

**Title of Paper: Social Interaction and Understanding in Autism
Supporting success in mainstream education for pupils with autistic spectrum
disorders.**

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Abstract: NZARE 2003
Auckland

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The paper draws from a two-year research study with forty-six children and young people on the autistic spectrum, ranging in age from six to 16 years. All were involved in mainstream services, many having a diagnosis of Asperger Syndrome. Of this initial sample, 38 sustained attendance at one of six weekly groups established for developing social interaction and understanding through a programme specially designed for the study. Each of the groups lasted for approximately 16 weeks.

Methods included a variety of standardised measures within an assessment framework, observation and record keeping of group sessions, individual parent ratings and follow-up interviews. Pre-post test evaluation has pointed to highly successful outcomes in terms of statistical analysis, but also in the sense that in many cases they have been personally meaningful and important. Significant effect sizes were obtained for social skills and social competence in comparison with a normative population, and the individual parent ratings showed marked changes in the skills which the groups had targeted.

The paper focuses on the importance of group identity and shared responsibility, the difficulties of sharing interests and planning for them, the capacity of groupwork to support the development of effective social interaction and understanding, and the challenge of generalisation into everyday life.

The results of this study suggest that it has not only made a contribution to the evidence base but that it has also contributed to the quality of life of the children and young people who took part in it, and of their families.

Key words: autism, social interaction & understanding, groupwork.

Authors' note: in the interests of confidentiality any names used are pseudonyms.

Social Interaction and Understanding in Individuals on the Autistic Spectrum (ASD)

The study on which this paper is based was undertaken in the West of Scotland between April 2000 and April 2002. The paper draws from a two-year research study with forty-six children and young people on the autistic spectrum, ranging in age from six to 16 years. All were involved in mainstream services, many having a diagnosis of Asperger Syndrome (American Psychiatric Association, 1994). Of this initial sample, 38 sustained attendance at one of six weekly groups established for developing social interaction and understanding through a programme specially designed for the study. Each of the groups lasted for approximately 16 weeks.

The policy context of the study

Education legislation for Scotland has always been differentiated from that of the United Kingdom as a whole, and indeed Education Acts passed at Westminster were usually thereafter put through a Scottish reading and emerged as an Education Act (Scotland) with the relevant date, and with differences that took account of the Scottish education system. Scotland currently has a population of just under 5 million. Since 2000 Scotland has had its own Parliament, and now changes in educational legislation are enacted through the Scottish Parliament alone, rather than as second readings at Westminster. Relationships, throughout the UK, between policies and legislation are strong, but so is the move to develop policy that is distinctive.

In the context of special needs education, a national focus on social inclusion for all, and of Human Rights legislation emanating originally from Europe led to the first Education Act (2000) passed in the Scottish Parliament producing a significant change for the education of pupils with special educational, or now additional support, needs. The Act stated that there should be a presumption of mainstream education for all.

This was not a new concept. The Warnock Commission had recommended in 1978 that integration of children with special needs should be an ambition for the education system, and this was followed by legislation on parental choice of schooling and significant changes in the recording procedures for children with designated needs (Education Act 1980). Nevertheless, for the first time there was to be a duty for Scottish Local Authorities to ensure not only that all children reached their fullest potential, but that this was to take place in mainstream education, unless a strong case could be made to the contrary.

Whilst a number of Local Authorities had been moving gradually towards more integration of children with special needs, this often occurred through the provision of special needs bases or units attached to mainstream schools, and whilst this gave a locational integration, it did not necessarily lead to social or academic integration in mainstream classes and school activities. Consequently a number of initiatives were underway to support pupils with different educational needs to be able to take advantage

of mainstream school. There remained children and young people who did not readily access the mainstream system, or whose presence in the system might be considered to be too disruptive to the education of the majority of pupils.

