

**What's so Special about Special? Improving inclusion for  
children with Autism in mainstream schools.**

by

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## **Abstract**

This research seeks to compare reports of theory and intervention use that are prevalent in mainstream and special schools within a local authority (LA) and in out of county special schools used by the LA when supporting children with ASD. The objective is to make recommendations for further research and suggest how inclusion of children with ASD may be supported in mainstream schools. This is done in order to find ways for the LA to reduce expensive out of county and specialist school resources by improving the inclusion of children with ASD in LA mainstream schools. The study by Greenway (2000), who reviews strategies to promote pro-social behaviours for children with ASD, is used as a basis from which to review theoretical backgrounds and intervention.

Questionnaires are used to gather both quantitative and qualitative data from schools and parents whose children have attended both mainstream and special schools and have a diagnosis of ASD. Descriptive analysis explores quantitative data and comparison is made between numbers of interventions reported by special and the number reported by mainstream schools and also between schools questionnaires and those completed by parents. One of the challenges of this research was that described by Argyris & Schön (1974), schools may describe their “theory of action” perspective, what they say they do, as compared to what they actually do – espoused theory vs. theory-in-use. However, using a critical realist base, tendencies of opinion are sought from data in order to offer comparisons between schools. The research concludes

with recommendations for including children with ASD in mainstream schools and raises questions for further research.

## **Dedication**

This work is dedicated to my three wonderful sons, Dane, Alfie and Keelan, who have been my constant source of motivation and inspiration.

To my husband Guy for both supporting and tolerating my years of relentless study.

To Lesley Baker and other colleagues from C/AT who taught me so much.

And to all the children and families lucky enough to be touched by the wonder that is Autism.

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## **1: INTRODUCTION**

The research within this volume was undertaken in order to explore ways in which to improve inclusion in mainstream schools for children with ASD. The literature review discusses six different theoretical backgrounds that have often been used to describe the needs of children with ASD and to offer interventions to support them. Reports of variation in the use of these theoretical approaches by mainstream and special schools are explored to establish similarities and differences in order to find tendencies that may improve inclusion within mainstream schools. Legislation has often been underpinned by the need to incorporate parent views, (DfES, 2001a; DfE, 2010) and alongside my own experiences of being a parent, this research will therefore seek to include parental views and knowledge.

As the parent of three boys on the ASD spectrum, I have long been involved in the issue of supporting children with ASD in mainstream schools. My eldest son completed the whole of his education within mainstream schools supported by a teaching assistant at his side. In comparison, my youngest son spent his first years educated within a mainstream school supported by a teaching assistant before moving for his middle school years to an ASD base attached to a mainstream school and finally continuing his secondary education within a generic special school. As a parent, before moving to work within education, I believed the title 'special' school to mean it did something very special, different to what a mainstream school could offer. This title

became less clear as I moved to work within the arena of special educational needs.

Having initially trained as a teaching assistant, my interest in ASD was fuelled by the need to understand and frequently support this group of children. From initially working within a special school for children with ASD, I moved to work as a higher level teaching assistant for a LA ASD outreach service. Here I spent nine years offering advice, training and support to mainstream schools and families of children with ASD in order for children to be successfully included, seeking outcomes such as being happy in school and reaching their full potential. I spent the final three years here, developing support for the sensory needs of children with ASD as poor sensory processing affects many areas of development such as behaviour, social skills and learning, but is often an area that is neglected.

I left the ASD outreach service to train as an educational psychologist, and by the final year of my training, I had taken on the ASD specialist role within the LA where I worked. It is within this role and LA that this research takes place.

Within this LA, The Children and Young People's Plan (CYPP) 2010-2013 sets out the aspirations the LA has for all its children and young people and how it intends to make those real. Promoting inclusive education is a key strategic aim along with the intent to:

'Reduce the number of children and young people educated outside a mainstream setting.'

‘Ensure that all children and young people with severe and complex needs have consistent access to specialist provision and expertise of equally high quality that is as close to their home as possible.’

‘Ensure that parents and carers are consulted on educational matters that affect their children, and feel welcome in school or wherever their child is educated.’

The LA’s SEN and Inclusion Policy is underpinned by SEN and Disability legislation. It quotes its principles of an inclusive education service from DfES, (2001b):

‘Inclusion is concerned with the identification and removal of any real or potential barriers to the ambition, participation and effectiveness of all children and young people.’

‘With the right training, strategies and support nearly all children with special educational needs can be successfully included in mainstream education.’

‘An inclusive education service offers excellence and choice and incorporates the views of parents and children.’

Therefore, inclusion within this research will be taken to mean successfully including nearly all children in their local mainstream school, removing barriers to ensure children are happy and achieve and incorporating the views of parents and children. This will be discussed further within the literature review.

A project to reduce the number of children with social, emotional and behavioural difficulties attending out of county schools was already being undertaken when I joined the LA. The LA then requested a similar project to reduce the number of children with ASD in out of county special school provision. The first step to this was looking at what specialised provision was available within the LA. There are 9 generic special schools within the LA. Discussion with the LA assessment, statementing and review service showed



that there were limited spaces to place children within the LA special schools. In the LA, 49% of children with a statement of special educational needs, whose primary need is ASD, go to either LA special schools or out of county special schools. According to their Statements of Special Educational Needs, many of these children were achieving national curriculum levels within the average range for their age. It was this group of children the LA initially wanted to focus on.

This research was initially planned in light of an increasing amount of government legislation including the Special Educational Needs and Disability Act (2001) and The Special Educational Needs Code of Practice (DfES, 2001c) which placed inclusion at the centre of policy and practice. With a new Coalition government coming into power in 2010, introducing a spending review to reduce costs, reduction of expensive out of county placement became more important than ever.

