were felt to be the opportunities to interact socially with peers and to learn from the good role models around them.

A few first hand accounts about life in mainstream school have been written by those who have been diagnosed as having AS or high-functioning autism (e.g. Williams, 1992; Grandin and Scariano, 1996; Gerland, 1997; Willey, 1999; Sainsbury, 2000) and by those who have interviewed able pupils with autism (Cesaroni and Garber, 1991). These accounts have described the confusion that these pupils experienced particularly in social interactions with peers. Each of them was aware of being different from their peers and found school life very stressful. Case study accounts (e.g. Gross, 1994) have suggested that this confusion and stress can lead to behavioural problems, such as hitting out at others and being set up to get into trouble. Experts in helping autistic children (e.g. Mesibov and Shea, 1996) have expressed concerns about the inclusion of this group, suggesting that placing them in mainstream classrooms may not lead to independence and that:

“the benefits of full inclusion for students with autism might be even more limited than for the other handicapped students who have been studied.”
(p.342)

Sainsbury (2000) has emphasised how important it is for teachers in mainstream classrooms to understand what it means to have AS and she feels that the main concern should be to ensure the well being of each individual pupil. This means that for some pupils with AS specialist teaching may be needed while:

“For some, inclusion in a mainstream school is a good way of achieving this goal – but it is a means not an end and when the two conflict, the end, not the means, should be given priority.” (p. 45)

It is therefore important for pupils with AS to have teachers who appreciate their particular difficulties and to be provided with the support and learning conditions that can enable them to cope successfully.

2.3: Issues Concerning Asperger’s Syndrome:

(i) What is Asperger’s Syndrome?

In recent years there has been greater awareness of this group of pupils with special educational needs who might previously have been viewed as either eccentric but “odd” or as having behavioural difficulties. The eccentric child was probably a loner with few friends, while the child with noticeable behavioural difficulties may have been treated as if the behaviour was deliberately naughty and either punished for this or perhaps sent to a special school depending on the degree of disruption displayed. Yet with greater awareness among professionals both in Health and Education Services of the existence of a condition known as AS, it is now likely that these children would receive extra help in school, if this condition was suspected.

Asperger’s syndrome was named after Hans Asperger, who wrote an article published in German in 1944, where he described the cases of four boys who showed autistic features. This article became more widely accessible when translated into English by Frith (1991), who noted several similarities between autism as described by Kanner and the condition described by Asperger, which is known as Asperger’s syndrome. These similarities included poor social interaction and communication skills, isolated special interests, stereotypical behaviour and a resistance to change. However, whereas Asperger had described the children as speaking more like adults than children with clever-sounding language, Kanner had noted that children with autism tended to parrot speech or to not talk at all (Frith, 1991).

Since researchers became aware of similarities between autism and AS, debate has focussed on whether they are variants of the same condition. It was suggested by Wing (1991) that autism and AS could be viewed as belonging to a continuum, where the main feature was social impairment but the levels of severity varied. This social

impairment was thought to affect the child with AS to a lesser degree than the child with autism but both had features of what Wing referred to as the “triad of impairment.” This triad affected the three areas of social interaction, communication and imagination and Wing noted that deficits in these areas were present in both conditions. More recently Wing (1996) has described the two conditions as being “autistic spectrum disorders” and in addition to the triad of impairments has noted the presence of a poor understanding of time and space and also a resistance to change.

(ii) Is Asperger’s Syndrome Similar to High-Functioning Autism?

There has been considerable debate as to whether Asperger’s syndrome is similar to or different from autism in terms of clinical symptoms. Generally it has been found that children with AS are more able and have more speech than all but high-functioning autistic children but the former’s understanding, particularly of abstract or complex meanings, appears to be weak and they tend to speak in a pedantic or formal way (Gillberg, 1989). Szatmari et al (1990) compared children with high scores on intelligence tests and found few statistically significant differences between children diagnosed with AS or high-functioning autism. This finding was supported by Eisenmajer et al (1996), who found that although both groups had some deviancy in their communication development, those with AS were more likely to seek social interaction and friendship and appeared to have less severe symptoms relating to social functioning.

Gillberg and Ehlers (1998), in a review of the literature concerning high-functioning autism and AS, suggested that one of the main distinguishing features between them might be the presence of motor clumsiness in children with AS. Ozonoff et al (2000) looked at 39 non-retarded children diagnosed as having a Pervasive Developmental Disorder (PDD) compared with a control group of 27 children with no developmental problems. Based on the DSM-IV criteria, data from the diagnostic interview and observations, they assigned 23 of the PDD children to a group referred to as high-functioning autism, 12 to a group referred to as AS and 4 to a group referred to as “Pervasive Developmental Disorder Not Otherwise Specified.” Using a variety of tests and ratings for cognitive ability, language skills, social skills and behaviour, they found relatively small differences between the children with high-functioning autism and AS. They concluded that it was therefore appropriate to view AS as belonging to

the autistic spectrum and to retain the label of Asperger's syndrome. This view was shared by Wing (1998), who agreed with Gillberg (1992) that AS and high-functioning autism were both part of a group of disorders of empathy. Rather than regarding them as different conditions, she felt that it was important to have information about the quality of social interaction and level of verbal and non-verbal skills in order to meet the individual child's needs appropriately. Leekam et al. (2000), who looked at 200 children and adults comparing ICD-10 and Gillberg's diagnostic criteria, agreed that the label of Asperger's syndrome had practical value in determining the help that could be given to the individual and recommended moving away from trying to differentiate AS from autism.

According to Klin et al. (2000), there is a need for both a clear definition of Asperger's syndrome and detailed descriptions of the symptoms. At the moment they feel that too much reliance is still being placed on the descriptions of both Asperger and Kanner, who were unable to validate their findings, unlike researchers today who have a wider range of research methods available to them. They suggested that in future genetic profiles could perhaps play a useful role in bringing about earlier and more effective intervention.

A total population study in Gothenburg, Sweden (Ehlers and Gillberg, 1993) found a minimum prevalence of 36 per 10,000 for AS and a male to female ratio of 4:1. Five cases of AS were clearly identified among the 1,401 children aged between 7 and 16 years for whom teacher questionnaires were completed and all five cases met the criteria of ICD-10 and also the criteria put forward by Szatmari et al (1989) and by Gillberg and Gillberg (1989). Gillberg (1991) also noted that AS is often found in relatives and similar evidence was produced by Volkmar et al (1996), where a brain scan for their subject and his engineer father showed similar abnormalities, suggesting familial transmission. Baron-Cohen et al. (1997) found that fathers and grandfathers of children with autism were more than twice as likely to work in the field of engineering than the fathers and grandparents of other children. There is also evidence to suggest an increased likelihood of AS and autism in twins and in siblings than in the general population (Volkmar and Klin, 2000). Bailey et al (1996) have suggested that twin and family studies indicate a heritability figure of 91 – 93% for an underlying liability to autism but pointed out that possible obstetric complications needed to be considered as

the likelihood of such complications seemed to be higher for autistic children. At the present time the actual genetic mechanisms involved remain unclear but molecular genetics could one day identify which genetic markers are responsible for inheriting autism.

(iii) The Main Features of Asperger's Syndrome:

According to Hans Asperger, the children with the condition described in his paper (translated by Frith, 1991) showed peculiarities of eye gaze and use of their voice. He noted that they lacked empathy and understanding of social cues and had particular difficulties with verbal and non-verbal communication. They also had circumscribed interests, lacked a sense of humour and showed some conduct problems in addition to motor awkwardness. He noted that there were similar traits in family members as well as claiming that a large number were "only" children. These features have been included in various diagnostic criteria used to identify AS (e.g. Gillberg, 1989; Szatmari et al, 1989) as well as the deficits in the areas of social interaction, communication and imagination. These three areas of deficit, described by Wing (1991) as the "triad of impairments," have been emphasised in more recent screening devices (e.g. Myles et al, 2001; Scott et al, 2002).

Volkmar and Klin (2000) have summarised the six main sets of clinical diagnostic criteria currently in use and have found many similarities but also some differences, such as whether motor clumsiness is included and whether the onset of speech and motor delays should be before the age of 3 years. They called for a clearer definition of Asperger's syndrome with diagnostic categories which are useable and reliable. In the meantime they have identified the relevant clinical features of AS as follows:

- Onset by the age of 3 years
- Circumscribed interests (which usually relate to factual information)
- Motor functioning problems
- Social functioning problems
- Communication problems
- Poor understanding of others, contributing to increased risk of other conditions

(iv) Strategies that Can Help the Pupil with Asperger's Syndrome:

In view of the difficulties experienced by pupils with AS due to the triad of impairment, it is important to provide them with a learning environment that takes account of their difficulties. Problems which they face include a poor understanding of what is happening around them, inadequate verbal skills to make their needs known and a lack of imagination to enable them to cope with uncertainty and anxiety (Howlin, 1998). Within a mainstream school situation the pupil with AS faces challenges in several areas including communication with others, social skills, motor clumsiness, having obsessions which may interfere with learning and being hypersensitive to certain stimuli which may cause particular problems in a relatively noisy school environment (Carrington and Graham, 1999). As there is a variation in severity of symptoms among pupils with this condition, it is important for educational psychologists to assess the strengths and weaknesses of an individual pupil and to provide advice that takes account of this child's own world and special abilities (Billington et al, 2000). Any intervention should address the main areas of difficulty for this particular pupil (Connor, 1999) and where available, Outreach support could also be helpful to staff in mainstream schools who may not understand the needs of an individual with autism (Sheppard, 2000). Generally for this kind of pupil it is important for the teacher to be aware of the unique characteristics of this condition and to provide visual cues and structures to overcome some of the difficulties with understanding of verbal instructions (Volmer, 1995). The use of specific areas of the classroom for various learning activities with labels for equipment and providing visual timetables for the pupil for each day's activities can help to reduce anxiety about what will be happening and what needs to be done. Volmer has also pointed out that it is important for the pupil with autism to know what tasks are to be carried out and how much work will be needed before it is completed with visual prompts provided, such as a template, where appropriate. The pupil may benefit too from having an individual work area free from distractions to minimise the potentially distracting effects of light or noise and may need to be taught the classroom routines via a structured and supportive approach (Seach, 1998).

Cumine et al. (1998) have also suggested that the class teacher may need to modify tasks to take into account the child's strengths and ensure that the level of work is appropriate, while at the same time gradually increasing the demands placed upon the

child so that progress is made. They pointed out that care needs to be taken over the language used by the teacher so that instructions are broken down into steps and given one at a time and backed up by visual prompts where possible. Connor (1999) also advised that staff should ensure that the child was giving attention before any message was presented either verbally or visually and check for understanding by asking the child to repeat or rephrase instructions. He pointed out that it was important for staff to handle the pupil with AS consistently and to share details of progress both among themselves and with parents. In a further article Connor (2000) described interviews with a sample of secondary pupils and Special Needs Co-ordinators. These interviews indicated that one of these pupils' main areas of concern related to peer interactions outside the classroom setting. It was confirmed by the Special Needs Co-ordinators in these schools that the pupils with AS were often isolated from their peers and had some serious social problems. He therefore recommended raising awareness of AS among the peers of these pupils and making use of peer support.

(v) Social Interaction Difficulties Experienced by Pupils with Asperger's Syndrome:

According to Gillberg (1992), Asperger's syndrome belongs to a sub-class of disorders of empathy and one of the main features is poor understanding of the "inner world of others." This area of difficulty has been described by Baron-Cohen (1995) as a form of "mind-blindness" or a lack of a "theory of mind" because the autistic individual is unable to theorise as to how others are thinking or feeling, making it particularly difficult to interact effectively in social situations. He and other researchers have devised a series of tests to look at how children with autism cope with "false-belief tasks." These are situations shown visually which involve deception taking place that one character in a comic strip knows about but about which another character, who was absent when the deception occurred, remains ignorant. Whereas the normally-functioning child can usually understand deception by working out what a person might know, the autistic child tends to fail the test by not realising that not seeing leads to not knowing.

Ozonoff et al. (1991) proposed that a deficit in “executive function,” which refers to a wide range of abilities (such as flexibility, organisation and planning), is responsible for the deficits in theory of mind. Ozonoff (1998) has attributed this deficit in executive function to frontal lobe damage, which leads to features such as impaired communication, a tendency to engage in monologue and to focus on one aspect of information at a time as well as difficulty in integrating details. Baron-Cohen (1998) has also recognised that this deficit in executive function may cause problems for the autistic child, particularly in pretend play situations where it is difficult to switch from “reality mode” to “pretend mode.” Ozonoff (1998) expressed the view that because of the problems involved with executive dysfunction, this can lead the autistic child to stick rigidly to a particular problem-solving strategy that is familiar rather than trying another approach, even if the strategy being used is not always effective. She felt that direct teaching of more appropriate strategies might help to overcome this lack of flexibility.

In order to see whether teaching theory of mind skills could improve social skills in young autistic people Ozonoff and Miller (1995) carried out a study with nine male adolescents. Each of them had a full Intelligence Quotient of above 70 and had a diagnosis of autism or Pervasive Developmental Disorder Not Otherwise Specified. Five of the subjects were placed in a treatment group and given 14 sessions of social skills divided into two units, while the other four subjects received no treatment. The first unit lasting for seven sessions covered interactional and conversational skills, while the other unit looked at perspective-taking and theory of mind skills. Although there were no differences in theory of mind measures between the two groups of subjects at pre-testing, it was noticeable that whereas four out of the five subjects in the treatment group had improved on theory of mind skills by post-testing, only one of the four no-treatment subjects had improved.

Another study on teaching theory of mind to autistic children (Hadwin et al, 1997) also found significant improvements in performance on theory of mind tasks relating to understanding of emotions and beliefs. This led to publication of a book in which a practical method for teaching children to mind-read was presented (Howlin et al, 1999) involving a systematic, visual approach towards recognition of four emotions (happiness, sadness, anger and fear) using photographs and line drawings of faces.

Initially the child was required to identify these emotions. The next stage was to discuss various situations which could trigger the emotions so that the child was asked to predict how a character would feel by looking at pictures where the face of the child had been left blank. When the child had successfully mastered the prediction stage, the adult could discuss how a child's desires being fulfilled or left unfulfilled could also lead to emotions. The final stages of the programme looked at what beliefs the child might expect the cartoon characters to hold in certain situations. For each stage the child could work through a workbook of carefully graded tasks with adult guidance and perhaps also apply the knowledge gained to real-life situations.

(vi) Improving the Social Interaction of Pupils with Asperger's Syndrome:

In view of the relatively poor level of understanding of how others feel shown by pupils with Asperger's syndrome, particular problems may be experienced during unstructured times at school. Attwood (2000) has pointed out that although several strategies are available, there is still no "research evidence to substantiate their effectiveness." He feels that it is important to address this area if these children are to be successfully included within their local mainstream schools alongside their peers.

One method often used to help children who have difficulty with social interaction is to teach them social skills either within the classroom or more usually within a small group situation. Gresham (1995) distinguished between social skills deficits relating to "acquisition," where there is an absence of knowledge, and those relating to "performance," where the skills exist in a behaviour repertoire but are not being used. In the case of children with AS it is likely that these deficits are due to an absence of knowledge in view of their "mind-blindness" and lack of awareness of the responses that they are expected to give to others when they interact socially. As children with AS tend to find it difficult to generalise "skills learnt in one situation to new situations unless this is specifically taught" (Jordan and Jones, 1999), social skills training within a small group may not be as effective as other forms of intervention. Gresham (1997) expressed concerns about generalising social skills across "settings, situations, persons and time" for participants generally so children with AS, who already have particular problems with generalisation, are probably even less likely to benefit from this kind of training.

One attempt to improve the social skills of children with autism over thirteen terms was described by Williams (1989). He used the social skills programme developed by Spence (1980) and usually spent one term on each topic. A total of ten children took part and all of them attended a resourced unit for autistic children attached to a mainstream primary school. In this unit they were taught on a one to one basis but those chosen for the study were attending the mainstream school for most of their lessons. The social skills training included recreational games, role-play exercises and modelling as well as direct instruction and discussion. The Social Behaviour Questionnaire (Spence, 1980) was used at the start and at the end of the four years and all seven children for whom completed questionnaires were returned showed improvements. These improvements included initiating conversations with staff and talking with peers and more than eight of the ten children had more than one friend. However, Williams expressed concern that in spite of these improvements there was a lack of generalisation of some of the skills mastered in the sessions to new situations.

Another study which provided social skills training for a group of eight boys with AS involved two phases of training and tried to overcome the problem of generalisation (Marriage et al, 1995). They attempted to increase the likelihood of generalisation by varying the room and the building between four possible sites and changing the group leader from among three therapists. While the boys were having their sessions, the parents met informally for discussions in another room and they completed various questionnaires. The boys were given homework tasks to complete involving written answers, which they discussed in small groups at the following week's session in groups of two or three with a therapist. It was found that although the boys seemed to become more confident and to make gains in certain social skill areas, there were only slight improvements in the parent ratings. Unfortunately this study also found that the skills did not seem to generalise to other settings such as school, even though the parents felt that they would be able to encourage their sons to play in one another's homes in the future.

A practical programme of social skills training was subsequently devised specifically for children with autistic spectrum disorders and good cognitive skills, taking account of their needs at different ages (Aarons and Gittens, 1998). It was intended for use in small groups led by speech and language therapists and it was envisaged that the

sessions would probably take place in a clinic setting. There was a strong emphasis on the use of video recording to show both appropriate behaviour and also the progress made by the children and a large number of practical suggestions for activities were provided. This appeared to be a social skills training programme which addressed some of the particular difficulties experienced by children with AS but it was designed for these children to meet together as a group rather than being with normally-functioning peers. It was therefore unclear as to whether the skills could be generalised to everyday situations as there was no research presented by the authors to evaluate the effectiveness of their programme. One way forward might have been to use some of the evaluation materials provided in a package produced by Spence (1995), which included a Social Skills Questionnaire for teachers and parents as well as other measures based on interviews, observation and sociometry. It would then have been possible to take measures of a child's social skills both before and after the training was given in order to see if noticeable improvements had occurred both in the responsiveness of the target children towards others and in the way others related towards them. Having pre- and post-intervention measures would perhaps have also highlighted those areas where the greatest amount of progress was made.

An alternative to social skills training, which could be applied within mainstream schools, is a peer support group system which originated in Canada (Pearpoint et al, 1992) and which was introduced in this country by Newton et al (1996) known as "Circles of Friends." This involved helping to include children with special educational needs in their local mainstream schools by providing them with peer volunteers to support them socially. Initially the school's educational psychologist or another outsider was involved in introducing the aims of the group and describing the feelings of those who have no friends and who only have involvement with those paid to help them in order to explain the focus child's problem and to enlist volunteers. Ideally these "Circles of Friends" were intended to have between six and eight children who joined the focus child for sessions run by a key member of staff on a weekly basis (Newton and Wilson, 1999). When this method was evaluated, it was found that not only the focus child but also the others in the group gained from the experience and those taking part showed improved listening skills and a greater empathy for others (Newton et al, 1996).

This idea was taken up by a team working with autistic children in Leicestershire (Whitaker et al, 1998), who set up “Circles of Friends” for each of six children with autism. Five of these children attended mainstream schools in Years 3 to 10 and one attended a school for children with moderate learning difficulties. Each of these children had a “Circle” of between six and eight pupils selected by their class teacher from volunteers and the meetings took place at lunchtimes. The effects of these “Circles of Friends” were evaluated through interviews and questionnaires for the group members, the focus child, parents and member of staff responsible for the circle. No disadvantages were reported for any of those who took part and the parents reported that their children had shifted to playing more with same-age peers rather than with children younger than themselves. However, the researchers did not provide details of all the progress made so it is unclear how much improvement there was in the longer term for the children with autism within the mainstream school setting. It seemed that providing the AS child with a supportive group of normally-functioning peers could be useful in helping to improve social skills on the playground, although for this particular study the social skills training group would differ in several ways from this kind of “Circle of Friends.”

(vii) Other Strategies to Improve Social Interaction Skills of Pupils with Asperger’s Syndrome Within Mainstream Schools:

As social skills training may not be easily generalised to new situations outside the small group situation, particularly when used with pupils who have AS, alternative strategies with a visual emphasis may also be needed. One such method is referred to as a “comic strip conversation” (Gray, 1994a), which involves the pupil and adult drawing simple pictures together in an interactive way to identify what people usually say and do and what they might also be thinking. In these drawings different colours can be used to identify certain emotions, such as green to show “good ideas,” involving happiness and being friendly in contrast to red to show “bad ideas” such as anger, teasing and being unfriendly. As the pupil with AS tends to respond well to visual supports, Gray felt that pictures might help with discussing particular situations in which conversations could take place with peers and adults so that appropriate responses could be worked out. The pupil would then have a plan as to what to say on a future occasion and thus feel more confident to tackle what might otherwise have been a difficult situation.

Another visual method developed by Gray (1994b) is known as the “social story”. This consists of a list of sentences illustrated with photographs or line drawings to prepare a child for a situation where a behavioural change is required, often involving a social situation which the child finds difficult. The story is written by an adult who knows the child well and it aims to explain things from the perspective of the child, using three types of short, direct sentence with vocabulary suitable for the child’s level of understanding. These are “descriptive sentences,” which relate what people do in a given situation and the reasons why, “perspective sentences” to describe the reactions of others to the particular situation and “directive sentences,” stating the expected responses from the child. By reading the story to the child or encouraging him or her to read it before this situation occurs, the aim is to help the child to cope more successfully and appropriately in a situation where difficulties may have previously arisen. For example, an intervention for a Year 2 pupil with AS, who had difficulty joining other children for lunch, was successfully implemented by Rowe (1999) using a 3-page social story following identification of the problem, discussion and observation. The intervention, which lasted for twelve weeks, led to the pupil joining others for lunch and no longer shouting out that the other children were “noisy” and “disgusting” because they ate with their mouths open. The technique is relatively simple and straightforward yet appears to address particular problem areas faced by individual pupils with AS in a visual way that they can understand.

Another study by Swaggart et al (1995) found that social stories were also useful for children who had moderate to severe autism as noticeable improvements in the quality of play resulted for two 7-year-old boys who were encouraged by their social stories to share toys. The researchers were able to show that individual versions of the same social story could lead to improved social skills for more than one child with an ASD. They admitted that their study lacked empirical rigour as only two children shared the same social story but both they and Attwood (2000) felt that it was important for further research to investigate social stories and their usefulness in improving social skills for pupils with ASDs. Attwood put forward a list of social behaviours that could usefully be taught to pupils with AS including how to join a group of children, how to monitor what is said so that there is an equitable distribution of conversation and how to compromise in situations involving differing opinions. He recommended the use of

social stories “to assist the child to acquire the necessary cognitive mechanisms” in conjunction with a friendship index to indicate progress in the social skills necessary for relating appropriately to peers. It was therefore intended in this study to use social stories to encourage pupils with AS to pay particular attention to certain skill areas which they needed to work on in addition to the social skills being taught in group sessions with their peers.

2.4 The Playground and Social Behaviour:

(i) The Role of Playtimes:

According to Blatchford (1998):

“Almost every school – primary and secondary- has some form of compulsory break ... and it is during this part of the school day that pupils are relatively freed from the attention of adults and the structure of the classroom.” (p. 1)

Yet although Blatchford (1998) found in his national survey of one in ten English primary and secondary schools that the average time for total breaks is 93 minutes for infants, 83 minutes for juniors and 77 minutes for secondary pupils, little research has been carried out into the playtime activities. It is an important opportunity for making friends and for releasing what is referred to as “surplus energy” and as Blatchford’s survey found, the pupils themselves value having a break from work. Typically this time is spent outside and supervision is provided either by teachers or by adults who have usually received little or no training (Pellegrini and Smith, 1993). Those who oppose having such breaks feel that they detract from learning time in what is a crowded school day and disrupt work patterns, while at the same time providing an opportunity for aggression and bullying. Those in favour of having these breaks feel that they allow children to let off steam and can help to reduce fidgeting in class (Pellegrini and Blatchford, 2000). It also allows teachers a break from their classrooms unless, as suggested by Evans (1989), the children who play when they are supposed to be doing their work are kept indoors as a punishment and are not allowed out to play.

(ii) Research into Playground Behaviour:

Initial research into playground behaviour has found that children of different ages tend to choose different activities. Older children of primary age often play more rule-governed games with special skills, such as football, and younger children show an interest in playing with certain friends rather than in winning (Evans, 1989).

Blatchford (1998) in his longitudinal study found that during adolescence pupils were less likely to choose to play outside and that while at age 11 active games were dominant, by age 16 these were less popular and talking to friends and “hanging around” were more attractive activities. He suggested that when starting to attend secondary school, games may be useful for developing friendships but as these friendships become more stable over time, fewer outside games are needed. There appears to be a decline in aggression and teasing by the time pupils reach their late secondary years.

Gender differences have also been researched with studies indicating that boys are more keen to play outside than girls (Pellegrini, 1995). For example, Serbin et al (1993) found in their study of girls and boys aged between 9 and 11 years that among boys aggression tended to be accepted as “normal” play, while girls tended to engage in less physical activity. For girls aggression was negatively correlated with being liked and usually teachers viewed aggressive girls as having serious social problems.

Compared to the boys, the girls in this study spent 34% of their playtime watching or talking to others as opposed to only 20% for the boys. In contrast Serbin and her colleagues found that boys spent 60% of the time actively engaged in play, while the girls spent 54% of their time playing so this was slightly less. Other studies have also confirmed that boys tend to be more physically active on the playground and that as they reach the upper end of primary school, they often dominate the playground with their games of football (Boulton, 1996; Rennie, 1996). Using observation in the classroom and on the playground, Pellegrini and Davis (1993) found that the more physically active the boys were on the playground, the longer they took to settle down to work on their return to class. The girls who had been less active and who had taken part in more sedentary activities during playtime settled down to their work more quickly and seemed to show improved levels of attention following the playtime. This study also compared the length of period of confinement before playtime and it was found that the children tended to fidget more and their concentration decreased during

the longer period of confinement. This led them to put forward a “novelty theory,” claiming that children become less attentive as a function of time during seatwork and that playtime offers an opportunity for novelty in the form of a more interesting option than classwork.

Several studies have looked at children who do not relate well to their peers, often with a focus on the activities that they engage in. For example, Ladd (1983) found that rejected boys spent significantly more time alone or interacting with girls, unpopular classmates and younger children as well as spending more time in arguments. He felt that by spending less time playing with same-age peers who are good role models, these rejected boys had less opportunity to practise age-appropriate behaviour and would also receive less support emotionally from their peers. This led him to recommend that interventions should be set up to increase the effectiveness of interactions for these rejected children. Other studies have looked at play-styles and their relationship to the sociometric status of children of various ages. Generally the findings have suggested that popular children spend more time in co-operative behaviour, while rejected children tend to wander around aimlessly or to play in significantly smaller groups and with younger and less popular children (Ladd and Price, 1993).

Some sociometric studies have looked at what is referred to as “rough and tumble play.” This kind of physically active play is where children alternate between running after one another and being chased, perhaps jumping on one another or wrestling occasionally and this is often an in-between stage between pretend play and games with rules (Pellegrini and Blatchford, 2000). In a longitudinal study in the United States with children from kindergarten to grade 4, Pellegrini (1995) found that there was a similar amount of rough and tumble play for both popular and rejected children. However, among rejected children this kind of play tended to lead to aggression and not to the affiliation and co-operation found among popular children. Pellegrini suggested that the rough and tumble play could lead to useful problem-solving skills and greater co-operation among popular children so the way it was handled by individual children could be a useful predictor of their social competence.

The view that rough and tumble play enables children to practise social skills had already been put forward by Humphreys and Smith (1983). They pointed out that boys engage in rough and tumble play more than girls and that the highest proportion of rough and tumble play occurs at 7 years but has decreased by 11 years. For the child who has AS and who sees such behaviour taking place but who may misinterpret its purpose, trying to join in this kind of play could lead to problems on the playground. The fine line between rough and tumble play ending up with co-operation or leading to aggression may be beyond the understanding of some pupils with AS, perhaps leading to aggressive incidents where this pupil is either the perpetrator or victim of aggression. It may therefore be necessary to provide interventions to help both these pupils and other rejected pupils to improve their ability to co-operate with their peers on the playground in order to reduce incidents of conflict and unintentional aggression.

One study which looked at the issue of the social integration of children with special educational needs in a mainstream school and included observation of playground interaction with peers was reported by Frederickson and Woolfson (1987). In this study seven children from a school for physically disabled pupils were placed in middle school classes that were grouped vertically so that two year groups were in the same class. These children were compared both with children attending an "Additional Studies Unit," who were of the same sex as each of the physically disabled children and a mainstream group of the same sex selected randomly from the class list. All the children were observed on the playground during the lunch break on three separate occasions for a total of 15 minutes each time, using a time sampling observation schedule that recorded their behaviour every 30 seconds according to eight categories. These categories looked at whether the children were alone or interacting with peers either with one individual or in a group and whether they were showing negative behaviour. In addition to these behavioural observations, two sociometric measures were also taken with a peer rating scale and a peer nomination measure. The peer rating scale used a five-point Likert scale, where all the children in the class were listed for the children to rate how desirable each child was as a friend and from this scale each child was given a score to indicate the average ratings from same-sex classmates. The peer nomination measure was obtained by asking the children to name three children they liked to play with best so that each child had a score from the total number of nominations from same-sex classmates. With these sociometric measures it

was found that two of the seven physically disabled children received no best friendship choices and two were only chosen by each other but three had at least one choice reciprocated by a non-handicapped peer. It was also noticed that the three physically disabled children who received low peer acceptance scores and more peer rejections tended to be involved in negative interactions with peers when observed. It was suggested that the late admission of these physically disabled pupils may have made it more difficult for them to form friendships and that having fewer same-age peers to interact with at special school may have prevented them from learning how to interact within a group. It was therefore recommended that a longitudinal study might enable each child's present interaction skills to be compared with their own previous performance both to determine which specific skills needed to be taught and how best to assist their mainstream peers to accept them more readily.

Another study looked at how children with moderate learning difficulties attending a special school coped socially compared with a group who had integrated into mainstream school (Martlew and Hodson, 1991). They also matched each of the 10 children attending mainstream school with a child of the same age and gender. They observed each child in the playground using interval sampling, whereby four periods of observation took place for two minutes at a time with behaviour recorded for each 10-second period. The observation categories looked at social proximity with peers and whether the interactions were positive or negative. In addition to the observations nine of the children in each of the groups in the mainstream school were interviewed and a questionnaire relating to the effects of integrating children with moderate learning difficulties into mainstream schools was given to the teachers in both schools. The findings of this study indicated that the children with moderate learning difficulties showed no difference in the amount of contact with peers in each type of school but in mainstream schools they were more likely to be teased and had fewer friends than mainstream children. It appeared that the main advantages of attending a mainstream school were the greater range of games and the chance to play with more children but it was recommended that intervention strategies were needed to help these children to mix more successfully with their mainstream peers.

Another area being examined in relation to playground activity is that of physical competence. Barbour (1996) carried out playground observations and interviews with

target children, classmates, class teachers and PE teachers and found that children with high physical competence had higher status, were more active and had more varied repertoires for initiating and sustaining interaction with peers than those who had low physical competence. The latter tended not to join in organised games and were more likely to engage in pretence play and to have less positive peer relations on the playground. Similar findings were obtained by Smyth and Anderson (2000), who used the “Movement ABC” to allocate children to a group experiencing poor co-ordination referred to as “Developmental Co-ordination Disorder” if they scored below the fifteenth centile and compared these with controls matched for age, gender and verbal ability who scored above the thirty-fifth centile. A detailed observation schedule was used to look at the size of group each child played with and whether it was a group of same gender or mixed gender or involved with an adult and what play activity the child took part in. The categories for play activity included formal or informal team games with or without rules, fantasy play, whether the child was stationary or moving and whether the activity involved skill mastery, rough or tumble play or negative social interaction. By analysing these observation findings it was shown that the children with poor co-ordination spent more time alone, more time looking on and less time in large groups and in formal or informal team games than the controls. It was noted that at the age of 6 years these poorly co-ordinated children were already spending more time on their own or with one other child so social exclusion on the playground was already evident. Smyth and Anderson expressed concern that children who are clumsy may find physical activities more demanding of their attention and at the same time this may reduce their capacity to deal with the social demands involved in playing with their peers. As pupils with AS tend to have poor social interaction skills in addition to clumsiness, they would probably also produce similar findings in such a study, although the authors deliberately excluded children known to have this condition.

(iii) Interventions to Improve Playground Behaviour:

There have been relatively few reported interventions aimed at improving playground behaviour, possibly because to some extent teachers assume that “useful learning” usually takes place in the classroom and teacher training does not usually address playground behaviour (Evans, 1989). However, there have been a number of reported interventions aimed towards reducing aggression and bullying on the playground and which have led to positive outcomes.

One such study was carried out in Edinburgh by Briggs et al (1995) in a primary school situated within an area of social disadvantage. Two educational psychologists worked collaboratively in this school for half a day each fortnight and introduced a whole-school approach with two target groups of six pupils in Years 4 and 5 who had playground problems. Initially a bullying survey was carried out in these year groups and all parents of pupils in Years 4 and 5 were encouraged to attend workshops. The target groups participated in ten sessions, each of which was divided into two sections and led by a class teacher and an experienced social worker from the Intermediate Treatment Service. In the first section there was discussion and feedback on recent playground behaviour regarding the children's weekly goals. The second section involved playing non-competitive games in the school gym to promote co-operative play skills. The educational psychologists monitored the progress of the groups and held regular meetings with the group leaders. Following this intervention the pupil questionnaires indicated that less bullying was taking place and there was also a significant reduction in the number of recorded playground incidents. Those pupils who had taken part in the groups reported that the project had helped them to keep out of trouble and it was noted that generally behaviour in class had also improved for these target pupils. The factors identified as contributing to the success of this project included the school taking "ownership" of the problem and providing group workers who were both flexible and willing to compromise. It was also felt that the focused nature of the social skills work, with the aim of boosting self-esteem as well as providing play experience, enabled the children to transfer these skills to the playground.

Roderick et al. (1997) reported a different kind of intervention aimed at reducing aggression on the playground of an infant school at lunchtimes which involved lunchtime supervisors giving up to five raffle tickets per day over a period of nearly 5 weeks to children who were playing co-operatively and not fighting. Training was initially given to the lunchtime supervisors to alert them to behaviours that could be rewarded and observation took place on one of the two playgrounds before and after the scheme was introduced. The raffle tickets enabled the children to enter a raffle at the end of term to win a large container of lego bricks and after each lunchtime teachers stuck the tickets into a page of an exercise book for each child. Advantages of this intervention included the children becoming aware that improving their behaviour gave

them a greater chance of winning the raffle and the scheme itself was not time-consuming but enabled lunchtime supervisors to focus on positive aspects of behaviour rather than looking out for trouble-makers. The post-intervention observations confirmed that there was a reduction of 75% in the average number of kicks per day and of 47% in the average number of hits per day on the playground where observations took place and there was an overall reduction in aggression.

Generally it has been found that interventions aimed at improving the social behaviour of children that target specific social behaviours tend to produce the most significant improvement (Zaragoza et al, 1991). Gresham (1992) has claimed that a functional approach may work best with children who have learning difficulties, whereby the child's behaviour is observed carefully to identify the functional relationships between environmental events and the child's behaviour so that the analysis can suggest ways to improve the situation for the child. For playground interventions it is important for observation to take place to inform the adults involved as to which behaviours need to be targeted. Observational techniques on a playground have tended to rely mainly on written recording with schedules listing categories of activity (e.g. Ladd, 1983; Pellegrini and Davis, 1993). Alternative methods have included the use of a hand-held computer to record categories of activity (e.g. Smyth and Anderson, 2000), tape-recording an account of the actions of a targeted child (e.g. Sluckin, 1981; Boulton, 1992) and a few have more recently used remote audio-visual recording with the target children wearing a microphone and a video camera filming their movements (e.g. Pepler and Craig, 1995; Pepler et al, 1998). The aim of such observation is to record behaviour both before and after the intervention using the same method of recording to see if the intervention itself has led to any noticeable changes in behaviour. For this to happen the researcher needs to be clear as to what aspects of behaviour the intervention is targeting and to design a recording system which will be sensitive enough to measure them and to indicate after the intervention whether these behaviours have been influenced.

2.5: The Rationale for This Study:

Nowadays increasing numbers of pupils with Asperger's syndrome are being included in their local mainstream schools rather than being sent to specialist provision, yet at the same time they tend to experience serious difficulties in their social interaction with peers, particularly when outside on the playground. Many but not all of these pupils have been provided with Statements of Special Educational Needs, which enable them to be supported in class. However, their social isolation from their peers may not have been addressed by the provision made in their Statements and if they have been provided with adult support on the playground as well as in class, this may have left them even more isolated. Having such support may mean that they have someone to prevent them having disputes with peers but this has not necessarily helped them to join in playground games. Others who have Statements may only be provided with support in the classroom and are then left to fend for themselves on the playground.

For many of these children with AS, going outside with their peers can be a frightening experience (Sainsbury, 2000). They may be unaware of the rules governing how to play certain games, may not understand how to join a group of children and may also experience difficulties with the level of noise and movement around them in view of their particular sensitivity to sensory stimulation. To reduce this sensory overload, some may run around on their own, retreat away or turn to an adult on duty to talk about their topic of interest. Others may disrupt the games of others without understanding what they have done wrong or hit out at children who accidentally touch them, perhaps even causing a fight to take place. Although school staff may be aware that these children are not being "naughty" deliberately, it can be time-consuming to sort out disputes that involve them and it is not always easy to calm them down if they feel a sense of injustice. As this aspect of life in school could potentially make a significant contribution to whether there is successful inclusion for the children concerned, it is clearly important to investigate ways of facilitating social interaction during unstructured times with a focus on the playground situation. This study therefore explored how to help children with AS to cope with playtimes by addressing the following questions:

- Can pupils with AS be taught to play specific games via an intervention with a supportive group of peers?

- Can this intervention improve their ability to join in similar games and activities with their peers on the playground?

While there are some similarities in that each child with AS has difficulty in understanding the viewpoints of others and experiences social interaction difficulties, he or she is a unique individual with varying degrees of social skills deficits. It was therefore not possible to compare these children directly with one another so it was decided to carry out a collective case study of the inclusion of several boys of primary age. What they did have in common was that each boy had received a diagnosis of AS according to the ICD-10 criteria and had a Statement of Special Educational Needs providing them with support from at least one Learning Support Assistant but the extent of their social interaction difficulties varied. Some were loners who chose to withdraw from their peers and to take part in solitary activities, while others lacked the necessary skills to join in playground games and tended to disrupt games by not following the rules. A similar intervention took place for each AS child and each served as an example in his own right. At the time of this study there were relatively few children in mainstream schools who had been identified as having AS and who also had Statements so there were not enough children to form a large sample of AS children who had a Statement. By having a Statement each child chosen was receiving support in the classroom from a designated Learning Support Assistant (LSA), who could assist in the intervention and provide reinforcement of what was covered in the sessions at appropriate times during the rest of the week. This reinforcement was particularly important when a “social story” was being used, as Gray (1994b) recommended that this should be read with the pupil every day in order to increase the effectiveness of the message it was conveying.

The methodology for this case study involved obtaining data both before and after an intervention for each of six AS boys in order to identify any differences in their ability to play with their peers. The data collected included playground observations of the target children to see if there were any noticeable changes in how they behaved on the playground. Another source of data collection looking at changes in their social skills was obtained from semi-structured interviews both before and after the intervention with each child’s mother and also with either his class teacher or Learning Support Assistant, using a social skills schedule. In the pre-intervention interview the

respondents were also asked a series of questions aimed at finding out which social skills and playground behaviours were causing concern to help to inform the theme chosen later for the child's social story.

During the intervention itself an informal observation also took place to compare the AS child with a normally-functioning peer. It was felt that if the AS children's problems with social interaction could be identified and the effective strategies employed by their normally-developing peers could be pinpointed and analysed, these target pupils could be taught the necessary skills to enable them to interact in a more appropriate way with their peers on the playground. There was no available literature at the time of this research relating to helping AS children to cope more effectively in the playground situation but it was felt to be important for this aspect of social interaction to be studied in more depth. By improving their coping skills on the playground it was hoped that these AS children could perhaps form some friendships with their peers, thus facilitating their inclusion.

Chapter 3. METHODOLOGY.

3.1 Introduction to Methodology:

This study involved a case study approach to examine how to facilitate the inclusion of six target children, particularly when outside in the school playground. Each child had a diagnosis of Asperger's syndrome (AS) using the ICD-10 criteria, was attending mainstream primary schools serving the catchment area in which he lived and was a unique individual who was affected with different degrees of AS characteristics. Each child was male and for this reason the pronoun "he" is used throughout this account. One target child in an infant school was unsuccessful in coping with the demands of joining his peers for the intervention so a seventh target child took his place instead. Each target child was provided with a group of up to five peers from his own class and took part in weekly sessions involving playing games under the supervision of the researcher and a Learning Support Assistant (LSA) who worked with him in the classroom. (Details concerning the participants appear in section 3.8.) Each target child was also provided with a social story at approximately halfway through the intervention to address an area of weakness in his social interaction which had been mentioned in the pre-intervention interviews or observed prior to the intervention or during the early sessions with his group. To measure the progress of each target child a playground observation took place both before and after the intervention and interviews were held with the child's mother and either his LSA or class teacher.

3.2: Methodological Issues:

(i) Triangulation:

Research carried out in schools, especially when the researcher is directly involved in carrying out the intervention, is probably more at risk of being subjective and value-laden than if straightforward experiments were conducted in a laboratory under strict conditions. Scott (1996) pointed out that although experimental studies in an artificial setting may not necessarily apply to real life, those carried out in the field are likely to be influenced by political and ethical concerns and other subtle effects of which the researcher may be unaware. Being an active participant in the research as well as being the researcher may lead to influencing some of the results that are being observed and perhaps also missing certain changes that are taking place without necessarily being

aware of this. Keeping detailed notes in a research diary describing what happens ensures that these written records can be referred back to later. A researcher who takes part in research can watch at first hand the reactions of the participants and check out their views about the situation, thus learning more than might be possible as a non-participant. However, time constraints and selectivity as to what is significant may influence what is recorded and subtle changes may not always be easy to identify.

As it was recognised that being a lone researcher can lead to a vast amount of subjective data, efforts were made to use a variety of methods of data collection, including structured observation on the playground and obtaining the views of the target child's mother and class teacher or LSA. It was hoped that having several sources of data would reduce the likelihood that one view of the situation would dominate and that by using what is referred to as "triangulation," the findings of one source of data would in theory be supported by another. As explained by Stake (1998):

"Triangulation has been generally considered as a process of using multiple perceptions to clarify meaning, verifying the repeatability of an observation or interpretation. But, acknowledging that no observations or interpretations are perfectly repeatable, triangulation serves also to clarify meaning by identifying different ways the phenomenon is being seen." (p. 97)

The researcher was a participant in this research due to designing and delivering the intervention and writing the social story for each child in consultation with the child's teacher or LSA. However, with the sharing of the social story, the LSA was given responsibility for doing this as frequently as possible between the sessions with the expectation that this aspect of the intervention would be carried out daily. Bias in the research was controlled in three ways: firstly by employing a range of methods to triangulate the data, secondly by using a research diary to monitor how perceptions may have influenced the data and thirdly by trying to maintain consistent interaction throughout the sessions.