One such group were children and young people with a diagnosis of autistic spectrum disorder. A relatively recently recognised group, considerable efforts had been made to access mainstream education for these pupils. Parents were quite strongly divided in their views of whether this was in the best interests of their child (NAS, 2002), and many felt that until educators were more knowledgeable about autism itself they were unlikely to be able to accommodate pupils with ASD successfully. In a country whose postgraduate teacher education for special needs is predicated on a generic approach which emphasises labelling as a negative, it was difficult for teachers to access autism specific information. Without autism specific knowledge to bring to an understanding of additional support needs, successful mainstream educational inclusion for individuals with ASD is unlikely to become a reality. Added to the challenge to teachers, the individual with ASD may find it a challenge to have his/her education in mainstream (Evans, 2002).

Aims of the study

Thus it was in a climate of inclusion, and of the need for the development of training for autism practitioners, that five aims were identified for the study. This paper focuses on the first two aims which were:

- To set up and develop an intervention programme.
- To enhance social interaction and understanding in groups of children and young people with autistic spectrum disorders (ASD).

Skills in social interaction continue to be seen as an important ingredient of school success for pupils on the autistic spectrum, this is reinforced in policy terms in a recent government report on costs of mainstreaming (Audit Scotland, 2003).

A description

The values upon which the design of the intervention programme were based recognised that it is all too easy to approach autism in terms of disorder and deficit. All of the children and young people in this study attended mainstream school for all or part of their week. In a climate of inclusive practice, and based on the first-hand contact with the children and young people in the project, the project teams developed a commitment to building on the aptitudes, skills and interests of the group members in order to address recognised difficulties. However, to take this approach it is essential to have an understanding of the challenges autism poses for successful social interaction, communication and understanding. Affective, cognitive and motivational aspects of social interaction and understanding are all essential ingredients of successful interpersonal contacts (Dunlop, Knott & MacKay, 2002).

The two teams of project workers were composed of professionals from a variety of backgrounds including teaching, psychology, speech and language therapy and nursing. Several students from a post-graduate autism programme also volunteered their help. This professional mix brought with it a variety of skills and approaches all of which contributed to the development of the group programmes. Given that one of the aims of the groups was to foster the generalisation of skills, an aspect which had eluded success in other autism specific studies reported (Howlin, 1998; McGee, Krantz & McClannahan, 1984; Rogers, 2000) it was recognised as important that no particular professional discipline should dominate. A first step towards the generalisation of participants' existing skills was to support their inclusion in a different kind of group: as a result it was planned that the groups would meet outside of the school day, thus avoiding the youngsters involved feeling as if they were in school lessons or therapy sessions.

Assessment, evaluation and outcomes of the study

For the purposes of evaluation of the project an assessment framework was designed, using a variety of formal measures, individual parent ratings and follow-up interviews. All of these measures indicated that significant improvements had taken place over the period of the intervention, and that these were not the result of factors such as increased age and developmental level. Significant gains were obtained for social skills and social competence in comparison with a normative population, and the individual parent ratings elicited at the end of the study showed important changes in the skills which the groups had targeted (MacKay, Dunlop & Knott, 2003).

What is it about ASD that makes inclusion in mainstream services a challenge?

Individuals with ASD show a range of abilities (Bryson, 1996; Gilchrist, Green, Cox, Burton, Rutter & Le Couteur, 2001; Fombonne, 1999; Hyman, Rodier & Davidson, 2001; Wing, 1996). Those currently included in mainstream education generally have the academic skills to cope with the curriculum, and may have been included on that basis. To overlook the very real difficulties that nevertheless such pupils may have in terms of their day-to-day ability to cope with the social demands of a typical school environment, is to underestimate the challenges of successful mainstreaming, and indeed to dismiss the kinds of stresses that youngsters with ASD may experience (Clements & Zarkowska, 2000).

Pupils with ASD who are included in mainstream services report being subject to isolation, bullying and lack of friends (Little, 2001; Koning & Magill Evans, 2001). Their primary deficit in social interaction skills make for difficulties throughout life. When mainstream peers perceive the individual with autism as different or odd their difficulties are compounded by the social responses of others. Such difficulties continue into adulthood, with many individuals with ASDs remaining dependent on family support, having difficulties in holding down jobs (Howlin 2000), and being vulnerable to depression and other mood disorders (Attwood, 2000).