It appeared to me that in order to reduce out of county provision and to take pressure off the already full special schools, we needed to first find out why children were not being educated within their local mainstream schools. It seemed important to find out what were the factors that were influencing decisions to move to out of county and special schools that meant so many children were educated there. As suggested by Belanger (2000) it is often the view that the child has the special need not the school. This does not explain why children can be supported in some types of provision and not others,

which would point to a difficulty in the context and provision rather than the child.

Some of my own initial hypotheses were:

- that out of county, special and mainstream schools will all use similar theoretical approaches to intervention apart from when supporting sensory needs which I do not expect to see supported within mainstream schools.
- that the physical and social environment within special and out of county schools will be supportive of sensory difficulties in a way that mainstream is not.
- that parents expect special schools to provide more interventions than mainstream schools.
- that mainstream schools train individual staff to support the few children with ASD they may have, whilst special schools may have whole school staff training in ASD as all staff would be more likely to come into daily contact with children with ASD.

Six theoretical approaches adapted from the study by Greenway (2000) will be reviewed. Approaches will be that of behaviourist theory, Treatment and Education of Autistic and related Communication handicapped Children (TEACCH), cognitive deficit theory, socially based theories, sensory processing and finally, therapeutic interventions.

The LA asked for data to be collected from as many schools and parents as possible to enable outcomes to be generalised. To do this, questionnaires were used to allow requests for data from all out of county schools used by the LA, all LA special schools and an equal number of LA mainstream schools. Questionnaires also allowed for all parents of children with ASD who had attended a mainstream school and then moved to a special school, to be invited to give their views. There was not enough scope within this research to gather the child's voice and this is acknowledged as a weakness within this study. Examination of data is approached from a critical realist stance using descriptive analysis. Conclusions recognise the construction of reality by participants completing the questionnaires. Following this research, the next step may be to investigate a closer reality of inclusion within schools through direct observation or collection of artefacts.

## **2: LITERATURE REVIEW**

### **2.1 Introduction**

In order to place the questions this research will pose within context, this chapter will describe the local context in terms of the LA within which it takes place. The legislation and context of inclusion will then be reviewed. A widely used description of ASD will be given as described by the National Autistic Society followed by a brief review of legislation and campaigns specific to supporting the needs of children with ASD. The role of parents is then considered.

### **2.2 Local context**

Information provided by this LA's Joint Area Review (JAR) in 2008 provides a context for this study.

This research was undertaken in a geographically large LA. The LA contains a mixture of urban and rural areas comprising of five districts and containing six wards that fall within the most deprived nationally. Approximately 124,000 children and young people aged 0–19 years make up just under a quarter of the total population of the county. The majority of the maintained school population in the LA are of white British ethnic origin (88%), and the largest minority ethnic group is Indian (3%).

In 2007, the area had 82,450 school-age children. Pre-16 education is provided by eight nurseries, 195 primary schools, 36 secondary schools, nine special schools, one pupil reintegration unit and 19 independent schools. In January 2008, approximately 2,400 children had a statement of special educational need (SEN).

Ofsted inspected the whole range of local children's services under the Joint Area Review (JAR) in June 2008. The inspection looked at processes and services in place for children and young people, ensuring those at risk or requiring safeguarding were effectively cared for, and looked after children and those with learning difficulties and disabilities achieve the best possible outcomes. The LA was graded as 'good' in all areas of the inspection, placing the county amongst the top performing local authorities and indicating that the authority works well with partners to support children and young people.

In the LA at the time of this research, 49% of children with a statement of special educational need whose primary need is ASD, attended either LA special schools or out of county special schools.

### **2.3 Inclusion context**

This section will review the legislation of inclusion in order to make clear the responsibility the LA holds and describe what outcomes this research is pursuing in the name of inclusion. This will move from the Warnock Report (DES, 1978) and the Education Act it influenced (DES, 1981), through subsequent legislation that promoted mainstream inclusion including the Code

of Practice (DfES, 2001c) and the change of emphasis produced by the 2010 spending review and the Schools White Paper (2010). This section will conclude with the description of inclusion used by the LA and that to be used within this paper.

The Warnock Report (DES, 1978) is often the starting point in any attempt to describe legislation regarding inclusion within educational settings. The report highlighted the need for educating the majority of pupils in mainstream schools, stating that mainstream education is the best setting for the majority of pupils and starting a pattern which was to become familiar in documents to follow. This pattern gives strong support to the principle of mainstream inclusion whilst leaving a role for special schools. The Warnock Report suggested that special schools had a role to play when:

‘...the difficulties experienced by children were especially severe or complex, when the behaviour of children was such as to disrupt the learning of other pupils in mainstream schools or when children had failed to flourish in the mainstream and needed the ‘intimate communal and educational setting’ of a special school’ (DES, 1978, p. 123).

Though the United Nations Salamanca statement (UNESCO, 1994) describes inclusive education as enabling schools to serve all children, particularly those with special educational needs, other policies continue to recognise a need for special schools. Within the Education Act of 1981 (DES, 1981), which was strongly influenced by the Warnock Report, and the much later Green Paper of 1997 (DfEE, 1997), inclusion was recognized as an ideal, but future patterns of provision for special educational needs were still seen as including an important role for segregated special schools (DfES, 2001c, p.2).