(ii) Use of Structured Observation:

The formal observation of each of the six boys with AS took place on the playground both before and after the intervention in order to see if the child was behaving in the same way or whether a noticeable difference could be identified. The research was

aimed at playground behaviour and identifiable changes so this was where the structured observation took place using an observation schedule designed for this purpose.

For the pilot study unstructured observation was used to see what was happening in order to determine what to include in the structured observation schedule because to date few studies have been carried out into the quality of social interaction on the playground and most have looked at types of play (e.g. Evans, 1989; Boulton, 1992). Several of these studies used a tape recorder with an ongoing commentary from the researchers as this enabled them to avoid looking down in order to tick boxes or to write notes (e.g. Sluckin, 1981). Usually this tape-recorded observation required the behaviours to be coded afterwards from the tape recording and relied on the accurate recall of the observer as to what had been happening so the analysis needed to take place as soon as possible afterwards. Other researchers have used predetermined categories and time-sampling methods so that at regular time intervals the target child's behaviour could be recorded (e.g. Pellegrini, 1995). This method required careful timing and a clear understanding of the categories in order for accurate recording to take place. Both of these methods of observation could possibly be biased by subjective interpretations of the behaviours observed and ideally required the observer to have a clear vantage point away from inquisitive children (Gillham, 2000a). Disadvantages of the pen and paper recording method included incomplete data, while the tape-recording method could produce some irrelevant information, if as much detail as possible was included.

The use of video-recordings might have seemed a useful solution to this dilemma as this would mean that the video could be viewed many times and shared with others to obtain inter-observer agreement. However, a busy playground is a difficult place for video recording to take place unless the target child remains in one known location, which can be viewed by a hidden camera. The movements of other children can easily obscure the target child and the quality of such recordings may be poor as well as being unable to produce a record of what is said. A solution to this dilemma was found by Pepler and Craig (1995), who provided each target child with a microphone transmitter and other children in their class with dummy microphones. In their study of playground bullying they were then able to record the target child's activities with a

video camera mounted on a tripod in the school building and they simultaneously recorded the audio signal from the microphone to provide a record of what was said. Overall using this method they only lost about four percent of the data due to the child moving out of view and by using the video recordings and the words spoken by the children, they obtained 93% inter-observer agreement as to which coding categories the behaviours belonged to.

As the children with AS tend to have particular difficulty in engaging in meaningful interaction with others, it was considered difficult to generate categories from the actual information gained from observations in the playground so accordingly predetermined categories were used to measure both the quantity and quality of the target children's interactions with other children on the playground. In order to obtain a representative sample of each target child's social interaction behaviour, interval recording took place every sixty seconds over a period of between ten and twenty minutes as this was the likely duration of a typical playtime. A short break after the fifth observation was built into the recording process because this kind of observation can be tiring and it is usually recommended to restrict it to between ten and fifteen minutes (Edwards and Talbot, 1999). At each of ten one-minute intervals the child's behaviour was recorded on coded scoring sheets according to two criteria (see Appendix 6):

- 1) **Level of interaction with others**, ranging from alone to interacting within the centre of a group of children and
- 2) **Quality of interaction with others**, where the child was scored according to whether there was any interaction with others, whether it was positive or negative and whether it was verbal or physical.

For example, a child seen to chase another child and tug at their clothing to gain attention would be recorded as "interacting with one child" (level of interaction) and taking part in "negative physical interaction" (quality of interaction). If instead the child was on his own studying a tree trunk, the two categories would be recorded as "alone" (level of interaction) and engaging in "no interaction with others" (quality of interaction). From these observations it was anticipated that a pattern would emerge of how the target child spent a typical period of unstructured time and this, in addition to the data obtained from the questionnaires would indicate which of the target child's current behaviours might be improved via the intervention.

(iii) Interview and Questionnaire Data:

As the observation data could be subject to the child responding in a particular way on the day of observation, the researcher considered that it was important to find out from others what kinds of behaviour were typical for this child. It was considered to be helpful to obtain this baseline information from interviews with school staff in order to identify each of the individual target pupils' main areas of difficulty on the playground. For this reason a questionnaire relating to playground behaviour was administered to either the target child's class teacher or LSA (see Appendix 8). Another questionnaire was given to the target child's mother asking about the child's early history and the process that had led to their awareness of his AS as well as concerns relating to the child's current level of social interaction both in and out of school (see Appendix 7). Both of these questionnaires were carried out as a semi-structured interview face-to-face with the respondent so that the researcher could clarify questions which were unclear to the respondent and could thus avoid a nil response (Breakwell, 1995). As only six children were studied and a hundred percent return was required, it was important to ensure that each child had a member of school staff and a parent responding for this purpose. The questions were read out to each respondent with the same wording and in the same order but the respondent was able both to provide examples of when particular behaviours had occurred and to expand on issues causing concern to the respondent.

Additionally a social skills schedule (see Appendix 5) was completed by both the target pupil's parent and class teacher or LSA in order to identify weaknesses in social interaction skills needed to relate appropriately to peers. This schedule involved a series of twenty statements relating to three broad categories of social skills. The main categories identified in literature on social skills training have varied between authors but in a programme devised by Aarons and Gittens (1998) specifically for groups of children with ASDs the following four categories were considered to be particularly important for play situations:

- Sharing interests
- Awareness of others
- Social understanding
- Creative and interactive use of language

They placed these categories at the top of a pyramid where the skills below included attending, looking, listening and understanding as well as turn-taking, remembering and using words. Their programme was arranged according to the age of the children and focused on improving social communication skills, starting with self-awareness and gradually moving on to listening, turn taking, looking and group interaction.

For this study the following three categories were selected:

- Acknowledgement of others
- Interactive use of language
- Play-related skills

For the twenty items in this social skills schedule a Likert scale was used ranging from 1 for “hardly ever” to 5 for “almost always” with the other numbers in between indicating a gradual increase in frequency. For cases of uncertainty there was a “don’t know” category but the respondent was encouraged to avoid this category if at all possible as research has shown that it may be unclear whether a “don’t know” response should be taken at face value (Gilljam and Granberg, 1993). Similar social skills schedules have been used in other social skills training (e.g. McGinnis and Goldstein, 1997) and several items from the social skills schedule devised by Spence (1995) were modified to take account of the particular areas needing to be addressed for children who have AS. These social skills schedules tend to be used both before and after the social skills intervention has taken place to see if progress has been made. Ideally if the intervention has made a difference to the target pupil’s behaviour, there should be fewer identified areas of weakness following the intervention so that the improvements can be attributed to the effects of this. Then if the schedule is presented again several weeks later, it should be possible to show that these improvements have lasted over a period of time. The schedule should also indicate whether skills learned during the intervention have generalised to other situations beyond the training environment (Gresham, 1995). In a review of generalisation effects for reported social skills interventions Du Paul and Eckert (1994) suggested that in order for the skills learned to be maintained, an intervention should be targeted to a real setting, such as the playground or classroom. Therefore in this research by holding as many sessions as possible on the playground, the play skills were taught in the setting where they were most likely to be used.

(iv) Intervention:

For the intervention itself it was intended that the target child would be taught some skills relating to playground behaviour to enable him to join in with his peers more appropriately in future. Informal observation of other normally-functioning children of the same age as the target child helped to indicate what kind of playground activities were taking place within a particular school before a group of same-age peers could be set up to help this child. In order to select the children for the social skills training group the class teacher was asked to choose five other children who were considered to be well adjusted and to have good social skills so that they could serve as role models for the target child to imitate and to learn from with the aim of having a gender balance of three children of each gender. The group of children was intended to meet weekly at the same time for a minimum of six sessions lasting between 30 and 60 minutes. In each case the target child's LSA assisted in running the sessions as she was able to provide reassurance in the event of any problems or misunderstandings. She was also able to assist in determining which behaviour to focus on for the target child's "social story" and checking that the language used for this was at a level which the child could understand (Gray, 1995).

3.3: Ethical Considerations:

Ideally in research all participants should give informed consent before taking part but in education this is not usually possible as the children are legally under the age where they can give their consent (Robson, 1993). This means that where research takes place in schools, it is often the headteacher who gives consent on behalf of the school staff and pupils (Fox and Rendall, 2002).

As this research involved young children, who were unable to give informed consent themselves, the parents of the target children were initially contacted by letter and asked to provide consent for their child to be included in the research. When these parents had agreed to allow their child to take part, they were then visited at home both to clarify what was involved and also to give them the chance to complete the Parental Interview and the Social Skills Schedule. The County Education Officer for the LEA had given permission for the research to be carried out and each target child's headteacher had agreed for the research to take place with the latter given guidelines as

to how the other children in the group should be selected by the target child's class teacher (see Appendix 1). Most of these children were selected for their friendly and responsible attitude, although in some groups there was one child who was shy and felt to need encouragement to become more confident. The parents of these children were sent a letter by the school seeking their consent for their child to join the group and promising confidentiality and highlighting the benefits of being part of the group (see Appendix 2). When any child asked the researcher if they were there to help the target child, this was confirmed but during this research this only occurred once when a girl supporting Child C complained about his tendency to tell the others what they should be doing and commented that he needed help with this. In two of the groups it was necessary to explain to the other children that they were there to support the target child: firstly when Child F refused to join the third session for his group and also when the group for Child D was reduced in size. It was felt to be important that none of these children taking part should be harmed in any way as the aim of the research was to benefit both the children involved and the school community (Greig and Taylor, 1999). Therefore the progress of both the target children and those supporting them was monitored to ensure that they were enjoying the sessions and benefiting from them and a copy of the research notes for each session was made available to the school staff to keep them informed as to how the sessions were progressing (see Appendix 31).

When each headteacher agreed to allow children from their school to participate in the study, a reassurance was given that neither the school nor the children would be named in order to protect the anonymity of the participants. For this reason the target children were assigned letters of the alphabet and none of the schools was named and this was intended to ensure that the participants could not be identified, if any of the findings were subsequently published. In this way the schools and parents themselves would be able to recognise that their contribution to the research was valued but at the same time they could retain their anonymity. As expressed by Fox and Rendall (2002):

“EPs need to ensure their research is meaningful to the communities in which it is carried out... It should be carried out, not for EPs themselves, but for the participants and their communities. In this way it becomes ethical research.”
(p.69)

3.4 Observational Measures:

(i) Observation Schedule for Unstructured Time/Playtime (see Appendix 6):

Before using the observation schedule to observe the target child informal observations took place on the playgrounds of the schools involved in this study to see which activities were most common for the peer group of the target child. This was intended to give children the opportunity to become familiar with the presence of the researcher and allowed the researcher to see in which area of the playground the target child appeared to spend most time. In the pilot study these informal observations had enabled the researcher to devise the observation schedule and to check that the one-minute time sampling method would work. Further refinements were made to the schedule so that instead of the activities themselves being recorded as originally intended, the focus of attention switched to the level and quality of interaction in which the target child engaged. For the normally-functioning boys it appeared that the majority interacted at the centre of a group of children and engaged in positive physical interaction, often involving chasing or playing a game with a ball. The categories selected for the observation schedule within the headings of level of interaction and quality of interaction were completed for each of the ten one-minute intervals according to the following categories:

Table 1: Observation Categories

Level of Interaction	Quality of Interaction
Alone	Positive verbal interaction
Interaction with adult	Positive physical interaction
Interaction with one child	No interaction
Interaction at periphery of group of children	Negative verbal interaction
Interaction at centre of group of children	Negative physical interaction

The category entitled “level of interaction” was intended to show whether the target child was interacting with others at the time of the observation and the category “quality of interaction” was selected to indicate whether the child was interacting with others in a positive way either verbally or physically. It was anticipated that if the intervention had been successful, there would be an increase in the number of post-intervention observations of the child with a group of children and in the number of observations involving positive verbal or physical interaction.

In order to see if the observation schedule was reliable, a colleague accompanied the researcher for the pre-intervention observation of Child F and recorded her observations independently at one-minute intervals. On this occasion both this colleague and the researcher recorded the same categories for each of the ten behaviours observed, indicating perfect inter-observer reliability for this particular child and using this observation method. Ideally a more rigorous check on the reliability of this observation schedule could have been made if each child had been observed by two observers rather than only by the researcher. However, due to unpredictable weather and fitting the observations around other work commitments, it was difficult to plan in advance the visits to observe the target children and it was not always possible to have another observer available at short notice so none of the other observations were subject to checks for inter-observer reliability.

(ii) Informal Observation During Intervention (see Appendix 9):

During the intervention when the child had taken part in at least two sessions and the main areas of difficulty relating to social interaction were becoming more evident, an informal observation was carried out. This involved observing both the target child and another child in the group who showed effective social interaction skills. The observations were informal because neither child was to be aware of being watched and they were written down as soon as possible after the session. Four main behaviours associated with social interaction were watched carefully:

- Use of eye contact when talking to someone
- Asking questions appropriately (e.g. in a guessing game: “Is it a person?” or “Does it move?” as opposed to, “It’s a stegosaurus, isn’t it?” or, “Is it ugly like my horrible sister?”)
- Waiting to speak without interrupting
- Showing an interest in others: watching what they do and listening to what they say

From these observations it was intended to examine differences in the quality of interaction of the target child and of the normally-functioning peer as each of these four behaviours was considered to be necessary for positive social interaction with peers.

Where there was a weakness for the target child which could be addressed through the “social story,” this period of observation was used to guide the topic chosen so that the social story could be written and introduced at the next session.

3.5: Interview Measures:

(i) Interview with Target Child's Mother:

Following the formal observation of the target child on the playground and before the intervention itself, an appointment was arranged with the child's mother to conduct an interview and to answer any questions that she might have concerning the intervention. The mother was chosen to supply these responses rather than the father because in the case of three of the target children, the mother was no longer living with the child's natural father. For two children the father was present at the initial interview and was able to add his own comments to supplement those supplied by the mother.

During this appointment the mother was asked to give answers in a semi-structured interview, providing details both of the child's early background before he started school and her current concerns (see Appendices 7 and 13). The first section of the semi-structured interview helped to fill in gaps relating to the child's early development and allowed the mother to describe what she remembered about any differences between him and other children. The second section relating to current behaviour focused on social interaction skills and aspects of behaviour associated with AS and it included a list of behaviours sometimes found in children with this condition. As not all of the behaviours causing concern to the mother were included on the list, she was given the chance to add to the list and this was followed by an open-ended question to allow for a summary of the mother's main areas of concern.

In most of the interviews the mothers reported that they became certain that their child was different from other children at between 2 and 3 years, having been reassured by health professionals that "he is just a bit slow" when they had previously queried aspects of their son's developments. By this stage it became more obvious that their child was not speaking like his peers or responding to the play activities on offer at playgroup. Child D was the youngest of the target children to have a diagnosis at 5 years 1 month, while the oldest was Child G, who was 8 years 3 months when he was provided with his diagnosis. Four of the six target children were diagnosed between 6 and 7 years, mainly following concerns expressed by school staff in their first years at school, adding greater weight to the parental requests for diagnosis to take place. A survey by Howlin and Moore (1997) of 1,295 families with a child subsequently diagnosed with ASDs had found that 93.1 percent of parent had experienced anxieties

by the child's third birthday yet the average age at which a final diagnosis was obtained was 6.11 years. In the case of these seven children the average age at which a final diagnosis was obtained was 6 years 4 months so they had all been undiagnosed when they started to attend school and only three had been seen by an educational psychologist beforehand.

The mothers were also asked questions about their child's current behaviour and they ticked items on a list of features often associated with AS (see Appendices 14 and 15). On the list of features all the mothers indicated that their son interrupted other speakers and for six of the seven children it was reported that they had poor use of eye contact and tended to talk at people rather than to them. All but one of the children had a fascination for an unusual topic and did things on their own terms. Clumsiness and disliking certain noises were mentioned for six of the children and all but two were described as seeming at times to be in their own world. All of the mothers felt that in mainstream school it was their sons' social interaction difficulties which were of greatest concern and for this reason they were keen for their sons to take part in this intervention. The variation in answers given by the mothers confirmed that each of the AS children was unique and that they were far from being a homogenous group in spite of having a similar diagnosis so this helped to reinforce the need for each child to be viewed as an individual in his own right.

After completing this interview each mother was given a copy of the Social Skills Schedule to complete (see Appendix 5). This was a list of 20 statements worded positively listing social skills items and using a 5-point Likert scale. It was developed by the researcher with reference to the one developed by Spence (1995) and included those social skills considered necessary to function successfully during unstructured times of the school day. On this Social Skills Schedule the mother was asked to circle the number which corresponded to how she felt her child interacted typically with children of his own age from 1 for "hardly ever" to 5 for "almost always" and where 3 represented "fairly often." There was a "don't know" category to allow a mother who genuinely felt unable to give an answer to indicate this. The first five items on the list referred to skills involving "acknowledgement of others" and included use of eye contact and smiling. The next eight items referred to "interactive use of language" and the final seven items included "play-related skills." It was expected that this last group

of behaviours would reflect most accurately any change in behaviour following the intervention, which was focused on unstructured time and the playground where play-related skills were important. However, by measuring the other two categories as well, it was intended to see if these areas improved either instead of or in addition to the play-related skills because these skill areas were also considered important for successful social interaction with peers.

Finally the Social Skills Schedule included two open-ended questions asking which particular social skills the mother would like her child to be taught and which of his current behaviours she would most like to see improved. It was intended to consider these when determining which behaviour to focus on when writing the child's "social story."

(ii) Interview with Target Child's Class Teacher or Learning Support Assistant:

Before the intervention an interview was arranged with either the target child's class teacher or the LSA who would take part in the group sessions. This enabled the researcher to explain what would be happening in the sessions and allowed her to share the information gained from the formal observation on the playground to check whether this behaviour was typical. As time permitted only one observation session for each target child before the intervention and another after it had taken place, it was useful to check whether the behaviours observed occurred regularly in case the observed session was unusual in any way. In all of the cases it was felt that the observations had been typical for the target child in question.

Initially the class teacher or LSA was given a semi-structured interview relating to the target child's playground behaviour and asking for a list of current behaviours causing concern and what strategies had already been tried to address these (see Appendix 8). Then there was a list of playground behaviours considered relevant to pupils with AS to be ticked and a section for adding other behaviours that might usefully be addressed by the intervention. This interview provided a list of playground behaviours but none of the behaviours was found for all seven children, thus confirming their individual variation and uniqueness. The most frequently reported aspect of playground behaviour involved wandering around alone or running around with others, which was reported for 5 of the target children (see Appendices 22, 23 and 24).

Afterwards the Social Skills Schedule mentioned above was also completed by the member of school staff because in the school situation the class teacher or LSA would have opportunities to see how well the target child was interacting with his peers and could add another perspective to that provided by the parent.

3.6: Pilot Study:

In the pilot study a Year 6 child, who had a diagnosis of Asperger's syndrome but who was awaiting his Statement of Special Educational Needs, was taught to play bench ball with a group of seven boys chosen from his year group. This boy, who will be referred to as Child X, was finding it difficult to relate to his peers yet was desperate to have friends. His method of attracting attention from his peers on the playground was to run around and to grab hold of others as he did so. Often the other child was hurt or found this irritating and would try to push Child X away. Sometimes fights would ensue as Child X felt that as he had been hit, he should hit back. If this happened, he was sent into the school building by dinner supervisors and eventually he was sent home for lunchtimes. However, the head teacher was willing to allow an LSA to work with Child X and a group of boys under my supervision and this led to Child X having eight sessions of playing bench ball in the school hall during the last half an hour of the lunch hour once a week.

Initially Child X tended to stand awkwardly on the court and was often in the way of the others. He looked unhappy and confused and did not seem to know what he should be doing but as the sessions went on and he was taught how to play the game in a tactical way, the other boys involved him more in the game and Child X gained in confidence. By the end of the sessions Child X was smiling and moving around the court, seeking the ball and aiming to score as many goals as possible so he appeared to have benefited from the intervention. His behaviour on the playground had also improved because several of the boys from his group were involving him in their games of football and encouraging him to play with them. He was happy to join in the football games and no longer ran around the playground in an aimless way trying to gain attention, but instead was playing in a more purposeful way. He was allowed by the head teacher to stay at school again during lunchtimes and generally appeared less isolated and unhappy during unstructured times as well as relating better to his peers in the classroom, talking with them more often than he had done in the past.

This pilot study confirmed that having sessions with a supportive group of peers and supervised by the researcher and an LSA could help to change the behaviour on the playground of a child with AS from being in trouble for fighting others to becoming a more co-operative child who related more appropriately towards his peers and who sometimes joined in games of football.

Table 2: Diagram of Stages Used in this Intervention:

Method	Target child	Parent	Class teacher or LSA	Focus
Pre-intervention Observation	10 x 1 min. observations (playground)			Quantity & quality of interaction
Pre-intervention Interview		Semi-structured + Social Skills Schedule	Semi-structured + Social Skills Schedule	Features of Asperger's & ratings for social skills
Intervention	6+ sessions playing games with peers		LSA to assist with running sessions	Improving target child's social interaction
Informal observation	Observing target child & one peer			Area to target social story
Social story	Illustrated story	Could share social story	Sharing social story	An area of weakness
Favourite Games Questionnaire	Completed on last session by each child			Comparing choices given
Post-intervention Observation	10 x 1 min. observations (playground)			Comparing with pre-intervention
Post-intervention Interview		Social Skills Schedule	Social Skills Schedule	Comparing with pre-intervention
Extra sessions	Child B & C	Social Skills Schedule	Social Skills Schedule	If more progress

3.7: The Intervention: (See Table 2 for stages used.)

As a result of information gained during the pilot study, several changes were made to the intervention used in the study itself:

- Presenting the aims of the sessions to the participants during the first session.
- A special game was played with the target child and his group of peers to focus on improving the main categories of social skills (see Appendix 3).
- Using smaller social skills training groups with both boys and girls.
- Holding a minimum of six sessions lasting approximately 30 minutes as it took Child X about 3 weeks to settle and learn the rules and names of the other children. (He was given 8 sessions and appeared to benefit most from the last 5 sessions.)
- Providing a social story from approximately the halfway session because in hindsight it seemed that Child X might have found it easier to cope if he had been given a social story to remind him how to play the game as he needed reminders at the start of each session.
- Illustrating this social story with Polaroid photographs taken during the earlier sessions and focussing its theme on an area of difficulty identified during the observations, interviews and early sessions (see Appendices 28, 29 and 30).
- Ensuring that this social story would be shared with the target child several times between the sessions to reinforce its message and then giving verbal reminders during the following sessions where necessary so that the skill being targeted could be encouraged to develop and improve.

3.8: Participants:

The major participants - seven male pupils who had been diagnosed as having Asperger's syndrome using the ICD-10 classification and who had been provided with Statements of Special Educational Needs by their LEA (see Table 3) - were attending maintained primary provision within the same LEA. Two were at infant schools, four at junior schools and one in a primary school. At the time of this study there were relatively few pupils with both a Statement and the ICD-10 diagnosis so those selected were a convenience sample rather than chosen according to any specific criteria. Each child had support in class from LSAs, with hours each week ranging from 10 hours to full-time support of 25 hours. Two children with full-time support and one with 17.5 hours of support had two LSAs, one for mornings and one for afternoons and the others

had only one. The children's IQ scores fell within the broad average range of 80 to 120 with three exceptions, each of whom was assessed when very young and whose poor concentration and motivation may have led them to give up and thus under-score on most of the tasks (Children A, D and F).

Table 3: Summary of Features Relating to Target Children (labelled A to G)

Feature	A	B	C	D	E	F	G
Age at Start of Sessions	7y 0m	8y 11m	8y 2m	7y 10m	9y 4m	6y 3m	10y 4m
Year Group	2	4	3	3	5	2	6
School	Infants	Juniors	Juniors	Primary	Juniors	Infants	Juniors
Age at Diagnosis	6y 1m	6y 11m	6y 6m	5y 1m	6y 4m	5y 7m	8y 3m
Position in Family	Oldest (sister)	Oldest (twin brothers)	Oldest (brother)	Oldest (brother)	Oldest (sister)	Youngest (2 older brothers, 1 sister)	1 older and 1 younger brother
Predominant Obsession	Toy cats or mice	Weather	Computers	-	Star Wars	Washing machines	Dinosaurs
LSA weekly support	15 hours	12 hours	10 hours	25 hours	20 hours	25 hours	17.5 hours

Joining the major participants were children who formed the social skills training group for each target child. In each case, there were initially five other children from the target child's class chosen by their class teacher because they were willing to participate and did not have any emotional or behavioural difficulties. It was agreed that one child in each group could be a shy child who might benefit from being encouraged to mix with others and in two of the social skills training groups the class teacher did select one withdrawn child. There was usually a gender balance with three girls and two boys chosen to support the target child. In two groups there were three boys and two girls but for one group (i.e. for child D) it became necessary to have only one boy and one girl. Permission was obtained from the parents both of the target

child and of the other children who took part in the social skills training groups and it was agreed that names of these children would remain confidential.

Although there were seven children with AS who initially participated in this study, the youngest child in the study (i.e. child F) was unable to take part as originally intended. This boy was observed prior to the intervention and his mother and LSA were seen for pre-intervention interviews. Unfortunately this boy only took part in two sessions as in both sessions he became very distressed and kept putting his fingers in his ears as if trying to shut out the voices of the other children. During the second session photographs were taken to illustrate a social story and this led him to cover his face with his hands. When the researcher arrived for the third session, this boy refused to join the group, although the session took place in his absence. As he was so unhappy about joining the group for any further sessions, it was agreed with his mother and staff in the school that he should no longer participate in the study. In spite of only partial participation in this study it was useful to learn what could go wrong when a child with AS is very sensitive both to joining his peers in play activities and to having his photograph taken.

As mentioned above, another of the target children included in the study, a Year 3 boy in a primary school (i.e. child D), needed to have the size of his group reduced to help him to cope with the games as he became very anxious when he was with the other three boys and two girls who were in his original group. After two sessions it was agreed that he would find it easier to learn how to play the games with only one boy and one girl in his group and this worked much better for him. As he was only able to tolerate a few minutes at a time, he needed several breaks during the session so that he could run around on his own in order to calm down before joining in again. For this particular boy, it was helpful to provide him with illustrated rules for each of the games in order to remove some of the uncertainty and to encourage him to follow the rules when he was playing them. These illustrated rules were read through with his LSA each day and she gave him opportunities to practise them with her when he had his own special playtime each afternoon alone with her.

3.9: Intervention Procedure:

For the intervention itself each target child and his social skills training group had a weekly session led by the researcher and assisted by the target child's LSA for between 30 and 60 minutes to play games aimed at improving his social interaction and play skills. Where possible, the sessions were held outside in a clearly defined section of the playground but if the weather was unsuitable or other children were out on the playground at the time, the sessions were held in a large room (e.g. a drama studio or classroom). It was intended to hold a minimum of six sessions depending on the availability of the room and whether there were school holidays but usually at least seven sessions took place and the maximum was twelve sessions.

For the pilot study only one game was played (i.e. bench ball) and in two of the interventions (with Children A and D) a selection of games was played that included games played by other children in the target child's school as well as some aimed at improving listening skills and co-operation with others. With the remaining target children a special game was played that had been designed for the purpose of the intervention, whereby the children threw a dice with six colours to determine where they could move to on the board and which game they would play (see Appendix 3).

The colour they threw indicated which activities they would take part in:

- games with physical movement – *blue*
- games involving careful observation - *yellow*
- games involving listening skills - *red*
- role-plays of social situations - *green and coin "heads"*
- questions about particular social situations - *green and coin "tails"*
- moving forward one space – *black*
- moving forward three spaces - *purple*

There were also "free-choice" spots and "tell a joke" spots that they could move to in order to provide some variety and to reward children who enjoyed particular games with an extra chance to play them. At the end of the game when the first child reached the "finish," there was a special party with three games of this child's choice as well as a drink, crisps and biscuits. This was intended to be a kind of "thank you" to the children who had supported the target child as well as an opportunity for the sessions to end on a positive note.

In return for the special party and just before it took place the children were given a short questionnaire to complete where they were asked to list the games that they had enjoyed and those they had not enjoyed (see Appendix 10). This was intended to indicate if the target child had different preferences from his peers and to allow for further modifications to the game if used with other children in the future. If any children had difficulty writing their answers, either the researcher or the LSA could act as scribe or supply the necessary spellings for them.

The informal observation mentioned above in section 3.4 (ii) was carried out at approximately the halfway session depending on the number of sessions planned. This observation, comparing the target child with another child who had good social skills, was helpful in informing the researcher as to a possible topic to use for the target child's "social story."

The "social story" made use of Polaroid photographs taken during the early sessions and it was written with the LSA advising on the language appropriate for the child concerned. The pages of the book were laminated or presented in a folder to make it more durable so that it could be taken home to show members of the target child's family as well as being shared every school day for a few minutes with his LSA during the rest of the intervention period.

Table 4: Summary of Skill Areas for Target Children's Social Stories

Child	Skill Area being Targeted	Title of Social Story
A	Reduction in aggression on playground	Playing Gently
B	Accepting being caught or "out"	Playtimes and Lunchtimes
C	Allowing others to suggest games	Playing Games with Other Children
D	How to play games according to rules	Some Playground Games to Play with Other Children
E	Letting others have their say and listening to them	Listening to Other People
F	Joining in games more willingly with other children	Playing with Other Children
G	Staying as calm as possible	Staying Calm

3.10: Post-Intervention Measures.

When the sessions had been completed, arrangements were made to observe the target child again as soon as possible afterwards using the observation schedule (see Appendix 6). The same procedure of ten one-minute observations was used so that the level and quality of interaction were recorded along with written comments about the activities which the target child engaged in. Short follow-up interviews were also held with the target child's class teacher or LSA and with his mother to complete the Social Skills Schedule again (see Appendix 5) to see if any noticeable improvements had been found. Of particular interest were the last seven items describing play-related skills. For two of the children (B and C) a further period of intervention was arranged to see if this made a difference to the quality of their social interactions over time and further observation and follow-up interviews took place at the end of the extra sessions.

Table 5: Summary of Qualitative and Quantitative Measures

Main Focus	Qualitative data	Quantitative data
Playground behaviour	Description of current behaviour on playground from school staff	Playground observation of target child before and after intervention (10 x 1 minute observations)
Social interaction with peers	<ul style="list-style-type: none"> Interview data on target child's areas of difficulty from mother and school staff <p>Research diary records</p>	Social Skills Schedule administered before and after intervention to mother and school staff
Play-related skills	Research diary records	Comparing scores on Social Skills items in category of play-related skills before and after intervention
Comparing social skills of target child with peers	<ul style="list-style-type: none"> Informal observation Research diary records 	
Children's Favourite Games	Questionnaire given to children on final session	

Table 6: **SUMMARY OF METHODOLOGY USED IN THIS STUDY**

PRE-INTERVENTION MEASURES

- Playground observation (10 x 1-minute) of target children
- Semi-structured interview for parents
- Social Skills Schedule for parents
- Semi-structured interview for LSA or teacher
- Social Skills Schedule for LSA or teacher

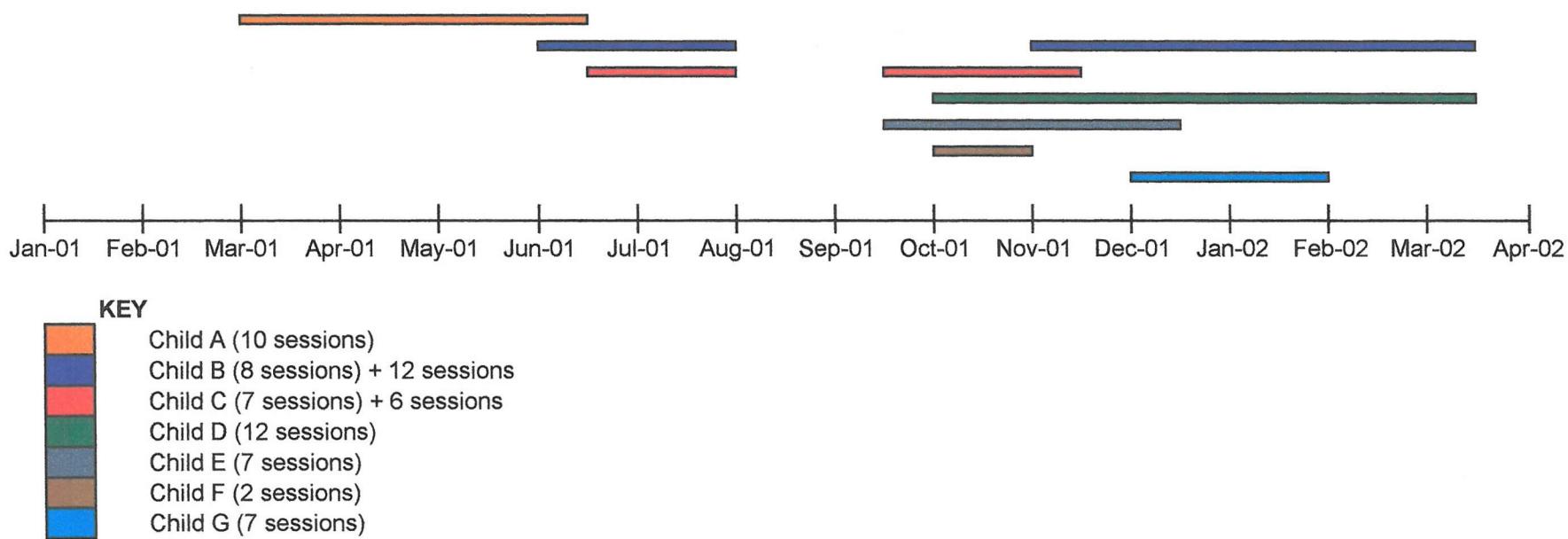
INTERVENTION

- Social Skills training group for each of 6 target children with AS
- 6 to 12 weekly sessions each lasting 30 to 60 minutes
- Playing game to teach social interaction skills with activities including:
 - *Games with physical movement*
 - *Games involving observing others*
 - *Games involving listening to others*
 - *Role-plays of social situations*
 - *Questions about social situations*
 - *Telling a joke*
- Informal observation of target child and a normal peer midway through
- Social story focusing on an area of target child's social interaction

POST-INTERVENTION MEASURES

- Questionnaire for participants about favourite games
- Playground observation (10 x 1-minute)
- Social Skills Schedule for LSA or teacher
- Social Skills Schedule for parents

FIGURE 1: TIME LINE OF SESSIONS



CHAPTER 4. RESULTS:

4.1: Introduction to the Findings:

This research, using a case study to examine ways of facilitating inclusion for pupils with a diagnosis of AS, included a combination of both quantitative and qualitative methodologies. The aim of the research was to find out whether an intervention could help pupils with AS to improve their ability to join in playground games after being taught to play specific games with a supportive group of peers. Although the sample was small, the quantitative measures gave an indication as to whether progress was made by the individual target children by comparing measures taken both before and after the intervention and these included playground behaviour and social skills ratings. For the former, playground observations of the target child took place both at the pre-intervention and post-intervention stage, whereby percentages resulted from observations relating to both who was with the child and whether these interactions were positive. For the social skills ratings a specially designed Social Skills Schedule was administered during semi-structured interviews before and after the intervention to both the target child's mother and either the child's class teacher or LSA and the resulting scores were compared using the Wilcoxon signed-ranks test. Further comparisons were made between three aspects of social skills, using percentages to examine whether the ratings changed following the intervention in each of these aspects. Both the observational and interview data enabled comparisons to be made between the pre-intervention and post-intervention stages and for at least two of the target children these measures indicated some progress in their ability to join their peers on the playground.

The qualitative results obtained in this study included comments made by those interviewed, informal observations of the target child compared with a normally-functioning peer during one of the early sessions in the intervention and diary records kept by the researcher for each session. This qualitative data also indicated some improvements in the target children's social interaction with their peers within the social skills training group as the sessions went on.

4.2: QUANTITATIVE RESULTS:

(i) Playground Observations:

An observation schedule was used on the playground both before and after the intervention (see Appendix 6). A total of 10 observations of the target child took place at 60-second intervals to record a measure of both the level of interaction (i.e. whether alone, with an adult, with one child or either on the periphery or in the centre of a group of children) and the quality of interaction (i.e. whether any verbal or physical interaction occurred and whether this was positive or negative).

The findings of these observations were expressed in terms of percentages of the total number of observations. Percentages for each of the categories were compared for the pre-intervention and post-intervention situation and in general it was found that limited progress was made in the willingness of the six target children to join in playground games with other children following the intervention. There was individual variation in the target children's responses on the playground but overall there was a slight improvement in both the level of interaction with peers and in the quality of these interactions following the intervention with a slight decrease in negative physical and verbal interaction and a small increase in positive physical and verbal interaction (see Appendix 25 and Figure 2).

Key for Figure 2 (see page 62):

Level of Interaction:

A: Alone

Ad: Adult

Ch: Interaction with one child

Pe: Interaction at periphery of group of children

Ce: Interaction at centre of group of children

Quality of Interaction:

VI+: Positive verbal interaction

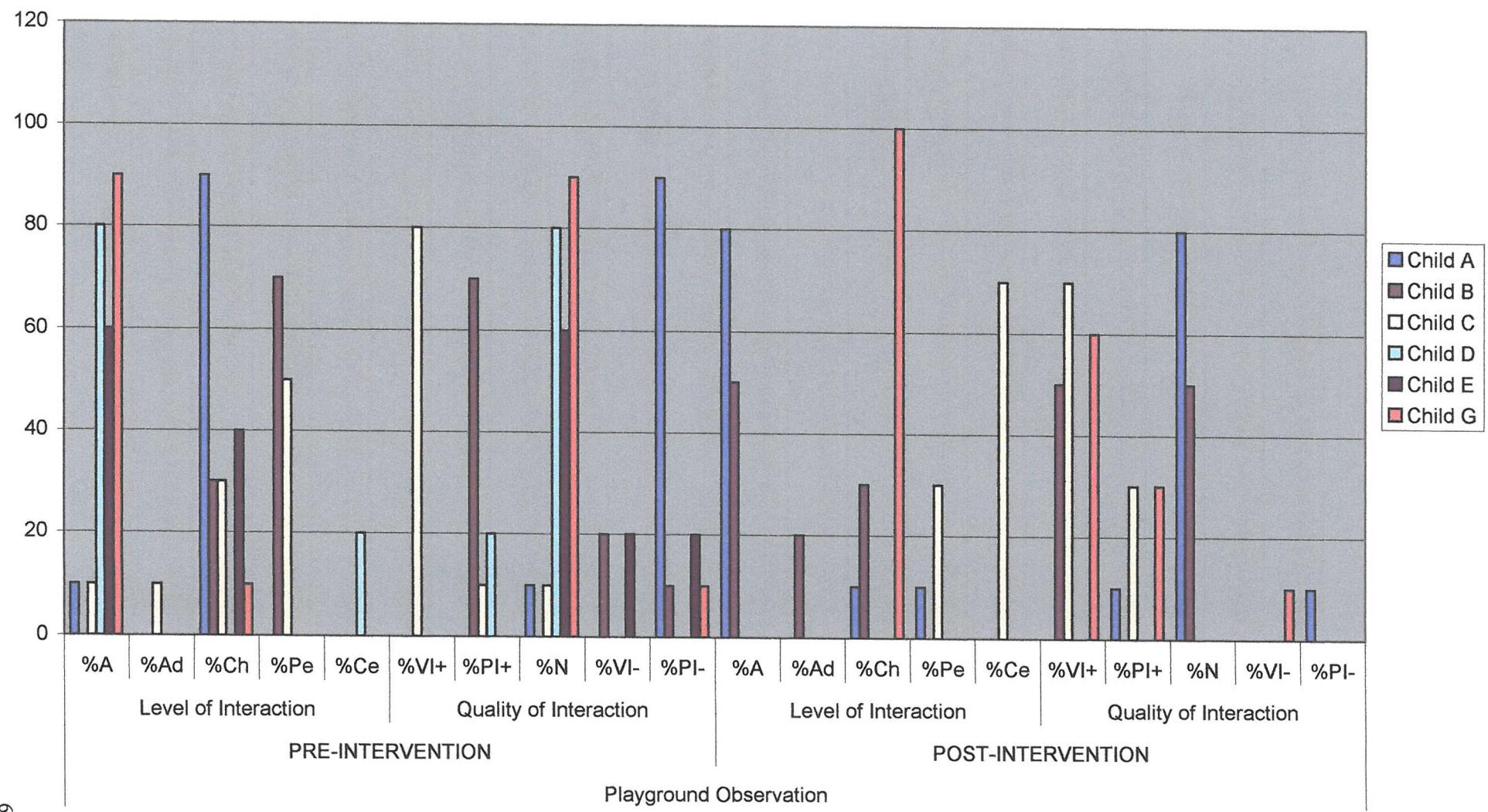
PI+: Positive physical interaction

N: No interaction

VI-: Negative verbal interaction

PI-: Negative physical interaction

Figure 2: Comparison of Playground Observations in Percentages for Pre- and Post- Intervention



These percentages indicated that observed progress had been made as follows:

- Reduction in amount of negative physical and verbal interaction (e.g. in the case of Child A the observations of negative physical interaction fell from 90% in the pre-intervention situation to 10% following the intervention)
- Increase in amount of positive physical and verbal interaction (e.g. in the case of Child E the observations of positive physical interaction rose from 0% to 60% following the intervention)
- More time spent with other children except in case of Children A and D, where Child A was alone for 80% of the observations in the post-intervention situation and Child D was alone for 80% of the observations both before and after the intervention

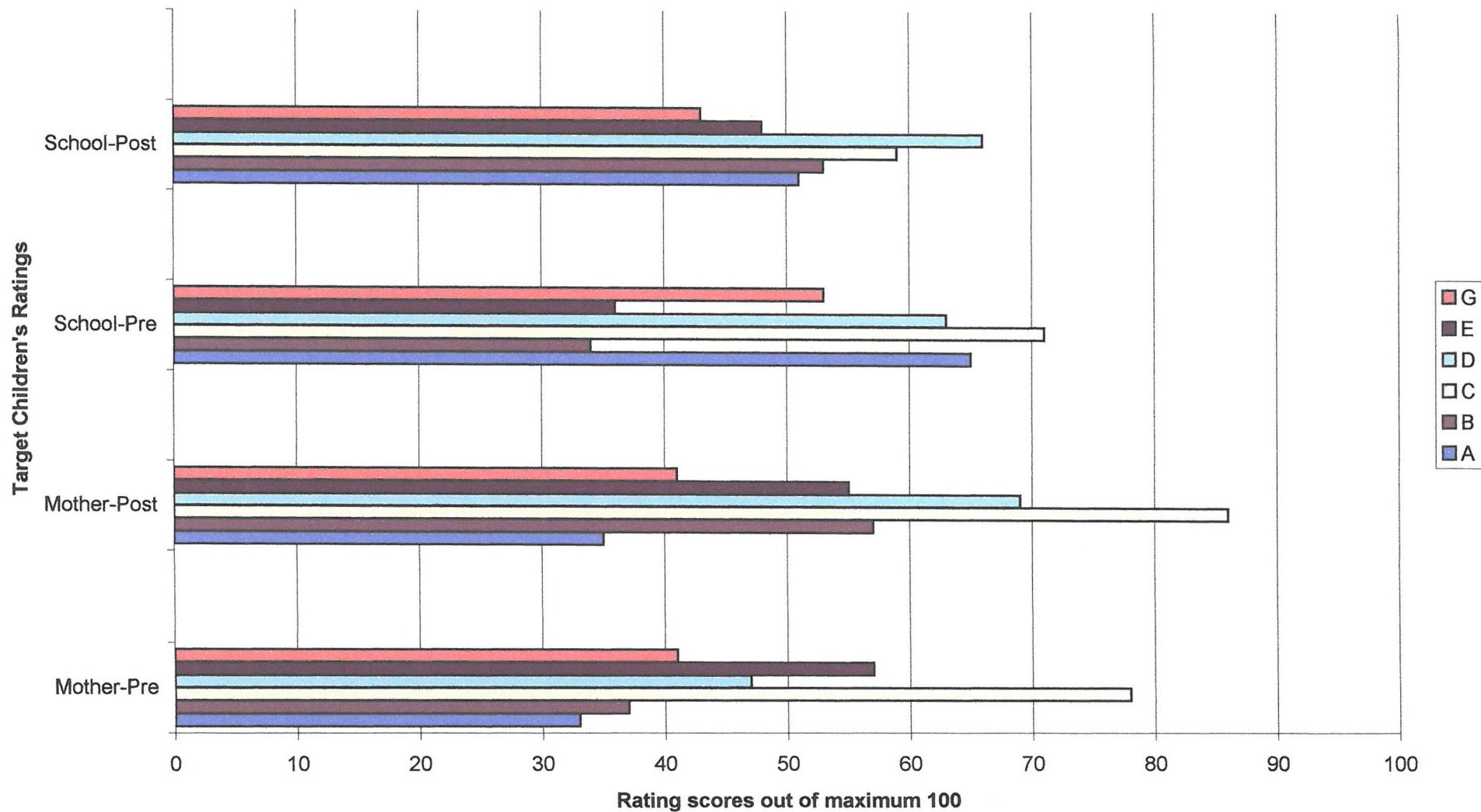
It therefore seemed that taken as a group there was slight progress observed in the target children's interactions with peers on the playground but as there were exceptions, the variability in the willingness of each AS child to join in with other children may have also influenced the amount of progress made in this area.