Research into autism highlights clear evidence of the difficulties young people with autism have in recognising and understanding emotions both in themselves and others (Hillier & Allinson, 2002). Interventions often concentrate on basic emotions such as happy, angry, sad, but less on more complex emotions such as sympathy, embarrassment or anxiety: the capacity for an individual with ASD to understand the mental states of others is well documented, and recognition of complex emotions relates to understanding one's own and others' beliefs, thoughts and intentions (Baron-Cohen, 1991; Hobson, 1986). However such understandings are necessary for successful inclusion in the social world of the peer group and school.

It is recognised that children and young people with ASD who are included in mainstream education may put themselves under considerable pressure to cope. For some of the participants in the project this resulted in letting off steam by being difficult at home, for others the stresses showed at school, but were not often articulated verbally, and for one boy, the pressures he felt led directly to what teachers uniformed about ASD read as intentional anti-social behaviour and resulted in frequent exclusion from school.

Key features of group work.

In this section four key features of groupwork are addressed by drawing on the literature and through the use of examples from the project reported.

The capacity of groupwork to support the development of effective social interaction and understanding

If being part of a social group is challenging to individuals with ASD it would be tempting to speculate as to how group work could possibly be advantageous. A range of interventions have been used with individuals with ASD (Rogers 2000): these include circles of friends, social storying, one-on-one intervention and peer mediated play where individuals with ASD are supported by typically developing peers. Cognitive approaches which encourage thinking skills, reflection and the development of understanding about when and how to apply skills learned are becoming more common, and can be promoted through groupwork. Strain (2001) reminds us that the range of skills to be taught could be infinite, and that generalising such learned skills remains difficult. The experience of the Social Interaction and Understanding Project (Dunlop, Knott and MacKay, 2002), suggests that the teaching of such splinter skills is unhelpful in terms of generalisation, whereas skills and understanding developed and practised in meaningful everyday contexts can be positively helpful. For example, a number of children in one of the groups had been involved in social skills teaching at school: they were quick to suggest rules that would be helpful for the running of the group such as 'no interrupting', and 'taking turns', but found these difficult to apply in the context of an unfamiliar group.

The importance of group identity and shared responsibility

Within the general population, working collaboratively together on shared tasks is known to have advantages for pupil learning (Foot, Howe, Anderson, Tolmie & Warden, 1994).

Social learning theory supports the importance of social interaction and of the bridging effect that working alongside more able others offers (Reiber & Carton, 1987). Typically groups form naturally between people who identify with each other, including through shared interests. Given that one of the difficulties in autism is the capacity to relate to others, and to reciprocate in social interaction, participation in groups usually only happens through the support of family members or educators.

Characteristics of successful groups in the project reported include shared responsibility for the running of the group, and for decisions about what would happen when the group met. The roles taken on by any individual in the group help to form self-perceptions and may be a source of self-esteem. If social groupings are going to work for people with autism, such identification with the group needs to be developed. Being involved in naming the group, deciding the hours of meetings, having choice in which activities will be included in the programme, finding out information that will support a group venture, preparing an activity such as a quiz in which others can participate and practising skills in the company of others towards a shared purpose, for example, going on an outing, were all found to encourage motivation and investment in the success of the group.

Each of these elements of group participation are demanding, and need to be worked towards during group meetings. When a group of people gather there are numbers of tasks to be undertaken: expectations are powerful. It was found that younger children liked setting out games, putting the snack out and arranging the visual timetable, whilst older participants quickly discarded the prepared programme in favour of arriving first at the group in order to determine the programme by writing it up on the whiteboard. Each of these involvements had to be negotiated with others: attempts to encourage reflection through discussion and feedback made at least some progress with each participant.

The difficulties of, and successes in, sharing interests

As already observed, successful groups very often form around shared interests, but what if the eight group members each have entirely separate, distinctive and fixed interests? It is possible that they may also state quite categorically that another's interest is "rubbish" or worse! A feature of the social interaction and understanding groups was to find a suitable context which allowed, or even demanded social interchange, whilst encompassing the disparate interests represented in the groups.