The UK Labour government's philosophy on patterns of provision for special educational needs in the 1997 Green Paper, *Excellence for All Children*, was published soon after the election of the New Labour Government (DfEE, 1997). This document and the follow-up document *Meeting Special Educational Needs: A Programme of Action* (DfEE, 1998) place inclusion at the centre of policy and practice and continues to fall into the previously seen pattern of expressing strong support for the principle of inclusion whilst at the same time, qualifying this support to the point where it is hard to see any particular policy direction being indicated (Ainscow et al, 1999). Within one paragraph the Green Paper indicates support both for inclusion and for special schools:

“There are strong educational, as well as social and moral grounds for educating children with special educational needs with their peers. We aim to increase the level and quality of inclusion within mainstream schools, while protecting and enhancing specialist provision for those who need it.” (DfEE, 1997, p. 43)

Later the Green Paper says that:

‘...the needs of individual children are paramount’ [and, because of this], ‘separate provision may be necessary on occasions’ (p. 44).

Like the Warnock Report, the Green Paper argues for a continuing role for special schools and sees the development of special schools as centres of expertise as a way forward. It could be argued that developing expertise within specialist provision could only encourage the move into special schools, and that expertise is just as necessary within mainstream provision.

The 1997 Green Paper led to the subsequent Programme of Action published in October 1998 which made a commitment to improving the statutory

framework and procedures for SEN, building on experience and best practice. This commitment was taken forward in 2001 through the Special Educational Needs and Disability Act (2001) and the publication of a new Special Educational Needs Code of Practice (2001c), designed in part to ensure that children identified as having SEN remained as far as possible in mainstream schools receiving interventions to meet their needs.

However, the Audit Commission's report *Special Educational Needs – a mainstream issue* (2002), highlighted a number of continuing challenges which included:

‘Children who should be able to be taught in mainstream settings are sometimes turned away and too many staff feel ill equipped to meet the wide range of pupil needs in today's classrooms’ ...’ (Audit commission, 2002, p.8).

This shows the vital part that training can play in inclusion, developing expertise within mainstream provision. These issues were identified as barriers to successful inclusion and in 2004, *Removing Barriers to Achievement* (DfES, 2004) set out the Government's vision for giving children with special educational needs and disabilities the opportunity to succeed. Building on the proposals for the reform of children's services in *Every Child Matters* (DCSF, 2003), it sets a new agenda for improvement and action at national and local levels.

Inclusion is not just an ideology however, it is a right in both UK law (the Disability Discrimination Act, 1995; The Equality Act, 2010) and international law (UN Conventions on the Rights of the Child, 1989, Rights of Persons with



Disabilities, 2006). Policies and campaigns often explain how this right should ideally be, but rarely explain how this can be achieved.

The Special Educational Needs and Disability Act (SENDA) (2001) gives a duty to Local Authorities to educate children with special educational needs in mainstream schools, as if inclusion were perhaps a matter of geography, but it adds the clause ‘unless it is incompatible with either:

(a) the wishes of his/her parent, or

(b) the provision of efficient education for other children’.

It could clearly be argued that this leaves a gap for Local Authorities to move a child to a special school if their education affects others, but there is no explanation of what ‘efficient education’ could mean. There does not seem to have been progress since the Warnock report (1978) quoted a need for special schools ‘when the behaviour of children was such as to disrupt the learning of other pupils’. It could be argued that these descriptions are of ‘inclusion as long as it does not affect me’. It has been suggested by some parents, that inclusion is not about placement, but about choice, and that children can feel better supported and included with peers who have similar disabilities within special schools, rather than within mainstream schools (Barnard et al, 2000). Research also reports that children with SEN can feel isolated within mainstream schools (Ainscow et al, 1999).

As stated in the introduction to this report, the LA within which this research is carried out uses principles of inclusive education as seen in legislation such

as the SEN Code of Practice (2001c, p.2). It believes that with the right training, strategies and support nearly all children with special educational needs can be successfully included in mainstream education.

Whenever possible then, this LA believes that children should be educated within mainstream settings, but this is more than just geography and schools must adapt and be flexible to accommodate the needs of every child, removing barriers and incorporating the views of parents and children. Inclusive practice relies on knowledge, skills and understanding, resources and attitudes.

#### **2.4 A description of ASD**

The National Autistic Society is a UK charity which exists to champion the rights and interests of all people with ASD. ASD is a lifelong developmental disability known as a 'spectrum' because, while all people with ASD share three main areas of difficulty, their condition will affect them in very different ways. Some are able to live relatively 'everyday' lives; others will require a lifetime of specialist support. The three main areas of difficulty which all people with ASD share are sometimes known as the 'triad of impairments'. They are:

- difficulty with social communication
- difficulty with social interaction
- difficulty with social imagination.

(National Autistic Society, n.d.)

The triad of impairment is the most widely used description of ASD, first described by Wing and Gould (1979). This triad however, is not able to explain all difficulties seen in ASD and several alternative descriptions exist. Though the DSM IV (American Psychiatric Association, 2000) description is recommended for diagnosis, children are often presented to professionals who do not fit traditional descriptions (Greenway, 2000) and despite being universally recognised as a characteristic of ASD, sensory over- or under-sensitivity is often overlooked. This has made it particularly difficult to support this group of children and has led to an array of theories and interventions to support children with ASD within schools.

## **2.5 The ASD agenda**

Blanket policies for inclusion have been criticised due to the many variations of Special Educational Needs that require not only different resources, but seek different outcomes (Kniveton, 2004). The National Strategies is responsible for taking forward the commitment made in Removing Barriers to Achievement (DfES, 2004) by providing a four-year programme of continuing professional development (CPD) called the Inclusion Development Programme. This is designed to increase the confidence and expertise of mainstream practitioners in meeting high incidence of SEN in mainstream settings and schools. The aim of the Inclusion Development Programme is to support schools and Early Years settings through web-based materials (DCSF, 2009). In 2009, the focus was ASD, a group of children who, according to the National Autistic Society, are more likely to receive both

temporary and permanent exclusions from mainstream schools than their peers (Barnard et al, 2000).