(ii) Social Skills Ratings:

The Social Skills Schedule consisted of a list of 20 social skills items rated with a 5-point Likert scale according to the frequency of each item in the opinion of the target child's mother and either his class teacher or his LSA (see Appendix 5). This rating scale, which was designed specifically for this study, was used before and after the intervention to measure progress and it was anticipated that the target children would show higher scores following the intervention, if this had been successful in improving the children's skills.

For most of the target children only a slight change was found in the ratings from either the mother or the member of school staff when the ratings before and after the intervention were compared. With the mothers' ratings there was a slightly higher total rating score for all but two of the six target children (see Figure 3, Appendices 16 and 18) but with the school staff ratings three children showed higher total scores and three showed lower total scores (see Figure 3, Appendices 17 and 19).

Figure 3: Comparison of Social Skills Ratings for Pre- and Post- Intervention



With the mother's ratings, only Child E showed lower total rating scores following the intervention, where this total score had fallen by 2 points. With Child G there was no change as the rating score remained the same between the two interviews. However, with the school staff's ratings before and after the intervention, a decrease in the total rating score occurred for three of the six children (see Figure 3, Appendices 17 and 19). In each case these target children's ratings were provided by their class teachers, who expressed the opinion that relatively little progress had been made in improving their social skills. With the remaining three target children, whose rating were given by the LSAs who were involved in the interventions, each child was felt to have made useful progress.

In order to compare the pre-intervention scores with the post-intervention scores for significance the Wilcoxon signed-ranks test was used. The sample of six cases was too small for a more complicated statistical analysis but the main disadvantage of the Wilcoxon was that it did not differentiate clearly whether the movements were in a positive or negative direction. For example, at the 2% level of significance, analysis using this test showed Child A having a T-score of 19.5, where $z = 20$ at a significance level of 2%, for the negative change that was rated by his class teacher and it also showed a positive change at the 2% level for Child D, who had a T-score of 30.5 where $z = 33$, when rated by his mother. The direction of change differed but both results indicated significance at the 2% level. These ratings measures themselves were dependent upon the raters' understanding and interpretation of the items in the schedule and their views at a particular moment in time so they only give an indication of subjective views regarding progress.

When the mother's ratings were subjected to statistical analysis using the Wilcoxon signed-ranks test to check for significance between the pre-intervention and post-intervention scores, only the ratings for Child B showed a significant change in a positive direction at the 1% level of significance ($T = 16$ and $z = 20$) and those for Child D were significant in a positive direction at the 2% level ($T = 30.5$ and $z = 33$).

When the Wilcoxon signed-ranks test was used to see if the changes between the school staff ratings for the pre-intervention and post-intervention scores were significant, only the ratings by Child A's class teacher were found to be significant at

the 2% level ($T = 19.5$ and $z = 20$). These were overall the ratings were lower between the two conditions and the direction of change was in a negative direction, reflecting how this boy had become more isolated and withdrawn as the intervention proceeded.

The Social Skills Schedule used in this research may have had limited usefulness in showing whether quantitative improvements had occurred in the target children's social skills but a slight improvement overall did emerge. The individuality and variation amongst the AS population in terms of their social interaction skills may have contributed to this difficulty in providing suitable data for the purposes of comparison so a different kind of schedule may need to be devised in future.

Table 7: Summary of Playground Observations and Social Skills Ratings

What was measured	Main Findings
Playground observations: Quantity and quality of social interaction by means of playground observations (10 x 1-minute) both before and after intervention	Generally less aggression and greater levels of co-operation (e.g. Child E was playing with peers instead of hurting them) Less progress for Child A (on his own) & Child G (playing indoors on computer)
Social Skills ratings given by mother & school staff (20 items with a Likert scale) administered before and after intervention and using Wilcoxon test to measure progress	Only Child B showed significant progress between pre- and post-intervention ratings from both mother and Learning Support Assistant At the 2% level of significance progress was shown by Child D in his mother's ratings & a deterioration by Child A in his teacher's ratings

(iii) Social Skills Ratings According to Category:

In order to examine more closely whether progress had occurred in particular aspects of social skills, items on the Social Skills Schedule were subsequently grouped into 3 categories to measure where the most progress had occurred during the intervention.

These categories were:

Acknowledgement of others	Items 1 to 5
Interactive use of language	Items 6 to 13
Play-related skills	Items 14 to 20

When examining these three categories of social skills, it was anticipated that if the intervention had been successful in addressing the target children's weaknesses in play situations, the "play-related skills" would show the greatest level of improvement. The scores for each category were expressed as percentages to aid comparison (see Appendix 20).

With the scores given by the mothers for play-related skills, an increase of 13% was found for this category. However, for the school staff the play-related skills category only showed a 1% increase and it was the skills involved in "acknowledgement of others" which showed a slight increase as this rose by 4%. In the area of "interactive use of language" no increase or decrease was indicated by the ratings given by the school staff but both this area of skills and the area of "acknowledgement of others" showed an 8% increase in the mothers' ratings. Although no deterioration was indicated by the ratings for each of these categories, it would seem that only a slight improvement was noticed in the social skills of the six target children following the intervention.

4.3 QUALITATIVE DATA:

(i) Informal Observations:

Each of the target children was observed informally by the researcher during one of the early sessions to compare certain social skills with one of the peers in his group (see Appendix 9). It was anticipated that there would be differences in the responses shown by the AS children and those judged by their class teacher to have good social skills so after allowing the target child to settle into the group, he and a selected peer were

observed during the same session according to four categories of social skills. These observations were written down following the session and as the comparisons were informal, they were expressed in words and were qualitative (see Appendix 26). In each of the four categories of observation it was noted that the target child showed qualitative deficits in his skills compared with the other child in terms of:

- inappropriate use of eye contact when talking to someone: often a fleeting glance or an intense stare
- restricted use of questions: often asked on own terms or to seek reassurance rather than a variety that took into account the listener's perspective
- difficulty in waiting for turn without interrupting
- lack of interest in the others unless spoken to by them rather than listening and watching the other children when it was their turn

From these informal observations there appeared to be qualitative differences between the target child and his peer in the use of eye contact when talking to another child. The target child also tended to lack understanding both of turn-taking and considering the viewpoint of others, whereas the selected peer was able to take turns, give use of eye contact and engage in a meaningful two-way conversation during the group session in which the observation took place.

(ii): Favourite Games Questionnaire:

On the final session each child taking part in the sessions was asked to complete a questionnaire to name the game that was liked the most and the one that was liked the least in order to see if there was a difference between the choices made by the target children and their peers (see Appendix 27). From these answers it emerged that the target children showed varied responses but they tended to prefer the games where they had performed best. These were usually active games involving running around and it was interesting to note that none of the target children chose listening games as their favourites as listening to others tended to be one of their areas of weakness. Three of the target children selected role plays as their least enjoyed activity, whereas role plays were chosen as best-liked activities in four out of the six groups and also by Children C and G, who had enjoyed having the chance to show off to the other children. This variation among the target children indicated that there were individual differences so no clear pattern of preferences emerged to differentiate them from their peers.

(iii): Research Diary: Summary For Each Target Child:

During the intervention stage a short summary of what had happened was recorded straight after each session in a research diary to provide details of any particular difficulties and also progress made by the target child. As each of these children was an individual with unique characteristics, it was not surprising that there was a variation in the responses shown but generally there was gradual progress for all but one of the target children (i.e. Child F, who only had two sessions). This was due to becoming more familiar with the routine involved and with the rules of the games played. Some of the target children showed greater delays in their social skills and in their willingness to join their peers, while it seemed to be easier for others to settle into their groups. The research diary data was useful in supplementing the other data gathered both before and after the intervention and added to the strength of the other findings. This research diary was the main source of data while each target child's intervention was taking place and with this on-going record it was possible to show that each child made gradual progress as the sessions went on (see Appendix 31).

A summary of progress for each of the target child is presented below to highlight their own particular characteristics and the extent of their progress as a result of the intervention as no two children were the same and each was a unique individual. The headings for these summaries are as follows:

- (a) Main problems with social interaction
- (b) Participating in the Social Skills Training Group
- (c) Social Story
- (d) Responsiveness during the sessions
- (e) Post-intervention findings
- (f) Statistical analysis of findings
- (g) Main outcome

(i) CHILD A:

(a) Main Problems with Social Interaction: The first target child was a Year 2 pupil in an infant school whose behaviour on the playground was causing concern because he had attached himself to another boy in his class who displayed some aggressive behaviour towards others. This target child, referred to as Child A, considered this boy

to be his friend and he followed him around, copying his behaviour and showing even more aggression than he did on occasions. At home he showed aggression towards his mother and younger sister but tended not to hurt his mother's partner. For this reason his mother was keen that her son should be taught how to overcome his aggression and it was agreed that the aim of the intervention should be to encourage him to "play gently" with others. Both in school and at home Child A tended to need the comfort of two particular toy mice and these were used to encourage him to join in the sessions with his group.

(b) Participating in the Social Skills Training Group: As Child A was wary of joining the group at first, in spite of having his LSA helping to run the sessions, he was allowed to bring his toy mice and his "friend" was invited to join too. Gradually it became clear that Child A tended to show off to his "friend" and to focus on him rather than paying attention to the other children in the group, comprising two girls and three boys. It was therefore decided to replace his "friend" for the last four sessions with another boy. This worked well because without anyone to join him in aggression towards others, Child A responded more sensibly to the games on offer. He still needed the comfort of his toy mice but he joined in the games more willingly when holding one of them.

Throughout the sessions Child A showed an ability to twist away from children trying to catch him, doing particularly well in a game called "Octopus." In this game the children had to cross an imaginary sea where an "octopus" was waiting to catch them in his tentacles. If the "octopus" caught someone, this child would hold its hand and its tentacles would become longer. This made it more difficult for other children to cross the "sea" without being caught so the "octopus" would gradually become even longer. Child A was always the last child to be caught because he would wait until the "octopus" was out of the way and dive past with a twisting movement to avoid any hand that was trying to catch him. He seemed to enjoy the challenge and was very upset if he was caught but usually the game was stopped after he had gone past a certain number of times so that he gained a sense of achievement from having avoided capture.

(c) Social Story: Child A was given a Social Story entitled “Playing Gently,” which was illustrated with Polaroid photographs showing him and the other children playing another of his favourite games called “Stuck-in-the Mud.” In this game a child who was caught by “It” had to stand with arms outstretched until another child gently passed their hand or body under his or her arms. This movement “rescued” the child who could then run around again. It was a fast-moving game and the children had to rescue one another quite often to avoid all of them being “stuck in the mud” at which point the game came to an end. Child A was initially very rough with the other children when he rescued them, grabbing hold of their arms and often hurting them but gradually he followed the instructions given in his Social Story and became more gentle, playing in the same considerate way as the other children.

(d) Responsiveness During the Sessions: Child A found that being with the other children led to a high level of anxiety and this tended to prevent him from making progress. For most sessions he brought his toy mice or a propeller with him to calm him down. On other occasions after a few minutes of joining in with the other children, he turned to examine twigs, if outside on the playground, or musical instruments and other equipment when in the Drama Studio. He was usually able to manage to play a game for a maximum of ten minutes before needing to go over to something of interest to calm down. Once he was with these items, he could not be persuaded to join in the next game but was happy for the others to play it without him. He was willing to play “Octopus” once he realised how good he was at this game but on his own terms, often saying, “after the next game,” if he did not feel ready to join in. He could sometimes be coaxed into joining in games that had already started, such as “Chinese Whispers,” if he had calmed down but often he would join in as one of his toy mice, using a squeaky voice rather than his own natural voice. This seemed to allow him to stay in control and helped him to remain calm.

(e) Post-intervention Findings: By the end of the ten sessions Child A had become less aggressive both on the playground and at home but instead of being willing to join in with other children, he had become a loner. The follow-up observation indicated that he was spending most of the lunch hour on his own on the playground, wandering around with his left arm behind his back and grabbing hold of leaves of trees from time

to time. He appeared to be isolated from his peers and was the last child to go in for lunch and to go in for registration.

(f) Statistical Analysis of Findings: Using the Wilcoxon test to compare the Social Skills Schedule ratings given by his mother before and after the intervention, no significant difference was found between the pre- and post-intervention scores ($T = 18$, $z = 6$ and $p > 0.05$ level of significance) but for his teacher the ratings showed a change in a negative direction which was significant at the 2% level ($T = 19.5$, $z = 20$, $p < 0.02$). The formal observation schedule confirmed a decrease in negative physical interaction with one other child (which had been noted for 9 of the 10 pre-intervention observations) and an increase in being alone (which occurred in 8 of the 10 post-intervention observations), either examining a tree or wandering around aimlessly.

(g) Main Outcome: It appeared that Child A had managed to reduce his level of aggression towards others but instead of playing with his peers, he had become more of a loner. His friendship with the other boy had ended and he had become more interested in examining trees than in relating towards his peers.

(ii) CHILD B:

(a) Main Problems with Social Interaction: Child B, who was in a Year 4 class in a Junior School, lacked confidence in social situations and often hid his face or hit his forehead in frustration, if he felt that he was not coping. He tended to believe that others knew what he was thinking. He was also very trusting and found it difficult to tell a lie or to realise that others were not always telling the truth. However, the main concern was that he became easily upset if he was playing a game with others and was caught, apparently viewing this as a failure so he tended to avoid taking part in games with other children, particularly those involving chasing or being “out.”

(b) Participating in the Social Skills Training Group: The sessions were held outside on the playground in a specially designated area but Child B was so reluctant to be caught that he often ran outside this area when being chased in order to avoid being “out.” He ran awkwardly and lacked confidence in some of the physical activities, often expecting to be caught. When caught, he would sometimes cry, claiming to have

an injury or saying, “I’m always being caught because I’m so slow and can’t run.” It was also noticeable that he had a short concentration span and often needed to be reminded to listen to the rules or to what other children were saying but he was able to learn the rules more easily when he watched the others and copied them. He generally managed best in the games involving watching the actions of others and coped least well in chasing games.

(c) Social Story: As Child B had difficulty in accepting that being “caught” or “out” was a necessary part of playing some of the games, this was the behaviour targeted in his first social story. He was encouraged to view games as “fun” and to recognise that being “caught” or “out” was a feature of the game rather than a sign of failure on his part. This social story led to a gradual improvement in his reaction to being caught until the final session, which took place during the last week of term in a different part of the playground due to the grass being cut. It seemed that in this session he was more sensitive than usual, possibly due to the change of boundaries for the games as well as anxieties about having met his new teacher for the coming year on that particular morning.

(d) Responsiveness During the Sessions: Child B was an anxious child who lacked confidence and who compared himself unfavourably to his peers so he required a lot of reassurance and praise. He tended to make excuses for himself if he did not feel that he was doing well but glowed with pride whenever he was successful. His concentration level varied according to his interest in particular games and his ability to do well in them. He made noticeable progress in his ability to get on with the other children in the group so that during later sessions he was able to pretend that he had the ball behind his back in the game of “Queenie” and was even willing to pass it to other children who had not yet had a turn.

(e) Post-Intervention Findings: There was a noticeable improvement in Child B’s social interaction with his peers during the later sessions as he had become more willing to share and to take his turn. This improvement was also indicated on his ratings on the Social Skills Schedule both by his mother and by his LSA. However, this was not found in the playground observations because when observed prior to the intervention, he was playing a ball game with a group of children on the periphery of

the group and during the post-intervention observation he was mainly on his own jumping over a ball attached to his leg with elastic. A subsequent informal observation after several months and prior to having further intervention also found him on his own, walking around the playground with his hands in his pockets rather than interacting with his peers.

(f) Statistical Analysis of Findings: Using the Wilcoxon test to compare the Social Skills Schedule, Child B showed an improvement at the 1% level of significance between the pre-intervention and post-intervention ratings when rated by both his mother and his LSA ($p<0.1$). For his mother's ratings he obtained T-score of 16, when z was 20 and for his LSA's ratings his T-score was 11 when z was 20, indicating a likelihood of less than 1% chance that this improvement in the ratings given had occurred by chance. When looking at the three categories of social skills, the ratings for Child B improved in all three areas. However, the pre-intervention playground observation found more social interaction taking place than either straight after the intervention or three months later.

(g) Main Outcome: Child B made useful progress during the sessions themselves but these improvements in his social interaction skills did not appear to generalise to outside the sessions. He was therefore given a further intervention during the Autumn Term 2001 and Spring Term 2002.

(iii) CHILD C:

(a) Main Problems with Social Interaction: Child C was a Year 3 pupil in a junior school who was of above-average ability and had a tendency both to tell others what to do and to have the last word in any argument. This upset his peers, particularly in unstructured situations so instead of playing with them on the playground in traditional games, he tended to bring a Game Boy game into school and would play with this either on his own or with a small audience of peers watching him.

(b) Participating in the Social Skills Training Group: Child C and his group of two boys and three girls took part in sessions on the playground within a designated area that had a wooden table for the game to be set out on with two benches on either side. He often told both the other children and the adults running the sessions how to do

things and became upset if they did not listen to him or if any mistakes were made. Yet when he was required to listen to what others were saying in some of the listening games, his attention wandered and he was often unable to remember what had been said.

(c) Social Story: In view of Child C's difficulty in accepting that the games were meant to be enjoyed rather than played in the way that he wanted them to be played, he was provided with a social story that encouraged him to allow others to play them in the way that they wanted. This led him to listen more willingly to the suggestions of the other children but he still tended to point out anything that he disagreed with and only reluctantly accepted their ideas, sometimes persuading them to modify them.

(d) Responsiveness During the Sessions: Child C was quick to learn the rules of the games and to remind others of these rules, as well as pointing out any examples of cheating or breaking them. He developed strong favourites among the games and particularly enjoyed being in charge in a role-play situation. He did not enjoy the listening games as his attention tended to wander and he was usually the first child to be "out."

(e) Post-Intervention Findings: No real improvement was noticed as a result of the initial intervention either in the ratings from the Social Skills Schedule or in the playground observations. Child C's mother and his teacher gave him high ratings for the Social Skills Schedule both before and after the intervention, with his mother giving only a slightly higher rating for the post-intervention situation and his teacher giving him a lower rating. In both of the playground observations Child C was playing with a Game Boy. In the pre-intervention observation it looked as if the Game Boy belonged to another boy so Child C was more willing to share it and watched other boys playing on it. However, in the post-intervention observation he took the Game Boy out of his own bag and he was the only child who played on it. Other children were with him but the interaction with them focused on the game itself.

(f) Statistical Analysis of Findings: Using the Wilcoxon test on the pre- and post-intervention Social Skills Schedule ratings, no improvement was found at the 5% level of significance ($p>0.05$). For his mother there was a T-score of 13, where the z-score

was 4 and for his class teacher the T-score was 15 and the z-score was 11, thus indicating that the significance level was less than 5%. This suggested that the intervention had made no noticeable difference to Child C's social skills.

In both of the playground observations Child C was sitting on a bench with the Game Boy. In the pre-intervention situation there were 8 observations involving interaction with other children (of which 3 were with only one child and 5 were at the periphery of the group of children). In the post-intervention situation all 10 observations involved interaction with other children (of which 7 were at the centre of the group of children, while 3 at the start and end of the observation period were at the periphery of the group). It is therefore unclear as to whether having his own Game Boy meant that he was more likely to be in the centre of the group or whether he had improved his ability to interact verbally and physically.

(g) Main Outcome: No noticeable progress was found either in the observations or in the social skills ratings so it was decided to provide Child C with a further intervention during the first part of the Autumn Term 2001.

(iv) CHILD D:

(a) Main Problems with Social Interaction: Child D was a Year 3 pupil in a primary school and had been known to the researcher as a pre-schooler before he moved to another catchment area. He tended to talk at others in a loud voice on topics of his own choosing and was unable to engage in a two-way conversation, showing no interest in what others said to him and often not appearing to listen to them. On the playground he liked to run around on his own rather than with his peers but was able to tolerate the presence of a boy and a girl with whom he sometimes played out of school. Even so he tended to join in on his own terms, often walking away from them.

(b) Participating in the Social Skills Training Group : During the first two sessions, which were held in the Special Needs classroom, Child D found it very difficult to cope with the close proximity of the other children (three boys and two girls). After a few minutes he began to hit his chin and to rock to and fro and this was particularly noticeable when the other children were talking or when he did not seem to understand

what was going on. His LSA refused to continue with the sessions indoors with the five other children because of this and the third session was held outside on the playground with just one boy and one girl from the group. This led to Child D becoming much calmer but this particular LSA was reluctant to continue to assist with the sessions.

From the fourth session onwards Child D's other LSA took over the sessions and these were held outside in a designated area of the playground during "Golden Time" on Friday afternoons, subject to the weather being dry. Child D responded well to having these sessions as a special reward and playing the games with just one boy and one girl, the LSA and the researcher. These two children were very tolerant and supportive of him and he was willing to join in each game for up to 5 minutes providing that he had a short break to run around on his own between some of the games.

(c) Social Story: It had been intended to provide Child D with a social story targeting his willingness to play with other children but it soon became clear that he was not ready to work on this aspect of his behaviour. Instead he was given a folder with illustrated rules for several games that were played and he shared these rules each day with his LSA in school and sometimes at home with his mother. This helped him to learn the rules for playing the games and as he knew what to expect, this enabled him to become calmer when playing them.

(d) Responsiveness During the Sessions: Child D found it difficult to cope in the first two sessions with five other children in a small classroom and became very distressed. He coped better outside in a designated area of the playground with only one other boy and girl who were supportive of him. He often needed encouragement to pay attention to the games as he had a short concentration span and a low tolerance for prolonged contact with others but was able to cope by having short breaks built into the sessions where he could run around on his own. He was then willing to return for another game before needing a further break. His use of eye contact was best on days when he was calm and willing to join in the games and was poorest if he was reluctant to take part in the games. His responsiveness therefore varied according to his mood and his level of agitation. He was a nervous and excitable child but did show particular enjoyment when being chased and when he was able to avoid being caught. He also enjoyed

games where he could give instructions to the two children and adults and could remain in control (e.g. “Shopping” and “Do This... Do That”).

(e) Post-Intervention Findings: Although adverse weather conditions and Child D’s absences due to poor health led to gaps between sessions, improvements in his ability to relate with his peers were reported by his mother in the follow-up interview. He appeared to look forward to the last few sessions and gradually he became able to spend up to 5 minutes playing a particular game before losing interest and asking to change to another game. Although the observations on the playground showed no change in his behaviour as he continued to run around on his own, waving his arms and making a loud humming sound, his social skills generally showed an improvement in school and at home as reported by both his mother and his LSA.

(f) Statistical Analysis of Findings: Using the Wilcoxon test on the pre- and post-intervention Social Skills Schedule ratings, Child D showed progress that was significant at the 2% level in the ratings provided by his mother ($T = 30.5$, $z = 33$, $p < 0.02$) but his progress was not found to be significant in the ratings provided by his LSA ($T = 31$, $z = 17$ and $p > 0.05$). For the playground observations there was the same proportion of recorded instances of being alone at 80% on both the pre- and the post-intervention situations so no improvement was found in his willingness to interact with his peers on the playground following the intervention.

(g) Main Outcome: Child D was gradually able to increase his tolerance of playing the games. By the last session his time spent playing a particular game had increased to five minutes and he was reported by his mother to have improved his social skills out of school, even though he still tended to be a loner on the playground.

(v) CHILD E:

(a) Main Problems with Social Interaction: Child E was a Year 5 pupil in a junior school who tended to channel his play according to his most recent area of interest (e.g. dinosaurs, Star Wars). On the playground he ran around with no sense of danger and often collided unintentionally with other children, expressing surprise when they

became annoyed. He also hit out at other children if upset or angry and showed a poor understanding of the rules of the games that he was playing.

(b) Participating in the Social Skills Training Group: The sessions for Child E took place in the Music Room except for the fifth session, which took place on the playground when the weather was both dry and mild. In the early sessions Child E seemed keen to be in the limelight and to have as many turns as possible as leader in the games that were played. The other children in his group (two boys and two girls) were very patient and tolerant of this but gradually Child E paid more attention to their comments about taking turns and started to co-operate more willingly, allowing others to be the leader and showing off less frequently. He also reduced the number of irrelevant comments with which he interrupted the other children while they were speaking and at the same time remained keen to join in the games. Although he was physically clumsy, he did particularly well in a game called "Beep," where the children had to cross a small area without touching one another and both he and the other children were pleased that he was able to do this.

(c) Social Story: Child E was given a social story entitled "Listening to Other People" in order to encourage him to pay greater attention in the listening games to what the other children were saying and to wait until they had finished speaking before he spoke. This social story was introduced from the fifth session onwards and was shared every day with his LSA, leading to a noticeable improvement in his willingness to listen to the other children and to avoid interrupting them.

(d) Responsiveness During the Sessions: Child E was initially keen to be the one in control of the role-plays and physical movement games and to be the one to give answers in the listening games but gradually he became more willing to co-operate with the other children and allowed them to have their turns without being interrupted. The calm but assertive children in his group seemed to have contributed to this improvement as well as the message in his social story.

(e) Post-Intervention Findings: There was a noticeable improvement in Child E's playground behaviour between the pre-intervention observations, when he ran around aimlessly on his own and the post-intervention observations when he was playing an

imaginary Star Wars game with another boy. Both boys were co-operating well and only twice did Child E pull this boy's arm to demonstrate a particular movement rather than trying to hurt him. Informal observation in the group sessions also suggested a higher level of co-operation with his peers and the Social Skills Schedule ratings for the area of play-related skills had increased by the post-intervention interviews.

(f) Statistical Analysis of the Findings: With the Wilcoxon analysis of the Social Skills Schedule ratings no significant difference was found in the ratings of the pre- and post intervention for either Child E's mother or LSA ($p>0.05$). His mother's ratings, which fell by 2 points overall between the pre- and post-intervention, provided a T-score of 46.5 when the z-score was 17 and the ratings from his LSA gave a T-score of 38.5, when z was 35 so the level of significance was greater than 5 %. For the observations in the pre-intervention situation Child E spent more time alone on the playground (6 observations alone and only 4 negative interactions with one other child) and tended to run around on his own. However, in the post-intervention observations he was with one boy for 9 of the 10 observations, pretending to use an imaginary Star Wars laser gun. On this occasion there were 7 positive interactions (of which 6 were physical and one was verbal), only one observation with no interaction and 2 instances of negative physical interaction, where he grabbed this boy's arm and pushed him around. This was a noticeable improvement as Child E and this other boy were seen to co-operate well for most of the lunchtime, even though they were playing a game connected with one of Child E's obsessions.

(g) Main Outcome: Following the intervention Child E was showing less aggression. He had found another boy to play with who was willing to join him in his Star Wars games and several months later these two boys were reported to be "still good friends."

(vi) CHILD F:

(a) Main Problems with Social Interaction: Child F was a Year 2 child in an infant school who became particularly anxious when out on the playground. He was wary both of other children and also of some of the dinner supervisors. He tended only to join in games on the playground if a familiar adult was directing a small group of children in a game otherwise he would wander around aimlessly on his own or walk

around holding the hand of a familiar adult. He was apparently reluctant to do anything that one particular dinner supervisor asked him to do because she had arrived at the school several months earlier when he had been away and he had never accepted her on his return. Since then new dinner supervisors were introduced to him personally to try to reassure him that he should go to them if he needed help.

When observed on the playground during a lunchtime by both the researcher and an Assistant Educational Psychologist before the intervention took place, it appeared that he was very wary of other children. Inter-observer reliability was confirmed as the Assistant Educational Psychologist and the researcher independently obtained identical scores for both the level and quality of interaction during this period of observation. Child F was either on his own (for 5 of the 10 observations) or walked around holding the hand of one of the dinner supervisors, talking to her and being talked to (for 5 of the 10 observations). When on his own, he tended to hold his coat up over his face and to watch the other children. He was on the periphery of the group of children but was not interacting with any of them.

(b) Participating in the Social Skills Training Group: Child F was extremely anxious during the first session with his group consisting of two boys and three girls, even though they were very tolerant and kind towards him. He needed a lot of reassurance and prompting from his LSA as he found it difficult to understand the rules for the games. One game that he did play well was "Do This...Do That" because he was watching the other children before doing any actions and as a result he was never caught out for doing the wrong action. He also seemed to enjoy pretending to be a tiger in the guessing game "Guess What We Are" but in other games he showed no awareness of the perspective of others as he did not realise that if his hands were not behind his back in the game of "Queenie" when a child was guessing who had the ball, this child would know that he did not have the ball.

Child F apparently found this session so stressful that after being told on the following week by his teacher that he would be having another session after lunch, he needed to be taken home by his mother during the lunchtime after being sick. He was in school for the following session but on the playground it was noticeable that he was wary of both the other children and the researcher and needed frequent reminders from his LSA

as to what he should do in the games. On several occasions he put his fingers over his ears and flapped his hands as well as looking at the researcher with an anxious expression, particularly when she began to take some photographs for his social story. He needed a lot of reassurance from his LSA but again the other children were tolerant and patient with him.

The following week Child F was in a distressed state and refused to join his group for the games, covering his face with his hands and crying. His LSA tried to bring him to join the rest of the group, who were hoping that he would join them and who expressed sympathy for him being so unhappy but he adamantly refused to do so. It was therefore decided to cease the sessions, although he was given the social story and also a folder with pictorial rules for some of the games.

(c) Social Story: Child F was given a social story to encourage him to play more willingly with other children but as he was so unhappy about joining any further sessions, this was read to him by his LSA on a regular basis as a general encouragement to play with other children rather than for the purposes of further research.

(d) Responsiveness During the Sessions: Child F was extremely wary from the first session, apparently finding the games with the other children both frightening and confusing. He was very sensitive to loud noise and to bright lights so the other children talking around him and the flash of the Polaroid camera may have contributed to his reluctance to join any further sessions after the second one. As this intervention was aimed at facilitating his inclusion with his peers and he became resistant to taking part, it was decided to cease the intervention in his own best interests.

(vii) CHILD G:

(a) Main Problems with Social Interaction: Child G was a Year 6 pupil in a junior school for whom concerns were expressed both by his school and his mother as to how he would cope socially in his local comprehensive school at secondary transfer. He tended to be a loner on the playground and spent playtimes pretending to play with an invisible friend, often pulling his sleeves down over his hands and making strange

facial expressions. To overcome this he had been encouraged to play with a “buddy” for a certain amount of the lunch hour before being allowed to go on the computer with this other boy. As he was reluctant to go outside after his lunch but keen to go on the computer, he had his lunch with his teacher sitting next to him so that when he went outside, she could tell him the time when he could return indoors for the computer.

(b) Participating in the Social Skills Training Group: Child G was keen to join the group after being given careful preparation for this by both his class teacher and his mother. A supportive group of two boys and three girls was provided and the sessions took place in a large classroom assisted by one of Child G’s two LSAs. It was noticeable that Child G was very immature, loud and fidgety compared with the others in his group but they were kind and tolerant towards him, encouraging him to join in. His obsession with dinosaurs was noticeable in the early sessions as he often mentioned them in both questions and answers but gradually he gave answers more in line with those of his peers.

(c) Social Story: As Child G was excitable both during and after the sessions, it was decided to give him a social story with the target of calming him down. His excitability appeared to be due to his anxiety and difficulty in handling change so it was intended that the social story would encourage him to interact more calmly with his peers.

(d) Responsiveness During the Sessions: Child G was very restless, constantly moving up and down from his seat and making loud comments, often critical of other children in the group. He seemed to enjoy the guessing games and liked to be the one who gave the correct answer. He needed longer than the other children to think of what he wanted them to guess when it was his turn and he sometimes made unusual facial grimaces and body movements. No noticeable improvement occurred in his ability to sit still as the sessions went on and he remained agitated and nervous.

(e) Post-Intervention Findings: The Social Skills Schedule ratings from both Child G’s mother and his class teacher showed a lower level following the intervention than before it. Child G also showed a great reluctance to go out on the playground even with a “buddy” and at the time when it was intended to observe him for the post-intervention observations, he was spending all of the lunchtime indoors and using the

computer after eating his lunch instead of spending any time outside. His behaviour in class had apparently deteriorated and he had become more agitated at home with frequent temper outbursts. It was therefore not possible to regard the intervention as successful in improving his playground behaviour and it is also unclear to what extent other events in his life were contributing to this lack of any noticeable improvement.

(f) Statistical Analysis of Findings: In the post-intervention situation Child G's teacher gave 9 of the 12 ratings on the Social Skills Schedule in a negative direction as she felt that there had been a deterioration in his responsiveness towards others. For the ratings given by his mother, the pre- and post-intervention ratings showed no noticeable difference and on the Wilcoxon test neither set of rating scores showed a significant change between the pre- and post-intervention situations ($p>0.05$). His mother's ratings provided a T-score of 16.5 when the z-score was 8 and his class teacher's ratings led to a T-score of 18 when the z-score was 14 so neither score was significant at the 5% level.

As it was not possible to carry out observations outside following the intervention due to his irrational fear of bees and yellow flowers, no meaningful analysis could take place as to how Child G was coping on the playground. Instead he was observed playing indoors with a "buddy" on a computer and it appeared that Child G was very focused on the game itself, talking about this for 60% of the observations as well as pushing the relevant computer keys and he was only observed making one critical comment about the performance of his "buddy."

(g) Main Outcome: Child G had made progress during the sessions in reducing his need to bring dinosaurs into most of the games and had enjoyed taking part but his mother and class teacher felt that he was not showing any noticeable progress outside the sessions. Unfortunately his unusual phobias prevented him from spending any time on the playground during the lunch hour and his time on the computer had been extended. However, there were signs that he was able to co-operate with his "buddy" when playing on the computer.

Table 8: Summary of the Intervention for Each Target Child:

Feature	A	B	C	D	E	F	G
Total No. of Sessions & Duration	10 40 min.	8 50 min.	7 40 min.	12 30 min.	7 40 min.	2 45min.	7 60 min.
No. in Group (+ AS child)	B 3 G 2	B 2 G 3	B 2 G3	B 1 G 1	B 2 G 2	B 2 G 3	B 2 G 3
Main location for sessions	Drama Studio + play-ground	Play-ground	Play-ground	Play-ground	Music Room	Class-room + play-ground	Large class-room
Targeted behaviour for improvement	Playing gently	Being “out”	Bossing others	Playing by rules	Listening to others	Playing with peers	Staying calm
Improvements noticed	Reduced aggression	Improved interaction	None	Willing to join in for up to 5 min.	Playing with peers	None	Less talk about dinosaurs
Social Skills ratings (Pre)	M 33 T 65	M 37 LSA 34	M 78 T 71	M 47 LSA 63	M 57 LSA 36	M 52 LSA46	M 41 T 53
Social Skills ratings (Post)	M 35 T 51	M 57 LSA 53	M 86 T 59	M 69 LSA 66	M 55 LSA 48	-	M 41 T 43
Wilcoxon analysis of difference between pre- & post-scores	Mother: T=18 z= 6 p> 0.05	Mother: T=15.5 z= 20 p<0.01	Mother: T=13 z= 4 p> 0.05	Mother: T=30.5 z= 33 p<0.02	Mother: T=46.5 z= 17 p> 0.05	-	Mother: T=16.5 z= 8 p> 0.05
	Teacher: T=19.5 z= 20 p<0.02	LSA: T=11 z= 20 p<0.01	Teacher: T=15 z= 11 p> 0.05	LSA: T=31 z= 17 p> 0.05	LSA: T= 38.5 z= 35 p>0.05	Teacher: T=18 z= 14 P>0.05	

4.4: RESULTS FOR EXTRA SESSIONS WITH CHILD C AND CHILD B:

As it was unclear how many sessions were required to encourage a child with Asperger's syndrome to join in games with peers on the playground, two of the target children were given extra sessions to see if these would lead to any further improvements. A gap of several weeks occurred between the original interventions and the extra sessions as Child C had six further sessions after the summer holidays and Child B had his from November until Easter. To check whether progress had been noticed, both boys were observed following the initial intervention and after the extra sessions and their mothers and school staff were seen to complete the Social Skills Schedule both after the initial intervention and at the end of the second intervention. Further analysis of the Social Skills data was then carried out to compare the effect of the extra sessions using both the pre-intervention scores and the scores obtained following the original intervention.

(i) FURTHER INTERVENTION WITH CHILD C:

(a) Changes made to Original Intervention:

As Child C had made no noticeable progress in the original intervention, a further intervention took place during the first half of the Autumn Term 2001 when he had moved into Year 4. The same children joined him in the sessions apart from one boy who no longer wished to participate so the group contained 3 girls, one other boy and Child C. Unlike the previous intervention during the Summer Term, these sessions were held indoors in the Music Room. A change was made for deciding who would take part in role-plays with each player throwing a coin to see if this was the same as that thrown by the child who had landed on the position of the board, who was still able to allocate the roles in the role-play. The others who had thrown the coin differently acted as "judges" to decide if those in the role-play had performed well and could move forward a space.

Another change was to introduce a sand timer to ensure that if a child took a long time to make a guess, the other children would be able to have their turns. The child guessing had up to two minutes before the one-minute timer was activated and this usually led to a speedy response or if the child gave a "don't know" response, the game could continue. This tended to encourage Child C to avoid wasting time as well as taking away the extra attention that he seemed to enjoy while "thinking."

(b) Responsiveness During Further Sessions: Child C was keen to join in the sessions and although he still made occasional criticisms, these occurred less frequently. With the change in the way the role-plays were organised it was possible to persuade him to act the part of a “naughty child” as well as being the “teacher.” He showed a greater willingness to watch the others at appropriate times but he continued to have difficulty in listening to what they were saying and had particular problems in memory and guessing games. The use of the one-minute timer led to an improvement in his verbal responsiveness as he viewed this as a fair way of determining if he had spent long enough thinking of a response. However, he often pointed out when it would be useful for another child to be timed rather than waiting for the adults to take this decision.

(c) Post-Intervention Findings: (See Table 9.) On the Social Skills Schedule Child C was rated lower by his mother for this extra intervention than after the previous intervention but he was rated higher following this extra intervention by his Year 4 class teacher than he had been by his previous class teacher as it was felt that he was relating more appropriately to his peers in school. This was shown in the analysis using the Wilcoxon test when comparing the pre-intervention scores with those obtained following these extra sessions because the ratings by his class teacher were found to be significant at the 1% level ($T = 6$, $z = 28$). The scores were also significant at the 1% level when comparing the post-intervention ratings with those following these extra sessions ($T = 8.5$, $z = 28$). For his mother’s ratings neither those comparing the pre-intervention and those following the extra sessions ($T = 26.5$, $z = 8$) nor those which compared the post-intervention ratings with those after the extra sessions ($T = 7$, $z = 6$) were significant at the 5% level.

For the follow-up observation Child C was seen to interact with peers both individually and in the centre of a group in mainly positive verbal interaction. He still did most of the talking rather than showing a willingness to listen to others but on this occasion he did not have his Game Boy as the focus of attention so this suggested that he might be showing improved conversational skills.

(d) Main Outcome: During these extra sessions Child C became more willing to listen to the views of the other children so he appeared to have benefited from having further

sessions. His Year 4 class teacher was pleased with his progress and felt that he had become better able to cope with his peer relationships.

(ii) FURTHER INTERVENTION WITH CHILD B:

(a) Changes Made to Original Intervention: As Child B had responded well to the original intervention, he was chosen for an extra intervention to see if this would lead to further improvements in his playground behaviour. The sessions were held during the second part of the Autumn Term 2001 and the Spring Term 2002 when the weather was cool and unsettled so they took place in the Resources Room instead of outside on the playground. Child B responded well to being in a more confined space and to having clearer boundaries. As the games were being played indoors, a few that had been used in the original intervention were discontinued due to lack of space (e.g. the game of "Octopus") and some others were introduced instead (e.g. "Throw a Face"). He had moved to a different class for Year 5 so he was joined by a group of children from his new class (two boys and three girls), although he still had the same LSA.

(b) Responsiveness During Further Sessions: Child B appeared to enjoy continuing with most of the games that he had played before and having the opportunity to explain how to play them to the others in his group. He tended to show off initially but his behaviour changed when he had a new male class teacher at the beginning of the Spring Term 2002 because he became subdued and lacking in confidence. Gradually he overcame this and towards the end of the term he was both cheerful and confident, showing a more positive response and relating well towards the other children.

(c) Post-Intervention Findings: (See Table 9.) Child B made a good friend during the intervention and spent most of his playtimes with this other boy. On the Wilcoxon test the difference between the ratings on the Social Skills Schedule from his mother were not found to be significant at the 5% level between the pre-intervention and extra sessions ($T = 28.5$, $z = 21$) nor between the post-intervention and extra sessions ($T = 33$, $z = 21$). However, the ratings from his LSA were found to be significant at the 2% level when comparing the pre-intervention ratings and those following the extra sessions ($T = 5.5$, $z = 11$) but were not significant at the 5% level when comparing the post-intervention ratings and those after the extra sessions ($T = 28.5$, $z = 25$).

The follow-up observation results indicated that Child B was interacting more with other children. He spent none of the time on his own but instead he was with his friend and they were seen chatting to each other and joining two other children. They were involved in a chasing game for some of the time and there was also occasional pushing of one another in a non-hostile way. Child B tended to be on the periphery of the group more often than in the centre of the group but he stayed with his friend and watched him when he was not actively joining in the chasing game or rough and tumble play.