With younger children puppet making, book making, preparing a talk about a favourite activity or subject all provided such contexts, whilst older participants responded quickly to developing a quiz, and the team was able to move this on from purely factually based material, to what was dubbed 'Knowledge Millionaire', 'Social Millionaire' and even 'Double Millionaire' following interest in a popular TV quiz programme (Knott and Dunlop, 2003): the second two of which set up responses to social situations, in addition to the general knowledge required in the first.

Another approach which brought considerable pleasure involved equipping each participant with a disposable camera: the first challenge was to use the film to make a visual diary: a boy who was preoccupied with his lack of independence took desolate pictures of the windswept country paths near home, another filmed the contents of his bedroom including his collection of books and CDs, another snapped her cats, and the adult team also brought in their completed films. Over a number of meetings this led to discussion of personal experiences, digital editing of the scanned images, and ultimately preparation of an exhibition of the photographs, and the planning of a social event to show them.

The opportunity to foster new skills through groupwork

The group meetings each contributed to the development and extension of key skills. These were derived from the items parents identified for change through the “three things” approach, team observations, individual statements from participants, and reflection at the end of each session. Assessment protocols, for example the Spence (1995) and the Vineland (Sparrow, Balla & Cicchetti, 1994) were used to provide pre- and post-test data on the effects of the project (MacKay, Dunlop, & Knott, 2003). Additionally “three things” were identified by the parents as being priorities for intervention in the group sessions.

3 things	Item	Rating	Theme
Mike 1	<i>To learn how to initiate conversations and speak of things that would interest other people</i>	1	Conversations
Mike 2	<i>To learn how to finish conversations appropriately</i>	2	Conversations
Mike 3	<i>To improve his turn-taking skills</i>	2	Social understanding
Robbie1	<i>To help him to be able to respond to those who mispronounce his name (deliberately or otherwise) – he flies off the handle</i>	0	Emotional understanding & perspective taking
Robbie 2	<i>To help him initiate conversations of interest to other people</i>	0	Perspective taking, conversations & social understanding
Robbie 3	<i>To interact with people without losing his temper instantaneously if things don't suit him</i>	0	Emotional Understanding & PT, SU
Maxwell 1	<i>To be able to go into a shop (like Forbidden Planet) and ask appropriately for help</i>	0	Conversations & social understanding
Maxwell 2	<i>To increase eye contact with other children and adults, especially in less familiar situations</i>	0	Emotional understanding
Maxwell 3	<i>To be able to greet people appropriately, or chat with them on meeting them (eg Mum's friends, visitors)</i>	0	Conversation & Friendship

Table 1: Examples of the “Three things”

The main themes the teams for groupwork that the teams developed from these sources of information (Knott, MacKay and Dunlop, 2003) were: emotional understanding and perspective taking, conversation, and social understanding and friendship. Parents rated their child on a 10 point Lickert type rating scale (ratings are shown in table 1). Activities included structured activities focusing on skills development, games, role play scenarios, practical activities, observation skills, brainstorming and discussion, with an aim of social understanding developing on from the acquisition of skills. An example of each category follows.

Emotional understanding and perspective taking

Keith, Oskar and Kevin enthusiastically joined in acting out being three rowdy kids hanging out after school. The role play was to involve them in calling out to a passer-by and being deliberately unpleasant. This they did with flair, egged on by each other. Elaine had volunteered to be the passer-by, she walked past showing by her body posture that she was uncomfortable, but saying nothing: she acted out crossing to the other side of the street to avoid the boys. When discussing the role play all three boys had thought it good fun. Elaine said she had felt really uncomfortable. Since she knew these boys were actually her friends she said she had just pretended to feel scared. With adult support the discussion turned to considering how the others may have felt, and how each of the boys would really feel afterwards if they had done anything like that. Each of the boys reflected on their original reply and modified it, for example: Oskar said it made him feel strong, but he modified this view when he was encouraged to consider how the victim would have felt, saying ‘Well, it was really unkind ‘.