This focus follows on from many years of developing inclusive practice for children with ASD. Following consultation with Local Authorities and questionnaires to schools and other professionals, the Autism Working Group, established by the Department for Education and Employment in 2000, produced 'Autism Spectrum Disorders: Good Practice Guidance'. This, it quotes 'will provide an impetus to raising awareness and the standards of support for children with ASD' (DfEE, 2002).

It could be argued that this guidance booklet has remained on the school bookshelf as research still shows many teachers lack knowledge of good practice strategies (Kniveton, 2004; Humphrey & Lewis, 2008) in a similar way to that seen before its publication (Greenway, 2000). There may need to be a push for recognition that something different needs to be done for this group, and further government legislation could be required to stop the exclusion of these children. It was in this vein that the All Party Parliamentary Group for Autism (APPGA) was established by a group of back bench MPs. They saw that there has been much written and debated on supporting the needs of children with ASD, but little evidence that their needs were really being met. A report by APPGA 'Policy into Practice' (2007) showed that the gap between policy ideas and their implementation on the ground is a core concern. Following a large scale questionnaire based study across England, they found a difference between the policies debated in Parliament and what

they heard about the impact of those policies from parents, professionals and people with ASD.

Yet another agency continues to promote the impact of policy on education. The Autism Education Trust (AET) was launched in November 2007 with funding from the Department for Children, Schools and Families. It is dedicated to coordinating and improving education support for all children on the ASD spectrum in England. The AET offers resources and information to professionals and parents and has also carried out extensive research on educational provision for children with ASD (Jones et al, 2008). This led to many recommendations and conclusions for improving the education of children with ASD. Although this research showed good practice in some areas, once again, there was no follow up or evidence to show that providing yet further information to schools is making any impact on meeting the needs for this group of children.

At present, there appears to be no clear evidence that inclusion is working for many children with ASD. There are more appeals to the Special Educational Needs (SEN) and Disability Tribunal in England about ASD than any other type of SEN (National Autistic Society, 2006) and 1 in 5 children with ASD has had a fixed term exclusion from school, 67% of these have had more than one fixed term exclusion (National Autistic Society, 2006). For a complex disability described as a spectrum of disorders (Wing and Gould, 1979), there may be a need for a spectrum of provision. The continuing challenge of implementing government policy and supporting the wide range of behaviours seen is

shown by the large number of specialist agencies and publications focussing on ASD. Problems identifying specific support strategies are confounded by the lack of a clear cut definition of ASD and suitable interventions. Researchers from different research traditions have varied in their descriptors and interventions, each giving a different view of the way inclusive practice should be developed and researched.

## **2.6 Parental role**

Parental involvement in decision-making and service delivery in the UK features in all recent legislation and guidance on special educational needs (SEN) (e.g. DfES, 2004; Lamb Inquiry, 2009). Within the LA, the Children and Young Peoples Plan promises to 'Ensure that parents and carers are consulted on educational matters that affect their children'. Within the Schools White paper – The importance of teaching (DfE, 2010, p.61) schools are to be held accountable to parents and therefore it was thought appropriate and necessary to include parents views within this research.

A survey by the National Autistic Society showed that of the parents whose views were sampled in their own survey, those with a child in ASD-specific special provision were twice as likely to be 'very satisfied' with their child's education, when compared with the parents of children attending mainstream school (Barnard et al, 2000).

It could be imagined that parents may chose special schools for many reasons but this LA does not hold statistics for this. One could argue a move to special school is a proactive choice, a failure of mainstream to meet their child's needs or the need for something special, whatever that may be. Ainscow et al (1999) found that when it came to special schools, parents and carers can see them as the 'safest' option, creating a barrier to inclusion. Studies have shown that parents are in fact no more satisfied with the education of their children in generic special schools than mainstream and only meet satisfaction with provision at ASD specific schools (Barnard et al, 2000). It is important then, that parents have knowledge of provision available to them in order to make informed choices.

The wishes of the parent should hold some degree of power following a statement from SENDA (2001) that Local Authorities should educate children with special educational needs in mainstream schools 'unless it is incompatible with either;

- (a) the wishes of his/her parent, or
- (b) the provision of efficient education for other children'.

Research however, shows us that parents often do not have their wishes met (Duncan, 2003; Todd and Higgins, 1998; Frederickson et al, 2004). It could be argued that mainstream schools have much to do before more parents will be satisfied with their provision compared to more specialist provision.

## **2.7 Introduction to theories and intervention**

This chapter will now explore theoretical backgrounds that have tried to explain and support difficulties seen within the autism spectrum of disorders. This research could not hope to cover all interventions in use within schools, so the study by Greenway (2000) who considers the prevailing theories offered in schools, is used as a base on which to start. Five theoretical standpoints are then critiqued, examining their description of needs, interventions and conclusions. The area of sensory difficulties is also reviewed as an additional theory and one much neglected with regard to children with ASD. Conclusions are then drawn from the literature reviewed, as to the interventions that may support children with ASD. These are used to develop questions to compare provision within mainstream, special and out of county special school placements.

## **2.8 Background study**

In 2000, Carol Greenway reviewed theories focusing on the social deficits of children with ASD. She saw this as the major barrier to successful inclusion and reviewed theories with the greatest relevance to the work of the EP supporting mainstream inclusion. She attempted to find theories that would point to interventions that had the potential for use within mainstream schools. Though some interventions were shown as successful in mainstream schools, concern was highlighted around mainstream provision lacking the environmental modifications and lessons in communication that special schools may have.