(d) Main Outcome: It appeared that Child B benefited from having further sessions as this seemed to have helped him to develop the skills needed to sustain a friendship with a peer.

Table 9: Summary of Further Sessions for Children C and B:

Feature	Child C	Child B
Total No. of Extra Sessions & Duration	6 50 minutes	12 50 minutes
No. in Group (+ AS child)	B 1 G 3	B 2 G3
Main location of sessions	Music Room	Resources Room
Targeted behaviour for improvement	Sharing Ideas	Getting on Well With Other Children
Improvements noticed	Slightly more sociable	Made a friend
Social Skills ratings- Pre	M 78 T 71	M 37 LSA 34
Social Skills ratings- Post	M 86 T 59	M 57 LSA 53
Social Skills ratings- (Follow-up)	M 69 T 95	M 47 LSA 44
Wilcoxon analysis of difference between pre-intervention & after extra session scores	Mother: T= 26.5 z= 8 p>0.05 Teacher: T= 6 z= 28 p<0.01	Mother: T= 28.5 z= 21 p>0.05 LSA: T= 5.5 z= 11 p<0.02
Wilcoxon analysis of difference between post-intervention & after extra session scores	Mother: T = 7 z= 6 p>0.05 Teacher: T= 8.5 z= 28 p<0.01	Mother: T = 33 z=21 p>0.05 LSA: T= 28.5 z=25 p>0.05

4.5: Summary of Main Results:

(i) First Hypothesis:

The first hypothesis was that the target children, who each had a diagnosis of AS and difficulties in relating to their peers, could be taught to play specific games with a supportive group of peers. The games used in the intervention were aimed at improving their social interaction skills and the research diary evidence confirmed that each target child made gradual progress within the group sessions after some initial difficulties in settling down within the group.

(ii) Second Hypothesis:

The second hypothesis was that the intervention would improve the ability of the target children to join in similar games and activities with their peers on the playground. The evidence to test this hypothesis was provided by ratings on a Social Skills Schedule and by observations carried out on the playground before and after the intervention in order for comparisons to be made between the pre- and post-intervention situations. Each of the target children responded in a very individualised way during the intervention and due to the variation in both their pre-existing social interaction skills and their willingness to be taught alongside their peers, no conclusive evidence was available from the data gathered from the six case studies to prove this hypothesis. Generally following the intervention there was little noticeable improvement in the ability of the target children to join their peers on the playground for games but again there was individual variation amongst these children, thus making it difficult for any firm conclusions to be drawn from the data obtained.

Changes in the target children's social interaction skills were measured by using the Social Skills Schedule, which was administered to the target children's mothers and either their class teacher or LSA both before and after the intervention whereby higher ratings following the intervention would indicate favourable progress. The mothers gave a higher total score for social skills ratings after the intervention for four of the children, one child stayed at the same score and the score for Child E was 2 points lower (see Table 10).

Table 10: Comparing Pre- and Post-intervention Social Skills Ratings from Mothers

Target Child	Pre-Intervention	Post- Intervention	Difference
A	33	35	+ 2
B	37	57	+ 20
C	78	86	+ 8
D	47	69	+ 22
E	57	55	- 2
G	41	41	-

As regards the social skills ratings from school staff (see Table 11), three children were given ratings by their class teacher (i.e. Children A, C and G) and the others by their LSAs. It was noticeable that the LSAs, who had helped with the intervention, gave higher total scores after the intervention than beforehand (for Children B, D and E). It is therefore possible that becoming involved in the intervention gave the LSAs a greater awareness of the progress that was taking place on a weekly basis as the sessions continued. In the case of the class teachers they may have expected the intervention to lead to more progress than did occur or perhaps by being less directly involved in the delivery of the sessions, they may have remained more aware of the target child's continuing weaknesses. For whatever reason these differences occurred, these findings suggest that the intervention itself did not bring about significant changes in the target children's ability to join in games with their peers on the playground and that their social interaction difficulties continued.

Table 11: Comparing Pre- and Post-Intervention Social Skills Ratings from School Staff

Target Child	Pre-Intervention	Post- Intervention	Difference
A	65	51	- 14
B	34	53	+ 19
C	71	59	- 18
D	63	66	+ 3
E	36	48	+ 12
G	53	43	- 10

If the social skills ratings are examined according to the three categories of social skills, which were “acknowledgement of others” (items 1 to 5), “interactive use of language” (items 6 to 13) and “play-related skills” (items 14 to 20), there was a slightly higher percentage score in each category following the intervention (see Table 12). The category of “play-related” skills, which was the aspect targeted by this intervention, was only slightly higher than the other categories but as they were all low increases in ratings, no clear evidence emerges to support the effectiveness of this intervention procedure.

Table 12: Ratings Given by Mothers and School Staff According to Categories of Social Skills:

Item Numbers	Pre-Intervention	Post-Intervention	Difference	Percentage Difference
1 to 5 (300max)	56% (169)	62% (186)	+ 17	+ 6%
6 to 13 (480 max)	55% (263)	59% (284)	+ 21	+ 4%
14 to 20 (350 max)	51% (178)	58% (203)	+ 25	+ 7%
Total	54% (610)	59% (673)	+ 63	+ 6%

The playground observations carried out by the researcher both before and after the intervention were also used to see whether any change occurred in the way the target children related towards their peers on the playground but again the data failed to support the effectiveness of this intervention. Looking at the level of interaction (see Table 13), these observations indicated that two of the six target children were spending less time on their own and were showing more interaction with their peers following the intervention (i.e. Children C and E). Three children were spending either the same amount of time alone (Child D) or more time alone (Children A and B) following the intervention and Child G was refusing to go out on the playground and was therefore observed indoors on the computer with a “buddy” instead.

Table 13: Post-Intervention Level of Interaction (With pre-intervention figures in brackets)

Target Child	Alone	1 Adult/Child	With Group	Difference
A	80 (10)	10 (90)	10	Alone + 70
B	50	50 (30)	(70)	Alone + 50
C	(10)	(40)	100 (50)	Group + 50
D	80 (80)	20	(20)	Group - 20
E	10 (60)	90 (40)	-	1 Child +50
G	(90)	100 (10)	-	On computer

When examining changes in the quality of interaction with other children, there was an overall decrease in negative verbal and physical interaction as well as a small increase in positive verbal and physical interaction (see Table 14).

Table 14: Post-Intervention Quality of Interaction (With Pre-Intervention figures in Brackets)

Target Child	Positive	None	Negative	Difference
A	10	80 (10)	10 (90)	Negative -80
B	50 (70)	50	(30)	Negative -30
C	100 (90)	(10)	-	Positive +10
D	20 (20)	80 (80)	-	None
E	70	10 (60)	20 (40)	Positive +70
G	90	90	10 (10)	On computer

These findings indicated that only slight changes had been found in the social interaction skills of the target children with AS who took part in the intervention programme with the support of peers.

Two of the target children, Children B and C, had further sessions and in the sessions themselves both children made further progress in responding appropriately towards their peers during the games and activities and on the playground they were also observed to be joining their peers more effectively than before the intervention. However, it is

inconclusive from the data obtained from the social skills ratings and the playground observations as to whether or not these extra sessions led to any noticeable improvement beyond that made in the original sessions (see Table 9).

Although small differences were found following the intervention in the way the target children related towards their peers on the playground, this particular intervention succeeded in highlighting the wide range of individual differences that can be found in AS children. No clear patterns emerged because although at the end of the intervention there were signs of progress for two target children (Children B and E), who had formed friendships with peers and were able to join them in games on the playground following the intervention, two other children (Children A and D) were found to spend most of their time on the playground alone. It is therefore unclear what part the intervention itself played in enabling these children to form friendships or to prefer their own company but this variation in individual responsiveness served to indicate that what works successfully for one AS child may not work for another. This lack of evidence to support the two hypotheses suggests that this area of research requires further investigation, particularly in view of the wide range of individual characteristics found in AS children and the increasing likelihood that they will be educated alongside their mainstream peers.

5. DISCUSSION:

“There have been few studies on the efficacy of social skills training, which isn’t surprising, considering how difficult it is to objectively measure progress. Nonetheless most experts agree that social skills training is one intervention every child with AS should have, in one form or another.”

(Bashe and Kirby 2001) (p.215)

5.1: The Aims of this Study:

The aim of this case study was to investigate ways of facilitating the inclusion of pupils with Asperger’s syndrome (AS) in unstructured times and in particular on the playground. The outcome was to be a protocol, which could provide suggestions from which staff supporting AS children in mainstream schools could select what they felt might be helpful for a particular individual child. There have already been studies that have looked at facilitating the inclusion of pupils with AS within the classroom (Seach, 1998) and by using social skills training groups (Williams, 1989; Marriage et al, 1995) but although concern has been expressed about their ability to cope in the playground setting in view of the weak social interaction skills shown by these children (e.g. Sainsbury, 2000; Lawson, 2001), this area has so far been neglected in research. The majority of studies of playground behaviour of children of school age have tended to focus on social interaction with reference to the children’s sociometric status (e.g. Ladd and Price, 1993), gender (e.g. Pellegrini, 1995) and physical competence (e.g. Barbour, 1996) and relatively few have looked at qualitative differences between the play of children with special educational needs and those who are functioning normally (e.g. Frederickson and Woolfson, 1987; Smyth and Anderson, 2000). However, there was a gap in the literature regarding how to include pupils with AS successfully on the playground.

For this case study an intervention aimed at improving social and play skills was carried out with each of six target children who had a diagnosis of AS. Each target child was a boy (hence the use of the pronoun “he”) and he was supported by a group of peers and two adults, one of whom was the researcher in the role of scientist-practitioner. Each target child presented with different strengths and weaknesses, just as occurs within the wider population of children with AS. From this experience with individual pupils it was possible to provide a range of suggestions for helping other children with AS who

need help to improve their social and play skills to enable school staff to select what seemed to be suitable for a particular individual child in view of his or her own unique characteristics.

The hypotheses for this study were that:

- the target children with Asperger's syndrome who took part in the intervention programme with a supportive group of peers could be taught to play specific games.
- the target children would be able to join in similar games and activities with their peers on the playground following the intervention.

The main design used to test these hypotheses implied that if progress in the target child's interaction with peers on the playground could be shown using the information gathered from interviews and observations both before and after the intervention, this would suggest that the intervention itself had contributed towards this progress.

However, it is possible that other factors besides the intervention itself could have had an influence on whether progress was found. These factors might have included the age of the child when the intervention took place, the nature of the relationship between the child and his LSA and other circumstances in or out of school at the time of the intervention. In addition to these factors the target child might have been affected by the day of the week and time of day when the sessions took place, the location of the sessions (e.g. whether indoors or outside on the playground) and the composition of the group supporting him in terms of the number of children involved, the gender balance of the group, the supportiveness of these peers and whether he liked or disliked particular individuals. The number of sessions provided and their timing in the school year could also have been influential in determining how much change resulted in his play and social skills. As adults were involved in rating the target child's social skills, the timing of this in the school year and their level of familiarity with the target child could have influenced the scores that they allocated to certain items on the Social Skills Schedule. This means that although this research aimed to look at the child before and after the intervention and the target child's responsiveness towards his peers on the playground, other factors may have been responsible as well but it was beyond the scope of this study to look into at each of these in any detail.

Ideally in order to prove or disprove the hypotheses there would have been a control situation with each child receiving the intervention compared with a child with the same diagnosis receiving no such support. This might have been possible by having a waiting list of appropriate children who could have been observed as controls and whose parents and teachers could have been interviewed before the children received the intervention. However, in view of there being only small numbers of children in mainstream schooling with a diagnosis of AS using the ICD-10 criteria in this LEA at the time of the study and each child being unique and having individual differences in both the severity and features of their condition, this kind of control situation was not possible. It was therefore decided to use a convenience sample of six children with each AS child serving as an example of an AS child. Each had different characteristics from the others. No two children in this study shared the exact same features and each had different levels of willingness to join with their peers. The relatively late diagnosis of this condition led to more children of junior age than infant age being available for this study. It is possible too that the younger children (i.e. Children A, D and F) had shown more obvious features of AS at a younger age, thus obtaining their diagnosis earlier because of this (see Table 3).

5.2: Inclusion Issues:

Nowadays it is recognised that for inclusion to work, mainstream schools need to welcome children with a range of special needs and support each child as best they can by responding to this diversity (Corbett, 1999; Barton, 1997). Ainscow (2000) suggested that one way of meeting these diverse needs might be to provide expert groups of staff who could share their knowledge with colleagues, as it might otherwise be difficult for all staff in a school to have the necessary experience of the kinds of needs that might be encountered. Such knowledge and expertise would be particularly helpful for pupils with AS as their unusual responses and behaviour could lead them to be misunderstood by both school staff and their peers. Even within this diagnosis, their needs might vary according to the severity of their symptoms with some presenting with challenging behaviour and others with fairly withdrawn or eccentric behaviour. Surveys of various staff in education have indicated that pupils who exhibit behavioural problems in school tend to be those least welcomed by mainstream schools (Norwich,

2000; Avramidis et al, 2001). However, it has also been suggested that one of the main advantages for children with autistic spectrum disorders attending mainstream schools is that they can learn from good role models (McGregor and Campbell, 2001). By being shown appropriate behaviours and having these reinforced by others, a child who is uncertain how to respond is in theory helped to improve his responses. Yet in view of their relative lack of interest in other children, it is also possible that some children with AS may find it difficult to learn from observing their peers' behaviour and instead they may need to have sessions where this can be taught directly.

Although it is felt by some that full inclusion would be ideal, it is recognised by others that there may be some children who are unable to succeed in mainstream schooling and need a more specialist placement where the teachers are more experienced in meeting their needs. The findings from a survey carried out by Evans and Lunt (2002), which was sent to all Principal Educational Psychologists in England and Wales in 1998 with a 37.5% response rate, indicated that pupils with behavioural difficulties and severe learning difficulties were those most difficult to place in mainstream schools. In contrast it was felt that those with physical disabilities, sensory difficulties, specific learning difficulties and moderate learning difficulties and some with autistic spectrum disorders were easier to include. The same authors also found that the inclusion rate varied amongst the Local Education Authorities with some still placing over two percent of pupils in segregated provision. It would therefore seem that full inclusion is not yet being provided for all students regardless of their particular difficulties and that "responsible inclusion" may be being applied as was recommended by Vaughn and Schumm (1995), who wrote:

"We define responsible inclusion as the development of a school-based education model that is student centred and that bases educational placement and service provision on each student's needs... The goal of responsible inclusion is that all students be placed in the general education classroom unless their academic and/or social needs cannot be adequately met there." (p.265)

There are also questions being asked as to whether inclusion is appropriate for all pupils who have AS. Sainsbury (2000), who herself has this condition and works with students with autistic spectrum disorders, recommended that:

“Decisions must be made on the basis of the individual’s needs and preferences, not on the basis of dogma.” (p. 44)

In this particular research two of the target children moved out of mainstream schooling into special provision several months after being involved in their interventions, at the request of their parents. Target children A and F found it difficult to cope both academically and socially in their mainstream infant schools so their parents felt that instead of them transferring to junior schools, they would be more likely to be successful in a special school with smaller classes. It is therefore possible that some parents of children with AS may want to keep this choice available both to protect their child from potential unhappiness and also to reduce their levels of anxiety. Although the other target children were having less difficulty, all of the mothers interviewed expressed some concern about whether they had done the “right thing” in keeping their children in mainstream schooling and at least one mother was considering the possibility of educating her son at home at secondary level. They accepted that there were social skills benefits from being with normally-functioning peers but did worry that bullying might occur in a large comprehensive school, if other pupils were less understanding or sympathetic regarding their sons’ difficulties. They felt that the primary schools were more accepting of these problems and that having a class teacher who knew their sons well was important in ensuring that they could be included successfully. It would be interesting for further research to be carried out to compare inclusion for AS pupils at the primary and secondary levels in view of differing academic and social demands to see if there are any lessons to be learned for facilitating inclusion at each level in the future.

5.3: Issues Relating to Asperger’s Syndrome:

“Dr Ami Klin of Yale University has often stated that if you put one hundred individuals with Asperger syndrome into one room, you will discover that no two are exactly alike, that each of them may be more different from one another than they are the same. What works for one family and one child may not work for another.”

(Bashe and Kirby, 2001) (p.143)

Although each of the target children in this research matched the criteria for the ICD-10 diagnosis of AS, each of them was a unique individual with different features from the other target children (see Appendix 11). What they had in common was that they all had weaknesses in their social interaction skills and experienced misunderstandings in aspects of their communication with others. This variation between the target children justified the use of a case study looking at facilitating inclusion for AS children as each child responded differently yet contributed to a greater understanding of the considerations required when including this kind of child in mainstream schools. Just as each target child was different from the others in this study so it was anticipated that other children with AS would also vary considerably.

It is possible that one reason why so much disagreement has persisted over the diagnosis of this condition is because there is so much variation between children diagnosed with it. The triad of impairment (Wing, 1991) has been accepted as being one of the distinguishing aspects of both this condition and High-Functioning Autism but the presence of motor clumsiness (Gillberg and Ehlers, 1998) is less widely agreed. Each of the target children showed this triad of impairment and all were less well co-ordinated when compared with their peers, particularly when playing ball games or when running to avoid being caught.

One feature that was found in each of the target children that was not mentioned specifically in the literature reviewed was their apparent need to remain as much in control as possible of the situations they were experiencing. For some of them this took the form of opting out of certain games when they felt out of control and for others it led them to interrupt others when they were talking in order to have their own say. This could be viewed as an aspect of the second set of diagnostic criteria from ICD-10 (World Health Organisation, 1993 as described in Attwood, 1998) which mentions “lack of socio-emotional reciprocity as shown by an impairment or deviant response to other people’s emotions” and “failure adequately to use eye-to-eye gaze, facial expression, body posture, and gesture to regulate social interaction” or it is possibly an important feature that could be investigated further. Many of the autobiographical accounts of life in school (e.g. Gerland, 1997; Williams, 1992) have described the confusion that was experienced in unstructured situations at school and it is possible

that because of the lack of social understanding and the potential insecurity that this leads to, these children sought some kind of control over the situation for themselves.

Each of the target children showed poor social interaction skills (e.g. gaining attention by hitting out at others, talking at others rather than to them and running around on the playground alone “as if in own world”) and at times it appeared that they found it easier to relate to objects of interest than to the other children (e.g. holding a toy mouse or using a Game Boy at playtime). Their mothers and school staff were aware that the weak social interaction skills of these target children made it difficult for them to relate appropriately to their peers within a mainstream school and they very much wanted the intervention to help them with these. They were realistic in accepting that this was an ongoing process that would take time but hoped that some useful progress would be made and that the knowledge gained from this research would lead to further developments to help both their child and other children with AS to cope more successfully in mainstream schools generally.

All but one of the target children had isolated special interests, ranging from forms of machinery (e.g. Children A, C and F) to dinosaurs (e.g. Children E and G) and each of them had their own way of remaining in control. For example, Child D tended to stop playing a game after a certain period of time, Child A turned to his toy mice or an item of machinery and Child C was keen to tell others how they should play a particular game. It is possible that Children D and A might have experienced some kind of overload or increased level of anxiety in the company of other children which led them to leave the game after a few minutes, while Child C might have been keen to dominate his peers in order to create greater certainty in a situation where he might otherwise have felt insecure. The other target children also had ways of coping with feelings of anxiety and loss of control when with their peers, such as:

- making excuses for not playing well (Child B)
- criticising the others for not copying his mimes accurately (Child G)
- interrupting others (Child E)
- putting his fingers in his ears (Child F)

Each child had a different reaction and this in itself made it impossible to generalise from one child to the others in spite of them all having the same formal diagnosis. However, each target child was able to receive the same intervention and its main advantages and disadvantages could be identified. With each intervention following on from others, it was also possible to modify the intervention in the light of what was learned so that by the time Child G was involved, several refinements had been made compared to the first intervention with Child A. It was useful to incorporate specific games found on the playground of the target children's schools into the interventions in order to teach these games in a controlled situation and then to encourage the target children to play them with their peers at playtimes.

As regards the intervention itself, each target child had individual strengths and weaknesses which needed to be assessed beforehand (Billington et al, 2000) in order to provide an appropriate intervention. The social stories, described by Gray (1994b), were written for each individual child with the exception of Child D. The targets for these social stories were based on weaknesses that had been observed informally during one of the early sessions when the target child had been compared with a normally-functioning peer.

Although the target children made progress in applying their social story's message in the sessions themselves, they tended to have difficulty in generalising this to the playground situation. Jordan and Jones (1999) noted that skills taught to children with AS are usually applied in the situation where they have been learned. However, the same skills may need to be taught again in a new situation in order to be applied in that situation as well. Klin et al (2000) warned that for this reason social skills training for children with AS might require "intensive programs of skill building involving practice and generalization" (p.11). It seemed that while the target children were willing to participate in the group sessions and to join in the games (with the exception of Child F), they viewed the skills practised as only applying to the sessions themselves. This meant that although some of the skills improved as the sessions went on, the post-intervention observations in a different setting did not indicate any dramatic improvements, except for Children B and E. Both of these children formed friendships with one other child from outside their groups and it seemed that their "friends" were particularly tolerant children who accepted some of their eccentric behaviours (e.g.

willingness to play with Child E in mock Star Wars laser fights). In the case of Child E the child he was playing with had previously been a loner with no friends and the friend of Child B was a boy newly arrived at his school. It is therefore possible that a certain kind of playmate, perhaps one with no other friends of his own, may be willing to join in playing with a child with AS and this is a possible area for further investigation.

Another area worth investigating further is the optimal number of intervention sessions needed to bring about a significant improvement in the playground behaviour of children with AS. It took each of the target children a few sessions before they were familiar with the rules and the games being played and with being with the other children. They appeared to benefit from having a set time each week for the sessions and having them as part of their routine. Due to the average length of a half term being six weeks, perhaps having six sessions in two blocks with a short gap between them or alternatively having a continuous intervention over a longer period such as a term or a whole year might lead to more progress than one intervention of approximately seven weeks. With these target children it appeared that interventions longer than eight weeks led to more noticeable improvements during the sessions themselves, such as for Children A, B and D, who gradually responded more positively when with their group. However, from the post-intervention observations of Children A and D, it looked as if these improvements did not generalise to the actual playground situation at playtimes and lunchtimes. This means that moving the sessions to the playground during a playtime or lunchtime might be helpful in encouraging skills learned in the sessions to be used at other times but this may need to happen gradually and over a period of several weeks. Resistance to this process might occur from the peers within the group, if they are willing to help in sessions during lessons but would prefer to be with their own friends instead of with the target child during their own “free time.” The target child himself might find this difficult to adjust to as well, if he has established a routine for unstructured times of the day (e.g. eating a snack item then running around in a certain area of the playground, as occurred with Child D). In this situation incentives might be needed to encourage this participation, such as a slightly longer playtime or the reward of an activity that is particularly enjoyed.

A further area worth looking at in future research could be whether the age of the target child and the extent of certain symptoms have an influence on the outcome of this kind

of intervention. No clear pattern emerged in this research but both age and severity of symptoms could possibly affect the amount of progress made. The younger children in this research appeared to have the greatest difficulty in joining in with their group of peers and in the case of Child F it was impossible to persuade him to continue after the second session. Child A needed the reassurance of his toy mice and Child D had the size of his group reduced when he showed signs of distress. The older children tended to accept the group sessions more willingly and had probably had more experience of working in groups in lessons such as Drama and Music. As regards the severity of symptoms of AS affecting progress, it appeared that Child G had more severe features than most of the other target children and he was very excitable and restless during the sessions but joined in fairly willingly. He had always been a loner with imaginary friends, obsessive interests and temper outbursts. By the end of the intervention he had heard that bees sting and that they are attracted to dandelions so as there were dandelions on the playground, he was refusing to go outside at playtimes and had tantrums if anyone insisted that he did so, thus making it impossible for the post-intervention observation to take place on the playground. It appeared that he had made less progress relative to other target children but even so it was progress for him in that he allowed another child to join him in a computer game when he was being observed following the intervention.

It seemed that providing this opportunity for the target children to join in the group sessions with their peers was valued by both the school staff and their parents as the target children's weak social skills with peers were a significant cause for concern. All of the mothers interviewed expressed the view that they wanted their son to make friends and to get on better with his peers and it was recognised that being part of a group with normally functioning children was an important step towards this process. As Moyes (2001) pointed out:

“The individual with Asperger Syndrome will not have opportunities to practice social skills if he/she does not have interactions with typically developing children.”

(p.166)

It was therefore a useful step forward for the target children who took part in this research to have the chance to interact within their small group sessions and to mix with children from their own class with adult support and supervision.

5.4: Issues Relating to the Playground:

It has been suggested by Du Paul and Eckert (1998) that:

“... perhaps a practitioner’s time and resources would be better spent facilitating the exhibition of social skills in ‘real world’ environments (e.g. playground, classroom) as opposed to providing didactic instruction and modelling in contrived settings.”

(p. 130)

This is particularly relevant for the child with Asperger’s syndrome and therefore ideally an intervention aimed at helping him to improve his ability to cope on the playground should take place there. However, providing a “real world” situation on the playground is far from easy because other children besides those involved in the group of peers providing support have a tendency to watch what is going on or to attempt to join in themselves. This happened on the first outdoors session held with Child D during a lunchtime as a group of younger children were keen to join him and his two supportive peers and this caused Child D to become anxious and he failed to benefit. Later it was found that he coped better when he was in a secluded area of the playground away from the noise and play activity of other children.

As children with AS often find playtimes difficult to cope with due to the uncertainties of what to do and how to respond (Sainsbury, 2000), it was felt that at least part of this intervention should take place on the playground rather than indoors, if the weather conditions permitted. The intention was for the child with AS to be helped to gain confidence within his small supportive group of peers initially, either in a secluded area of the playground or indoors in a fairly large room. This could prepare him for the “real world” of playtimes, particularly if a game was taught which other children in the target child’s class played regularly on the playground. In future research as a next step it would be helpful if the class teacher could then encourage the children in the target child’s class to play this game with him in a supervised situation, such as a PE lesson, to provide a larger group in which to play the game. This game could perhaps be played later in an actual playtime under adult supervision and finally in a free play situation without supervision. The use of a gradual learning situation within the sessions seems to have been helpful to the target children as all of them needed time to settle into the routine of the sessions and became more willing to participate as the sessions went on.

It was interesting that all but one of the children with AS were reported by their mothers as being clumsy in their physical movements (i.e. child D). This appeared to support the suggestion put forward by Gillberg and Ehlers (1998) that motor clumsiness helps to differentiate AS from high-functioning autism. All of the target children had difficulty in throwing and catching a ball, although some improvements were noticed as the sessions went on. When running, they seemed poorly co-ordinated with Child B recognising this and becoming especially anxious about being caught in chasing games. Barbour (1996) had reported that children with low physical competence had lower status and a less varied repertoire for initiating peer interaction. This was found before the intervention amongst the target children with those who tried to play with their peers tending to use inappropriate ways to gain their attention, such as Child A, who grabbed hold of the arms of other children as he ran past them and pulled them along with him. Pellegrini (1995) found in a longitudinal study that rejected children often used aggression towards others, sometimes confusing the relatively harmless rough and tumble play with actual fighting and taking it further than their more popular or socially competent peers. This apparent aggression seemed to occur with Child E prior to his intervention but it appeared that he would hurt someone partly as a result of his poorly co-ordinated movements. This often led to the other child hitting back and to Child E doing the same but refusing to accept that he had initiated the situation leading to the aggression between them. Following the intervention he had found a "friend" with whom he could play his imaginary "Star Wars" game and as the other child was willing to join in with him, the play that they both engaged in became more similar to rough and tumble play.

At least two of the target children were very wary of their peers on the playground and tried to avoid them. For example, Child F tended to walk around the playground with his head hidden in the hood of his coat or in the company of a familiar dinner supervisor. It seemed that he found security in adult company but not with his peers. Pellegrini and Smith (1993) had noted that most of the staff supervising on playgrounds had little or no training for this job but for all of the target children, except Child C, it appeared in discussion with the dinner supervisors that they were aware of the difficulties that these children were experiencing and were willing to assist them if necessary.

Blatchford (1998) suggested that some children in primary schools need playtimes to release their “surplus energy.” Neither Child G nor Child F appeared to use playtimes for this purpose but other target children became very restless in class when unable to engage in physical activity on days when the weather was unsuitable. In the case of Child D spending time outside engaging in physical movement appeared to enable him to cope better in class. This variation among the target children indicated that an intervention aimed at helping them to cope more successfully at playtimes was worthwhile as both those who were wary of their peers and those who could release some of their surplus energy were likely to benefit from the help received.

The data obtained from the playground observations indicated that the intervention used in this study may have contributed towards slight changes in the target children’s playground behaviours. There was individual variation between the target children but several of the observations following the intervention indicated that there was a greater willingness for some of the target children to join their peers in play activities, while others preferred to be alone. It also seemed that in the sessions themselves the majority of the target children had become more aware that games had rules and that they needed to play fairly. In some cases the progress was very small as the extent of the target children’s difficulties was quite considerable so there was room for further change. However, it was not clear whether having more sessions or focusing on more than one area of weakness with a social story would be the best way forward.

The two children who had further sessions appeared to be more willing to spend time with peers afterwards than they had when observed before the intervention but it is possible that Child B would have become friends with the newly arrived boy without having had this extra intervention. As regards the use of social stories, it was noticeable that once the second story was introduced, both target children responded well to the new message. Child B was reported by his LSA as enjoying his second social story and this may have helped him with forming a friendship and Child C showed a greater willingness to listen to the views of others, particularly when deciding on role-plays to act. However, the message of the previous social story may have been forgotten without further reinforcement as Child C returned to being quite bossy. It is unclear at this stage whether having more than one social story can help to bring about further changes in playground behaviour so this is an area that requires further investigation.

5.5: Issues Relating to the Methodology:

Walford (2001) highlighted the importance of qualitative research including a close examination of the researcher's own role in the research process when he wrote:

“... the ethnographer must try to articulate the assumptions and values implicit in the research, and what it means to acknowledge the researcher as part of, rather than outside, the research act.” (p.9)

It is impossible to be as detached from the results of this kind of research as might be the case using a more rigorous experimental design with little chance of bias because the researcher's own involvement and values can influence both how the study evolves and how the results are interpreted. However, a wealth of data can be obtained from the researcher's own participation in leading this kind of intervention and as each of the target children was unique, while at the same time serving as an example of a child with AS, this active involvement led to a greater appreciation of their individual differences.

This research using social skills training within groups adopted the researcher's assumption that such training can make a useful contribution to a particular group of target children, who have weaknesses in their ability to relate to others as well as sometimes not wanting to be in the company of others. As this reluctance to join with peers could have led to distress among AS children, and did so for Child F, setting up social skills training groups was imposing the researcher's values on the children. In addition to the problems of AS children joining in with peers, the research literature on the effectiveness of social skills training has indicated that improvements are often found for children with weak social skills during the actual sessions but these skills may then not be generalised beyond the sessions (Gresham, 1997). As difficulties with generalising skills learned in one situation to new ones are common in AS children (Jordan and Jones, 1999), the chance of these groups bringing about significant progress was always likely to very small and yet the researcher recorded in her research diary small amounts of progress for each target child during the sessions, even if progress did not occur outside them. It is unclear whether the use of social stories on their own could have brought about similar changes without the need for weekly group sessions but being involved in teaching of games to the target child and a group of peers added to the researcher's understanding of problems that AS children can face and enabled the target child to practise how to play these games within a supportive situation.

When the researcher is actively involved in the research, a wealth of data can be gained at the subjective level but replication of the findings becomes difficult for others to achieve. This was why each target child served as an example of a child with AS in order to obtain ideas for a protocol that could provide suggestions for staff in mainstream schools wanting to help AS children to improve their social skills. Initially the researcher did not expect such variation in responsiveness from individual AS children but after recognising that there were these differences, the comparisons made between the target children served to highlight their uniqueness rather than their similarities. In view of the subjectivity of the researcher who participates in research it is important to obtain data from as many different sources as possible to ensure that the findings from one method of data gathering can be validated by a different method in order to support the evidence more powerfully. Thus the views of mothers and school staff were sought via semi-structured interviews and playground observations were carried out before and after the intervention. These provided no clear pattern of response to this intervention among the target children and again highlighted the individual variation among the target children in terms of their responsiveness towards others and willingness to change their behaviour on the playground.

(i) Social Skills Schedule:

Each target child's mother and either class teacher or LSA was given a social skills schedule to complete, consisting of twenty items relating to skills involved in social interaction with peers of the target child's own age (see Appendix 5). Three categories of skills were included in the list of items so that progress made in each of these three areas could be compared using scores obtained before the intervention and those obtained afterwards. It was anticipated that if the intervention targeting play skills had been effective, the ratings for the pre-intervention stage would be lower than those for the post-intervention stage, thus indicating that progress had taken place.

When the Likert scale from 1 to 5 was used in the pilot study, it was found that the respondents needed the chance to express their doubts over the wording of certain items by having the possibility of a "don't know" response. Where such a response was given, the score was not counted in the total and this inevitably led to a distortion in the final rating totals as a zero score for an item gave a lower score than selecting the lowest choice of "one." Gilljam and Granberg (1993) had warned about the problems involved

in having a “don’t know” category when providing response choices as it is difficult both to interpret the meaning of such responses and to score them appropriately. One way of allowing for this kind of response might have been to allocate it a score of three as a “neutral mid-point” as suggested by Anderson and Arsenault (1998) and when considering the verbal responses given when these doubts were expressed, this might have provided a more realistic value. For example, the mothers provided two “don’t know” responses in the pre-intervention interview and three in the post-intervention interview, with Child C’s mother providing three of these five responses. Verbally Child C’s mother expressed the view that as these were play-related skills relevant to the school situation with which she was unfamiliar, she was reluctant to commit herself to an answer. Among the school staff there were no “don’t know” responses in the pre-intervention situation and three such responses in the post-intervention ratings. All of these were in the section involving play-related skills with two for the last item about staying calm if teased. In both cases the respondents pointed out that the target child was probably unaware of being teased so this item was difficult to rate. This particular item is one that the researcher would omit from a future version of this schedule because of the possible lack of understanding among the target children of what teasing involves. Instead this item would be replaced by “able to accept being ‘out’” so that within a play context it would indicate whether they could recognise the meaning of being caught or having to leave the game. This was a noticeable area of difficulty initially for at least three of the target children (Children B, D and E) but this gradually improved as the intervention proceeded.

The data obtained from the Social Skills Schedule was analysed initially with the Wilcoxon signed ranks test, which can be carried out where the same subjects are used in two conditions: in this case the pre-intervention and post-intervention situation. It was found that most of the rating scores given by the target children’s mothers and school staff did not show a significant difference between the pre-intervention and post-intervention situations. Only Child B’s scores given by both his mother and his LSA showed significance at the one percent level and he was reported in the post-intervention interviews to have made useful progress with his social and play skills. Child A’s class teacher and Child D’s mother gave ratings differences that were significant at the two percent level. In the case of Child A the change in ratings was due to his becoming more isolated on the playground and his total score was lower, while

Child D's mother felt that he was responding more positively towards his peers following the intervention and his total score was higher. This discrepancy indicates that the Wilcoxon failed to differentiate between ratings in a positive or negative direction but instead merely registered that significant change had taken place between the pre- and post-intervention ratings. For the purposes of this study although the Wilcoxon was able to indicate that a change had occurred, it was inadequate in being able to confirm whether there were positive signs of progress. Further analysis was therefore carried out using percentages and looking specifically at the three categories of social skills to see where the greatest amount of progress had occurred.

This analysis of the social skills ratings using percentage scores confirmed that following the intervention there had been overall progress of between 2% as rated by the school staff and 10% as rated by the mothers (see Appendix 20). The highest percentage rise was shown in the mothers' ratings of "play-related" skills, which had risen by 13 %, although this had only risen by one percent as rated by the school staff. No noticeable change had occurred in the school staff rating of "interactive use of language" skills. The mothers had rated both "interactive use of language" and "acknowledgement of others" skills as showing a rise of 8% but among the school staff, this latter area had shown a rise of only 4%. When looking at these totals for all six target children, it should be remembered that each of these children had significant deficits in their social interaction skills so even slight changes in the ratings for the group of children as a whole indicated that it was possible that some progress had occurred in spite of the individual variation between the target children.

(ii) Playground Observations:

Both before and after the intervention the researcher carried out observations on the playground of each target child, except for Child G. (He was unavailable for observation on the playground afterwards due to an unusual phobia but was observed indoors instead, playing a computer game with a "buddy.") For the playground observations, which took place at 60-second intervals, a schedule with categories for both level of interaction and quality of interaction with others (see Appendix 6) were ticked according to whether the target child was alone or with others and whether the interaction involved positive verbal or physical interaction.



Originally a list of activities had been used in the pilot study but in view of weak social interaction skills among the target children it was felt to be more relevant to look at whether they were engaging in any interaction with peers and what kind of interaction this was in terms of physical and verbal responsiveness. In the pilot study Child X was initially aggressive towards others but following the sessions where he was taught how to play bench ball, he was joining his peers in games of football so the amendment to the observation schedule taking account of level and quality of interaction was able to show this improvement. This amended schedule was then used for observing each of the target children. As the playground was a busy place with children running around, the 60-second interval rather than a shorter interval helped to ensure that the target child was in view at each observation point. Comments were also added to the observation sheet regarding weather conditions, special circumstances and the activities observed. It would have been useful to have had another observer as well as the researcher in order to show clearer inter-observer reliability for this observation schedule and in future research the target child's class teacher or LSA could be asked to provide observations at the same time as the researcher and perhaps also at regular intervals during the intervention in order to record the on-going situation on the playground.

The use of video recordings would have added to the quality of data gathered if each playground had been able to provide a clear vantage point of the target child away from the children playing on the playground, who might otherwise have been influenced by the presence of the camera. The school best suited for such recordings would have been Child D's school as there was a clear view across from the classrooms to the playground. However, none of the other schools had the section of playground favoured by the target child clearly visible from any classrooms and these playgrounds either had several sections or had grass areas that were too far from the building, thus making it difficult to make a video recording without being outside amongst the children who were playing. The use of video-recordings backed up with audio-recordings via microphones for the target child and dummy microphones for other children was used in a study of bullying (Pepler and Craig, 1995) but such technology was unavailable and in any case this research was focused more on whether the target children played games they had been taught in the intervention rather than what they were saying to each other so this particular schedule served the required purpose.

(iii) The Intervention:

Following the pre-intervention interviews and observations the intervention itself took place with the target child being supported by his LSA and a group of peers in playing a game designed specifically to improve play and social skills (see Appendix 3). It was suggested to each of the class teachers that they could choose five normally-functioning children from the target child's class with an equal number of boys and girls. Even when Child D had a reduced group, it appeared to be helpful to have two children, one of each gender, as both were popular and sociable with their own friends yet also willing to help him. When it was subsequently noticed that in situations where there was a choice for splitting into two teams, there was a tendency for boys to choose other boys and girls to choose other girls, the game was altered slightly to require a dice to be thrown to allow for more random selection of who took part. The other random process introduced was to hold out cards for the games face down and then the child, whose turn it was for the particular type of game, took a card from those available without knowing which would be selected. This led to greater acceptance of the game chosen as the selection was regarded as being beyond the control of the child who chose it and this made it impossible to blame that child, if the game was not one that was enjoyed by the participants. Each game had its own purpose in helping to address the social skills and play skills listed on the Social Skills Schedule so randomly selecting the games that were played on the basis of throwing the dice and selecting an unknown card allowed for variety within a certain number of possibilities.

(iv) Informal Observation of Target Child and Peer:

The informal observation of each target child and a normally-functioning peer took place at approximately the half-way stage in each intervention. Its purpose was to provide information as to the main areas of difficulty in social interaction skills faced by the target child compared with his peers (see Appendix 9). It was anticipated that the normally-functioning peer would cope successfully with each of the skills and this child was carefully selected on the basis of the previous sessions in order to provide a contrast with the target child. Clear differences emerged between the two groups and none of the target children behaved in the same way as his matched peer. The former all showed poor use of eye contact, facial expression and intonation when speaking to others and often asked questions on their own terms or to seek reassurance, interrupting

other speakers and showing little interest in what the others in the group were saying or doing. Often these informal observations were useful in confirming certain areas of weakness that had already been identified in the pre-intervention interviews and for some of the target children it was these areas that were made the focus of the social story (e.g. listening skills for Child E).

In future research further measurable data might result if this informal observation involved a rating scale from one to ten, where one is the lowest rating for never responding in the desired way and ten indicates appropriate responses all of the time. Perhaps a further observation could take place during the last session to see whether the difference in the ratings for the target child for the two occasions was significant to indicate whether the intervention led to progress in these four areas of social interaction. In addition to this observational data the target child's mother and class teacher or LSA could perhaps provide a rating for each area before and after the intervention to see whether this progress was noticed outside of the sessions as well as within them.

(v) Social Stories:

The aim of the social stories, which were presented at approximately the mid-session, was to address a particular area of weakness in the target child's social interaction skills identified either during the pre-intervention interviews or in the early sessions (see Appendices 28, 29 and 30). Only Child D had a different kind of social story, where at his mother's suggestion, instead of targeting a particular aspect of his behaviour, he was given a folder with a written explanation of the rules for games that were used in his sessions and illustrated with cartoons showing a boy resembling him. This proved to be helpful for Child D as he was able to share these rules with his LSA and to colour in the illustrations. He became more willing to play these games and appeared to respond well to having this clear and predictable structure.

For the remaining children the text of each social story was illustrated with photographs taken on an earlier session showing the target child joining in games with his group of peers. There appeared to be advantages to having the target child himself in the photos because he could see himself responding in the way that the text described and the LSAs reported that a great deal of pride was shown in the social story for this reason. Usually there was one photo on each page of text and large print was used to make it

easier for the child to share the story with an adult. If the child was able to read, he could read the story aloud with his LSA but otherwise she was able to read it for him.

Each of the target children seemed to benefit from the regular reading of their social stories with their LSA (see Appendix 29) as the aspect of behaviour being targeted led to some progress as described in the post-intervention interviews. It had been intended that the social story would be shared each day but there was no clear indication as to whether this had happened. In retrospect the use of a daily tick chart would have helped to confirm that this reading together was taking place. Yet in spite of this relative weakness in the research design, the mothers and school staff reported the aspect of behaviour presented in the social story as moving in a positive direction for all the target children.

Gray (1994b) recommended a clearly defined ratio for the types of sentences to be used in the writing of social stories and care was taken to ensure that this was adhered to. She indicated that an effective social story should contain a ratio of between two and five descriptive and perspective sentences for every directive sentence. The lowest ratio was used in a short social story for Child G entitled "Staying Calm," where this ratio involved five descriptive and perspective sentences to two directive sentences and the highest ratio was used in Child E's social story entitled "Listening to Other People" (10 to 2). The average number of sentences used in these social stories was twelve sentences, which was found in three social stories, but the longest contained 19 and the shortest had 7. For all of the children except Child G the social story led to noticeable progress in the targeted area with Child A showing the most dramatic results in reducing his aggression. It therefore seemed that sharing the social story each day to back up the intervention with illustrations to support the verbal message visually was helpful in guiding the target children toward improving particular areas of weakness in their social skills (see Appendix 30 for transcripts). Perhaps modifications to these social stories to include a wider range of social situations might be useful for future interventions of this kind so that other areas of weakness can be addressed when the original one improves.