Conversation skills

Oskar moved on from a desperate concern to have more independence which often trapped him into pacing the floor in anxiety, unable to set aside his concerns about not being able to understand the bus timetable for long enough to join in conversation with others, to sharing with the group that he had gone out to photograph his local area and find out where the bus stop was. Armed with his photographs he initiated a conversation about the relevance of independent travel for him when he lived in the countryside. When it was suggested that he might like to practice several bus journeys with one of the volunteers, he was able to suggest that they check out where the bus stop was, select the correct route and use photographs as a reminder of what to do. Discussion of a real problem gave him confidence and allowed him to move on from thinking he had to master the mysteries of the printed timetable before he could begin to plan the journey. This success allowed him to show considerable interest in other peoples’ photos, to join in planning the exhibition, and to speak on video to describe the exhibition.

Friendship skills

Gordon is quite pedantic and frequently corrects the other children for their behaviour. He relates well to adults. In the first few sessions he avoided the other children as much as

possible. On the third week he joined in with a turn taking game and coped with making mistakes. Keen on old buildings he entered enthusiastically into planning the outing to Stirling Castle. Conversations about going together and having fun with friends were built into the discussions in the run up to the outing. One week he said 'I don't have any friends, and no-one is listening to me!' Gerry replied, 'But this is a friendship group so you do.' After further discussion Gordon agreed that he enjoyed the group, that he had chosen to join three of the others at Twister and had liked that, so that after all it was OK to name this group a friendship group.

The challenge of generalisation into everyday life.

Evidence drawn from social skills training suggests that whilst such work can be effective in the context of the situation in which the skills are developed, in the short term, the benefits are usually short lived, and there is little transfer into day-to-day experience (Spence, 2003). This is exacerbated in ASD, where learning is frequently context-bound, and the flexibility of thinking and capacity to read the social situation which allow an individual to employ strategies across social situations is often lacking.

One of the primary aims of the research project was to enhance the development of social interaction and understanding: this meant having ambitions to extend the learning beyond the confines of the group meetings. Outings, meals in restaurants, train and bus journeys, museum visits and bowling all provided the kinds of situations the group members aspired to being involved in: they planned these outings and twice the older and younger groups came together to help each other. In a more ordinary way, home practice also created the opportunity to teach the family a game or activity first experienced in the group, or to involve them in research of social responses, mood, humour and individual characteristics. In our view this family involvement and the emphasis on meaningful activities were crucial to the generalisation of the areas of emotional understanding and perspective taking, conversation, and social understanding and friendship which were promoted in all the group work.

A contribution to the evidence base

A number of strengths are reported in the outcomes from this study, though it should be noted that whilst 26 parents reported improvements which they attributed to the project, this was not deemed to be successful for all. However only in one case was a deterioration in social interaction and understanding reported (Dunlop, Knott and MacKay, 2002). The involvement of parents, the multi-method approach, and the avoidance of a formulaic approach in favour of an individually responsive approach were amongst the important organisational aspects of the study. Further the social understandings developed were used by participants to effect in day-to-day situations both during and well beyond the lifetime of the project, leading to parents stating the view, and giving examples of, improvement in the quality of life of the children and young people who took part, as well as for themselves and their families.

Supporting success in mainstream education

Whilst academic ability can help sustain personal confidence and bring respect from peers, in ASD it is unlikely in itself to guarantee successful social interaction with understanding (Garner and Hamilton, 2001). Understanding as well as skills therefore need to be a focus in group work with children and young people with ASD. Recognising and building on strengths (Szatmari, 1991) is important, and can foster self esteem and a sense of involvement and well being. Working in groups provides an opportunity to develop skills and understanding in meaningful contexts, particularly as the peer group proves to be facing similar challenges. Acceptance of each other sometimes has to be worked on, and the development of friendship is certainly not guaranteed, though it can occur. Spending time enjoyably together with others is in itself motivating, and is an embedded preparation for being able to participate in other sorts of groups.

In the present climate of social and educational inclusion the implications of such a project producing changes in social understanding need to be reflected in planning for pupils with ASD in mainstream services, including schools. Pupils with Asperger Syndrome may well be capable intellectually, but this project has shown that whilst change can be achieved, the nature of social difficulties is an enduring characteristic of ASD: therefore young people with ASD will continue to need help to participate successfully in their school life and in the wider community.

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