Greenway (2000) supported a model of ASD with a key social deficit barrier, though it seems almost impossible to support a singular part of ASD as the major barrier to inclusion. Greenway remains unclear where the evidence for this social deficit barrier model derives and why mainstream schools should lack the support offered by special schools.

This literature review will now offer a more general critique of the theoretical backgrounds than the specific social deficit model offered by Greenway (2000), and attempt to make explicit the definitions of ASD used, the theoretical underpinnings of barriers identified and interventions described. The addition of sensory difficulties will be given in order to cover the area of physical environment briefly mentioned by Greenway (2000), but absent later in her study. Interventions that may show the use of each theory are collected in order to look for this evidence within schools.

## **2.9 Search strategy**

The research strategy used for the literature review involved accessing search engines and databases including Psychinfo, Psynet, ERIC, Google Scholar and Swetwise and journals such as Educational Psychology in Professional Practice and the European Journal of Special Educational Needs. The University of Birmingham Library catalogue and e-library were also used to search for relevant articles and reference lists were followed up from articles used. Searches were restricted by open access or access to the University of Birmingham as subscriptions to other sites could have caused the review to

become costly. This limitation must be acknowledged as it is possible that significant research could have been excluded as it was only accessible through subscription and payment. Searches were not restricted by date as the historical context of ASD, its identification and description, were thought to be of significant importance.

Initial key words used within searches included;

- Inclusion
- Autism inclusion
- Autism education
- Autism case study
- Autism definition
- Autism intervention
- Autism education outcomes
- Autism classroom
- Autism Government policy/legislation
- Autism pedagogy
- Autism and (i) Behavioural (ii) TEACCH (iii) Cognitive Deficit (iv) Socially based theories (v) Sensory processing (vi) Therapeutic intervention.

The term 'Autism' was supplemented by terms including ASD and Asperger Syndrome. This produced a significant number of titles which were reviewed for appropriateness, for example; excluding research with adults or those with other co-morbid diagnoses. A snowball technique (Ridely, 2008) was used

where references from books and journal articles were followed up and forward citations were also tracked. The National Autistic Society website was searched for relevant literature, research and policies.

Meetings with stakeholders and colleagues within the LA brought to light further research and information which was used in this review.

All articles thought to be appropriate were skimmed and a brief description logged within a research diary. Notes were taken to show central argument, information on theoretical stance, ASD descriptors, interventions and connections with other articles.

For the sake of simplicity within this literature review, the term 'children' will be taken to mean all children and young people up to school leaving age. As the definition of ASD reveals itself to be complex, the term ASD will be used to mean all variations of the name Autism, Autistic and Autism Spectrum Disorders and conditions and Asperger syndrome.

## **2.10 Behavioural**

### **2.10.1 Background to behaviourist theory.**

Behaviourists study the environmental conditions that they view as affecting behaviour. Skinner first described operant conditioning where pleasant experiences act as positive reinforcers and unpleasant experiences act as

negative reinforcers (Skinner, 1968). He argued that these cause learners to learn by responses to stimuli. This reinforcement is described as shaping behaviour and is the basis on which Applied Behaviour Analysis (ABA) was developed.

### 2.10.2 Definition of ASD

Behaviourists describe ASD according to observable behaviour with descriptions including 'maladaptive behaviour', 'severe disruptive behaviour', 'unpredictable and aggressive' and 'ritualistic behaviours, aggression and self injury' (Grindle et al, 2009; Koegal et al, 1992; Lovaas, 1987). Behaviourist interventions are based on the premise that students need to learn appropriate behaviour or unlearn inappropriate behaviour. Desired outcomes involve a change in observable actions.

### 2.10.3 Intervention / pedagogy

Beginning in the early 1960's, Lovaas and his associates conducted research on behavioural interventions for people with ASD (Sallows and Graupner, 2005). The use of antecedent, behaviour and consequence (ABC) profiling promoted by Lovaas (1977) is often used by behaviourists to analyse triggers and reinforcers of behaviour. Lovaas worked closely with Koegal (Lovaas et al, 1973; Lovaas et al, 1979) developing and studying operant techniques such as ABA. ABA involves breaking down skills into small tasks which are taught in a highly structured and hierarchical manner. There is a focus on

rewarding, or reinforcing, desired behaviours and ignoring, re-directing or otherwise discouraging inappropriate behaviours (National Autistic Society, n.d.). Intensive Behavioural Intervention (IBI) is also based on the principles of ABA and seeks to integrate ABA with National Curriculum goals (Grindle et al, 2009). These behavioural interventions are used with a range of clinical, social and educational problems.

#### 2.10.4 Research

In a special school in 1987, Lovaas (1987) used an intensive ABA technique with children under 4 years of age with a diagnosis of ASD. He believed that children of this age were more likely to generalise their skills and he described them as likely to recover from their autistic difficulties. He described children with ASD as having a poor prognosis and that medical therapies had proved ineffective. He studied a group of 19 children over 2 years using an operant technique of reinforcement during most of the child's waking hours, daily over two years. He managed to carry out such an intensive treatment by using therapists and parents in order to ensure reinforcement could take place at all times. Wanted behaviours were reinforced often using food, while unwanted behaviour was either ignored or reprimanded with a loud 'no' or a slap to the child's thigh. Lovaas found that the group did significantly better than a control group of children, however, with such intensive therapy, Lovaas himself quotes it unlikely that the treatment could be replicated. He also discussed 'the unknown spontaneous recovery rate' for children with ASD. ASD is generally accepted to be a life long disorder which may suggest that

some of these young children who he saw 'spontaneously recover', may have had needs other than ASD. It could also be argued that some of the children in this very small group, may have had a developmental delay and continued to develop and catch up with their peers, rather than 'spontaneously recovering' from ASD. The techniques are also ethically unsound, with children being smacked for inappropriate behaviour whilst having their every waking moment structured. One could wonder how parents and professionals would manage such an intensive therapy over many years, however, parents do frequently ask for this technique for their child (Connor, 2003).