(vi) Questionnaire on Children's Favourite Games:

During the last session of each intervention the children taking part were asked to complete a short questionnaire to indicate which were their favourite games in return for

having a party (see Appendix 10). They were willing to do this but often needed assistance from an adult to write the necessary names on their sheets. It was interesting to find that the answers given by the individual target children varied considerably and none of them named the same favourite game (see Appendix 27). Two target children indicated that their least favourite was the game of "Queenie," which required an element of deception when the child was guessing who had the ball. Baron-Cohen (1995) might have accounted for this weakness in ability to deceive with his Theory of Mind as these children showed a particular lack of awareness of the viewpoints of others.

Although three target children expressed a disliking for the role-plays, these were the favourites for Child G and for Child C when he had his extra sessions and became more willing to join in discussing the roles with his peers rather than always wanting the role of teacher. It was usually the games where they were performing well and felt themselves to be successful that they selected as their favourites. It is interesting to note that it was the more active games and those involving miming which tended to be selected and that none of the target children chose any of the listening games as their favourites. All of them had been reported as having a tendency to interrupt others and it was during the listening games that this was most noticeable so this perhaps accounted for why they showed a disliking for these games more than the other kinds of games.

(vii) Research Diary:

Throughout each intervention the researcher kept a research diary in order to make notes of how each session went and how the children in the sessions responded (see Appendix 31). These notes were written up as soon as possible after each session and served as an on-going record of the sessions and the progress made. This diary helped to aid reflection on the part of the researcher as recommended by McNiff et al (1996), who suggested:

"The purpose of this would be to examine experience in order to understand it better by writing about it. This could include your own tentative observations and interpretations of events." (p.89)

This research diary provided a useful source of detailed qualitative data on each child and how he coped within his own particular group, serving to supplement the data

gathered from other sources. It confirmed that although the quantitative data indicated limited success in terms of ratings from the Social Skills Schedule and observations made on the playground, the gains made qualitatively as recorded in this diary as the sessions proceeded were noticeable for each child. This progress was sometimes erratic and adversely affected by circumstances beyond the sessions themselves (as in the case of Child B's extra sessions when he had a new class teacher).

The on-going recording in a research diary of what happened for each target child in each session was also helpful in examining the quality of progress made during the intervention itself. These notes were written up by the researcher as soon as possible after each session and gave a useful indication of whether any improvements were taking place. Without such a record there would have been no information available between the pre-intervention and post-intervention data gathering stages to indicate how the intervention was going but it is likely that as it was subjective, it may have been selective and omitted other relevant details which might have aided reflection. On the whole its benefits outweighed its disadvantages and it was felt that having this research diary enabled on-going analysis to take place.

It might also have been helpful if the target child's LSA had kept a daily diary of his responses towards peers during the period of intervention. This would have supplied further data concerning the child's progress as well as giving another view of how the child was coping outside the actual sessions. The mothers might also have been able to write their views on a daily basis to give extra richness to the qualitative data collected.

5.6 Ethical Issues:

The aim in this research was to help a group of target children, who had an ICD-10 diagnosis of AS, to make progress with their social interaction on the playground with their peers. The target children themselves were not made aware of the purpose of this research nor were the peers who supported them but their headteacher and their parents were asked for permission to include them and this was given on their behalf (see Appendices 1 and 2). This is often what happens in schools as children are legally under the age where they themselves can give consent to take part in this kind of research (Robson, 1993), although ideally they should do so. In view of this lack of informed consent and in order to protect their identity, each child involved in this

research was referred to by a letter of the alphabet. Neither the schools nor adults who took part in this research were named in order to provide further protection. Copies of the research notes for each session were sent weekly to the headteachers to keep them informed of what was happening as it was helpful for them to be able to answer any questions which parents might ask about their child's involvement either during the sessions or at a later date.

It was considered important for the children involved in the research to enjoy the sessions and for this reason when it became clear that Child D was unhappy about having his sessions held indoors during the lunch hour, which he felt was a time for running around on the playground, alternative arrangements were put in place and he was given the sessions as a reward at the end of the school week. He also found it difficult to cope with a group of five other children but he joined in more successfully with only two children. Towards the end of the intervention he was actively looking forward to each session and appeared to be benefiting from them so it had been worthwhile ensuring that his initial difficulties were addressed. With Child F, who became very distressed by the sessions, it was also important to allow him to withdraw from the intervention in order to ensure that he was not put under unnecessary pressure.

Of the normally-functioning peers, there was only one child who left the group supporting a target child. He was a boy in Child C's original group who had weak social interaction skills and who agreed that he had not enjoyed the sessions and was happy to stop attending them. It was important that none of these children should be harmed in any way as the aim of the research was to benefit both the children involved and the school community (Greig and Taylor, 1999). Each child's progress was monitored to ensure that they were enjoying the sessions and benefiting from them and most appeared to be disappointed when the sessions came to an end.

5.7 Overview of Findings:

The hypotheses for this study were that the target children with AS who took part in this intervention could be taught to play specific games with a supportive group of peers and that this intervention would improve their ability to join in similar games and activities with their peers on the playground. However, the evidence gathered indicated that while it was possible to teach playground games and social skills within a small

supportive group of peers over a period of at least six weeks, backed up by social stories focusing on areas of weakness, and to produce some progress during the sessions themselves, this intervention had limited potential in improving the social interaction of these children in the actual playground situation. Other factors besides the intervention may have led to progress of the three children who were observed co-operating with their peers following the end of the intervention (i.e. Children B, C and E) just as other factors led to Child G refusing to go out onto the playground. It was therefore inconclusive as to what part the intervention played in any progress observed or any changes in ratings obtained from mothers or school staff on the Social Skills Schedule.

It appeared that prior to the intervention each of the target children experienced difficulties in knowing what behaviour was appropriate on the playground but by taking part in structured play sessions with their group of peers, they became aware that games have rules and that turns need to be taken for them to be played successfully. This awareness became more noticeable as the sessions progressed but was not necessarily transferred directly to the playground situation at playtimes and lunchtimes. However, there was a reduction in these aggressive incidents and misunderstandings and both school staff and mothers reported a greater level of overall co-operation with peers.

On joining their group sessions each of the target children had appeared to be very anxious and had shown their own ways of trying to remain in control of the situation. These strategies for staying in control had included withdrawing from games at times of their own choosing (e.g. Children A and D), imposing their obsessions on the group (e.g. Child A with his toy mice and G with his dinosaurs), attempting to boss the other children and to interrupt them when they were talking (Children C and E) and making excuses when feeling at a disadvantage (Child B). As the sessions progressed, these behaviours gradually disappeared within the sessions, often with the added support from the message in the children's social stories.

It appeared that having predictability and feeling that they were still in control was of great importance to each of the target children. They responded well during the sessions themselves once they had settled down with their group of peers but the issue of generalisation to outside the sessions and in particular to the playground situation remains a continuing concern to be addressed in future research.

CHAPTER 6: CONCLUSION:

6.1. Factors that Can Facilitate Inclusion:

Inclusion of all pupils in their local mainstream schools is gradually becoming accepted as a human right and is being actively promoted through government policy and among educationalists and parent groups. The social aspects of inclusion are considered to be particularly beneficial both to the children who have special needs and also to their peers. However, there are certain areas which still need to be addressed before this policy can become a reality for all pupils. These areas include the need for training teachers and support staff in how to address particular special needs, a sufficient level of funding to provide the necessary resources and staffing to meet these needs as well as specialist outreach support and intervention programmes for certain individuals.

In this case study, which involved an intervention aimed at facilitating the inclusion of six pupils aged between 6 and 11 years with an ICD-10 diagnosis of Asperger's syndrome attending mainstream schools, there were useful indications that progress was made by each of the children concerned during the sessions themselves. However, outside the sessions progress was less noticeable. In quantitative terms the ratings on the Social Skills Schedule showed that only one of the children was considered to have made a significant improvement in his ability to cope socially with his peers. Similarly, only small improvements in interaction with peers were found by carrying out observations on the playground both before and after the intervention. However, both anecdotally and in qualitative terms, it was recognised by mothers and school staff that each of the target children benefited from taking part in the intervention. Examples of progress included less aggression, more willingness to co-operate with peers and even forming a friendship.

As each target child was a unique individual and differed from the five other children both regarding the severity of his symptoms and the extent of his difficulties with social interaction, it is not possible to make generalisations from each of these children to the general population of AS children. Each target child had certain unique features that made him different from the others in this study and this variation between children diagnosed with this condition may be one reason for the lack of a clear description of what constitutes a "typical child with Asperger's syndrome." This has probably also

contributed to the difficulties in determining the criteria for diagnosis and the resulting uncertainties about whether particular children are labelled as having this condition or another related condition instead. Among the children in this study there were general similarities both in their symptoms and in aspects of their behaviour such as the poor listening skills, poor use of eye contact, some clumsiness and a tendency to dislike failure but none of the target children shared exactly the same features. This variation may have also affected the outcome of the intervention for each child.

The intervention itself was similar for each child in that games were played within a supportive group of normally-functioning peers to address the three areas of skills felt to be necessary to getting on well with other children. These three areas were:

- Acknowledgement of others
- Interactive use of language
- Play-related skills

Two of the target children (Children A and D) played a small selection of games, which were either found in their playground or chosen from those included in the game that was designed specifically for the purposes of this research. The remaining four target children had opportunities within this research game to play a greater variety of games, to answer questions about social situations and to take part in role-plays. Each target child (except Child D) also had a social story written by the researcher in consultation with his LSA and focusing on an area of weakness. This was usually related to the third category of social skills in that it addressed play skills, such as allowing others to have their turn and playing games according to the rules. This area of weakness was found to improve for all of the target children within the remaining sessions but in the follow-up interview with the child's mother and school staff, for two of the children (Children E and G) this skill area was not felt to have improved outside the sessions. This may have been due to the difficulty of generalising a skill learned in one situation to other situations, as described by Jordan and Jones (1999), so future interventions of this kind may need to take account of this by extending these skills to a variety of social situations beyond the sessions themselves. For example, these could include Physical Education lessons and supervised playground sessions. Another way forward could be

for the class teacher or LSA to work together to amend the social story in order to take account of other situations where the skill could be applied, such as playtimes or lunchtimes. Progress made by the child could be monitored at regular intervals by keeping diary records or carrying out structured observations, perhaps using the format for observation used in this study.

6.2. Future Directions for Research:

Further research into facilitating the inclusion of pupils with Asperger's syndrome in mainstream schools could usefully investigate some of the following areas in greater depth than was possible in this study:

- The long-term effects of an intervention, such as the one described, could be measured at regular intervals afterwards both by observation on the playground and further interviews (e.g. every six months).
- Observing at regular intervals a group of pupils who have been diagnosed as having Asperger's syndrome but who have not received the intervention to see if an improvement occurs over time without such an intervention (e.g. every six months).
- Comparing the effectiveness of giving one group of pupils with AS the sessions and no social story with giving another group the social story and no sessions to see which leads to the most significant improvement when using the observation and Social Skills Schedule data to measure progress before and afterwards.
- Comparing the effectiveness of the intervention according to age of the target children to see if younger children benefit more than older children or if there is an optimum age for progress to occur.
- Comparing the effectiveness of the intervention according to the number of sessions provided to see if six sessions are sufficient or if continuing with more can lead to greater improvement in play skills.
- Comparing the effectiveness of the intervention when resumed at regular intervals (e.g. every six months) with having only one period of intervention.
- Providing similar sessions for pupils in Key Stages 3 and 4 using age-appropriate activities (e.g. games involving turn-taking, listening skills, observing others as well as role-plays).

- Involving the target children themselves in evaluating the effectiveness of this kind of intervention from their own point of view rather than relying mainly on the views of their parent and school staff.
- Using video recordings of the sessions and seeking feedback from the target children as to what they notice is happening and using this as a teaching tool to improve their responsiveness in future sessions.

This area of research has the potential to provide useful ways forward in improving the play skills and social interaction of these pupils. Their weak social interaction skills are one aspect of their condition that makes inclusion difficult for some of them so it is important that further studies should be carried out to investigate ways of helping them to overcome these weaknesses.

6.3. Summary of Findings in Relation to the Purpose of This Study:

In addressing the main hypotheses investigated by this study, it was found that:

- Pupils with Asperger's syndrome can be taught to play certain games with a supportive group of peers but there is a tendency not to generalise what is learned within a group session to the playground situation.
- There was no evidence to show that this intervention itself led to any of these target children improving their ability to join in similar games with their peers on the playground. Each child with AS is a unique individual, who varies in the extent to which his or her social interaction skills are impaired so there needs to be flexibility built into this kind of intervention to allow for an individual child's particular areas of strength and weakness.

In addition to investigating these hypotheses this research has provided a useful insight into the complexity of Asperger's syndrome. It appears that for some of these children receiving social skills training within a small supportive group of peers can help to improve the child's play skills during the group sessions but ways to generalise what is taught for use in the "real world" situation of the playground is a challenge which could usefully be addressed in future research.

6.4 Facilitating the Inclusion of Pupils with Asperger's Syndrome:

As Government policy on increasing inclusion means that more pupils with AS are likely to attend mainstream schools rather than special schools, it will be important for staff in mainstream schools to be able to address the needs of these and other children whose social interaction skills are relatively weak. The use of some of the suggestions outlined in the protocol below may therefore be helpful to staff in schools where these pupils are being included. It is also hoped that further research in this area can lead to an even wider range of potential strategies to give these children the chance to cope more successfully in unstructured times and to form some genuine friendships.

This research has confirmed that although each of these children share some features, they have their own unique characteristics as well so what works for one child may not necessarily work as successfully for another child. It is therefore important for school staff to be flexible and willing to experiment rather than assuming that this particular label means that one strategy will work for all. This flexibility and experimentation can involve carefully observing the individual child to determine where his or her main areas of strength lie and what areas of weakness can most usefully be addressed. Then the child can be provided with help that targets the areas of weakness, while at the same time building on the areas of strength, leading to a child who can feel both confident and accepted and also to his or her successful inclusion within a mainstream school.

6.5: Protocol for Facilitating Inclusion in Unstructured Times:

These six interventions and the intervention where a child was unable to continue have confirmed the uniqueness of these AS children and each is likely therefore to require an individualised programme to help with coping successfully in unstructured times. With this in mind a protocol has been drawn up to provide suggestions for staff in mainstream schools to try out with pupils who have a diagnosis of AS or who are experiencing problems in relating appropriately towards others. Some of these suggestions are based on what has been found in this research but others have come from work carried out by the researcher with other AS pupils. This protocol is intended as a guide for addressing problems relating to social interaction with peers and also aims to encourage further research into helping AS pupils to cope with the social demands placed upon them, particularly during unstructured times of the day outside the classroom.

PROTOCOL FOR FACILITATING THE INCLUSION OF THE CHILD WITH ASPERGER'S SYNDROME AND RELATED CONDITIONS DURING PLAYTIMES AND UNSTRUCTURED TIMES:

Introduction:

This protocol, which is intended as a list of possible ideas for use by staff in mainstream schools where a pupil with Asperger's syndrome is being included and where help is needed to enable her/him to cope more successfully on the playground and in unstructured times, is divided into four sections:

1. How to organise and run an intervention programme for an individual pupil using the method applied in this research
2. A list of alternative suggestions for an individual pupil using peer support.
3. A list of suggestions that can be used for an individual pupil working on a one to one basis with an adult.
4. A list of suggestions for indirect support to help the target child

Section 1: An Intervention Using Peer Support to Improve a Child's Play Skills on the Playground:

(a) Initial Requirements:

- A teacher and/or Learning Support Assistant who knows the target child well. (It is important that whoever runs the group should enjoy playing with children and be sensitive towards the responses of the participants in the group and in particular the target child.)
- A carefully selected group of peers who are willing to join in the sessions (ideally six, with three of each gender including the target child).
- Parental permission for each child, including the target child.
- A designated area of the playground for fine weather sessions.
- A designated room for when the weather is cold or wet with space for running around (ideally a hall or large classroom).
- Timetabled time each week for a minimum of 6 weeks on same day and at same time for between 30 and 60 minutes.
- A clear explanation for the target child of when and where sessions will take place and a short description of the games and activities, if this would be helpful.

- A separate explanation for the other children taking part in the sessions.
- A game to provide a clearly defined structure on which to base the play skills sessions, such as the one designed for this study.
- An alternative method of determining the games to play could involve a selection of cards with the names of games on them and players take turns to take a card.
- A Polaroid or Digital camera for use in taking photographs for the target child's social story.

(b) Procedure:

- At the beginning of the first session the participants are told that they are learning to play some games in a co-operative and friendly atmosphere, where they aim to show respect and kindness towards one another so that they can enjoy the sessions. This means that if someone does not know how to play, the others can help that player to make it easier for them to join in so that everyone can enjoy the games and learn from them.
- The rules for playing the game are explained clearly with both actions and words in order to reinforce the message. At this stage it is helpful to add the rule that when someone else is having their turn and speaking, no one should interrupt them but they can put up their hands to volunteer to help, if they feel that they have something useful to say. The person having the turn can then choose whether or not to ask them for help if they want this. A one-minute or two-minute sand-timer can be used to ensure that the pace of giving answers is maintained at a reasonable level.
- A fair way of deciding who starts the game should be worked out (e.g. the player who throws the highest value of the dice, the child who has the next birthday) and before starting to play, the adult in charge checks that the players know the order in which they will take turns.
- The players take turns and the games are played according to the random selection made. In this special game there are different activities for each of four colours and these focus on particular aspects of play and social skills as follows:

* *Blue: Games involving physical movement*

* *Yellow*: Games involving *careful observation* of others

* *Red*: Games involving *listening carefully* to others

* *Green*: Either *role-plays* or answering *questions about social situations*

This game also includes opportunities to move either one (*black*) or three (*purple*) spaces without playing games as well spaces where a joke can be told or there is a free choice (which includes the “Spin a Letter Game”).

- On the last session the children are thanked for taking part and can perhaps have a special party with drinks and snack items. It is also helpful to obtain feedback from the children as to which games they enjoyed the most and which they are currently playing on the playground.
- Throughout the sessions the role of the supporting adult is to ensure that the target child is able to participate in the group without becoming upset or distressed and to monitor his/her progress. If necessary, adjustments can be made to the size of group, selection of games played and duration or location of the sessions based on information obtained from this monitoring process.
- By the third session the target child will hopefully have settled down and it will be possible to take some photos during that session for use in a social story targeting an area of weakness that the monitoring process has identified for working on improving.
- The social story should be written according to the guidelines supplied in Appendix 28. This can then be shared for a few minutes each day by an adult with the target child in order to reinforce the message relating to improving an aspect of his/her play or social skills. Ideally a chart could indicate the frequency of sharing the social story.

(c) Following the Intervention:

- Details of progress can be shared with other members of school staff at a staff meeting.
- Details of progress can be shared with the target child’s parents.
- Letters of thanks or special certificates can be issued to the children who took part in the group.
- A decision can be taken as to whether to hold further sessions at a later date.

Section 2: Alternative Suggestions for Using Peer Support to Improve a Child's Social Interaction in Unstructured Times:

- **Peers as “Buddies”:** Providing the target child with a small group of peers who act as supportive “buddies” during play sessions and at unstructured times.
- **Social Skills Training Group:** Providing the target child with a group of normally- functioning peers with whom s/he is taught games to play on the school playground under adult supervision.
- **Incentives for Social Participation:** Providing the target child with an activity which s/he enjoys (e.g. relating to special interest, computer time) in return for spending a certain amount of time with peers on the playground.
- **Role-Plays:** Giving opportunities for the target child to practise situations with peers involving social interaction (e.g. how to join or leave a game without offending others, how to respond when upset by others).
- **Explicit Teaching of Rules for Games:** Giving the target child demonstrations of how to play games with a group of peers, making use of visual prompts to back up the rules where appropriate.
- **Frequent Rehearsal of Games:** Providing the target child with opportunities to practise popular playground games with a group of socially competent peers under adult supervision.
- **Incorporating Target Child’s Circumscribed Interest into Play:** Giving the target child the chance to use her/his particular area of interest in a play situation so that s/he is better motivated to join in games (e.g. game where names of railway stations are called out and moving to the one named, playing “Simon Says” with pretending to be named Disney characters).
- **Involving Target Child in Organising Play Activities:** Asking the target child to join in games with a group of peers and to give suggestions for improving the way they are played.
- **Focusing on Fairness and Turn Taking:** Providing the target child with games where turns are taken within a supervised play situation with peers.

Section 3: Suggestions for Using Individual Adult Support to Improve a Child's Social Interaction Skills:

- **Adult Support on the Playground:** Providing the target child with an adult who encourages her/him to join in games with other children nearby.
- **Teaching How to Play One Game:** Giving the target child the chance to learn one popular playground game and using demonstrations and perhaps visual rules. After plenty of practice a “buddy” or small group of peers could rehearse this game with the child ready for her/him to play it on the playground.
- **Illustrated Rules for Games:** Providing the target child with visual rules for how to play some popular playground games and practising them first alone then with some other children.
- **Social Scripts:** Providing the target child with a script to use in certain situations involving social interaction with peers and rehearsing these within a supervised learning situation and later with supportive peers.
- **Comic Strip Conversations:** Using a visual cartoon involving pin-figure drawings with appropriate speech samples shown in speech bubbles to explain how to respond in situations involving social interaction (Gray, 1994a).
- **Use of Puppets:** Acting out scenes involving social interaction with hand puppets and encouraging the target child to practise appropriate scripts in a non-threatening situation with an adult before acting these out with a supportive peer.
- **Use of Board Games:** Providing the target child with board games to practise turn taking. Initially puppets could be used to show “having a turn” then later another child could join in and eventually a small group.
- **Role-Plays:** Providing the target child with role-plays of situations where misunderstandings could arise (e.g. when “out” in a game) and working out strategies and suitable scripts to cope with these in future.
- **Use of Video:** Using video recordings of how other children play games and talking through with the target child what is happening. Later the target child could take part in similar games and be encouraged to discuss what happened and what improvements could be made in future.

- **“Agony Aunt” Problems:** Providing the target child with some imaginary “problem letters” relating to awkward social situations to which an oral or written solution can be worked out which could also guide her/him in similar situations.
- **Discussion of Cartoons:** Cartoons of socially awkward situations or where misunderstandings have arisen could be discussed with the target child who can be encouraged to suggest alternative ways for handling these situations.
- **Stress Reduction Strategies:** Teaching the target child ways of becoming calmer when joining peers in games, such as using deep breathing, using a preferred activity or a favourite toy as a reward or doing an activity related to her/his circumscribed interest.

Section 4: Suggestions of Indirect Ways for Improving Social Interaction with

Peers:

- **Teaching Playground Games in P.E. Lessons:** Taking the opportunity to teach some playground games during P.E. lessons so both the target child and other children can become familiar with these.
- **Asking Pupils to Bring in Games:** Having a special session once a month or term when children bring in games to share with others in their class. A rating scale from 1 to 10 as to how enjoyable a particular game was could be used to encourage participation of all children.
- **Asking Pupils to Show a Favourite Game:** Having a “show and tell” session where the children can bring in favourite games to show and describe to the rest of their class. The target child could play one of the games with an adult or supportive group of peers.
- **Circle Time Focusing on Playground Behaviour:** Discussions in Circle Time could focus on how to improve playground behaviour and how to be friends to children who seem isolated.
- **Information Provided to Pupils on Asperger’s Syndrome:** A talk on the condition could be given to the target child’s peers, perhaps using “The Sixth Sense” lesson plan described by Carol Gray (1993).

- **Information Provided to School Staff on Asperger's Syndrome:** A talk to school staff by a professional, such as an Educational Psychologist, could include strategies for helping pupils who have poor social interaction skills.

This protocol can be adapted to the particular needs of an individual child who has Asperger's syndrome and to the special circumstances within the mainstream school that this child is attending. If one approach does not lead to the desired improvements in the child's social interaction with peers, others could be tried instead to ensure that the help given is both appropriate for the child and can lead to a worthwhile and successful outcome.

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APPENDIX 1: DRAFT LETTER TO HEADTEACHER

Dear (Headteacher),

Re: Doctoral Research Project into Playground Behaviour of Mainstream Pupils with Asperger's Syndrome

Further to my phone call of [REDACTED], I am writing to explain the research project which I would like to carry out with X, who has Asperger's Syndrome, if his mother would be willing for him to be included in this research project. Ideally the results of this research will make it easier for other children with Asperger's Syndrome to cope in mainstream school playgrounds in future as well as the child who takes part in this project.

As mentioned before, I would like to do some similar work with X to that already done with a Year 6 in a Junior School where a small group of peers learned some playground games to play together in 6 weekly sessions. The only difference will be that as this is for dissertation purposes, I need to be more careful in finding out what X's typical playground behaviour is before the project begins (as a kind of baseline measure) compared with how he behaves afterwards (as a measure of possible improvement). I will need to have parental permission for the children who take part in the supportive peer group and would welcome the help from one of the Special Needs Assistants who is working with X as this person knows best his particular personality characteristics.

For the baseline measure I could come and do some observations in the playground and would also like to have a short interview with either his class teacher or one of the Special Needs Assistants who are working with X. Then we could decide on a mutually convenient afternoon session during the Autumn Term for X and his group for approximately six sessions with the group and afterwards I could do more observations and another short interview to assess how things have gone.

It is hoped that by carrying out this research in your school and a few other schools, both your staff and myself will be able to build up knowledge and experience of what works best with these pupils. When I write up my research, I will disguise the identities of those involved so that they will not be named and I will also attempt to disguise the name of your school to prevent a breech of confidentiality.

I hope that you will be willing for this research to take place and that the parents of these pupils will also be happy for them to be included. It is my intention that this research should benefit your pupils as well as enabling me to complete my doctoral research.

Yours sincerely,

Marion Hobbs, Educational Psychologist

APPENDIX 2: Draft Letter to Parents of Children selected for Support Group

Dear

In order to help some children in our school to learn to get on better with others on the playground and to take part in a small research project being carried out by Marion Hobbs, our school's Educational Psychologist, we intend to provide a special support group which will involve some of the children in Year X during the second half of the Autumn Term.

As your child usually seems to get on well with others, we would very much like him/her to join in this support group for a child who is having some problems on the playground as we feel that he/she could help this child to benefit from joining in the activities which are on offer. These are mainly playground games and role-plays which are designed to improve this child's willingness to co-operate and to play better with others while at the same time enabling him to gain in confidence and self-esteem. The sessions should be interesting and enjoyable for your child as well because he/she will be taught a variety of new games as well as having the opportunity to practise some useful skills.

Please could you return the consent slip at the bottom of this letter to let me know if you are willing to allow your son/daughter to take part in these activities. You are also welcome to get in touch with me to discuss this matter further, if this would be helpful to you.

Yours sincerely,

Mr/Mrs X,
Headteacher

To Headteacher, X School

I am willing/not willing for my
son/daughter..... to become involved in a
support group for a child who is learning to play better with others.

Signed.....
Date.....

APPENDIX 3: THE GAME FOR TEACHING PLAY SKILLS

Rules for Game: Aim of the game is to teach children to play co-operatively. There is no winner but the child who reaches "Finish" first can choose 3 games and a small party can be held with drinks, crisps and biscuits to celebrate having played the game together.	To start each player throws the dice with dots and the player with the highest value thrown starts and players take turns in a clockwise direction. The dice with dots can be used with older players to show the number of places to move forward. For younger players the coloured dice is used and they move to next circle of that colour.
Blue Circle: Indoor games can include: Guess What We Are, Laughter is the Best Medicine, Queenie, Catch the Ball, Beep Outdoor games can include: Octopus, Triple Tag, Shopping Game, Under the Bridge, Shadow Tag	A blue card is selected by the player without looking at the cards. The game involves some kind of physical movement .
Yellow Circle: Examples of these games include: Do This, Guess The Leader, Simon Says, Mime an Interest, What's My Line?	A yellow card is selected by the player without looking at the cards. The game involves careful observation of the other players.
Red Circle: Examples of these games include: Not This Number, Twenty Questions, Psychic Numbers, Chinese Whispers, "I went to Market and Bought..."	A pink card is selected by the player without looking at the cards. The game involves listening carefully to the other players.
Green Circle plus coin "heads": Role-plays of Social Situations	Player tosses a coin and if it lands on heads, this player takes part in a role-play . Other players join in by obtaining either heads or tails according to this player's choice.
Green Circle plus coin "tails": Questions about Social Situations	Player tosses a coin and if it lands on tails, this player takes a pink card and answers the question about a social situation, seeking assistance from other players if necessary.
Black spot: One space forward	Player moves forward one space instead of playing a game.
Purple spot: Three spaces forward	Player moves forward 3 spaces instead of playing a game.
Tell a Joke Circle	Player can tell a joke, referring to joke book if unable to think of one.
Free Choice Circle	Player can choose any of the games from the coloured cards (even if already played) or instead choose the "Spin a Letter" guessing game.

APPENDIX 4: LIST OF ROLE PLAYS:

ROLE PLAY: JOINING THE GAME

You want to join a game of Tag which others in the group are already playing. Ask them to let you join in the game.

ROLE PLAY: LEAVING THE GAME

Others in the group are playing a game with a ball but you want to go and eat your snack. Ask them to let you leave the game.

ROLE PLAY: SAYING HELLO

Others in the group are talking to one another and you want to join in with them. How could you say hello to them and then join in?

ROLE PLAY: SAYING GOODBYE

Others in the group are having a conversation but you now want to leave so that you can play a ball game. How could you tell them you are going to leave them?

ROLE PLAY: GIVING A COMPLIMENT

Others in the group are comparing their shoes or trainers and you really fancy a pair that someone else is wearing. Give the person a compliment to tell them this.

ROLE PLAY: COMPLAINING ABOUT BEING TEASED

Others in the group have made an unkind comment that has upset you. Tell them that you did not like this and do not want them to do this in future.

ROLE PLAY: STANDING UP FOR YOURSELF

Others in the group are saying unkind comments and trying to wind you up. Tell them that they are upsetting you and stand up for yourself.

ROLE PLAY: JOKES THAT DO NOT SEEM FUNNY

Others in the group are laughing at a joke that one of them has just told but you did not understand it. What should you do?

ROLE PLAY: JOKES ABOUT YOU

Others in the group are laughing at a joke that one of them has just told that seems to be about you. What should you do?

ROLE PLAY: TEASING A YOUNGER CHILD

Others in the group are teasing a younger child. You realise that this is unkind and decide to stop them.

ROLE PLAY: TEASING ANOTHER MEMBER OF THE GROUP

Others in the group are teasing another member of the group. You realise that this is unkind and decide to stop them.

ROLE PLAY: TEASING YOU

Others in the group are teasing you and trying to wind you up. You realise that this is unkind and do not want to become upset. What should you do?

Appendix 4 (continued)

ROLE PLAY: TEMPTING YOU TO DO SOMETHING WRONG

Others in the group are talking about going to a shop and stealing some sweets. You like sweets but realise that this is wrong and tell them reasons for not doing this.

ROLE PLAY: TAKING A BALL

Others in the group have taken a ball that belongs to a younger child who is very upset. You realise that he is upset and tell them reasons for giving it back.

ROLE PLAY: JOINING IN A CONVERSATION

Others in the group are having a conversation but you have only just joined them. How can you ask them to let you join in without interrupting them?

ROLE PLAY: HAVING A PARTY

Others in the group are talking about your birthday party that will take place soon. They ask you what it will be like but you avoid telling them about a special surprise.

ROLE PLAY: ANGRY TEACHER

Others in the group have upset the teacher who is shouting at the whole class. You know who took the teacher's best pen. What should you do?

ROLE PLAY: PUPIL MAKING NOISES

Someone in the group was making some silly noises and the teacher wants to know who it was. What should you do?

ROLE PLAY: DAMAGE TO A BOOK

Someone in the group has accidentally torn a page in one of the teacher's favourite books. When everyone is asked how this happened, what should you do?

ROLE PLAY: NEW PUPIL

A new pupil has arrived in your class but no one wants to help him because he looks different and is not in school uniform. How could you help him?

ROLE PLAY: NEW PUPIL

A girl in a wheelchair has arrived in your class. She looks very lonely on the playground because her helper is having a break. How could you help her?

ROLE PLAY: NEW TEACHER

A new teacher has come to take your class but she does not know where anything is and does not know the names of the pupils. How could you help her?

ROLE PLAY: BROKEN CHAIR

A chair in the classroom was broken during wet playtime but no one told the teacher. You realise that this is the chair at your place. What should you do?

APPENDIX 5: SOCIAL SKILLS SCHEDULE.

Name of Child..... Date of Birth.....

Please rate this child on a scale between 1 for "hardly ever" and 5 for "almost always" (where 3 represents fairly often" and DK is for "Don't know") as to how well he/she uses the following social skills **when interacting with children of his/her own age**:

1. Looks at child speaking to him/her	1	2	3	4	5	DK
2. Looks at child s/he is speaking to	1	2	3	4	5	DK
3. Makes eye contact when speaking	1	2	3	4	5	DK
4. Makes eye contact when listening	1	2	3	4	5	DK
5. Smiles at other child	1	2	3	4	5	DK
6. Answers yes/no questions appropriately	1	2	3	4	5	DK
7. Answers questions which seek information	1	2	3	4	5	DK
8. Keeps answers short and to the point	1	2	3	4	5	DK
9. Asks a variety of different questions	1	2	3	4	5	DK
10. Able to begin conversations	1	2	3	4	5	DK
11. Makes appropriate requests as required	1	2	3	4	5	DK
12. Responds to requests made to him/her	1	2	3	4	5	DK
13. Able to say how he/she feels	1	2	3	4	5	DK
14. Wants to join other children who are playing	1	2	3	4	5	DK
15. Asks to join others who are playing	1	2	3	4	5	DK
16. Able to take turns with others	1	2	3	4	5	DK
17. Able to follow rules of game appropriately	1	2	3	4	5	DK
18. Able to share things with others	1	2	3	4	5	DK
19. Able to make friends with others	1	2	3	4	5	DK
20. Able to stay calm if teased	1	2	3	4	5	DK

Total (Max 100).....

Appendix 5 (continued):

**Are there any particular social skills you would like this child to be taught (e.g. to make friends, to show kindness to others, to join in games)?
If so, please could you list some of these below:**

Which of this child's current behaviours would you most like to see improved?

Respondent's name.....

Date on which questionnaire was completed.....

APPENDIX 6:
OBSERVATION SCHEDULE FOR UNSTRUCTURED TIME/PLAYTIME

Name of Child..... Date of Birth.....

School..... Year.....

Name of Observer.....

Date of Observation..... Times from..... to.....

Comments about where observation took place, weather conditions, etc.:

Table 1: Level of Interaction with Others

	1	2	3	4	5	6	7	8	9	10
A										
Ad										
Ch										
Pe										
Ce										

Key:

A: Alone

Ad: Interaction with adult

Ch: Interaction with one child

Pe: Interaction at periphery of group of children

Ce: Interaction at centre of group of children

Table 2: Quality of Interaction with Others:

	1	2	3	4	5	6	7	8	9	10
VI+										
PI+										
N										
VI-										
PI-										

Key:

VI+: Positive verbal interaction

PI+: Positive physical interaction

N: No interaction

VI-: Negative verbal interaction

PI-: Negative physical interaction

Summary of Findings:

APPENDIX 7: INTERVIEW SCHEDULE FOR PARENT.

Name of child..... Date of Birth.....

Current Educational Placement

Diagnosis..... By whom?.....

Position in family..... Where family lives.....

Name of respondent..... Date of interview.....

A. Early Development (i.e. first 2 to 3 years):

1. Were pregnancy and delivery normal?

Both normal..... Problems in both..... Difficult pregnancy, normal delivery.....

Normal pregnancy, problems during delivery..... Don't know.....

2. How was your child's health during first 3 months?

No problems..... Feeding problems..... Breathing problems..... Sleep problems.....

Skin problems..... Other..... Don't know.....

3. As a baby did your child like being held?

Liked being picked up and held..... Resisted being held Limp and passive when held..... Stiff and awkward when held..... Don't know.....

4. At what age did your child learn to walk unsupported?

5. At what age did your child say the first recognisable word?

6. Did your child use some recognisable words and later lose them?

Yes..... If so, at what age did these words disappear?.....

No..... Don't know.....

7. Did you ever think that your child was deaf? Yes..... No..... Don't know.....

8. Did your child ever imitate others? Yes..... No..... Don't know.....

9. Did your child behave normally for a time before the unusual behaviour began?

Yes..... If so at what age did the unusual behaviour begin?.....

No..... Don't know.....

B. Current Behaviour:

10. Does your child look at people's eyes as they talk to him/her? Yes.....

No..... Don't know.....

11. Does your child show an interest in other children or adults? Yes.....

No.....

Don't know.....

Appendix 7 (continued):

12. Does your child get upset if things are changed (e.g. routines, furniture in bedroom)? Yes..... No..... Don't know.....

13. Does your child like to arrange certain items in a special way? Yes..... No..... Don't know..... If yes, what items?.....

14. Does your child take what others say very literally? Yes..... No..... Don't know.....

15. Has your child ever tried to hurt him/herself? Yes..... No..... Don't know..... If yes, in what way?.....

16. Has your child ever tried to hurt others? Yes..... No..... Don't know..... If yes, in what way?.....

17. Has your child ever had a close friend? Yes..... No..... Don't know.....

18. Does your child seem to have an unrealistic view of what a friend is? Yes..... No..... Don't know.....

19. Which of the following features is your child currently experiencing?
Sleeps for only a few hours..... Reluctant to settle in bed.....
Reluctant to have bath or shower..... Eats only a few foods.....
Hurts him/herself..... Attacks others for no reason.....
Has severe tantrums..... Shows poor listening skills.....
Does things on own terms..... Reluctant to leave an activity.....
Reluctant to use the toilet..... Performs rituals in set way.....
Hates changes of routine..... Is constantly on the go.....
Gives poor use of eye contact..... Reluctant to play with others.....
Reluctant to share with others..... Seems to be in own world.....
Has fascination for unusual topic.... Behaves badly when taken out.....
Talks at people not to them..... Interrupts other speakers.....
Poor understanding of jokes..... Seems unable to tell lies.....
Shows clumsiness..... Dislikes certain noises.....
Likes to have the last word..... Dislikes doing written work.....

Any other features not listed above:

20. What are your main concerns at the present time?

APPENDIX 8: SCHEDULE CONCERNING PLAYGROUND BEHAVIOUR.

1. Which of's current behaviours on the playground are causing the most concern?
2. What strategies have already been implemented to address these concerns?
3. What kind of support was provided to carry out these strategies?
4. Which strategies seem to have worked most successfully?
5. Which strategies seem to have been least effective?
6. Why might some of the strategies have been more successful than others?
7. Which members of staff on playground duty are aware of's difficulties in understanding how to behave appropriately in certain situations?
8. Have the children in's year group been given any information about the difficulties that he is experiencing with his peer relationships?

Appendix 8 (continued):

9. Please tick any of the following aspects of's behaviour that seem to be applicable:

Likes to run around on his own.....	Wanders around on his own.....
Likes to run around with others.....	Wanders around with others.....
Chases others for no apparent reason....	Tries to join in games.....
Collides with others as he runs.....	Throws things at others.....
Hits out at others as he runs.....	Fights others when upset.....
Hits out to obtain a response.....	Fights others randomly.....
Disrupts games others are playing.....	Hurts for no apparent reason.....
Tries to join in games with others.....	Seems desperate to join others....
Takes equipment from others.....	Prefers to be on his own.....
Lacks understanding of game rules.....	Seems unaware of danger.....
Often hurts one particular child.....	Tries to join particular group.....
Often runs away when told off.....	Often refuses to go into building...
Answers back when reprimanded.....	Shows no emotion when told off...
Pushes others deliberately.....	Seems unaware of pushing others...
Plays with equipment on his own.....	Sometimes shares equipment.....

10. Any other behaviours causing concern that are not on this list (or have you any comments that might be useful for planning this playground intervention):

11. What are the most common playground activities carried out by other pupils in's year group during playtimes?

12. Which of these playground activities do you feel that might be able to join in with the help of his peer support group?

Completed by..... Date.....

APPENDIX 9: OBSERVATION SCHEDULE FOR SOCIAL SKILLS.

Name of target child..... Year.....

Date of completion..... Completed by.....

1. Gives eye contact when talking to someone

2. Asks questions appropriately

3. Waits for turn without interrupting

4. Shows interest in others by watching what they do and listening to what they say

APPENDIX 10: Favourite Games

Name.....

PLAYING THE GAMES.

1. Which game did you like best?
2. Which game did you not enjoy at all?
3. Which other games did you like playing?
4. Which of these games could you play on the playground with your friends?

**APPENDIX 11: SYMPTOMS OF PARTICIPANTS IN THIS STUDY
ACCORDING TO THE ICD-10 CRITERIA.**

(Taken from Attwood, T. (1998): *Asperger's Syndrome: A Guide for Parents and Professionals.*)

Symptoms	A	B	C	D	E	F
A: * No significant general delay in spoken or receptive language or	y	y	y	y	y	y
* in cognitive development	y	y	y	y	y	y
* Delayed motor milestones & clumsiness	y	y	y	y	y	y
B: Qualitative abnormalities in at least 2 of the following areas:						
* Use of eye contact, facial expression, body posture & gesture to regulate social interaction	y	y	y	y	y	y
* Failure to develop peer relationships involving mutual sharing of interests, activities & emotions	y	y	y	y	y	y
* Lack of socio-emotional reciprocity	y	y	y	y	y	y
* Lack of spontaneous seeking to share enjoyment, interests of achievements with others	y	y	y	y	y	y
C: Circumscribed interest(s) or restricted, repetitive & stereotyped patterns of behaviour in at least one of the following areas:						
* Encompassing preoccupation with stereotyped & restricted patterns of interest abnormal in content or focus or one or more interests abnormal in intensity though not in content or focus	y	y	y	y	y	y
* Apparently compulsive adherence to specific, non-functional routines or rituals	y	n	y	y	y	y
* Stereotyped & repetitive motor movements that involve either hand/finger flapping or twisting or complex whole body movements	y	y	n	y	n	n
* Preoccupations with part-objects or non-functional elements of play materials	y	n	y	n	n	n
D: Not attributable to other varieties of pervasive developmental disorder	y	y	y	y	y	y

APPENDIX 12:
PARTICULAR PROBLEMS MENTIONED PRIOR TO INTERVENTION.

Child	Parent	School staff
A	<ul style="list-style-type: none"> • Sensitive to clothes • Says what he thinks • Hurts those who call him names 	<ul style="list-style-type: none"> • Wanting to be in charge • Rough on playground
B	<ul style="list-style-type: none"> • Thinks others know what he is thinking • Trouble finding words for questions • Taking things literally • No concept of time 	<ul style="list-style-type: none"> • Lacks confidence • Poor concentration
C	<ul style="list-style-type: none"> • Cannot be reasoned with • Aggressive when angry • Bosses others about • Cannot see others' viewpoints 	<ul style="list-style-type: none"> • Unable to express his feelings • Anxious if routine changes • Wants to be in charge
D	<ul style="list-style-type: none"> • Hates to get dirty • Eats inappropriate items • Unable to recognise emotions in others • Very loud and no volume control 	<ul style="list-style-type: none"> • Unable to take turns • Eats inappropriate items • Lacks awareness of emotions in others • One-way conversations
E	<ul style="list-style-type: none"> • Toileting problems • Very trusting so he is vulnerable to teasing • High pain threshold 	<ul style="list-style-type: none"> • When caught in games, gets angry and hits out • Poor listening skills • Usually wants certain answer from his questions
F	<ul style="list-style-type: none"> • Has tantrums if reprimanded • Says what he thinks • Unwilling to sleep alone • Runs water in sinks and baths causing flooding 	<ul style="list-style-type: none"> • Poor concentration • Poor understanding of others
G	<ul style="list-style-type: none"> • Temper tantrums • Unwilling to change view if takes disliking to someone • Nightmares • Head-banging 	<ul style="list-style-type: none"> • Difficulty in accepting change in who sits next to him • Upset if someone else wins game

APPENDIX 13: SUMMARY OF INTERVIEW RESPONSES GIVEN BY MOTHERS CONCERNING EARLY DEVELOPMENT AND CURRENT BEHAVIOURS.