Koegel carried out research in 1992 and 1993 using ABA techniques to modify social behaviour. He acknowledged the difficulty of needing parents and professionals to attend to the child at all times and therefore set out to teach children self management. In 1992, he studied 4 children who were each taught to identify appropriate and inappropriate behaviour when interacting with others. They used a wrist counter to total up how many times they used appropriate social behaviour and were able to reward themselves with food once an agreed number was reached. It was concluded that the children had managed their own behaviour by reinforcement and that this would allow them to attend integrated provision (mainstream) as they no longer would need intensive adult support.

There appears to be many uncertainties with this research. The very small numbers, 4 in 1992 and 2 in 1993 mean that these results cannot be generalised to other children with ASD. The child would have to be able to

discriminate between appropriate and inappropriate behaviour in themselves. It must be argued that if a child had been able to learn this, it could be enough to change the behaviour without the need to then self manage, though this may serve as a reminder whilst the child learns to generalise and skills become habitual. Following his 1993 study, Koegal concluded that children with ASD display bizarre social behaviour to avoid difficult social interactions. It could again be argued, that by teaching the appropriate social interaction and then rewarding it, could in itself change the behaviour without the need for self management. There is also a wider concern with the behaviourist tradition, that the underlying cause of behaviour is not determined. Not only may children be learning by rote in order to achieve a reward without understanding their own behaviour, but they may also be learning not to show distress or pain for fear of punishment.

Connor (2003) reviewed issues concerning what has become known as Lovaas Therapy. One of the greatest difficulties he found was the price of funding an intensive therapy alongside the pressure it placed upon children and adults involved. He suggested exploring other interventions when the strains put upon all involved outweighed progress observed and suggested that both parents and professionals use Lovaas as a last resort. However, Lovaas appears to be most successful with very young children, and waiting until a last resort is needed may in itself, disqualify Lovaas therapy as a useful intervention.

In a more recent study of 2 children (Grindle et al, 2009), ABA targets were matched with foundation stage targets from the National Curriculum, this approach was called Intensive Behavioural Intervention (IBI). This technique used a large team of professionals as well as a devoted classroom over 13 months. The children involved were below 4 years and over the course of the research, developed some skills including toilet training and improved motor development. However, it could reasonably be argued that children of this age with intense adult support may realistically be expected to develop skills such as these without the need for intensive ABA type therapy. Without use of larger number or a control group, results are hard to generalise.

#### 2.10.5 Conclusion

Very small numbers of children were studied in these behavioural research studies making it difficult to generalise any findings. The interventions require high levels of expensive human resources and involve very young children. By describing behaviours, this theoretical viewpoint misses out the reasons why children behave in that way and could therefore be ignoring their attempts to communicate. It could also be argued that this offers a socially constructed definition of what acceptable and non acceptable behaviour may be and as such, deficit could be seen to lie in the context rather than the child. This approach also fails to recognise the strengths these children have. Many hours may be spent teaching children culturally acceptable rote behaviour that needs constant reinforcement in order to be maintained. It could be argued that to use a behaviourist approach to support within a mainstream classroom,



may be expensive and inappropriate though elements of reward and ignoring may be useful. The concern that behaviours are being taught in rote fashion however, has led to further developments in pedagogy to support children with ASD, such as the Treatment and Education of Autistic and Communication-handicapped Children (TEACCH) approach which evolved from a behaviourist approach.

## **2.11 Treatment and Education of Autistic and Communication-handicapped Children (TEACCH)**

### **2.11.1 Theoretical Background**

Founded in the early 1970s by the late Eric Schopler, TEACCH developed the concept of the “Culture of Autism”. It has a rather different theoretical stance than behaviourism in that it is a family-centred, structured teaching approach which recognises strengths as well as difficulties (TEACCH, n.d.). Researchers from this background view ASD as having an organic basis and focus on the need for lifelong adaptations (Mesibov, 1997). Like many other theories, the anxiety of children with ASD is acknowledged, but the reason for this is sought in order to eliminate the reason rather than the behaviour itself. During Schopler’s doctoral dissertation in the 1960s, he realised that visual information is more easily processed by people with ASD and therefore developed a structural, visual teaching approach. The emphasis of TEACCH is in arranging the environment in such a way that children have the best possible chance of realising their full learning potential (Greenway, 2000).

### 2.11.2 Research

Early studies by Schopler (1971; in Mesibov, 1997), demonstrated that a structured teaching approach where the adult would decide what the child did and for how long, improved attention and behaviour. This has been replicated in many studies reported by Mesibov (1997) though research within the TEACCH tradition has often lacked information on specific techniques or what aspects of intervention have had what effect (Green, 2000). Parents are also taught how to select and structure the child's experiences and this has been seen to improve both behaviour and the relationship between parents and child, though again, research here has lacked explanation of specific techniques.

Though originating from a behavioural paradigm, unlike behaviourists, TEACCH professionals also support incidental learning alongside the more typical behaviourist style reinforcement of appropriate behaviour. Incidental teaching, they argue, helps the child to generalise learning. TEACCH reports a more functional approach to rewarding appropriate behaviour than behaviourists (Schopler et al, 1980). Rather than offering a food reward for the child for example, correctly saying 'shoes', the shoes are put on so that the child can play outside. This avoids the previous criticism of behaviourists teaching rote learning. Another aspect of TEACCH is the encouragement of any form of communication, including signs and symbols, rather than encouraging the repetition of possibly meaningless words.