EARLY DEVELOPMENT

Aspect of Development	Responses
Pregnancy and Delivery	Both normal: 3 Problems in both: 1 Problems only during delivery: 3
First 3 months	No problems: 2 Feeding problems: 1 Sleep problems: 2 Cried a lot: 2 Skin problems: 1 Heart murmur: 1
Being held as a baby	Liked this: 6 Resisted this: 1
First walking without support	At 9 months: 1 At 10 months: 1 At 12 months: 2 At 14 months: 1 At 15 months: 2
First recognisable word	At 5 months: 1 At 12 months: 4 Not known: 2
Saying words then losing them	Yes: 1 No: 5 Don't know: 1
Appearing to be deaf	Yes: 4 No: 3
Imitating others	No: 7
Unusual behaviour after normal behaviour	Yes: 2 (change noticed between 2 – 3 years) No: 5

CURRENT BEHAVIOURS:

Aspect of Behaviour	Responses
Looks at people's eyes as they talk to him	Yes: 2 No: 3 DK: 2
Shows interest in other children or adults	Yes: 3 No: 2 DK: 2
Becomes upset if things are changed	Yes: 6 DK: 1
Likes to arrange certain items in special way	Yes: 3 No: 3 DK: 1
Takes what others say very literally	Yes: 3 No: 4
Has tried to hurt himself	Yes: 3 No: 4
Has tried to hurt others	Yes: 5 No: 2
Has had a close friend	Yes: 2 No: 4 DK: 1
Has unreasonable view of what friend is	Yes: 4 No: 2 DK: 1

OTHER PARENTAL CONCERNS MENTIONED:

Child A: "Is being called a 'dork' and 'stupid' and 'weird' and punishes those who call him names."

Child B: "He thinks others know what he is thinking."
"Very trusting – could be led into trouble."

Child C: "Always wants to be in control when playing. If things don't go his way, he becomes very angry. When angry, he lashes out at home. He is unable to be reasoned with, even if calm."

Child D: "Volume control is a problem in games."
"Not to control friends but to accommodate them."

Child E: "I would like him to tell me why he is angry, upset."
"I would like him to have a special friend."

Child F: "Saying what he thinks (e.g. 'fat, old granny') when he is taken out and sees strangers."

Child G: "Taking a dislike to someone and not changing his view."

**APPENDIX 14: SUMMARY OF FREQUENCY OF FEATURES OF
ASPERGER'S SYNDROME MENTIONED IN PRE-INTERVENTION
INTERVIEWS WITH MOTHERS.**

All 7 Target Children:

- Interrupts other speakers

6 out of 7 Target Children:

- Does things on own terms
- Gives poor use of eye contact
- Has fascination for unusual topic
- Talks at people not to them
- Shows clumsiness
- Dislikes certain noises

5 out of 7 Target Children:

- Poor understanding of jokes
- Likes to have the last word
- Reluctant to leave an activity
- Dislikes doing written work
- Seems to be in own world

4 out of 7 Target Children:

- Hates changes of routine
- Reluctant to share with others
- Shows poor listening skills
- Sleeps for only a few hours
- Has severe tantrums
- Is constantly on the go
- Seems unable to tell lies
- Reluctant to play with others

3 out of 7 Target Children:

- Reluctant to settle in bed

2 out of 7 Target Children:

- Reluctant to have bath or shower
- Eats only a few foods
- Hurts himself
- Reluctant to use the toilet
- Behaves badly when taken out

1 out of 7 Target Children:

- Attacks others for no reason

None of the Target Children:

- Performs rituals in set way

APPENDIX 15:

**PRE-INTERVENTION FEATURES OF AUTISTIC BEHAVIOUR
AS REPORTED BY PARENT IN INITIAL INTERVIEW.**

Feature	A	B	C	D	E	F	G
Sleeps for only a few hours	y		y			y	y
Reluctant to settle in bed	y		y			y	
Reluctant to have bath or shower	y				y		
Eats only a few foods	y				y		
Hurts himself	y						y
Attacks others for no reason	y						
Has severe tantrums	y		y			y	y
Shows poor listening skills	y	y		?	y	y	?
Does things on own terms	y	y	y	y	y	y	?
Reluctant to leave an activity	y	y		y	y	?	y
Reluctant to use toilet	y				y		
Performs rituals in set way		?		?			
Hates changes of routine	y	?	?	?	y	y	y
Constantly on the go	y				y	y	y
Poor use of eye contact	y	y	y	y	y	?	y
Reluctant to play with others	y			y		y	y
Reluctant to share with others	y	?		y		y	y
Seems to be in own world	y	y		?	y	y	y
Fascination for unusual topic	y	y	y		y	y	y
Behaves badly when taken out	y					y	
Talks at people not to them	y	y		y	y	y	y
Interrupts other speakers	y	y	y	y	y	y	y
Poor understanding of jokes	y	y		y		y	y
Seems unable to tell lies	y			y	y	y	
Shows clumsiness	y	y	y		y	y	y
Dislikes certain noises	y	y	y	y		y	y
Likes to have last word	y	y	y		y	y	
Dislikes doing written work	y	y	y		y	y	?
Clear features identified	27	13	11	10	17	20	15

APPENDIX 16:**SUMMARY OF PRE-INTERVENTION RATINGS ON SOCIAL SKILLS SCHEDULE ADMINISTERED TO PARENTS.**

Item	A	B	C	D	E	F	G
1. Looks at child speaking to him	3	2	5	3	3	3	1
2. Looks at child he speaks to	2	1	5	3	5	3	1
3. Eye contact when speaking	2	2	5	3	3	3	1
4. Eye contact when listening	2	1	5	3	2	2	1
5. Smiles at other child	2	1	4	2	5	2	2
6. Answers yes/no-questions	1	1	5	2	3	3	3
7. Answers questions seeking information	1	1	5	2	2	2	4
8. Keeps answers short and to point	1	4	3	5	1	5	4
9. Asks variety of questions	1	3	5	2	1	5	4
10. Able to begin conversations	2	1	5	1	3	3	1
11. Makes appropriate requests as required	3	2	5	3	5	3	3
12. Responds to requests made to him	3	4	3	3	3	3	1
13. Able to say how he feels	2	1	3	1	1	2	3
14. Wants to join other children playing	1	4	3	2	5	2	1
15. Asks to join children playing	1	2	2	2	5	2	1
16. Able to take turns	DK	1	3	2	3	2	3
17. Able to follow rules of game	2	1	5	1	2	1	2
18. Able to share things	2	2	5	4	3	2	2
19. Able to make friends	1	2	2	1	1	2	2
20. Able to stay calm if teased	1	1	DK	2	1	2	1
Total ratings	33	37	78	47	57	52	41

APPENDIX 17:**SUMMARY OF PRE-INTERVENTION RATINGS ON SOCIAL SKILLS
SCHEDULE ADMINISTERED TO SCHOOL STAFF**

Item	A	B	C	D	E	F	G
1. Looks at child speaking to him	4	1	4	3	3	2	3
2. Looks at child he speaks to	5	2	4	3	5	1	5
3. Eye contact when speaking	5	1	4	3	1	3	4
4. Eye contact when listening	3	1	4	2	1	2	2
5. Smiles at other child	4	2	4	3	2	3	1
6. Answers yes/no-questions	4	3	3	4	2	3	2
7. Answers questions seeking information	3	2	4	4	1	2	3
8. Keeps answers short and to point	4	1	3	5	1	4	5
9. Asks variety of questions	4	1	5	4	2	1	3
10. Able to begin conversations	5	1	5	4	2	1	3
11. Makes appropriate requests as required	4	3	3	5	2	4	2
12. Responds to requests made to him	2	3	4	4	1	3	3
13. Able to say how he feels	2	1	2	4	1	1	2
14. Wants to join other children playing	5	2	4	3	3	1	2
15. Asks to join children playing	2	2	3	3	1	1	2
16. Able to take turns	2	2	3	1	1	4	1
17. Able to follow rules of game	1	2	3	1	1	1	3
18. Able to share things	3	2	3	3	2	3	2
19. Able to make friends	2	1	3	1	3	1	4
20. Able to stay calm if teased	1	1	3	3	1	5	1
Total ratings	65	34	71	63	36	46	53

APPENDIX 18:

SUMMARY OF POST-INTERVENTION RATINGS ON SOCIAL SKILLS SCHEDULE ADMINISTERED TO PARENTS.

Item	A	B	C	D	E	G
1. Looks at child speaking to him	2	4	5	3	3	2
2. Looks at child he speaks to	2	3	5	4	1	2
3. Eye contact when speaking	2	4	5	4	3	2
4. Eye contact when listening	2	3	5	3	1	1
5. Smiles at other child	2	3	5	4	3	3
6. Answers yes/no-questions	1	2	5	3	4	3
7. Answers questions seeking information	2	2	5	4	3	4
8. Keeps answers short and to point	1	4	5	3	2	4
9. Asks variety of questions	2	2	5	4	2	3
10. Able to begin conversations	2	3	5	4	5	1
11. Makes appropriate requests as required	2	2	5	DK	5	2
12. Responds to requests made to him	2	2	2	4	3	2
13. Able to say how he feels	1	3	4	4	1	2
14. Wants to join other children playing	1	4	5	4	5	1
15. Asks to join children playing	1	3	DK	3	1	1
16. Able to take turns	2	2	5	5	1	2
17. Able to follow rules of game	3	2	5	4	3	2
18. Able to share things	2	2	5	5	3	2
19. Able to make friends	2	3	DK	3	3	1
20. Able to stay calm if teased	1	4	5	1	3	1
Total ratings	35	57	86	69	55	41

APPENDIX 19:**SUMMARY OF POST-INTERVENTION RATINGS ON SOCIAL SKILLS SCHEDULE ADMINISTERED TO SCHOOL STAFF.**

Item	A	B	C	D	E	G
1. Looks at child speaking to him	4	3	3	4	2	3
2. Looks at child he speaks to	4	4	3	5	2	3
3. Eye contact when speaking	3	4	4	3	2	3
4. Eye contact when listening	2	3	4	2	2	2
5. Smiles at other child	3	3	4	4	3	1
6. Answers yes/no-questions	3	4	2	5	3	2
7. Answers questions seeking information	4	3	3	3	3	3
8. Keeps answers short and to point	1	3	2	4	3	1
9. Asks variety of questions	4	2	5	4	2	2
10. Able to begin conversations	4	3	5	4	4	2
11. Makes appropriate requests as required	3	2	3	3	4	2
12. Responds to requests made to him	2	3	4	3	3	2
13. Able to say how he feels	2	2	1	4	2	3
14. Wants to join other children playing	2	3	1	2	DK	2
15. Asks to join children playing	1	2	1	3	2	2
16. Able to take turns	1	1	2	4	2	2
17. Able to follow rules of game	2	2	3	2	1	1
18. Able to share things	3	3	3	4	2	3
19. Able to make friends	3	2	2	3	4	2
20. Able to stay calm if teased	DK	1	4	DK	2	2
Total ratings	51	53	59	66	48	43

APPENDIX 20:
COMPARISON TABLE OF TOTAL SOCIAL SKILLS RATINGS
BEFORE AND AFTER INTERVENTION FOR THE SIX TARGET
CHILDREN

3 Categories of Skills:

- Acknowledgement of others: Items 1 to 5
- Interactive use of language: Items 6 to 13
- Play-related skills: Items 14 to 20

Ratings Given by Mothers:

Item Numbers	Pre-Intervention	Post-Intervention	Difference	Percentage Difference
1 to 5 (150 max)	53% (80)	61% (91)	+ 11	+ 8%
6 to 13 (240 max)	51% (122)	59% (143)	+ 21	+ 8%
14 to 20 (175 max)	50% (87)	63% (111)	+ 24	+ 13%
Total	51% (289)	61% (345)	+ 56	+ 10%

Ratings Given by School Staff:

Item Numbers	Pre-Intervention	Post-Intervention	Difference	Percentage Difference
1 to 5 (150 max)	59% (89)	63% (95)	+ 6	+ 4%
6 to 13 (240 max)	59% (141)	59% (141)	-	-
14 to 20 (175 max)	52% (91)	53% (92)	+ 1	+ 1%
Total	56% (321)	58% (328)	+ 7	+ 2%

Summary of Findings:

- Highest level of improvement found in mothers' ratings for "play-related" skills (+ 13%)
- No noticeable improvement found in school staff ratings for "interactive use of language" skills (same total both before and after intervention)
- Ratings given by mothers showed an overall improvement of 10% and improvement in all 3 skill areas
- Slight improvement noted by school staff of 2% overall
- For school staff the area where the ratings showed most improvement was in "acknowledgement of others" skills
- No deterioration in the overall ratings occurred so it would appear that the intervention brought about a slight improvement in the social skills of the six target children as overall there was a 5% improvement between the pre-intervention and post-intervention ratings

APPENDIX 21:
TABLE OF SOCIAL SKILLS RATINGS BEFORE AND AFTER
INTERVENTION AND EXTRA SESSIONS FOR CHILD B AND CHILD C.

Ratings Given by Mothers:

Item Numbers	Pre-Intervention (1)	Post-intervention (2)	Difference (2 – 1)	After Extra Sessions (3)	Difference (3 – 1)
1 to 5 (50 max)	62% (31)	84% (42)	22% (11)	66% (33)	4% (2)
6 to 13 (80 max)	64% (51)	70% (56)	6% (5)	54% (43)	-10% (-8)
14 to 20 (70 max)	47% (33)	64% (45)	17% (12)	57% (40)	10% (13)
Total	57% (115)	71% (143)	14% (28)	58% (116)	1% (1)

Ratings Given by School Staff:

Item Number	Pre-Intervention (1)	Post-Intervention (2)	Difference (2 – 1)	After Extra Sessions (3)	Difference (3 – 1)
1 to 5 (50 max)	64% (32)	70% (35)	6% (3)	74 % (37)	10% (5)
6 to 13 (80 max)	67% (54)	59% (47)	-8% (-7)	69% (55)	2% (1)
14 to 20 (70 max)	61% (43)	43% (30)	-18% (-13)	67% (47)	6 % (4)
Total	64% (129)	56% (112)	-8% (-17)	69% (139)	5% (10)

Summary of Findings:

- The school staff ratings of “play-related” skills after the extra sessions at 67% were higher than those given at the post-intervention stage for all 6 target children (53%)
- The mothers’ ratings were higher at the post-intervention stage compared with the pre-intervention ratings as there was an improvement of 14% afterwards compared with only 1% higher between the pre-intervention ratings and those following the extra sessions
- Having the extra sessions led to a slight improvement in these two target children’s social skills ratings between the pre-intervention ratings and those given following the extra sessions as there was an overall gain of 1% as rated by mothers and 5% as rated by school staff

APPENDIX 22: FEATURES OF PLAYGROUND BEHAVIOR MENTIONED BY SCHOOL STAFF IN PRE-INTERVENTION INTERVIEWS.

Main Areas of Concern:

A: "Being rough and hurting others without understanding what he is doing."

B: "Lacking confidence and getting easily upset."
"Tends to back down if he feels he can't do something."

C: "Wanting to be dominant and take control."

D: "Chooses when to be alone and when to be with others."

E: "Getting angry and hitting out if caught."

F: "Joining in games and making friends with others are social skills we could concentrate on."

G: "Running to go inside when upset or cornered."
"Pulling faces and moving hands."

Support Already Provided:

A: Dinner supervisors aware of his difficulties.

D: Playground support all of the time.

E: Learning Support Assistant talking things through with him.

G: Adults let him inside the building as they are aware of his difficulties.

Strategies Used Fairly Successfully:

A: Class teacher checking what has happened and talking through his behaviour.

D: Being supervised and supported all of the time.
Giving him "advice about not hurting other people's feelings."

G: Having clear structure at lunchtime of 15 minutes outside then computer time.

For all the children, except Child C, dinner staff had been made aware of the child's difficulties.

For only Children D and G, peers had been made aware of the child's difficulties.

Particular Problems Mentioned:

C: "Anxiety."

D: "Pica" (e.g. eating acorns).

E: "Keeps things from the playground in his pocket."

G: "Pinching girls' bottoms"

APPENDIX 23: FEATURES OF PLAYGROUND BEHAVIOUR SELECTED FROM PRE-INTERVENTION SCHEDULE BY SCHOOL STAFF:

5 out of 5 Target Children:

- Wanders around on his own
- Likes to run around with others
- Sometimes shares equipment with others

4 out of 5 Target Children:

- Wanders around with others
- Prefers to be on his own
- Plays with equipment on his own
- Lacks understanding of game rules
- Seems unaware of danger

3 out of 5 Target Children:

- Collides with others as he runs
- Often runs away when told off
- Answers back when reprimanded
- Seems unaware of pushing others

2 out of 5 Target Children:

- Likes to run around on his own
- Fights others when upset
- Chases others for no apparent reason
- Hurts others for no apparent reason
- Often hurts one particular child
- Tries to join in games with others
- Shows no emotion when told off

One out of 5 Target Children:

- Hits out at others as he runs
- Fights others randomly
- Disrupts games others are playing
- Pushes others deliberately
- Tries to join one particular group

None of 5 Target Children (i.e. Items not Selected):

- Hits out to obtain a response
- Throws things at others
- Takes equipment from others
- Often refuses to go into the building
- Seems desperate to join others

APPENDIX 24:**TABLE TO SHOW RESPONSES GIVEN BY SCHOOL STAFF
RELATING TO PLAYGROUND BEHAVIOUR PRIOR TO THE
INTERVENTION.**

Behaviours	A	B	C	D	E	F	G
Likes to run around on own				Y			Y
Likes to run around with others	Y		Y	Y	Y		Y
Chases others for no apparent reason	Y						Y
Collides with others as he runs	Y				Y		Y
Hits out at others as he runs							Y
Hits out to obtain a response							
Disrupts games others are playing	Y						
Tries to join in games with others	Y			Y			
Takes equipment from others							
Lacks understanding of game rules	Y			Y	Y		Y
Often hurts one particular child	Y						Y
Often runs away when told off	Y			Y			Y
Answers back when reprimanded	Y			Y	Y		
Pushes others deliberately	Y						
Plays with equipment on his own	Y			Y	Y		Y
Wanders around on his own	Y		Y	Y	Y		Y
Wanders around with others	Y		Y	Y			Y
Throws things at others							
Fights others when upset					Y		Y
Fights others randomly							Y
Hurts for no apparent reason	Y						Y
Seems desperate to join others							
Prefers to be on his own	Y			Y	Y		Y
Seems unaware of danger	Y			Y	Y		Y
Tries to join particular group							Y
Often refuses to go into building							
Shows no emotion when told off	Y			Y			
Seems unaware of pushing others	Y			Y			Y
Sometimes shares equipment	Y		Y	Y	Y		Y
Total of behaviours which apply	19	-	4	14	10	-	19

This was an optional questionnaire and this was not completed for two of the target children due to time constraints on the part of the Learning Support Assistant.

APPENDIX 25: PLAYGROUND OBSERVATION OF TARGET CHILDREN

Key to Abbreviations used:

Level of Interaction:	Quality of Interaction:
A: Alone	VI+: Positive Verbal Interaction
Ad: With one adult	PI+: Positive Physical Interaction
Ch: With one child	N: None
Pe: Periphery of group	VI-: Negative Verbal Interaction
Ce: Centre of group	PI-: Negative Physical Interaction

Table 1: Pre-Intervention Observations:

	Level of Interaction					Quality of Interaction				
Target Child	% A	% Ad	% Ch	% Pe	% Ce	% VI+	% PI+	% N	% VI	% PI-
A	10		90					10		90
B			30	70			70		20	10
C	10	10	30	50		80	10	10		
D	80				20		20	80		
E	60		40					60	20	20
F	20	50		30		40	10	50		
G	90		10					90		10

Table 2: Post-Intervention Observations:

APPENDIX 26:

**OBSERVATION OF CHILD WITH ASPERGER'S SYNDROME COMPARED
WITH NORMALLY-FUNCTIONING PEER WITHIN GROUP SESSIONS**

Child and Week No.	Eye contact when talking to someone	Asking appropriate questions	Waiting for turn without interrupting	Showing interest in others
A 8	Stared at face then looked away	Questions to seek facts of reassurance	Not waiting till speaker had finished	Interested in toy mice & objects – not in peers
A's Peer 8	Looked at speaker, adjusting expression to what was said	Variety of questions & asked about injured peer	Patient & tolerant when A delayed game	Listened & watched others
B 5	Fleeting glance	Hesitant & lacking confidence	Impatient & interrupted speaker	Only interested if spoken to
B's Peer 5	Good use of eye contact & facial expression	Interested in answers & listened carefully	Waited for own turn	Genuine interest in his peers
C 4	Tended to stare very intensely	Asked questions on own terms	Keen to interrupt with own views	Pointed out faults of others
C's Peer 4	Good use of eye contact & facial expression	Good attention to listener	Waited for own turn	Watched & listened
D 7	Fleeting eye contact then turning away	Made statements not questions	Lack of awareness of turns being over	Joining in for 2 – 3 minutes then leaving
D's Peer 7	Good use of eye contact & facial expression	Able to seek information	Patient & tolerant	Watched & listened
E 3	Stared at person's face or looked away	Asked questions on own terms	Impatient & not listening to others	No interest & keen to have own turn
E's Peer 3	Good use of eye contact & facial expression	Aware of different perspectives	Waited patiently for own turn	Sat quietly & listened & watched
G 3	Stared past person & looked away	Inappropriate intonation but did ask some questions	Impatient & interrupted with loud comments	Sometimes listened & watched others
G's Peer 3	Looked at person to check response	Asked variety of questions	Waited patiently	Watched & listened & spotted wrong answer

APPENDIX 27:
**FAVOURITE GAMES NAMED BY THE CHILDREN WITH
 ASPERGER'S SYNDROME ON THE FINAL SESSION.**

Child	Game Best Liked	Other Games Liked	Game Least Enjoyed	Choices of Others in Group
A	Octopus	Stuck-in-the-Mud	Role Plays	Stuck-in-the-Mud
B (Follow-up)	Ghost		Role Plays	*Role Plays * Shopping
C (First)	What are We?	Octopus	Do This...Do That	*Role Plays
C (Follow-up)	Role Plays	Octopus	Spin the Letter	*Octopus *Role Plays
D	Stuck-in-the-Mud	Crocodile	Queenie	*Laughter is the Best Medicine *Tag
E	Queenie	Guess What We Are	Role Plays	*Laughter is the Best Medicine *Role Plays
G	Role Plays	* Do This...Do That * Mime an Interest * What's My Mime?	Queenie	*Role Plays *Twenty Questions *What's My Mime?

Conclusions: There was a tendency for the target children to dislike role plays and to prefer more active games, except for two of them who really enjoyed being in the limelight and showing off in the role plays. Generally they preferred the games that they performed best at. The normally-functioning peers tended to enjoy role plays better than the active games. Some of them also liked "Laughter is the Best Medicine" but this was not chosen by any of the target children as they often found it difficult to understand the jokes being told. None of the listening games (e.g. "Twenty Questions") were chosen as favourites by any of the target children, who tended to have poor listening skills, but the more active games were often chosen, including those involving miming (e.g. "What's My Mime?" and "Guess What We Are"). Being good at a particular game sometimes also led to it being chosen as a favourite (e.g. "Octopus" was a favourite for a target child who was very good at playing this game and "Queenie" was liked by a child who was good both at guessing and also pretending that he had the ball).

APPENDIX 28: HOW TO WRITE A SOCIAL STORY.

Stage 1: Identify the Behaviour to be Targeted:

From informal observation of the child decide which behaviour is to be targeted for improvement.

Stage 2: Define the Target Behaviour:

After deciding what behaviour needs to replace the problem behaviour provide a clear definition of this target behaviour.

Stage 3: Collect Baseline Data:

By observing the child carefully, determine the situations in which the problem behaviour occurs.

Stage 4: Understand the Child's Perspective:

While observing the child, look at how s/he might view the situation in order to see what might be contributing towards the problem behaviour and also to see if there are circumstances in which this behaviour does not occur.

Stage 5: Write a Social Story in Language Appropriate for the Child:

Write the story in the **first person** either in the present tense, if describing a situation as it occurs or in the future tense, if it is anticipating an event likely to happen in the future. Ensure that the **language used matches the child's level of understanding** and that the print size is suitable for her/his reading level.

Stage 6: Balance the three/four types of sentence (i.e. 3 to 5 descriptive and perspective sentences for every directive or control sentence):

- A **descriptive** sentence describes **where** the situation is occurring, **who** is involved and **what** is happening and **why**.
- A **perspective** sentence describes the **reactions and feelings** of others in this scenario.
- A **directive** sentence states what the child is **expected to do or say** and is expressed in positive language (e.g. “I will try to...” or “I should...”).
- Older children could be asked to supply a **control** sentence to help her/him to understand the situation more easily or to remind her/him of what to do.

Usually it is best to present each step of the social story on separate pages with an illustration to back up the verbal message in order to avoid overloading the child's attention span.

Appendix 28 (continued):

Stage 8: Read the Social Story to the Child:

Ideally the social story should be shared with the child once a day just before the situation for the target behaviour to occur. If alterations are needed, it is advisable to change one aspect at a time (e.g. extra steps in the case of slow progress or leaving steps out if the child learns quickly).

Stage 9: Fading the Use of the Social Story:

When the behaviour appears to have changed on a consistent basis, fading can take place by reducing the number of sessions where the story is shared or encouraging the child to read the story without the adult support.

Stage 10: Further Social Stories:

If one particular target behaviour is improved successfully, consideration can be given to addressing another problem behaviour with a further social story.

Further Tips:

- Avoid using terms such as “always” or “never” as these do not allow for exceptional circumstances. Instead use “usually” or “sometimes.”
- Use positive wording for each of the directive and control sentences to ensure that the message is clear and describes the desired behaviour.
- The illustrations can be simple cartoons or line drawings instead of digital or Polaroid photographs. The aim is to reinforce the message in a visual way but care should be taken to ensure that the child is not distracted by the details in the illustrations.
- If the child is at the pre-reading stage or early stages of reading, an audio-cassette can be used, perhaps with a bell rung to alert the child to the need to turn the page.
- It is advisable to present only one or at the most two social stories at any one time in order to avoid possible confusion and it can be useful if the same target behaviour is worked on both in school and out of school.

APPENDIX 29:

USE OF SOCIAL STORIES IN THE INTERVENTIONS FOR THE SEVEN TARGET CHILDREN WITH ASPERGER'S SYNDROME.

Child	Title of Social Story	Area Addressed	When Introduced (Session Number)	DE	PE	DI	Ratio (Total)
A	Playing Gently	Reducing playground aggression	6	5	4	2	9:2 (11)
B	Playtimes and Lunchtime	Accepting being caught or "out"	Between 4 and 5	5	3	4	8:4 (12)
C	Playing Games with Other Children	Allowing others to suggest games	Between 3 and 4	4	4	4	8:4 (12)
D	Some Playground Games to Play with Other Children	Rules of some playground games with cartoons	4	-	-	-	-
E	Listening to Other People	Listening to what others are saying	Between 4 and 5	8	2	2	10:2 (12)
F	Playing with Other Children	Joining in games more willingly	-	12	3	4	15:4 (19)
G	Staying Calm	Staying as calm as possible	Between 4 and 5	2	3	2	5:2 (7)
B (2)	Getting on Well With Other Children	Encouraging greater co-operation	Between 3 and 4	3	4	2	7:2 (9)
C (2)	Sharing Ideas	Sharing ideas via dialogue	Between 4 and 5	8	3	3	11:3 (14)

KEY:

DE: Descriptive sentences, which describe what happens

PE: Perspective sentences, which describe how others view a situation

DI: Directive sentences, which describe the responses required

Ratio: Gray (1994b) recommended a ratio of between two and five

Descriptive and Perspective sentences for each Directive sentence and this was adhered to in the social stories provided for the 7 target children involved in this research

APPENDIX 30: SOCIAL STORIES USED IN THE INTERVENTIONS.

CHILD A:

Target Behaviour: To reduce his aggression towards other children on the playground by learning to play the game of “Stuck-in-the-Mud” with gentle behaviour when “rescuing” other children from the imaginary mud.

Social Story entitled “Playing Gently”:

This is the group of children who want to play with me. They like it when I come to play so I should come as quickly as I can so that we can play a lot of games. (My friend) wants me to come and play with him and the other children. When children play with me, they do not like to be hurt by me. When it is time to play, I should go with them and we can usually play the game called “Stuck-in-the Mud.” In this game of “Stuck-in-the-Mud” the other children who are caught stand with their arms out and wait for someone to rescue them. Child X is standing with her arms out because she has been caught and is waiting to be rescued. This is Child Y rescuing Child X by touching one of her arms very gently. Now I am rescuing Child Y by touching his arm very gently because I know how to play the game and I know that I should touch him very gently. I know that I should be gentle when I am playing with other children. I like to play with other children and if I am gentle, they will want to play with me like (my friend) does.

CHILD B:

Target Behaviour: To encourage him to join in games and to be more willing to accept that part of playing games involves being caught or “out” but this should not make them any less enjoyable.

Social Story entitled “Playtimes and Lunchtimes”:

We have playtimes and lunchtimes so that we can have a rest from work. During playtimes most of the children play because playing games with other children is usually good fun. When they play, the children sometimes run and chase. In chasing games someone runs to catch the other children. They usually do not mind being caught because this is part of the game. When I play chasing games, I should try to enjoy them. I should not be upset if I am caught because this is part of the game. If I am caught, I should try to smile and I should say to myself, “This is a chasing game. I have been caught but it is part of the game.” Sometimes I can chase others when I have been caught. Sometimes I am “out” when I have been caught. Games should be fun and I should try to join in and enjoy them even if I am caught. I like to play and playtimes and lunchtimes are when I can play games and have a rest from work.

CHILD C:

Target Behaviour: To encourage him to allow the other children to make suggestions about the games rather than insisting that only he knows how they should play them.

Social Story entitled “Playing Games with Other Children”:

Playtimes and lunchtimes are times when children can have a rest from work and they can play games with other children. Children usually enjoy playing when they can play a game in the way they want to play it. This means that they often do not want me to tell them how they should play the game. They prefer me to let them play the game in the way they want to play it. If other children want me to suggest how they can play the game better, they can ask me and then I can help them. If they do not ask me, I should not tell them how to play the game better because this may upset them. Sometimes

when I make suggestions, my suggestions will not be agreed to by the other players. I must not become upset if this happens because games are usually played to have fun and the other children may think that the game will not be fun with my suggestions. If the other players do agree to my suggestions, all the players should agree what the new rules are so that they can enjoy the game. I should remember that games are meant to be enjoyed and that other children may enjoy playing games in a different way from how I like to play them. If I remember this and let the children play the games in the way they want to play them, the other children will probably ask me to play with them. I will also enjoy the games more if I play them as the other children want me to play them because I want to be a good friend and to enjoy my playtimes and lunchtimes.

CHILD D:

Target Behaviour: To encourage him to join in games with two other children and two adults for gradually increasing periods of time.

Child D was provided with the rules of a few selected games, which were illustrated with cartoon pictures showing a boy who looked like him instead of being provided with a social story.

An example of these rules is given for the game called “Queenie”:

In this game one player is chosen to be “Queenie” and is given a ball or bean bag.

“Queenie” stands in front of the other players facing away from them so that “Queenie” cannot see them.

The other players stand in a row and “Queenie” throws the ball or bean bag to the other players without looking at them. One of the players catches it and hides it behind his or her back.

When the leader says, “Ready,” then “Queenie” can turn round and guess who has the ball or bean bag behind their back. The players try to look guilty so that “Queenie” does not guess who has it.

If “Queenie” is right and chooses the person who has the ball or bean bag, “Queenie” can have another go at being “Queenie.”

If “Queenie” is wrong, the person with the ball or bean bag becomes “Queenie” for the next turn.

CHILD E:

Target Behaviour: To encourage him listen to what others are saying.

Social Story entitled “Listening to Other People”:

When someone is speaking, it is polite to listen to what they are saying. The person speaking may be a teacher or another grown-up. The person speaking may be another child. Whoever it is who is speaking, it is polite to listen to what they are saying. I also like it when other people listen to what I am saying to them. Listening means being quiet. Listening means paying good attention. Listening means trying to remember the words and the message that the words are giving. Listening means waiting until the person has finished speaking before I say anything. It is polite to listen when someone is speaking. The person will usually be pleased if I listen to what they are saying and I will be pleased if they also listen to what I say to them. I will try to listen to others because it is good to be polite.

CHILD G:

Target Behaviour: To encourage him to stay as calm as possible.

Social Story entitled “Staying Calm”:

Sometimes when I am playing games with others or when I am excited, it is difficult to stay calm. Someone who is staying calm usually sits quite still and is hardly moving while also breathing slowly and deeply. For example, in order to stay calm, I could count silently the numbers, “*One, Two, Three,*” as I breathe in and count silently the numbers, “*One, Two, Three, Four,*” as I breathe out. This counting as I breathe can usually slow down my breathing and help me to become calm. Staying calm can also mean walking round slowly and carefully and using this slow and deep breathing. By staying calm, I will probably feel less stressed and I will perhaps feel more confident and more relaxed. Other people will probably also be pleased that I am looking calm.

EXTRA SESSIONS FOR CHILDREN B AND C:

CHILD B:

Target Behaviour: To encourage him to co-operate with other children.

Social Story entitled “Getting on Well with Other Children”:

At school there are a lot of children. Most of them are kind and friendly. Most are kind and friendly so they usually listen to what I want to say to them. They do not like it when I do not try to listen to them. They like it when I am kind and when I try to listen to what they are telling me. I will try to be kind and friendly. I will try to listen to what other children are saying to me. I want to be kind and friendly. I want to get on well with other children.

CHILD C:

Target Behaviour: To listen to others and to share ideas via dialogue.

Social Story entitled “Sharing Ideas”:

Everyone has ideas. I have my own ideas. My teacher has her own ideas. My friends have their own ideas. My parents have their own ideas. Everyone is allowed to think their own ideas. Sometimes it is interesting to share ideas with other people. When I share ideas, I can listen and let the other person tell me their ideas even if I do not agree with their ideas. If I interrupt someone who is telling me their ideas, I will probably upset them. If I listen to what someone is telling me, this will probably make them happy. If they are happy, they will probably listen to my ideas too. This sharing of ideas is called “dialogue.” It means listening to the other person’s ideas and telling them my ideas too. I will try to listen to ideas of others and to share my ideas with them too.

APPENDIX 31:
RESEARCH DIARY EXCERPTS WRITTEN ABOUT THE CHILDREN
INVOLVED IN THE CASE STUDIES

CHILD A:

INTERVENTION: Spring and Early Summer Terms, 2001:

Session 1 (5.3.01): “The group met after lunch for some playground games in a small garden area of playground away from the other children with benches to sit on and several trees and flowerbeds.... The games played were ‘Shadow Tag’ (as it was sunny), ‘Do This...Do That’ (a version of ‘Simon Says’), ‘Chain-He’ (with up to 3 children holding hands to catch the others) and ‘Stuck-in-the Mud.’ At the start of each game Child A moved away from the group, sitting on a bench and looking at twigs as if indicating that he felt unable to join in or did not understand what he needed to do. However each time his LSA explained what he had to do and persuaded him to take part and to leave the twigs alone. At the end of the session the children agreed that they had enjoyed the session and that their favourite game was ‘Stuck-in-the Mud.’”

Session 2 (12.3.01): “The session began outside after Child A had shown some reluctance to put on his coat and to join the group as he did not ‘want to play games.’ When outside Child A joined in the game of ‘Stuck-in-the Mud’ after being encouraged by his LSA to become ‘It.’ Unfortunately a sudden heavy shower meant that the group had to return to the classroom, where Child A was immediately distracted by his Lego model and he brought this over to where the group was playing. He was chosen by Boy B and Girl C to be in their team and initially joined in the game of ‘First Touch,’ although he later opted out of running over to objects and instead used the coloured bricks on his Lego model for this touching game. During the next game, which was ‘Do This...Do That,’ he produced a small toy mouse and during his turn at leading he insisted that the others should copy the mouse rather than him (e.g. bouncing it up and down to encourage them to jump up and down). He continued to play with the mouse when it was Girl D’s turn but was brought back into the group for ‘Chinese Whispers,’ where Boy E gave a short message that was conveyed accurately by the group with Child A following on from his LSA. The session ended abruptly when the other children came into the classroom from lunchtime.”

Session 3 (19.3.01): “The session was held in the Drama Studio and it was easier to run than the two previous sessions because the children were in a confined space and not in any danger of slipping on wet ground. Child A was initially reluctant to join the group until he was coaxed by his LSA with the help of a puppet called ‘Maisie the mouse.’ He then used ‘Maisie’ on his hand for all of the games, even using the puppet when he led the game of ‘Do This...Do That,’ although it was not clear to the other children what the actions were and his LSA had to give verbal instructions. They were again tolerant of his unusual behaviour and his LSA was very supportive of his need for the puppet as he still finds it easier to relate to an inanimate object rather than to other children.”

Session 4 (26.3.01): “This session was held outside in the garden again and on this occasion Boy F was very reluctant to join the group and so was Child A until he was told that I had brought a camera and would be taking photos of the group.... The children had their photo taken in a group and Child A was fascinated by the way the Polaroid photo gradually appeared on the photo paper. He was so fascinated that he joined in the first game of ‘Ghost’ because he was allowed to hold the photo and then he played well. When he was caught, he chased Boy F and managed to catch him.

The children were then happy to pose for photos to show how to play the game of 'Stuck-in-the-Mud' and Child A posed for how to 'save' Boy B. Child A joined in this game very well, holding the photo in his hand....He responded better this session compared with previous sessions but again needed something to hold and this time it was the photos."

Session 5 (2.4.01): "This session was held in the Drama Studio and unfortunately Child A showed more interest in a big drum than in joining in the group but he did join in with some of the games. Boy F was both rude and uncooperative, kicking Boy B when he was the sleeping 'ghost,' pushing Boy B over roughly when catching him so that he hit head and grazed his arm then later sulking in a corner when he thought he had caught the children but they kept on running. He also called out some unkind comments during the game of 'Chinese Whispers,' where he sat on the sidelines and occasionally he encouraged Child A to join him in not doing as he was told. This behaviour suggested that Boy F has a powerful influence over Child A, who does not necessarily recognise that some of this behaviour is inappropriate. He seems keen to have someone to call his friend so this may be one reason why he follows Boy F's example and tends to do what Boy F tells him to do.

Child A had brought a toy mouse as his 'comforter'....A Social Story is being prepared for Child A entitled 'Playing Gently' and uses some of the photos taken during the previous session to encourage Child A both to join the group in playing games, such as 'Stuck-in-the-Mud' and also to play in a gentle way that does not hurt other children."

Session 6 (23.4.01): "On this session I was late due to road works but Boy F and Child A remembered that they usually had their session on Monday and went to ask the LSA when I would be coming. During this session Boy F was very uncooperative and rude, refusing to let the LSA examine his forehead after he had collided with Child A while running around with him. Child A seemed to be keen to show off to Boy F and during the game of 'Ghost' copied Boy F in kicking Boy B when he was the 'ghost.' Child A also refused to leave Boy F when Boy F was chosen as the 'ghost' so another child had to take Boy F's place instead. The other children were tolerant of Child A and Boy F, waiting patiently for them when they were reluctant to join in.

Child A calmed down for a short time when he went over to the window to look at some dead tadpoles in a tank outside the Drama Room. He was also much calmer when he was shown his 'social story' entitled 'Playing Gently.'As a result of Boy F and Child A being reluctant to co-operate the only games played were 'Ghost,' 'Stuck-in-the Mud,' 'Crocodile' and 'Do This...Do That.'"

Session 7 (30.4.01): "For this session Boy G took the place of Boy F and Child A was allowed to bring two toy mice, some Lego and a puppet as comforters. As usual he was interested in the maypole, a recorder and a xylophone in the room but he spent far less time resisting the games, even though initially he was reluctant to join in. Once he became involved in the game of 'Stuck-in-the-Mud' and was praised for releasing other children, he seemed to enjoy taking part. He also joined in the games of 'Ghost,' although he showed some resistance to being chosen as the 'ghost'...He showed some rough behaviour during a game of 'Tag,' jumping on other children deliberately and preventing them from playing the game properly.

It was later on in the session when the children were asked to calm down with a game of 'Chinese Whispers' that he became reluctant to join in again, sitting away from the others and playing with his toy mice. He was persuaded to join in a game of 'Crocodile' with

his LSA encouraging him to be the 'crocodile' but during a game of 'Guess the Leader' he started playing the recorder and the xylophone and shouted out. Then in the next game of 'Stuck-in-the Mud' he only joined in at the very end. However, he was much more willing to co-operate generally and seemed to benefit from not having Boy F to encourage him to misbehave."

Session 8 (14.5.01): "Child A responded much better during this session, joining in the first game of 'Stuck-in-the-Mud' with enthusiasm and helping to release other children. He also joined in the games of 'Ghost' and 'Octopus,' doing particularly well in the latter as he was able to avoid being caught. He then seemed to lose interest and went over to examine a printer which was in pieces but was willing with some coaxing from his LSA to join in as the crocodile in the game of 'Crocodile' and to join the second game of 'Chinese Whispers.'"

Session 9 (4.6.01): "Child A again did very well in the game of 'Octopus' by avoiding being captured by all the other children in their long line. He waited until they went to the other side and slipped past them, holding his toy mice and a toy propeller as he did so. The other children were not quick enough to catch him as they seemed uncertain as to which direction to go and sometimes let go of one another's hand! Child A also joined in the game of 'Stuck-in-the-Mud' and was gentle this time when he 'rescued' other children so he had obviously improved the way he 'rescues' others since having his Social Story. In the game of 'Tag' he tended to throw the toy propeller or one of his toy mice at other children in frustration when they ran away from him and eventually he gave up and sat at the side of the room, looking at musical instruments. The other children played 'Chinese Whispers' and 'Crocodile' but Child A remained at the side of the room while they did so. He later joined in the game where 'Cheeser,' his toy mouse, was hidden by saying 'hot' and 'cold' appropriately with the other children. It appears that Child A can manage up to 10 minutes of activity at a time and then he needs a break of a few minutes, sitting and playing with his toys or with some other object of interest before being able to join in again."

Session 10 (11.6.01): "Child A came along willingly with his toy mice and was the first to arrive. He suggested to me that the group could play 'Ghost,' 'Tag,' 'Crocodile' and 'Octopus' and when asked if his favourite game had been 'Octopus,' he agreed that this was the one he really likes 'because I'm never caught.' He again played very well during this game and managed to avoid being caught by the other three children until a momentary lapse in his concentration while talking caused him to walk past instead of running.

Child A again fixed his attention on some inanimate objects. Firstly when we were in the Drama Studio, he played with a computer keyboard and refused to leave this when the others were playing 'Ghost.' He left it when the children began to play 'Octopus' after his LSA agreed to sit by the keyboard and to use it instead of him. Then when we went outside, he became fixed on a hole in the ground where he put his toy mice. He joined in 'Stuck-in-the-Mud' and 'Chinese Whispers' but found a bone just before we started to play 'Octopus' again and was so fascinated by it that he not join in. He wanted to take it back to class with him and he was rude to his LSA when she made him leave it behind.

On the positive side Child A calmed down gradually over the sessions and became gentler and more co-operative.... He joined in much better with some of the games, particularly his favourite, 'Octopus,' but has also joined in 'Ghost,' 'Chinese Whispers' and 'Stuck-in-the-Mud' in some of the sessions."

CHILD B:

ORIGINAL INTERVENTION: Summer Term, 2001:

Session 1 (4.6.01): "As it was a warm and sunny day, the children went outside and Child B wore his baseball cap to keep him cool... The children took turns to select a card to determine which game would be played and they were chosen according to their birthday months. Child B was not paying attention when it came to his month and put his hand up at the last minute just before Girl B was about to have her choice. In fact his attention tended to wander throughout the session and he needed several reminders to listen carefully. He was able to deceive the other children successfully in the game of 'Queenie' by pretending that he had the bean bag and managed well when answering the questions for both 'Twenty Questions' and 'Psychic Numbers.' He also showed good recall during the game of 'Picnic,' when he had to recall items mentioned by the others for a picnic and helped the others by doing a mime as if eating some of the foods mentioned. However, he was less confident in some of the physical activities (e.g. 'River Crossing,' where he had difficulty in balancing a bean bag on his head). He also became upset and tearful during the 'Shopping Game,' as he had difficulty both in following the instructions and in keeping up with the others when they were running. This game will not be included next time but some other games will be used instead."

Session 2 (11.6.01): "It was warm and sunny so the session was held outside with Child B again wearing his baseball cap....Child B tried hard in some of the games but seemed to be reluctant to make an effort in others. When playing a game involving chasing, he chose to run after his LSA rather than any of the children and then when he was being chased by Boy C, he ran a long way across the field, ignoring reminders to return to the designated area. He seems very reluctant to be caught and prefers games which do not involve chasing for this reason. He again showed poor listening skills when the rules of new games were explained but seemed to pick up what to do by watching the others. He did well in a miming game and was keen to join in both by miming actions and by guessing what others were miming."

Session 3 (18.6.01): "It was dry so the session was again held outside and Child B wore his baseball cap for most of the time, even though it was not sunny. On this occasion he was very upset when he was caught during the game of 'Ghost,' crying and showing a reluctance to return to the game, claiming, 'I'm always being caught because I'm so slow and can't run.' The next time that he was told off for leaving the boundary for the game he cried again for a moment then suddenly decided that he had a 'bad foot.' He used this as an excuse for having run over the boundary, when it was clear to the others that he had again wanted to avoid being caught.

Later during the game of 'Octopus' he cried again when he was the first child caught. However, he watched the other children and was then able to respond to the challenge of being told to stay on the outside of the line rather than going close to the middle of the line because he could see that this made it more difficult to be caught by the Octopus. Once he had this strategy he seemed happier about joining in for the rest of the game."

Session 4 (25.6.01): "This session was again held outside on the field because it was hot and sunny and Child B wore his baseball cap. He showed the same reluctance to be caught as he had done on previous occasions and this time some Polaroid photos were taken to illustrate a social story. In the game of 'Ghost' he made an excuse for having been caught and had a short sulk during the game of 'Triple Tag,' complaining about having to hold his shoulder as this was where he had been touched. He was more co-operative in the other games (e.g. 'Twenty Questions,' where he got the others to guess the game of tennis and 'Queenie,' where he even pretended for the first time ever that

another child had the bean bag by saying, 'That was a good catch, Girl B,' when he had caught it himself). It therefore seems that being caught in chasing games could be something worthwhile for him and his LSA to work on improving through frequent sharing of a social story."

Session 5 (2.7.01): "It was again hot and sunny so the session was held on the field... Child B had been reading his Social Story about allowing himself to be caught as part of the games and at first he responded much better, particularly in the game of 'Octopus.' However, towards the end of the session he became hot and tired and seemed to return to being upset when caught or 'out' in the games of 'Tug to the Mat,' 'Triple Tag' and 'Ghost.' In 'Triple Tag' he again made a big fuss, claiming to have been injured when caught but this time he did not sulk and he soon forgot about this alleged 'injury.' ... This was the best session so far for Child B and he seemed to enjoy it more than the previous ones."

Session 6 (9.7.01): "It was a cooler day but it was decided to go outside on the field. On this occasion Child B appeared to have forgotten that he should allow himself to be caught. He became very upset during the game of 'Triple Tag' when Boy D chased him but even though he was praised for dodging out of the way when Boy D tried to catch him, he seemed so anxious about being caught that he concentrated only on having been caught rather than on his success at avoiding being caught sooner. He made excuses for having been caught and became upset about this. He showed a similar response in the game of 'Tug-to-the-Mat' where after he was 'out,' he made excuses about being shorter and weaker than the others.

In the other games he coped better, although he showed some irritation during the game of 'Twenty Questions' when he was unable to guess the TV programme that Girl E was thinking of and accused her of not having mentioned the correct channel. He is still taking the games very personally and looking at what he views as his failures rather than accepting that the games are to be enjoyed and that joining in is as important as doing well."

Session 7 (16.7.01): "It was again possible to be outside on the field but this time the children complained about being too hot, even suggesting that they should avoid running around too much... On this occasion Child B did not become as upset when caught as he had done on previous sessions but it was noticeable that his listening skills were very poor during the guessing games and that he was thinking about the next guess he was going to make rather than listening to what the others were guessing."

Session 8 (23.7.01): "It was hot and sunny but as there were other children on the field, the session was held in a distant part of the playground and not in the usual section... and he seemed to have forgotten the message of his Social Story. When he was caught or 'out,' he claimed that this was unfair and that 'they always try to get me because I don't run fast.' He also complained about being dehydrated and not having any energy yet when he was avoiding being caught, he ran well and seemed very lively. At the end of the session he refused to join in 'What's my Mime?' because he was sulking after having been 'out' in the game of 'Triple Tag.' Instead of looking at how successful he had been at avoiding being caught for so long the first time, he blamed Boy F for catching him. He had a similar sulk at the end of 'Under the Bridge' after he had successfully avoided being hit by the ball so that he did not have a turn in the middle aiming at the others. He even cried and lay on the ground looking very upset until he suddenly became alive again for the game of 'Triple Tag'... Child B seemed upset by having a new location for the session without the usual boundaries."

CHILD B:

FOLLOW-UP INTERVENTION: Late Autumn Term, 2001 and Spring Term, 2002:

Session 1 (26.11.01): “ Child B and his new group had an initial session with his LSA and myself in the Music Room in order to familiarise them with the game. Child B had the advantage of knowing several of the games already and he was by far the most vocal and fidgety of the children, making loud comments and moving about during guessing games in a way that showed that he was not the child hiding the ball or bean bag behind his back (e.g. clapping his hands and waving a hand about).... Child B made it clear that he did not like the listening games such as ‘Twenty Questions’ and ‘I went to the market and bought...’ and that he enjoyed some of the more active games (e.g. ‘Simon Says,’ ‘Queenie’ and ‘Pass the Block’). He was far more competitive than the others in the group and made excuses for himself if he did badly or gave reasons for his success if he did well.”

Session 2 (3.12.01): “On this occasion Child B’s LSA led the group because I had to leave after two games were played. One of these was ‘Guess My Line,’ where Child B mimed being a plasterer. He did this very well and the others had difficulty in guessing what he had been acting but he answered their questions sensibly and with confidence and did not criticise any of their guesses. Then they played ‘Guess the Leader,’ where one of the children had to guess who was the one leading the actions that the others were copying. Following this I left for a meeting and the session continued with mainly observation games being played.”

Session 3 (10.12.01): “ This session went well as Child B seemed less determined to be in the limelight and was more co-operative with the other children.... Child B chose his house number for the others to guess in the game of ‘Psychic Numbers’ but this meant that he could answer the questions fairly easily. He was the one who guessed that the animal which the other group was miming was a kangaroo and he was willing to join in a role play with two girls about a special surprise at a party. He only had a moment of reluctance when he felt unable to think of a facial expression to pull in the game of ‘Throw a Face’ but he made up for this by blowing raspberries several times once he decided to use these in his expression! Some photos were taken for Child B’s Social Story, which will encourage him to continue to be co-operative towards the other children.”

Session 4 (14.1.02): “Child B had returned from the Christmas holidays in a very sad and subdued state and appeared to be much less confident during this session than he had been in previous sessions. This time the session was held in the Resources Room and there was more space for some of the more active games.

Child B needed a lot of adult reassurance when thinking of what to say or do and when he was ‘out’ in the ‘Shopping Game,’ he showed the same kind of despair and sulkiness as he had done during the Summer Term before he had responded to his Social Story on this topic. He joined in the games in a less enthusiastic way than he had done last time and appeared to have forgotten the names of the other children. When he was told the names of some of the games that had been chosen by other children, he initially seemed reluctant to join in and to lack confidence in his ability to cope... It appeared that having a new male class teacher at the start of the term had upset and unsettled him and that he had been quite depressed on the previous week, complaining of having stomach aches.”

Session 5 (21.1.02): “During this session Child B was far less depressed and anxious than last week but he still needed some reassurance and extra guidance when it was his turn to think of questions and answers and had not quite returned to the level of

confidence that he had shown towards the end of the previous term. On this occasion he even argued back once when told by me not to become 'upset,' claiming that if he was upset, he would have been crying. He also seemed to blame the others for making it too difficult to guess particular items rather than claiming to be unable to cope in the way that he had done last week so this was another sign that he is recovering from how he was.

Child B did well in the game of 'Catch the Ball' by responding with enthusiasm to catching the ball when others asked questions but then found it hard to think of questions to ask them. He was the one who caught the ball when the question was, 'Who likes school?' so this was also a useful indication that he is recovering. He did not do quite so well in the game of 'Chinese Whispers' as he appeared to find the message unintelligible and passed on a distorted version. He tried hard in the games of 'Twenty Questions' and 'Follow the Leader' and did a good mime of Eric Clapton playing the guitar in the game of 'Guess What We Are.'"

Session 6 (28.1.02): "Child B had been at home in the morning as he had felt poorly but he came into school for the afternoon session. He was rather subdued at first and was very reluctant to join in a role play where he had to pretend to tease a younger child, standing awkwardly with his hands in his pockets and refusing to say the words that Boy A suggested that he should be saying to tease Girl C and hiding his face in his chest when it was his turn to say something.

However, as the session went on, he became more willing to take part and joined in the game of 'Catch the Ball' with his usual enthusiasm to be the one who caught the ball the most times and he also did well at avoiding others in the game of 'Beep.' Although he seemed self-conscious at times, he joined in 'Throw a Face' with copying an expression that his LSA sometimes used, giving a cheeky grin when he had done this. He was able to act the mime of a penguin with others in his team for 'Guess What We Are,' even though he was rather half-hearted about this."

Session 7 (4.2.02): "Child B kept moaning about particular games that were about to be played and he still seemed to need a lot of extra reassurance to join in some of them. In particular he found it difficult to understand one of the messages in the game of 'Chinese Whispers' and gave up... He showed exaggerated physical movements in the game of 'Catch the Ball,' falling on the ground when trying to catch it and then he complained about becoming tired due to the jumping movements in the game of 'Do This...Do That,' even though he did well and was not 'out.' He complained if he did not have as many turns as he would like (e.g. in 'Catch the Ball') and instead of saying 'Stop' in the game of 'Pass the Block,' he covered his ears and shut his eyes tightly before calling out, 'Stoppee, Stoppee, Stoppee.' On the plus side he joined in well in the game of 'Guess What We Are,' pretending to be a hedgehog and asked a very appropriate question in 'Twenty Questions' that led to the next player guessing correctly what the item was."

Session 8 (18.2.02): "For this session the children started from the beginning of the game again. Boy A was absent and Child B was rather restless and fidgety while Boy D was reluctant to say anything. This combination did not work well for two of the listening games because Child B became very impatient when Boy D was unable or unwilling to remember the list of words describing 'My Aunt's Cat' then the situation became even worse on 'The Phone Call Game' when Boy D was almost told the numbers that he needed to remember..."

Child B giggled almost straight away in the game of 'Laughter is the Best Medicine' after claiming that he could not prevent himself from laughing. Then in the game of 'Guess

the Leader' he went out of the room for his turn to guess and disappeared for a few minutes because he went to the toilet. He had asked to go to the toilet when this game had been played the last time and had been given permission but this time he had not asked so he will need a reminder that he should not go to the toilet another time without asking for permission. He seemed to be much more confident than he had been earlier in the term and did not need much reassurance either."

Session 9 (20.2.02): "On this occasion both Boy D and Girl C were absent and Child B stood out as being more immature than the other three members of the group. For example, in the game of 'Catch the Ball' he complained when he felt that the questions were not relevant to him or if another child caught the ball when he was trying to catch it himself. He even threatened half-jokingly to leave the room at one stage but one of the girls kindly rectified the situation by saying, 'Catch the ball if your name is Child B.'

Child B appeared to be aware that the others were better able to cope than he was and became particularly upset when he had to miss a go for throwing the dice off the table and then being behind everyone else on the board. He claimed that it was impossible for him to keep a straight face in the game of 'Laughter is the Best Medicine' and he was the one who had most difficulty in remembering a list in the game of 'My Aunt's Cat' and who was relieved not to take part in a role-play. On several occasions he hit his head in frustration but he was also given a lot of support by the others and responded well to being praised. In spite of his lack of confidence he did better in the listening games than on previous occasions and this time he stayed hanging on to the door handle when he went outside in the game of 'Guess the Leader' rather than going to the toilet as he had done the week before so there were slight signs of improvement."

Session 10 (4.3.02): "During this session Child B seemed to lack confidence in several of the games and tended to make excuses if he did not feel that he was coping. This was noticeable before the game of 'Chinese Whispers,' where he claimed, 'I never can remember it properly,' and yet he did well and was able to pass on the message successfully. He also gave up rather easily on the game of 'Do This...Do That' as he claimed that he was confused rather than admitting that he had not been listening but he did better on the game of 'Simon Says.' He was accused by Girl C of touching her in the game of 'Beep' and not saying 'beep' but seemed relieved when it was pointed out that she should have said this as well.

Child B was unlucky in picking two 'role-play' cards for two of his turns as he does not like taking part in these. In the first one he had to pretend that he was being rescued from being teased and he refused initially to shake hands with Girl C 'to make up' and in the second one he mumbled his words so that instead of hearing him say, 'I am going to play a game of football,' it looked as if he was being rude and just walking away from a group of children instead of excusing himself."

Session 11 (11.3.02): "Child B was much more cheerful and willing to join in on this occasion but he still showed signs of lacking confidence, particularly at the beginning of the session. At one stage when he was 'out' in the game of 'Shopping,' he muttered, 'I want to die. I'm no good at this,' but later on he was proud of having stayed in for so long without being out in the game of 'Simon Says' and for having fooled some of the other children in the game of 'Pass the Block' into thinking that he had the block because of his comments about how heavy it was. So it was a mixed session for him with him responding best when successful and being rather sulky if he was out. One positive thing that he did was to volunteer to take Boy D's place in the game of 'Guess What We Are' where Boy D refused to act the mime of being a snake wriggling along on the floor. He

also did a very accurate mime in his own group of being the Pink Panther, showing good rhythm and action.”

Session 12 (18.3.02): “Child B was more cheerful and confident on this session than he has been for most of this term. The children were given a short questionnaire to complete to indicate which games they had enjoyed or not enjoyed and Child B said that he liked all of them except for the role-plays.... The first game was ‘I went to the market and bought...’ with three rounds of this game without anyone forgetting the items. He showed himself to be co-operative and responsible during this game and he was also much more confident than usual.

The next game was ‘Queenie’ and again Child B was much more co-operative than during previous sessions. After he had had two turns, where he was the only person to guess first time who had the ball, he generously passed the ball to Girl E who had only had one turn and this was the first time that he had ever spontaneously passed it to someone else. Then in the game of ‘Chinese Whispers’ he had the chance to pass round a message, choosing to say, ‘In October I am going to Disney World.’ Even though Girl C got confused and passed the message on with ‘Disneyland’ instead of ‘Disney World,’ Child B allowed her to make this mistake without making any fuss, which was again very generous of him as in the past he would usually have been far less tolerant.

By the time of the last game Child B had drunk three glasses of coke but had been sipping it slowly and commented that he was avoiding letting it make him burp. This meant that when he did not hear what Girl E had said in the list for the game of ‘My Aunt’s Cat,’ he happily accepted that he would be ‘out’ rather than struggling to stay in the game. Girl C copied his example and it was Girl E who won as she was able to remember her own descriptive words. Another first was that Child B did not rush off at the end of the session but stayed to finish his coke and was also happy to take his LSA’s glasses back to the classroom on his way out to playtime. He seemed to have enjoyed the session as he said so. He also seemed to be relieved not to have been in the only role-play of this session and was happy to judge it instead.”

CHILD C:

ORIGINAL INTERVENTION: Summer Term, 2001:

Session 1 (11.6.01): “Child C’s group met for the first time and as it was warm and sunny, the session was held outside... Child C tried hard to join in the games but seemed to be irritated by Boy A when they were deciding which animal to mime and Boy A said the name of the animal in a loud voice as if unaware that the girls would hear this. Child C did particularly well in a game of ‘Who Says,’ where he was leading the actions in a modified version of ‘Simon Says’ as he did not run out of ideas and was keen to stay in charge. He was the one who recognised that in the game of ‘Copy Cat’ it was best to have a fairly easy action to copy rather than doing the splits like Boy A wanted to do.”

Session 2 (18.6.01): “His class teacher confirmed that the main concern with Child C is his attempt to dominate and control other children and this was noticeable in this session... In the game of ‘I packed my bag,’ Child C chose to take a telly. Other games included ‘Ghost,’ ‘Do This... Do That,’ ‘Laughter is the Best Medicine’ and ‘Letter Spin.’ The children seemed to enjoy the session and joined in well but Child C tended to fidget when the others were having their turn and was keen to tell them what they should be doing if they seemed uncertain.”

Session 3 (25.6.01): “The session was held in the Quiet Area outside... Child C was again keen to organise the others and reminded them of where they had sat during the

previous session and whose turn it was to start. He was also keen that the group should play as many games as possible and kept announcing how many had been played.

When he made the dice go on the floor while he was throwing it rather clumsily, he accepted that he should miss his turn and was then quick to point out that a girl should miss her turn when she did this on her next go. He seemed pleased when he led his group in acting as ants and they were able to avoid being identified by the other group but he became irritated when his group was then unable to guess that the other group was acting as panthers... A few photos were taken of the group for a social story for Child C towards the end of the session."

Session 4 (2.7.01): " This session was again held outside in the Quiet Area... Child C had been given a Social Story to encourage him not to boss the others about and it was noticeable that he was quieter and did not tell the others what to do quite as often as on previous sessions. However, he did still have his moments when he wanted to direct the others, such as in the game of 'Octopus,' when he was telling them which way to go and who should hold whose hand. He was also quick to point out if someone went over the boundary when he was judging for the game of 'Triple Tag' after being caught."

Session 5 (9.7.01): " This session was held outside in the Quiet Area and on this occasion Boy B was absent. His absence seemed to make Child C more dominant as he directed the other children on several occasions and in a role-play told the others what to do. He was also keen to be the 'leader' in 'Follow my Leader' but then had no idea what actions to perform so he had to allow another child to be 'leader' instead. He showed poor listening skills in the game of ' I packed my bag and took...' and passed the second time round so listening to what others are saying seems to be an area of weakness."

Session 6 (16.7.01): " This session was held in the Quiet Area again but unfortunately on this occasion the rest of the class were playing in the Adventure Playground and this caused Boy A to cry when he was told to join the group. Child C co-operated well during this session and with Boy B in the group he did not seem as keen to boss others as he had done on the previous session. He could see the reason behind sharing the bean bag in the game of 'Queenie' and during the game of 'Slow-Motion Tag' he even admitted having made a mistake and accepted a different suggestion. It seemed that he has become slightly more willing to listen to suggestions made by his peers and that he has benefited from these sessions."

Session 7 (23.7.01): "This time Boy A stayed in class and the others were out in the Quiet Area and were given the special end-of-game party where one child could choose three games and all of them had crisps, biscuits, smarties and lemonade. It was Boy B who had the choice and he chose 'Spin the Letter,' 'Octopus' and 'Queenie,' which were games that he and several of the other children had put down on the questionnaire as their favourite games.

The session went well and there was a much calmer and more co-operative atmosphere than when Boy A had been with the group. They were willing to help each other with suggesting answers on the ' Spin the Letter' game and no one became upset about being caught in the game of 'Octopus.' Child C did not boss anyone around and was happy to take a packet of smarties back to Boy A at the end of the session for having missed the party. They all agreed that they would like to take part in further sessions next term."

CHILD C: FOLLOW-UP INTERVENTION: Autumn Term, 2001

Session 1 (17.9.01): "Child C and his group met in the Resources Room... He sat next to me and was fidgeting a lot, often bossing the other children and trying to be in the limelight. He joined in all the games in a competitive way rather than trying to co-operate with the others and in the game of 'Octopus' he did not recognise that the others needed to help him to catch Girl E, trying to catch her himself when Boy B was meant to do this. Also in the game of 'Guess the Leader' he made it obvious when he was not the leader by joining in only half-heartedly... It seemed that having the break for the holidays had led to Child C reverting back to being bossy and the girls seemed to be rather giggly and excitable. The girls did quite well in some role plays but did not want Boy B or Child C to join in so perhaps next time a random choice of who can take part might be more useful rather than letting the person with the card choose who to have in the role play with them."

Session 2 (24.9.01): "This session took place in the Music Room with an LSA and myself and Girl E was absent but we were joined for the first time by Boy D. Child C was particularly argumentative and bossy during this session, partly because he was telling Boy D how to play some of the games. For example, in the game of 'Guess what we are,' where he and Boy B pretended to be dormice, he kept criticising Girl F and Girl G for asking questions that showed that they did not have a clue. Then in 'Catch the Ball' he was keen to be the one who caught the ball first regardless of whether the question asked applied to him, confirming that he does not listen to what is said by others but is keen to dominate them. Yet in 'Twenty Questions' he was often so slow with his questions that the timer needed to be used and at the end although this was a team activity, he again criticised Girl G for not giving the correct answer when he himself had no idea what it was. The other children were very tolerant and only showed slight signs of irritation when he criticised them or pointed out that they were not always following the rules exactly. In spite of Child C being particularly domineering the session went fairly well."

Session 3 (8.10.01): "This session took place in the Music Room and on this occasion Boy D was not there. Child C was quite bossy and kept reminding the others of what they should be doing as if he was in charge. He wanted to be the one to read the cards and to tell the others where they should move to on the board. He only listened to the others when he was in a group deciding on a role-play, when he let Girl F play the part of the teacher and he played the part of a naughty boy, which was not the part he would normally play as he usually likes to pretend to be the teacher. He did not criticise the others as often as in previous sessions and it seemed that Girl E helped him to avoid doing this by reminding him to join in. He had difficulty in keeping a straight face in a game where Boy B was telling jokes and trying to make the children laugh and this confirmed that Child C has a good sense of humour and could understand most of the jokes. He did well on a game where the children had to recite numbers and leave out certain numbers and enjoyed the game of 'Twenty Questions' when the others had to guess the name of an object of his choice. It appeared that his bossiness was intended to reduce some anxiety on his part."

Session 4 (15.10.01): "This session took place in the Music Room and Girl E was absent... Child C seemed to be rather upset in two of the role-plays where he was unable to be in charge. In the first one he was given the role of the child who was being blamed for breaking a chair and in the second one he was the child who blew a raspberry and was told off for both of the incidents rather than being the teacher doing the reprimanding. Child C also protested in a third role-play when Boy B did not say the sentence that he had told him to say so he probably felt that the others were not letting him organise them

as much as he would have liked... On the game of 'Spin the Letter' he wanted to look after the cards and in the game of 'Chinese Whispers' he was pleased to be the one giving the message and laughed when it was relayed inaccurately by others in the group so he did have some opportunities to feel that he was in control.

Some photos were taken during the session to illustrate Child C's social story where the aim is to encourage him to allow others to share their ideas with him rather than assuming that they should only listen to him. In this session it seemed that this would be a useful lesson for him to learn."

Session 5 (5.11.01): " This session took place in the Music Room and on this occasion Child C appeared to be particularly bossy and intolerant of anyone who disagreed with him, including the LSA and myself. One reason for his impatience and bossiness seemed to be that he was in the lead and did not want to lose this so he often made critical comments about the others, perhaps in the hope that they would not be allowed to move their dinosaurs forward. It was only at the end of the game that one of the others (Girl G) passed his dinosaur and this seemed to upset him. He needed several reminders that he was 'only playing a game' and that the role-play was only an act and not 'real life' but he seemed more affected by his Asperger's Syndrome than during some of the previous sessions, taking everything as if it was very important and showing a strong wish to remain in control. He disliked being unable to guess the correct answers and disliked it even more when other children were unable to guess them on their turns. He found it hard to recognise that his incorrect guesses had contributed to the high number of questions and seemed to think that the last person to ask a question was the one who should be blamed for failing to ask the right questions."

Session 6 (19.11.01): This session took place in the Music Room and on this occasion I was assisted by my secretary. The children were given the chance to provide feedback on the games that they had enjoyed most and those that they had enjoyed least and after each child had chosen a game or activity of their own choice, they had a small party with crisps, biscuits and lemonade. Their feedback showed that they had all enjoyed being in the group and having the chance to play the game and all of them except Boy B had found the role-plays fun to take part in.

On this occasion the children played 'Spin the Letter' and 'Guess What We Are' and three of them chose to do role-plays. Child C was keen to tell everyone what to do and seemed to be unaware that he was bossing them about, even when told that this was what he was doing. He genuinely seemed to think that he was being helpful. He was also keen to provide suggestions for improving the game."

CHILD D:

INTERVENTION: Autumn Term, 2001 and Spring Term, 2002:

Session 1 (2.10.01): " Child D showed both excitement and also some difficulty in coping during this first session and on several occasions he hit his chin with his fist, bit on his fist or flapped his hands as if trying to reduce the level of anxiety that he was experiencing. At other times he looked away from the other children at items in the room and seemed to be in his own world rather than aware of what was going on in the games being played. The other children were very supportive, particularly the two girls and they tended to ignore his eccentric behaviours. Boy B was quite shy but the other two boys were keen to join in and to have their turns.

On this occasion Child D was able to begin the game as he threw a six and this seemed to please him. The games that were played were; 'Mime an Interest,' 'Guess the Leader,' 'What's my Line?' 'Laughter is the Best Medicine' and 'Chinese Whispers.' In the latter game Child D initially had difficulty in listening to the message but he did manage to do this by the third message and it was Girl E who found it hard to whisper the message, tending to use her voice quietly instead. Child D managed to do his mime in 'Mime an Interest' but wanted to talk as well as doing the actions and then he had difficulty in joining in the actions of 'Guess the Leader,' tending to find it more interesting to look at objects in the room than to watch and copy actions done by other children. When he himself was the leader, he stared up at the ceiling after doing a hand movement so the other children were uncertain what they should do and did actions of their own instead! Child D's LSA helped by reminding Child D to pay attention and to stop fidgeting when he seemed to lose interest in what was going on in the games."

Session 2 (9.10.01): " On this occasion Child D seemed to be very anxious and stressed almost as soon as he arrived in the room and the LSA explained to me that he viewed the sessions as a punishment rather than something to look forward to because he likes to run around and let off steam outside and dislikes staying indoors when the weather is fine. It soon became clear that he was giving hardly any eye contact except to Girl C, his LSA and myself and he was also hitting his chin from time to time and fiddling with a soft ball used in some of the games. He did not appear to understand how to play any of the games that the children were playing and when the three boys also became rather over-excited and boisterous, making loud comments and giggling, this seemed to make Child D even more distressed.

The games played were 'Queenie,' 'Catch the Ball' and 'Laughter is the Best Medicine.' In the first game Child D joined in fairly well and put his hands behind his back when prompted. Then in 'Catch the Ball' he found it difficult to throw the ball up in the air and to think of a description which did not refer to the particular theme which had been used as an example (i.e. colours of cars). Then in the last game he was not looking at the other children and paid no attention to the 'funny faces' being made by Boy B, fiddling instead with the soft ball and rocking to and fro as he was obviously overwhelmed by the other children being with him and making so much noise.

His LSA and I agreed that it would be best to go outside because the children could play a game of 'Shadow Tag' which had been Boy F's chosen game and this would give Child D the chance to run around in the sunshine. This seemed to ease the pressure on him and he ran around happily in his own way while the others played 'Shadow Tag' according to the rules. Later when asked if he had been upset, Child D said yes and told his LSA and myself that he liked being outside and running around."

Session 3 (16.10.01): " As Child D had been distressed with being indoors and had viewed this as a punishment, the session took place outside on a mild and fairly sunny afternoon. On this occasion the size of the group was also reduced so that he only had Boy B and Girl C to play with him.

Initially the children sat at a table in the Infants' playground and played the game of 'Whoosie?' with Boy B and Girl C in one team and Child D and his LSA in another. At times Child D found it difficult to concentrate because some of the infants came over to see what we were doing but with some prompting from his LSA and myself, he was able to ask some relevant questions to help him to decide which features did not apply to the person he was guessing. Several times Child D muttered the name of the person whom

he was trying to keep secret from Boy B and Girl C but apparently they did not hear this because of the infants chatting around us. Child D was encouraged to guess the name of the person when only four people were left on his display board and he was successful in naming 'Jennifer,' the person that Boy B and Girl C were hiding from him.

As the infants were milling round, the children were then taken over to an area of the Junior playground and at Girl C's request they played 'Laughter is the Best Medicine,' where Girl C tried to make Child D and Boy B laugh. Child D initially grinned when she made a funny face and then gave a loud but slightly exaggerated laugh. He seemed to be confused as to what this game involved and did not listen when Boy B had his turn, starting to hit his chin as if agitated so the children played 'Shadow Tag' instead. Child D found it difficult to understand how the shadows of the other children were moving as they ran but he enjoyed running around with them until the sun went behind a cloud, making it no longer possible to play this game. He also joined in a game of 'Stuck-in-the-Mud' and when shown how to play, he was able to respond appropriately providing that he was aware that he had been 'caught.'

During this session there were some promising signs that Child D was coping slightly better in the smaller group outside and with only a short duration for each game. He was also given the chance to run around between the games in order to unwind. At the beginning of the session he seemed willing to take part as he grabbed my hand and said, 'It is Tuesday and we play the game outside today.' Both he and the other children seemed to be slightly disappointed that I had not brought the Dinosaur Game but they were willing to have a 'trial game' with 'Whoosit?' and to take part in the other games under my guidance. Girl C was aware that she was there to help Child D and was very supportive of him when he showed poor understanding of what he should do and Boy B also behaved with greater tolerance than on the previous session so they both had the potential to be 'peer tutors' for Child D."

Session 4 (9.11.01): "On this occasion the session was held outside on the playground during Friday afternoon's 'Privilege Time' and Child D was supported by his other LSA. The children who joined him were Girl C and Boy B and another girl who offered to join in was given the chance to do so. All these children were supportive of Child D and gave him the benefit of the doubt when he did not fully understand the rules of the games.

This time the children started by playing 'Stuck-in-the-Mud.' Child D understood that he should stand with his arms out if caught but then had some difficulty in knowing when to 'rescue' other children unless told to do so. He responded well and became quite excited and seemed cheerful at the same time. The children then played the game of 'Do This...Do That' and Girl C and Girl G were able to lead the actions confidently with Child D's LSA helping him to join in. When it was his turn to lead, he was willing to have a go but he was concentrating so hard on thinking of actions that he did not remember to say 'Do this' or 'Do that' but the words may become easier once he gets more practice.

After this at Girl C's request the children played 'Laughter is the Best Medicine' and took it in turns to try to make each of the children laugh. Child D found it difficult at first to keep a straight face but after watching how well Girl C did this, he gradually became better at this as the game went on. He was happy to have a go at trying to make the others laugh and did not mind when they kept their straight face because he was told that this was that they were trying to do.

The session finished with a game of 'Tag,' where Child D joined in with running around but seemed unsure about how to chase the others when he became 'It.' He responded well to having his hand held by me and us running around together. Boy B realised that he should let Child D catch him so that the game could end on a positive note. This session appeared to go better for Child D and he seemed to be happy to join in all of the games. There was only one moment during the first game when he became excitable and jumped up and down away from the others but apart from that he spent about 20 minutes being part of the group and was willing to learn how to play the games. He now has pictorial versions of the rules and will share these rules of the games with his LSA and at home so that he comes more familiar with them."

Session 5 (7.12.01): "It was a fine, sunny day and also quite mild. Boy B was absent so only Girl C played with Child D but his LSA and I also joined in the games. Child D had learned the rhyme and the rules for the game called 'Crocodile' so we started with this and he did well as the 'crocodile' for the first 5 minutes but he found it difficult to think of colours after choosing five of them and he then seemed to lose interest, suggesting, 'We've finished.' However, he was willing to let Girl C have her turn for about 3 minutes before suggesting that it was time to go in.

We next played 'Stuck-in-the-Mud' and Child D was willing to hold out his arms as if stuck in the mud the first time that he was caught but when he was caught a second time, he continued to move around instead of standing with his arms out. He was then willing to play 'Laughter is the Best Medicine' and laughed almost straight away when Girl C stuck her tongue out and pulled a funny face. However, he soon lost interest when he had made several funny faces by pulling down his eyes and Girl C had managed to keep a straight face. He again suggested that he should go in but instead to finish the session we played 'Tag' and Child D was happy to chase Girl C and myself apart from needing a rest from time to time. It was noticeable that on this particular afternoon Child D gave poor use of eye contact."

Session 6 (11.1.02): "It was a fine and sunny day but fairly cold outside so Child D wore his gloves. During this session it was noticeable that he had moments when he was keen to join in and took part willingly but there were sudden switches to some very agitated behaviour (e.g. jumping up and down, flapping his hands)... He seemed able to tolerate about 2 minutes of a game before needing to release his tension then could return to the game again before opting out again. The other two children were very tolerant and patient with him and were able to include him as best they could in each of the games that were played.

The session began with Child D's choice of 'Queenie,' using his choice of a bean bag rather than a soft ball. He found it difficult to throw this behind him as it tended to go straight up in the air or in front of him and he also could not resist looking to see who had picked it up. Child D then chose 'Laughter is the Best Medicine' and was willing to let the others try to make him laugh. He did an artificial laugh when the others had tried for a minute or so and he had been able to avoid smiling. He was then willing to try to make Girl C laugh by jumping up and down in front of her and pulling faces. It seems that he has made some progress in trying to make the others laugh but still does not know how to cope with them trying to make him laugh for more than a short time.

Afterwards we played 'Crocodile' until Child D lost interest and the game changed at his request into 'Stuck-in-the-Mud.' By this time the other children had left the playground

and Child D was able to run around and to chase the others and to hold his hands out to be 'rescued' when he felt able to join in."

Session 7 (18.1.02): "Although it was cloudy and cold, it did not rain so the session was able to take place. Initially Child D had seemed hesitant about going out and had started to take apart a Lego racing car from his 'Stress Release Box' but he was eventually persuaded to join Boy B and Girl C, his LSA and myself to play the games on the playground. Once outside Child D chose 'Crocodile' as the first game and wanted to be the 'crocodile.' He managed to call out four colours before reaching the point where he wanted a change of activity but was persuaded to do one more colour so that the game could end properly. Then he chose 'Stuck-in-the-Mud' but was told to wait until the other children had gone in from the main playground and turned his body away from the rest of us as if not wanting to hear that he could not have his own way. In the meantime Boy B and Girl C played 'Laughter is the Best Medicine' and Child D was persuaded to join in when Girl C had her turn but looked her in the face for a moment and did a loud, artificial laugh. He was not willing to try to make the other children laugh as he kept repeating that he wanted to play 'Stuck-in-the-Mud' and this was played next.

In the game of 'Stuck-in-the-Mud' Child D was happy to run around but he did not always respond to being caught, tending instead to choose when he wanted to stand with his arms out and when he wanted to 'rescue' others. This game lasted over 5 minutes but eventually Child D and Girl C both complained at the same time that they were worn out. Instead we played the game of 'Queenie' with Child D wanting to be the first 'Queenie.' He threw the soft ball behind him more successfully than he had thrown the bean bag on the previous session and he was better at pretending to have the ball behind his back, even though he needed an occasional reminder.

After this Child D suggested playing the 'Shopping Game' and was happy to call out names of shops with the names of particular players but he did not say them quickly so the game went slowly. Girl C was then able to show him how to play the game to catch players out and after Boy B had also done this, Child D had another go and did much better at confusing the players. Girl C and Boy B then suggested playing 'Tag' and Child D joined in for a very short time before giving up when caught by Boy B. He lay on a bench and complained of being tired so it was decided to go in. Child D called out, 'Games are finished,' but thanked me for coming to see him."

Session 8 (1.2.01): "Although it was very windy, it did not rain so the session was able to take place outside, starting in the usual covered area and then moving on to the playground when the other children had gone in for assembly... For the first game Child D agreed that we should play 'Queenie' and when it was his turn to be 'Queenie,' he was sometimes able to throw the ball behind him but at other times threw it awkwardly so that it went sideways. Each time he looked round to see who had it either because he was unaware that he should not look or because he was curious to see who had caught it. Even so the players were able to trick him by moving the ball behind their backs to another player as a way of overcoming this problem. After this we played 'Crocodile' with Child D as the 'crocodile' and he kindly turned round to check what colour each player was wearing and named these colours in turn. This time he remembered to chase the players and pretended to 'eat' his LSA when he caught her. Then we played 'Laughter is the Best Medicine' while waiting to go on the main playground but by this stage Child D was tired of joining in so he spent a moment lying on the bench before agreeing to try to make Girl C laugh, which he succeeded in doing by grinning and pulling face at her.

On the playground we played 'Stuck-in-the-Mud' at Child D's request and he was able to join in for a couple of minutes before running around and ignoring those who caught him and those who needed to be released. He then agreed with a suggestion that he should play 'Shopping' and let Girl C call out the names but when it was Boy B's turn, he called out the shop names in an even louder voice than Boy B and seemed keen to go on calling out the names as if enjoying being in control of where the players ran to.

Finally we played 'Stuck-in-the-Mud' again before going in as Child D kept repeating, 'Go into school.' In spite of this he agreed to play his favourite game again and then when he started losing interest and running away from the game, we told him that we were going into school and he happily went back into the building."

Session 9 (22.2.02): "It was a very blustery day but Child D was keen to have his session, telling me the four games that he wanted to play as soon as he saw me.... It was agreed that the first game should be 'Crocodile' and as on the previous session, he turned round to check what everyone was wearing before calling out each colour... With the help of frequent reminders from his LSA to listen carefully, he was able to pay better attention than usual and joined in for much longer than on previous sessions (i.e. up to 5 minutes).

The next game was 'Do this...Do That' and Child D was happy to join in and was very good at spotting any actions that were not to be carried out when the words 'Do That' were spoken. On two occasions he pointed out that Boy B had not been listening carefully both to himself and Girl C when they had been giving instructions. He also spotted Girl C's mistake and one that I made when Boy B was giving instructions. He was happy to be both the leader and one of the players copying the action so this was again a significant improvement.

After this we played 'Queenie' and again Child D gave much better attention than on previous occasions and was happy to stand with his hands behind his back pretending to have the ball. He gave the ball to his LSA on one occasion but was happy to be given the ball by me on another occasion. He seemed to recognise that he was meant to be pretending to have the ball even when he did not have it and also gave better attention when he was 'Queenie,' guessing correctly that Boy B had the ball. He only wandered away from the game once but otherwise he played for over 5 minutes.

During the game of 'Stuck-in-the-Mud,' which was played on the large section of the playground once the other children had gone in, he joined in happily at first, being particularly keen to help others who needed to be 'rescued.' He allowed himself to be 'rescued,' although he tended to keep running with his arms out instead of standing still. Then he suddenly seemed to lose interest and went to the bench. Boy B and Girl C went over to him and Boy B suggested that they should all go over to get some water from the fountain and then play the game of 'Shopping.' He went over with them but after trying unsuccessfully to join in 'Shopping' with Girl C calling out the names of the shops very quickly, he gave up and went back to sit on a bench in the covered area of the playground.

This session was the best so far as Child D was able to give far better attention for much longer periods of time at the beginning of the session even though he needed to leave the games for longer towards the end. His listening skills seemed to have improved with the reminders that his LSA gave him from time to time and he was much more like one of the

other children as far as joining in was concerned and spent far less time doing things only on his own terms.”

Session 10 (1.3.02): “ It was a cold but dry day and Child D was pale and feeling slightly unwell... We began with ‘Do This... Do That’ at his request and he did very well both as the person leading the actions and also when copying those of Girl C and Boy B. Child D then agreed to play ‘Queenie’ and this time he did not turn round to see who had the ball and was also good at hiding the ball when he had it behind his back so that on one occasion Boy B was unable to guess that it was Child D.

In the game of ‘Guess the Leader’ Child D showed poor understanding of the game as he joined in copying the actions rather than attempting to guess who was starting them when it was his turn to guess. He was then able to join in the game of ‘Laughter is the Best Medicine’ and took literally the instruction to ‘pretend’ as he not only pretended to look angry but also gave an artificial laugh. When he watched Boy B smiling and saying, ‘Boo,’ at both Girl C and himself to make them laugh, he chose to do the same when it was his turn so he seems more aware of watching them and copying them than he was a few weeks ago.

After this we moved to another part of the playground. Child D asked to play ‘Stuck-in-the-Mud’ and enjoyed playing this by holding out his arms to be ‘rescued,’ even when he had not been caught but happily ‘rescuing’ others who had been caught by Boy B. He gave good attention and was able to join in for about 5 minutes. Next we played ‘Shopping’ and Child D was given the chance to name the areas for each shop and to call out their names. He enjoyed this for about 3 minutes until his LSA and myself were out and then needed encouragement to keep going with us helping to judge if the others were right in which are they ran to.

Finally at Child D’s request we played ‘Crocodile.’ The first game went well with Child D calling out the colours but the second game with Girl C calling out was less successful as Child D only paid attention for the first 3 colours. It was therefore decided to follow his suggestion of ‘Let’s go in now,’ after another session when he had behaved more like his two friends and had responded much more positively than in some of the earlier sessions.”