Many questionnaire based studies have reported a high percentage of positive results from using TEACCH (Mesibov, 1997), however, this is an intervention with a specific pedagogy that should be taught to professionals and parents. As such, the intervention can be costly both in terms of parent and teacher training and in terms of staff hours.

In 1984, Mesibov, using the TEACCH approach, carried out a social skills training study of 15 high functioning adults and children. The participants, he claimed, showed an improvement in social skills and understanding, however, he failed to provide data to show this, or techniques used. The study, carried out within a research unit, also failed to show whether participants generalised any skills they may have learned, making this study not only un-replicable, but also unreliable.

Panerai et al (2002) compared two groups of 8 students, one using the TEACCH approach and another group supported in a regular school with support teacher. The TEACCH group of students were taught in a small homogenous group by professionals who had been specially trained in the TEACCH approach. The control group were taught in regular 20 student classrooms where professionals had no specialised knowledge of ASD.

Table One. Components of TEACCH

<b>Staff Training</b>	All staff benefit from further training which includes theory and practice on ASD.
<b>Physical Organisation</b>	There are discrete areas for different activities, the environment needs to be 'clear' and 'predictable'.
<b>Communication System</b>	Communication is individualised (i.e. objects, pictures, drawings, written words are used according to the child's developmental level) and represents an alternative to verbal communication, even though the two systems are often integrated.
<b>Intervention</b>	The TEACCH programme follows precise routines (e.g. from left to right, and rewards are given when work is completed). This facilitates the child's independence while decreasing the need for assistance.
<b>Task Organisation</b>	All activities are presented using specially designed material which is individualised and perceptually clear.
<b>Time visualisation</b>	Time is made visible: subjects can 'see' the schedule of the day, and at the end of the task they know what is going to happen later.

Adapted from Mesibov (1997)

The researchers used all parts of the TEACCH approach shown in Table one. They concluded that educational interventions aimed at a developmental delay, such as support by a teacher, are not appropriate to children with ASD who have a different cognitive style. This 'difference' rather than 'deficit' model is a very positive way of portraying ASD and indicates a need to teach differently rather than teaching these children to conform or perform in a rote manner. However, the research compared TEACCH with a normal classroom situation which alone cannot show how it would compare with other interventions. Comparison to other theories would be far more useful, though at present has not been done. In comparison to the behavioural tradition, TEACCH claims to teach children functional skills, it cannot be seen from this

study whether this was true in this case and if skills were then generalised to other contexts.

### 2.11.3 Conclusion

Rather than the pure TEACCH approach which would require specialised training, it is likely to be a selection of ideas from this approach that could be seen in mainstream schools. However, that would then make invalid any evidence based on the pure approach. It could be seen that special schools may have the ability to adjust the environment in order to use TEACCH, however, its strengths based approach and emphasis on working in partnership with parents, could provide a useful ethos for working with children in all schools. TEACCH pedagogy has behaviourist paradigm as its starting point but recognises cognitive differences, thus offering a bridge between the two approaches. This also allows for recognition of strengths and pathological difference rather than deficit.

## **2.12 Cognitivist**

### 2.12.1 Background to the theory.

Cognitive theory attempts to explain human behaviour by understanding the operations and processes of thinking. Researchers from this background largely reject behaviourism as reducing complex human behaviour to simple cause and effect.

Simon Baron-Cohen is one of the key authors in the area of cognition in ASD. He wrote that in order to explain the specific impairments of childhood ASD it is necessary to consider the underlying cognitive mechanisms. His model specifies a mechanism which underlies a crucial aspect of social skills, namely being able to conceive of mental states: that is, knowing that other people know, want, feel, or believe things, this has been called a 'theory of mind' (Baron-Cohen et al, 1985).

Though there are many areas of cognition researched in children with ASD including memory and executive function, theory of mind and weak central coherence are two of the most well known.

Premack and Woodruff (1978) defined theory of mind as the ability to impute mental states to oneself and to others. The ability to make inferences about what other people believe to be the case in a given situation allows one to predict what they will do. The lack of theory of mind Baron-Cohen described in children with ASD, was not viewed in either the general population or those with low IQ such as Down Syndrome. This led Baron-Cohen (1985) to believe that children with ASD lacked this ability and therefore viewed a cognitive deficit description to be most useful. If theory of mind is deficient, this would clearly be a crucial component in the development of social skills.

### 2.12.2 Research

Baron-Cohen found that in normal development, a basic ability to make inferences about what other people think was developed at about the age of 4

years. Happé (1991) found it was nearer 9-14 years with children with Asperger Syndrome. There are many tests for theory of mind such as the Sally Anne test where a doll moves a toy out of sight of the other and the child has to put himself in the dolls position to know where she will look to find her toy (Greenway, 2000). There is some disagreement as to what age the child with ASD develops theory of mind, if at all, but it is generally accepted that this is an area of difficulty that does not reflect the child's IQ (Ozonoff et al, 1991). Some children who were higher functioning were able to pass the Sally/Anne test, however, 100% of children with ASD failed the second order tests of theory of mind where it is asked what the child thinks person A thinks person B is thinking. It could be argued that the language involved in explaining this task along with the working memory needed to problem solve, could have affected the result, however, of the control group of children with language and learning difficulties (Down Syndrome), 60% were able to pass.