Session 11 (8.3.02): “ Unfortunately Child D was in an excitable and agitated state on this occasion due to a change of lunch sitting and having been busy making a card for Mother’s Day... We were able to begin with Child D’s choice of the game of ‘Queenie’ with him throwing the ball and it was noticeable that he is now much better both at aiming the ball behind him and also at guessing who has it by looking at the other players’ facial expressions. After this we played ‘Stuck-in-the-Mud’ with Girl C chasing and Child D again enjoyed running around pretending that he had needed to be ‘rescued’ but he was also able to ‘rescue’ others. When Girl C told him off for ‘rescuing’ someone when he had already been ‘out,’ he asked to change to another game and chose ‘The Shopping Game.’ He did well at calling the names of shops and catching the players out but after about 3 minutes, he became tired and Girl C took over the calling out. He accepted when he was ‘out’ because he had gone to the ‘Sweet Shop’ instead of the ‘Pet Shop’ and that he should judge when others were out and was able to point out his LSA’s mistake a moment later so he seemed to have become more familiar with the game rules as well as giving better attention to the other players.

The next game at Child D's request was 'Crocodile' and he played this well as the 'crocodile' but at the end he decided that he was 'a kind crocodile' and would not 'eat anyone,' cuddling Girl C and Boy B instead. He then chose 'Do This... Do That' and paid good attention for up to 5 minutes, showing that he had a range of actions to carry out and that he could spot anyone who was 'out.' He was very tired after this and although an attempt was made to play 'Laughter is the Best Medicine,' this did not go very well. At first he was reluctant to join in because he claimed that 'medicine is for Child D coughing' and this was not a suitable name for a game. He did his usual loud 'ha-ha'- probably because this is how he is shown in the picture of his illustrated version of the rules. Child D has become more aware of the rules, stays in games for longer and is more aware of what 'out' means and now watches the other players more carefully so there are several noticeable improvements."

Session 12 (13.3.02): "Child D was again in an agitated and excitable state... We went to the area at the front of the school but from time to time Child D was attracted to some mud and other debris on the paving stones which had been washed there by the heavy rain earlier in the day. His LSA needed to tell him firmly to leave this alone.

We began with the game of 'Do This... Do That' at Child D's request and with him carrying out the commands for about 2 minutes before he suddenly ran off. Boy B was given the chance to lead the game and then Girl C but Child D eventually rejoined the game and continued to copy the actions when he returned. Then we played 'Stuck-in-the-Mud' with Boy B chasing as usual. The game ended after about 4 minutes when Child D ran away but he was willing to return to play 'Queenie.' He did well both at guessing who had the ball and at pretending that he had the ball but his throwing was not as accurate as it had been – often going sideways instead. On one occasion Girl C accidentally threw the ball so that it hit his forehead but he only made a small complaint and accepted that this was an accident (which probably would not have happened a few weeks ago).

Then after about 5 minutes Child D asked for the game to finish and for us to play 'Crocodile' with him being a 'kind crocodile.' He played this well when he was the 'crocodile' but went away when Girl C was 'crocodile' and needed to be persuaded to return to join the group. We next played 'Shopping' and Girl C named the areas for the shops but she let Child D call them out and he seemed to enjoy this and did this well. He was also willing to let Girl C call them out with him running to the various shops but seemed to become tired and suddenly announced, 'Let's go in now.' The others tried to persuade him to play 'Tag' but he did not want to and started to go in so it was agreed that we should go indoors. This was the final session for Child D, who had ended up viewing the sessions as worthwhile and even looking forward to them thanks to having his LSA preparing him for them."

CHILD E:

INTERVENTION in Autumn Term, 2001:

Session 1 (17.9.01): "Child E and his group met in the Staff Room with his LSA and myself. Child E was keen to be in the limelight and this was particularly noticeable in the game of 'Queenie'. Child E grabbed hold of the bean bag each time and sometimes showed a reluctance to give it to one of the others. However, he was very good at both pulling faces and copying the expressions of others in the game of 'Throw a Face' and tried hard in the game of 'Guess the Leader,' although his co-ordination was awkward at times. He appeared to enjoy the session and the others were very supportive of him.

Child E showed a lot of enthusiasm and was able to name 4 out of the 6 dinosaur figures and was helped by Boy B to name the other two. He wanted to have the last word but did allow others to have their turns and showed consideration towards Boy C whose finger was broken and who could not join in all of the games.”

Session 2 (24.9.01): “ This session took place in the Music Room with another LSA helping and on this occasion Child E arrived with very dirty hands which were covered in mud and had to be sent to wash them but he was keen to return as quickly as possible so he did not dry them and ended up wiping them on his trousers. He was keen to join in all the activities and gave good answers to some of the questions, responding with pleasure when praised. However, he was initially unaware that he needed to listen carefully to the questions in ‘Catch the Ball’ and kept catching it, even if the questions did not apply to him but gradually he let the others do this and seemed to understand the game better. His main problem of the session occurred during the game of ‘Pass the Ball’ because he said ‘thank you’ whenever it was passed to him and could not understand why he should stay quiet. He also looked meaningfully at the person who had the ball behind their back and without realising that he was doing this, helped the person guessing to know who it was. The others were very supportive of him and tolerated his eccentric behaviours (e.g. pulling faces in ‘Follow the Leader’ rather than moving other parts of his body and then making exaggerated movements when others were leading) and the session went well. Child E coped better than on the previous week but it was interesting that he did not know the name of Girl D and nodded at the children instead of saying their names. Yet he knew all the dinosaur figures by name so they may matter to him more than the other children.”

Session 3 (8.10.01): “ This session took place in the Music Room with his LSA helping and the children seemed to be extra lively, possibly because of having had a wet playtime. Child E was keen to be in the limelight and during the game of ‘Twenty Questions’ he claimed that it was his questions to Boy C that enabled Boy B to guess the answer and in the game of ‘Guess What We Are’ he insisted that his group should act as if they were Tyrannosaurus Rex rather than an animal. He enjoyed being the one to lead in ‘Do This...Do That’ but was very hesitant with his instructions and he made the others carry out some awkward movements. He enjoyed the game of ‘Throw a Face’ and was able to copy the expressions made by the others quite successfully and did quite well in another game where he needed to keep a straight face. He did not manage so well in the game of ‘Chinese Whispers’ as his message was difficult to understand and was changed to one that made more sense. The other children were again very tolerant of him and ignored his comments about playing with dinosaurs when he goes home.”

Session 4 (16.10.01): “ Child E and his group met in the Music Room with his LSA and myself and Child E responded quite well in some of the games that were played and not so well in others. He joined in ‘Twenty Questions’ with asking sensible questions but tried hard in the ‘Not This Number’ game, although he had some difficulty with the higher numbers as he did not listen or watch carefully.

Child E was rather rough in the games of ‘Queenie’ and ‘Catch the Ball,’ where he was keen to take the ball from others who got there in front of him and in the latter game he had difficulty moving to another topic when asked to describe a feature that might apply to some of the others so that they could have their turns. It appeared that he genuinely could not think of another topic to move on to. The others in the group were very supportive and tolerant and he seems to be making some progress in improving his turn-

taking in verbal situations...A social story has been written to help to improve his listening skills and some photos were taken during the session to illustrate this."

Session 5 (5.11.01): "As it was sunny and fairly warm outside, Child E and his group were allowed to go outside on the playground to play two games of 'Queenie' as this provided them with more space to throw the ball. Child E was slightly impatient in this and some of the other games but he did allow the others to catch the ball and responded well to being praised for not giving away who had the ball by looking at them in an obvious way.

Child E also did well in the game of 'Beep,' where he was required to avoid bumping into anyone as he walked across a circular area and he showed that he can co-ordinate his movements well if there is peer pressure placed upon him to do so. In the game of 'Laughter is the Best Medicine' he found it difficult to keep a straight face when Girl A was trying to make the others laugh but in the game of 'Pass the Ball' he played so well that the others did not guess when he had the ball. It seemed in this game and in the game of 'Queenie' that he may perhaps have learned during the last few sessions how to deceive others in a play situation and is able to use this more successfully. Child E coped much better in this session and seemed to be more accepted by the rest of the group. His only 'deviant' act was to pick up soil in his hands from a drain to hold behind his back in the game of 'Queenie' when he was not the one to have the ball."

Session 6 (26.11.01): "At the request of his LSA Child E was introduced to a game aimed at improving his listening skills and his ability to cope with frustration more effectively. He and his group were introduced to 'The Self-Control Patrol Game.' It was noticeable that the other children gave much more sensible and mature answers to the situations which came up during this session and that Child E found it difficult both to think of suitable answers and to adjust to having to sit and listen to the others without fidgeting or interrupting them. He became very subdued when he lost several of his counters for interrupting other children and for landing on positions on the board where he had a penalty and lost counters. At one stage he threw one of his three remaining counters in the air and it landed on his LSA's lap but she continued with the game as if nothing had happened and then added it to his pile a couple of minutes later. As listening is a skill that Child E finds very difficult, these sessions will probably be helpful and they should also make him more aware of how to avoid becoming upset or sulky when he does not have his own way. He would also benefit from continuing to read through his social story each day as that is targeting the skill of listening."

Session 7 (10.12.01): "The children again played 'The Self-Control Patrol Game' and his LSA led this. Child E responded much better to the firm rules imposed and only lost his counters once for forgetting not to talk while another child was having his turn. He again found it difficult to remember the list of 'social skills' but was able to give a sensible answer to a 'situation' question about what might make him upset and angry. As he left the room, he agreed that he does sometimes lose his temper and become angry and that the game seemed to be useful. When asked if he remembered to use 'power talk' to help him to calm down, he admitted that he had not thought of using this yet but he agreed that this might be useful."

Additional Sessions beyond the Intended Intervention Using "The Self-Control Patrol Game":

Session 8 (14.1.02): "Child E and his group played 'The Self-Control Patrol Game' and on this occasion he was very lively and restless and needed to learn that this behaviour would lose him counters. He made a few of the counters stick to his forehead as if

showing off to the others in the group but they sensibly ignored him and he eventually stopped doing this. He also protested at being sent to the 'detention centre' and missing his go but then seemed pleased when both Boy B and Boy C also went there on their next turns.

Child E coped well with trying to provoke Girl A in one of the games but had earlier called her a 'monkey' when she was acting out a charade and did not seem to recognise this as an unkind comment. Generally he was less co-operative on this occasion than he had been at the end of last term but hopefully his behaviour will improve in the next few weeks. At the end of the session he was keen to tell me about all his Christmas presents."

Session 9 (21.1.02): "On this occasion Child E responded better during the session by being reminded of both when he should be listening carefully and when he was at risk of losing his counters. For this session he managed to finish with 20 counters, only slightly behind Boy B and with the same number as Girl A. It was these three who responded to the situations they encountered, which is the reason why they were the ones who earned the most counters. It was therefore decided that for the following session it might be a good idea to divide the group into two teams so that the game could become more competitive between the two teams and also more collaborative within the teams."

Session 10 (28.1.90): "This time Child E was paired in a team with Girl A and on the other team were Boy B and Boy C because two girls were absent. They played 'The Self-Control Patrol Game' with some of the other games that they were familiar with. This led to them joining in far more willingly and Child E was keen to help Girl A to earn as many counters as possible. In fact they managed to win this week... so Child E felt pleased about this. They did some good mimes and the games went well so overall this was a more enjoyable and active session than the previous one. Child E only made one of his own guesses without consulting Girl A before realising that he had asked an inappropriate question and then he consulted her each time."

Session 11 (4.2.02): "This time all six children were present and they were playing 'The Self-Control Patrol Game' in two teams but this session did not go as well as the last one so it might be better to have three teams of two children instead of two teams of three. Child E was particularly excitable due to the wet and windy weather and having missed two opportunities to go out to play. He lost 5 counters for his team by repeatedly showing off his fist as a response to situations described which could upset someone after being warned several times. Being in teams made two girls less shy but it was difficult for the three members of a team to consult each other in the way that had worked so successfully for two in a team last week."

Session 12 (18.2.02): "Child E was provided with a new group of children ... It was noticeable how much 'louder' and immature Child E appeared compared with these new children who were learning how to play the game. He showed off both before the session in the corridor, jumping about wildly and during the session while I was reading out the rules and instructions, even though he knew that the others had to learn these and remember them in order to earn points. However, by the end of the session following a telling off for helping to lose points for Boy A and Boy B, he became more subdued and admitted that he was in the wrong. Child E was also lucky that he did not lose any counters."

Session 13 (25.2.02): " This session went well from the point of view of Child E listening carefully when the instructions were read out at the beginning of the game as he was able to remember three of the important aspects when it was his turn. He also allowed the others to listen and was more sensible when they were having their turns as he was keen not to lose any of his counters. This time he was the one who earned the

most counters as he was fortunate in avoiding both the 'detention centre' and 'trouble.' The others seemed to join in better this time too and were less shy and awkward. All of them gave some sensible answers and Boy B did particularly well with some of the difficult questions that he was required to answer."

Session 14 (4.3.02): "Child E seemed to be very excitable during the first few minutes before becoming more reasonable. He earned several counters and avoided the 'detention centre' and 'trouble' so he was pleased with his performance."

Session 15 (11.3.02): "Child E was very 'loud' and restless during this session but he was also able to provide some good answers after thinking about them and he put up his hand to volunteer answers when other members of the group were having difficulty in thinking of them. He was honest about his 'bad' weekend where he had gone on 'blaaling' so much that he had been sent to his room and accepted that he had been in the wrong. On several occasions he nearly lost counters for comments that he made but being warned led him to be more careful. He showed that he can listen well when he knows that this is important and that he can give some insight into his unacceptable behaviour."

CHILD F:

ATTEMPTED INTERVENTION: Autumn Term, 2001:

Session 1 (3.10.01): "Child F's group met for the first time with his LSA helping to run the session. The other children were very tolerant and supportive so this session went fairly well in spite of Child F's difficulty in coping with some of the games. He did well when he was asked to make a 'frightened expression' but unlike the others, he did not put his hand anywhere near his face. He also did well on the memory game, 'I went to the market and bought...' as he was able to recall the list with some prompting.

Child F had more difficulty in some of the guessing games as he did not understand that the other children had a different perspective. In 'Pass the Ball' he did not always remember to keep his hands behind his back when the person was guessing who had the ball yet when he did have the ball and waved it about without realising that he was meant to hide it, the boy who was guessing was looking at the other children and did not see Child F waving it about. In 'Do This...Do That,' where he was meant to copy only the 'Do This' actions, he had difficulty in copying the actions and was very hesitant so he never got caught out on the 'Do That' actions and in the game of 'Queenie' the other children decided to give him the ball to hide because he waited for one of them to catch it rather than trying to go for it himself. However, he did well in the guessing game 'Guess What We Are,' where he was in a team pretending to be a tiger and seemed to enjoy having the others doing this with him.

This anxiety and hesitation on Child F's part is normal for an initial session, where all the games and activities are new but hopefully in the next few sessions he will gradually become more familiar with them and gain in confidence. He occasionally flapped his hands, looked at other things around him and kept repeating my name once he had been told what it was but the other children were kind towards him and helped him to join in the games."

(10.10.01 and 17.10.01: Child F was 'unwell' and not in school. This suggested that there might be problems ahead.)

Session 2 (24.10.01): “As it was mild and dry to start with, part of the session took place outside until it began to rain. Outside the children played the games of ‘Stuck-in-the-Mud’ (which they all knew how to play and which even Child F seemed to enjoy), ‘Octopus’ (which was a new game which they found quite difficult to learn) and ‘Crocodile’ (where they needed to listen carefully and Child F found this hard to do).

Then when it rained, we went inside to play the Dinosaur game and among the games played were ‘Throw A Face’ and ‘Do This...Do That.’ They also played ‘I went to the market and bought...’ and ‘Not This Number’ which were both listening games where Child F needed to be reminded to listen carefully. Child F was able to join in all the games with encouragement and guidance from his LSA and myself but his attention kept wandering and he found it difficult to listen to the rules for each of the games, often putting his fingers in his ears and looking round the room rather than watching the other children showing him what to do...He showed some unusual mannerisms when unsure what to do (e.g. flapping hands and putting fingers over his ears)... He also disliked the Polaroid camera which was used to take photos for his social story, saying, ‘It scares me.’”

7.11.01: “As Child F was in a distressed state and refused to come to the room where the game was being played, it was not possible for him to join the other children but they played the games in his absence. They were made aware that they are helping him to play because he finds it difficult and they seemed to be disappointed that he felt unable to join them. He was given a folder which I had made for him to show the rules of the playground games that he and his group could play when it is possible to go outside but he hid his face from me when I was giving this to his LSA.”

14.11.01: “Child F’s group had to be cancelled because he had become too distressed. He was taken home as he was in such an anxious state. It was agreed to review the position in a fortnight’s time to help him to get over this, if possible.”

It was subsequently agreed that Child F was so unhappy and distressed that it was best to discontinue the sessions. Later when observed on the playground informally in March, he was seen to be running around on his own and hiding inside his coat, if anyone came near to him. He appeared to be anxious and insecure on the playground and actively avoided contact with others.

CHILD G:

INTERVENTION: Late Autumn Term, 2001 and Early Spring Term, 2002: (This child took the place of Child F in the research.)

Session 1 (4.12.01): “This first session with Child G and his group was held in his own classroom and his LSA helped with the games which were played. It seemed that the choice of group members was very suitable as they were tolerant of Child G’s rather eccentric behaviour and they also appeared to have enjoyed the session.

As expected, Child G was excited at seeing the dinosaur figures and he brought his obsession for dinosaurs into several of the games (e.g. ‘Guess What We Are,’ where he persuaded his group to mime a dinosaur and the game of ‘I went to the shop and bought...’, where he insisted on adding dinosaurs to the list of items for the children to remember).

He showed good recall of the list of items in the game of 'I went to the shop and bought...' and also asked some sensible questions for the game of 'Twenty Questions' when Boy B successfully caught the others out by thinking of a lamppost. Afterwards he argued that his question, 'Is it flat?' should have had a 'yes' answer because the top is flat but did then accept that the post itself was round when this was talked through with him. Boy C also caught the others out in the game of 'Psychic Numbers' as one or two of the children were not listening to his answers and asked questions that were inappropriate but Child G was not one of those who did this as he realised that the number was high and ended in 'six' so his guess of '96' was very relevant. He was also the member of the boys' team who guessed correctly the personality the girls had been acting in 'Guess What We Are' and he was pleased at having been the one to guess this. He was excitable during the game but apart from jumping up and down a lot and needing to be reminded to sit down properly, he participated well in this first session."

Session 2 (17.12.01): "This session was held in Class 9 and there was plenty of space for the role-plays and more active games. Boy B was absent and Child G became quite excitable at times. At one stage in the game of 'Do This... Do That' he became very fidgety and kept screwing up his face when he was finding it difficult to think of which actions to perform. Yet he coped well with the three role-plays in which he took part. He also coped well in a game of 'Mime an Interest,' where he mimed an interest of his own and that of each of the other children and did well in the game of 'Guess What We Are,' where he, Boy C and Girl D were pretending to be bulls.

Child G was able to tell some jokes when asked to do so, although his intonation made it rather difficult to understand them at first and he was able to answer some of the questions with suitable answers. He seemed to enjoy the session and on this occasion some photos were taken for a social story to encourage him to stay calm rather than becoming over-excited."

Session 3 (8.1.02): "Although Child G was not warned about the session in advance, he was keen to take part in all of the games that were played. On this occasion he was the one who selected the card for 'Guess My Mime' and after looking out of the classroom window for inspiration, he decided to mime being a builder. He did this mime well, even though the other children guessed what he was straight after he had finished it. On his next game where he was in the limelight, he led the children in 'Simon Says' but chose to change the name. He was very energetic in his actions and the other children joined in as best they could but he made it predictable by alternating between actions they should copy and those they should not.

In some of the other games Child G was rather eccentric but the children supporting him were very tolerant. This was particularly noticeable in 'Mime an Interest,' where he mimed some actions for a Pokemon character and each time he pointed out that other children had not done this correctly so that he was able to have another chance to show off his 'bestest' mime. The others accepted that he was the expert, even though they were slightly irritated by his criticism. He was also critical of a role-play that four of the other children acted out and was the only one not to agree that they had made a good effort by pointing out that Boy B had said 'no' instead of 'yes.'

During the session he made a lot of facial grimaces and seemed to be quite excitable. He had brought along an unusual piece of written work about some kind of science fiction and was proud to read this to me. He had also done some names of characters on the

computer during the lunch hour and during the session he announced that he enjoyed ‘doing research’ into these characters.”

Session 4 (15.1.02): “On this occasion Child G brought along one of his dinosaur toys (‘Stiggy’) to comfort him and he held on to this throughout the session until the very last activity which was a role-play. He even held ‘Stiggy’ when playing the game of ‘Pass the Block’ in spite of this making it more difficult for him to pass the ball and on several occasions he put the toy close to his ear as if pretending that it was talking to him as well as saying things to the toy.

Boy C was absent for this session and there were more listening games than in previous sessions. One of these was ‘Picnic,’ where Child G chose a letter of the alphabet for items named for the picnic which allowed the others to attend the picnic and where they thought it was ‘d’ for ‘dinosaur’ when in fact it was “sweets.” Another challenge occurred in the game of ‘Twenty Questions,’ where Boy B chose the word ‘railings’ and the others had a difficult job working out what this could be. Although Child G appeared to be paying attention to his toy dinosaur rather than to what was going on in the games, he was able to remember what was said and participated in all of them.

In the role-play Child G showed off his knowledge of Spanish with one or two recognisable words as well as some very unusual sounds that did not seem to be at all Spanish! He seemed to enjoy the attention from the others when he used his so-called Spanish and was happy to join in. The others in the group were very tolerant of his eccentric behaviour.”

Session 5 (23.1.02): “ This time Child G was the only boy as both Boy B and C were absent but he did not seem to mind at all. He brought a Pokemon book and he used this both as a prop in a role-play about a damaged book and also to check on Pokemon characters for a possible mime for the game of ‘Mime an Interest.’ This mime was very dramatic as he claimed that the character he had chosen had to crawl around and then eat some grass but the girls were very tolerant and acted this out without complaining. Child G was also able to watch their mimes and to copy them accurately.

Child G showed off his ability to count in Spanish in the game of ‘Not This Number’ where the group had to count in twos and leave out every other number as they counted to 50. He also joined in the game of ‘Queenie’ successfully by managing to look guilty even if he did not have the ball. In the game of ‘Follow the Leader’ he was happy both to initiate and to copy the actions but he had more difficulty in the game of ‘Simon Says’ because he wanted to change the name to a Pokemon character instead and kept alternating his actions in a predictable way rather than managing to catch the others out. He enjoyed playing the part of a teacher in a role-play and managed this well. It seemed that in this session Child G joined in well and that he was also less fidgety and made fewer facial grimaces. This could have been because his turn came round quicker as there were fewer players and also because the others were supportive and tolerant.”

Session 6 (29.1.02): “ This session was held in the staff room and on this occasion Child G did not bring anything with him. Child G made a lot of roaring noises when giving answers as his version of ‘yes’ and ‘no’ and also spoke in a growling voice for some of his other answers but the other children were very tolerant and did not comment. He joined in all of the games with enthusiasm but in one of the role-plays, where he was playing the role of a teacher who was telling off a child for making a noise in class, he became sidetracked from his role and he kept saying, ‘Is it true or false?’ One of the other children mentioned, ‘Please don’t put my name on the board,’ and he then went

back into role and pretended to do this. He also remembered that a teacher could put children in detention so he ended the role-play by doing this.

Child G did particularly well in the game of 'Queenie' by looking very guilty even when he did not have the ball. Then in the game of 'I packed my bag and took...' he was able to remember all the items accurately, listening well and also offering to mime clues and to prompt the others when they had forgotten the items. His response in both of these games has improved significantly since the first session and he is also calling out less and is less excitable generally, even though he still fidgets and is much more restless than the others."

Session 7 (5.3.02): " This was the final session with a small 'party' and with the child who reached the 'Finish' (i.e. Boy C) having the choice of three favourite games. The children completed a short questionnaire listing their favourite games and they were able to have a drink and snack items as a thank-you for their participation. Child G was the only child not to eat anything but he did have a drink.

This time he was very excitable but keen to join in and in the game 'Mime an Interest' he went back to pretending to be a dinosaur. He did well in the game of 'Picnic' as he was the first child to realise that Boy B was not thinking of play station items but of food items for this and was pleased that his answer of 'sausages' was accepted. However, he got stuck on the ideas of sausages and his next suggestion was 'sausage casserole.' Later he also became stuck with jokes about 'the chicken crossing the road' when trying to make some of the other children laugh after being praised for his first effort. He was crafty in the game of 'Queenie' because he worked out that he could see who caught the ball by looking at the reflection in the glass of the door and could guess correctly the first time. He was then disappointed and had several wrong guesses when the game was moved away from the door. He was also crafty in the game of 'Killer Wink' because when he was chosen to be the 'killer,' he did not wink at all, causing confusion particularly for the child trying to guess who the killer was but this may have been because he was unable to wink. Child G joined in these sessions well considering the extent of his difficulties and the other children in the group were very supportive."

CASE STUDY INDIVIDUAL SUMMARY DATA.

Reference Letter: A

Age at start of sessions: 6y 11m

Age when diagnosis given: 6y 1m

Diagnosis given by: Clinical Psychologist

Which criteria met for Asperger's Syndrome: ICD-10

Main features of Asperger's Syndrome:

- In world of his own
- Poor eye contact
- Likes routine
- Sensitive to clothes
- No peer friendships (-views toy cats and mice as friends)
- Clumsy
- Obsession with toy cats and mice, disco lights and propellers
- Poor pencil control (left-handed)
- Very honest

Most recent IQ test and scores:

At 6y 3m on WPPSI-R (UK): Verbal IQ: 83 Performance IQ: 76

Full-Scale IQ: 77

Main parental concerns:

- Hurting others on playground
- Unaware how to play properly
- Having no friends
- Being called "stupid," "dork," "weird" and then hitting name-callers
- Hurting his mother and sister

Main school concerns:

- On the playground being rough and hurting others but not realising this
- Unable to understand how he has upset others
- Reluctant to follow rules
- Unable to share with others

Pre-intervention observation: Running around with another boy and hitting out at other children

Level of interaction: One child: 90% Adult: 10%

Quality of interaction: Negative physical interaction: 90% No interaction: 10%

Responses in informal observation during intervention:

- No real facial expressiveness: staring and then looking away
- Only asked questions to gain information of interest to himself
- Interrupted those speaking and pushing in front of adult to gain attention
- More interested in toy mice and mechanical items than in other children

Child A (continued):

Responses noted during intervention:

- Enjoyed "Octopus" because he was good at dodging and avoiding being caught
- Interested in inanimate objects and not in other children
- Gradually became more gentle with use of Social Story and not having his friend in the group

Post-intervention observation: Mainly wandering around on his own and occasionally grabbing branches of trees. Only one attack on another boy where he grabbed his arm.

Level of interaction: Alone: 80% With one child: 10% On periphery of group: 10%

Quality of interaction: No interaction: 80% Positive verbal interaction: 10% Negative physical interaction: 10%

Social Skills rating before intervention: School: 65 Parent: 33

Social Skills rating after intervention: School: 51 Parent: 35

Social Story theme: "Playing Gently"
(with reference to game of "Stuck-in-the Mud")

Number of sessions held: 10 **Duration of sessions:** 40 min.

Improvements noticed following intervention:

- More gentle
- No longer hurting others on playground
- No longer hurting his mother and sister at home

CASE STUDY SUMMARY DATA FOR CHILD B.

Reference Letter: B

Age at start of sessions: 9y 11m

Age when diagnosis given: 6y 11m

Diagnosis given by: Child Psychiatrist

Which criteria met for Asperger's Syndrome: ICD-10

Main features of Asperger's Syndrome:

- Loud voice and with hardly any variation according to circumstances
- Lack of facial expression
- No real friends
- Obsession with trains and with the weather
- Some rituals
- Poor co-ordination

Most recent IQ test and scores:

At 6 y 6m on WPPSI-R (UK): Verbal IQ: 81 Performance IQ: 91

Full-Scale IQ: 84

Main parental concerns:

- Thinks that others know what he is thinking
- Unable to read
- Unable to tell the time
- Poor word-finding skills, especially when confused
- Very trusting and could be led into trouble by others
- Having no friends

Main school concerns:

- Lack of confidence
- Poor listening skills
- Poor concentration

Pre-intervention observation:

Level of interaction: With one child: 30% On periphery of group: 70%

Quality of interaction: Positive physical interaction: 70%

Negative verbal interaction: 20% Negative physical interaction: 10%

Responses in informal observation during original intervention:

- Fleeting use of eye contact and looking away
- Lack of confidence and stuttering slightly when asking questions
- Interrupts others and can be impatient rather than listening
- No interest in what others are sayings, "switching off" or fidgeting

Responses noted during original intervention:

- Very upset when caught or "out" (as if feeling a failure)
- Sometimes sulking if upset
- Anxious and lacking in confidence

Child B (continued):

Main behaviours noted in post-intervention observation:

Level of interaction: Alone: 50% With adult: 20% With one child: 30%

Quality of interaction: Positive verbal interaction: 50% No interaction: 50%

Social Skills rating before intervention: School: 34 Parent: 37

Social Skills rating after intervention: School: 53 Parent: 57

Social Story theme:

“Playtimes and Lunchtimes”: Accepting that playground games involve being caught and being “out”

Number of sessions held: 8 **Duration of sessions:** 50 min.

Improvements noticed following original intervention:

- Improved use of eye contact
- Improved understanding of others

Responses noted during follow-up intervention:

- Improved ability to join in with the other children, especially with mimes
- Improved ability to answer questions asked by others

Post-follow-up observation:

Level of interaction: Adult: 10% With one child: 30% On periphery of group: 40%

At centre of group: 20%

Quality of interaction: Positive verbal interaction: 20% Positive physical interaction: 40% No interaction: 20% Negative physical interaction: 20%

Social Skills after follow-up intervention: School: 44 Parent: 47

Follow-up Social Story theme: “Getting on Well With Other Children”: Listening to what others are saying

Number of follow-up sessions held: 12 **Duration of sessions:** 50 min.

Improvements noticed following follow-up intervention:

- Had his own friend to spend time with on the playground
- Co-operating more with his peers

CASE STUDY INDIVIDUAL SUMMARY DATA.

Reference Letter: C

Age at start of sessions: 8y 2m

Age when diagnosis given: 6y 6m Diagnosis given by: Clinical Psychologist

Which criteria met for Asperger's Syndrome: ICD-10

Main features of Asperger's Syndrome:

- Weak fine and gross motor skills
- Wants to control others
- Poor understanding of emotions and how others feel
- Has "rules" and gets upset if unable to follow these
- Obsessive interest in computer games and how computers work
- Lack of imaginative play

Most recent IQ test and scores:

At 6y 3m on WPPSI-R (UK): Verbal IQ: 128 Performance IQ: 106
Full-Scale IQ: 122

Main parental concerns:

- Wanting to be in control and being inflexible
- In role-plays he takes a dominant or superior role
- Can be over-physical in his play and hurts others
- Becomes very angry when he does not get his own way
- Cannot be reasoned with and will not change his opinion once formed
- Gives up if things seem too difficult
- Unhappy about being different from others

Main school concerns:

- Dominating others and bossing them about
- Being anxious about changes of routine
- Panicking sometimes
- Not being able to express how he feels

Pre-intervention observation: Using a "Game Boy" with a small group of boys

Level of interaction: Alone: 10% With adult: 10% With one other child: 30%
On periphery of group: 50%

Quality of interaction: Positive verbal interaction: 80%
Positive physical interaction: 10% No interaction: 10%

Responses in informal observation during original intervention:

- Stared at person he was speaking to with an intense look
- Asked questions to obtain answers he was interested in and sometimes as a kind of challenge
- Keen to point out mistakes of others and to suggest how they should be doing things

Child C (continued):

Responses noted during original intervention:

- Liked to check the rules and to be told what would be happening
- Gradually became less bossy
- Poor listening skills and no real interest in what others were saying
- Keen to tell others what they were doing wrong

Post-intervention observation:

Playing with hand-held computer game watched by other boys

Level of interaction: On periphery of group of children: 30%

In centre of group of children: 70%

Quality of interaction: Positive verbal interaction: 70%

Positive physical interaction: 30%

Social Skills rating before intervention: School: 71 Parent: 78

Social Skills rating after intervention: School: 59 Parent: 86

Social Story theme: "Playing Games with Other Children:" Accepting that other children should not be bossed about but should enjoy the games they play

Number of sessions held: 7 Duration of sessions: 40 min.

Improvements noted following original intervention:

- Became slightly less bossy

Responses noted during follow-up intervention:

- More willing to co-operate without telling others what to do
- Willing to have more variety of roles in role-plays (e.g. naughty child)

Post-follow-up observation:

Playing with his own Game Boy and talking to other children

Level of interaction: Alone: 20%; With one other child: 30%

On periphery of group of children: 10%

In centre of group of children: 40%

Quality of interaction: Positive verbal interaction 80 %

No interaction: 20%

Social Skills after follow-up intervention: School: 95 Parent: 69

Follow-up Social Story Theme: “Sharing ideas”: allowing others to express their own views and listening to what they wish to say

Number of follow-up sessions held: 6 Duration of sessions: 50 min.

Improvements noted following follow-up intervention:

- Listening more willingly to what others are saying
- Less dominant and bossy

CASE STUDY INDIVIDUAL SUMMARY DATA.

Reference Letter: D

Age at start of sessions: 7y 10m

Age when diagnosis given: 5 years 1 month Diagnosis given by: Southampton General Hospital

Which criteria met for Asperger's Syndrome: ICD-10

Main features of Asperger's Syndrome:

- Needed to be taught to use eye contact
- Lack of social and emotional reciprocity
- Lack of understanding of other people's emotions
- Delayed speech and language and impaired understanding
- Lack of imaginative play
- Obsessional interest with cars and wheels (-used to line cars up)
- Rocks, bounces and hums
- Dislikes changes and gets easily distressed if they occur

Most recent IQ test and scores:

At 5 years 9 months on WPPSI-R at Southampton General Hospital:

Verbal IQ: 64 Performance IQ: 84
Full-Scale IQ: 72

Main parental concerns:

- Does not understand how to keep friends and tends to want to control them
- Poor awareness of unhappiness and other emotions in others and how he may have contributed to them
- Loud in games and no awareness of volume control
- Pica when stressed (e.g. metal, stones, wing-nuts)

Main school concerns:

- Unable to engage in two-way conversation
- Lacks concern for others and awareness of their feelings
- Unable to take turns
- Pica (e.g. acorns)

Pre-intervention observation: Mainly walking or running around on his own, waving arms in air sometimes as he ran. Also ran with two girls at one stage.

Level of interaction: Alone: 80% In centre of group: 20%

Quality of interaction: Positive physical interaction: 20% No interaction: 80%

Child D (continued):

Responses in informal observation during intervention:

- Gave fleeting eye contact and then looked away (often with eyes downward or body turning away)
- No real volume awareness and tended to make statements rather than asking questions (e.g. "Games are finished," "Go back in now")
- Poor understanding of when his own turn was over and when others had finished their turn as well as not realising when he had been caught
- Only able to tolerate about 2 minutes in a particular game before moving away from the other players

Responses noted during intervention:

- Became more aware of what being "out" meant
- Watched the other players more closely as he became more familiar with the games
- Became better able to tolerate the other players and gradually he spent up to 5 minutes in a particular game before moving away

Main behaviours noted in post-intervention observation:

Ran around the playground on his own in a clockwise direction, making a "rrrh"-sound and stopping occasionally and staring around then walking slowly.

Level of interaction: Alone: 80% With adult: 10% With one child: 10%

Quality of interaction: No interaction: 80% Positive verbal interaction: 20%

Social Skills rating before intervention: School: 63 Parent: 47

Social Skills rating after intervention: School: 66 Parent: 69

Social Story theme: Playing games according to illustrated rules

Number of sessions held: 12 **Duration of sessions:** 30 min.

Improvements noted following intervention:

- Able to stay in a game for up to 5 minutes without moving away from other players
- More willing to take turns with others

CASE STUDY INDIVIDUAL SUMMARY DATA.

Reference Letter: E

Age at start of sessions: 9y 4m

Age when diagnosis given: 6y 4m Diagnosis given by: Southampton General Hospital

Which criteria met for Asperger's Syndrome: ICD-10

Main features of Asperger's Syndrome:

- No real interest in other children but sometimes joined in chasing games
- Slow development of speech and poor reciprocal use of speech
- Tends to take what is said literally
- Poor awareness of the feelings of others and of social rules
- Obsessive interests (e.g. cars, Action Man, dinosaurs)
- Short concentration span unless interested

Most recent IQ test and scores:

At 6y 2m on WISC-R: Verbal IQ: 88 – 102 Performance IQ: 91 – 109
Full-scale IQ: 92

Main parental concerns:

- No awareness of danger and very high pain threshold
- Very naïve and trusting of others (i.e. also of strangers)
- Unable to explain why he is angry or upset so it is difficult to help him
- No awareness of the concept of time

Main school concerns:

- Unwilling to listen to what others are saying
- Wants adult to say “yes” to what he wants to do (and looks for one to agree with him if another adult says “no”)
- Becomes angry and hits out if “caught” in games
- Puts things from the playground in his pocket

Pre-intervention observation: Was running around and occasionally went over to a boy and making screaming sounds. He also grabbed this boy by the neck and kicked him.

Level of interaction: Alone: 60% With one child: 60%

Quality of interaction: No interaction: 60% Negative verbal interaction: 20%

Negative physical interaction: 10%

Informal observation during intervention:

- Stared at a person's face without real eye contact and then looked away
- Asked questions for his own purposes
- Did not listen to answers given by others but wanted to be listened to when he gave answers
- No real interest in what others were doing or saying

Child E (continued):

Responses noted during intervention:

- Tendency to sulk if he did not get his own way or was “out”
- Restless and fidgety
- Poor listening skills

Main behaviours noted in post-intervention observation:

Playing with another child in a Star Wars game with “pretend” laser guns.

Level of interaction: Alone: 10% With one child: 90%

Quality of interaction: No interaction: 10% Positive verbal interaction: 10%

Positive physical interaction: 60% Negative physical interaction: 20%

Social Skills rating before intervention: School: 36 Parent: 57

Social Skills rating after intervention: School: 48 Parent: 55

Social Story theme: “Listening to Others”: Waiting till others have finished speaking before starting to speak again

Number of sessions held: 7 **Duration of sessions:** 40 min.

Improvements noticed following intervention:

- Interacting in a more positive way with his peers
- Less likely to interrupt others (although still not always listening to what they are saying)
- Had formed a friendship with another boy and was playing with him each playtime

CASE STUDY INDIVIDUAL SUMMARY DATA.

Reference Letter: F

Age at start of study: 6y 3m

Age when diagnosis given: 5y 7m Diagnosis given by: Southampton General Hospital

Which criteria met for Asperger's Syndrome: ICD-10

Main features of Asperger's Syndrome:

- Tendency to be a loner and not to interact with peers
- Engaging in parallel play
- Difficulty in sharing
- Delayed speech and language skills and no reciprocal conversation
- Limited imaginative play
- Obsessive interests
- Poor at handling change and moving to another place

Most recent IQ test and scores:

At 4y 6m on WPPSI-R (UK): Only managed to complete 5 tasks and showed poor understanding of what he was required to do:

Information: 2; Arithmetic: 4; Object Assembly: 3; Animal Pegs: 8; Sentences: 7

Main parental concerns:

- Still insists on sleeping in his mothers' bed
- Has tantrums at home when told off
- Runs water in the sink, basin and bath if left unsupervised
- Unable to share with others and to take turns
- Says exactly what he thinks about people and lacks tact
- No sense of danger (e.g. of traffic) and has a tendency to run off

Main school concerns:

- Unable to express how he feels
- Usually makes statements rather than asking questions
- Does not usually start a conversation

Main behaviours noted in pre-intervention observation:

Spent most of the time with an adult but appeared to want to interact with other children as he went over to some children several times.

Level of interaction: Alone: 20% With adult: 50% On periphery of group: 30%

Quality of interaction: Positive verbal interaction: 40%

Positive physical interaction: 10% No interaction: 50%

Child F (continued):

Responses in informal observation during intervention:

- Gave a short glance rather than sustained eye contact
- Unable to ask appropriate questions in game situation (e.g. asked a girl about her Dad)
- Talked while instructions for games were given and then copied other children as he was unsure about how to play them
- Poor listening skills and put fingers in his ears when stressed

Responses noted during intervention:

- Some hand-flapping and putting fingers in ears when distressed
- Needed modelling of how to play the games as he did not listen or understand the verbal instructions
- Appeared confused and unhappy at times

Social Skills rating before intervention: School: 46 Parent: 52

Social Story theme: Joining in games with his peers

Number of sessions held: 2 **Duration of sessions:** 45min.

Intervention had to stop due to distress caused to Child F so no follow-up data collected.

CASE STUDY INDIVIDUAL SUMMARY DATA.

Reference Letter: G Age at start of sessions: 10y 4m

Age when diagnosis given: 8y 3m Diagnosis given by: Clinical psychologist

Which criteria met for Asperger's Syndrome: ICD-10

Main features of Asperger's Syndrome:

- Obsession with dinosaurs (-was previously with trains)
- Abnormal eye gaze (looking past people or at an object)
- Prefers to be on his own
- One-sided conversation in loud and monotonous voice
- Prefers to do things in own way and to remain in control
- Lack of imaginative play
- Has tantrums if he does not get his own way
- Left-handed and forms handwriting awkwardly

Most recent IQ test and scores:

At 8y 9m on WISC-III (UK): Verbal IQ: 93 Performance IQ: 105
Full-Scale IQ: 99

Main parental concerns:

- Temper outbursts
- Constantly on the go
- Sometimes bangs his head or pinches himself if tense
- Can refuse to eat if others are eating something that he does not like
- Poor understanding of emotions shown by others
- Taking a strong disliking to someone and refusing to change his view of them
- Nightmares at night

Main school concerns:

- Becomes upset if he does not win a game
- Poor tolerance of sitting with others if changes have occurred
- Pulling strange faces and constantly moving his hands
- Prefers being inside on the computer than outside on playground
- Pinches girls' bottoms but does not accept that this is inappropriate

Pre-intervention observation:

Pulled the sleeves of his sweatshirt over his hands and walked up and down on the "Snakes and Ladders" grid

Level of interaction: Alone: 90% With one child: 10%

Quality of interaction: No interaction: 90% Negative physical interaction: 10%

Responses in informal observation during intervention:

- Very intense staring past others and sometimes shutting eyes and screwing up his face
- Unusual use of intonation for questions
- When impatient, making loud comments and jumping up and down
- Only watched others with interest when they were copying his mime

Child G (continued):

Responses noted during intervention:

- Enjoyed being centre of attention and performing his own mimes
- Made facial grimaces and body movements as if very stressed

Main behaviours noted in post-intervention observation:

Was refusing to go outside on the playground so he was observed indoors on a computer game with another boy.

Level of interaction: With one child: 100%

Quality of interaction: Positive verbal interaction: 60%

Positive physical interaction: 30% Negative verbal interaction: 10%

Social Skills rating before intervention: School: 53 Parent: 41

Social Skills rating after intervention: School: 43 Parent: 41

Social Story theme: "Staying Calm": How to reduce his levels of stress and excitability by taking slow, deep breaths

Number of sessions held: 7 **Duration of sessions:** 60 min.

Improvements noticed following intervention:

No real improvement occurred due to a phobia of bees which developed unexpectedly. He was refusing to go outside onto the playground in case a bee came after him, whereas before the intervention he had been going out for some of the lunchtime and then having the computer as his reward.