Baron-Cohen is not the only researcher in this field, other researchers have also found cognitive deficits (Ozonoff et al, 1991; Happé, 1995). Happé studied the association between various cognitive deficits in children with ASD. By testing children with ASD and Down Syndrome on a battery of theory of mind tasks and on tests of understanding figurative language she concluded that figurative language is a very good predictor of performance of theory of mind tasks only in children with ASD and therefore these children could be using different routes to learn theory of mind than normally developing children. Intervention could then be related back to the TEACCH

approach of understanding difference rather than deficit and suggests a different way of teaching is needed.

A characteristic of normal information processing appears to be the tendency to draw together diverse information to construct higher-level meaning in context; “central coherence”. Frith and Happé (1994) argued that theory of mind is unable to account for all areas of autistic behaviour and instead held a weak central coherence accountable. They predicted that autistic subjects would be relatively good at tasks where attention to local information is advantageous, but poor at tasks requiring the recognition of global meaning (Frith and Happé, 1994). Using a test where children look for embedded figures within a larger picture, they found children with ASD able to quickly find the figure and were more able than either typically developing children or a learning disabled group. This was seen to account for many areas of skill and difficulty though like theory of mind, weak central coherence can be a useful way to understand ASD but is difficult to prove and support. Further research, however, has continued to show central coherence as a difficulty (Jarrod et al, 2000). A study by Jolliffe and Baron-Cohen (1999), gave 51 adults (17 high-functioning autism, 17 Asperger’s syndrome, 17 control) examples of situations and outcomes that could only be understood using central coherence. They found that not only did those with a diagnosis have difficulty using central coherence, but they also failed to strive for it in a way seen in individuals without ASD.



### 2.12.3 Criticism

Some criticisms of these theories seem apparent. Children with Down Syndrome are most often used as the control group when researching the cognitive ability of children with ASD. Children with Down Syndrome however, have a different language quality and are also seen to be very sociable (down-syndrome, n.d.). It could be argued that comparison with children with Down Syndrome is not useful as even though general learning and language skills may be poor in this group, the good social skills, empathy and social competence of these children is not questioned (down-syndrome, n.d.). This may therefore be an unfair comparison for children with ASD, who may have withdrawn from interaction at a young age and therefore not developed the skills of theory of mind due to lack of social experience. It could be argued that the literal interpretation of language and avoidance of social interaction in early years could lead to delayed acquisition of theory of mind rather than it being a primary cognitive deficit. The research may need to go beyond a comparison of children with ASD and children with Down syndrome and incorporate and legitimise the experiences and understandings of the children that we are comparing.

### 2.12.4 Intervention

Though there is much written about the cognitive differences in ASD, there is less to suggest intervention in this area in order to allow these needs to be supported in the classroom. A study by Ozonoff and Miller (1995) sought to teach theory of mind to nine autistic boys over 4½ months using weekly groups. Skills were explicitly taught for example how to start and maintain

conversation, and games were played such as leading the trainer blindfold through a maze so the child would have to take on a different perspective. Although the boys' theory of mind skills were thought to have improved in the group setting, they were not generalised into the real world and parents and teachers reported no improvement. This is an area where further research on the usefulness of intervention is needed as an obvious concern is that of rote learning skills rather than understanding, and therefore an inability to generalise.

There are many new resources now becoming available to teach areas of cognitive deficit such as the Transporters video (Baron-Cohen et al, 2007) and Mindblindness games (National Autistic Society, n.d.) to support theory of mind. These may prove to be useful in schools, however there is little research at present to give an evidence base and with much of the research now over ten years old, it may be useful to look to other theories for intervention in cognitive deficits. Cognitive deficit has been blamed for social impairment, and this may be a useful place to look for intervention.

## **2.13 A Social view of ASD**

### **2.13.1 Theoretical background**

A social model of ASD can be viewed from different theoretical backgrounds such as Aarons and Gittens (1992) social deficit model and Mallory's (1994) social constructivist view of poor levels of social functioning. Aarons and Gittens described ASD as a triad of social impairments with deficits in social

relationships, social communication and social understanding and imagination. This triad, though popular in defining ASD, fails to explain either the underpinning reasons for these deficits or the pockets of ability such as rote memory, visuo-spatial tasks and savant skills (Happé, 1999). It is agreed by many researchers (Greenway, 2000; Whitaker, 2004; Whitaker et al, 1998) that improving social skills is however, important in the inclusion of children with ASD, and indeed, people with ASD often view social relationships as the most important element of support (Humphrey and Lewis, 2008).

Social theorists such as Hagiwara and Myles (1999) suggest that improving social skills, improves the likelihood of better performance across both educational and vocational settings. This however, needs to be viewed within a social context of expectations that children should socialise.

### 2.13.2 Intervention / pedagogy

Interventions aim to develop social skills in the child either by direct 1:1 teaching by for example; the use of social stories or comic strip conversations (Gray and Garand, 1993), or alongside peers in social skills groups or circles of friends (Whitaker et al, 1998). Some difficulties with social skills have been attributed to cognitive deficits such as those seen earlier, including poor theory of mind. Intervention then focuses on replacing information that is missing from the child's knowledge, for example; understanding the thoughts of others.

Social stories have become increasingly popular as an intervention to support social skills (Ali and Frederickson, 2006). Commentary promoting the positive effects of using social stories to promote change are easy to find (Hannah, 2001; DfES, 2002; Howlin, 2005) though there is limited systematic evidence of their effectiveness (Ali and Frederickson, 2006). Social stories were developed in order to provide children with ASD with the information they are missing (Gray and Garand, 1993). Unlike the behaviourist stance, the outcome here is to provide the child with improved understanding of a social situation which may lead to more effective responses, rather than purely to change behaviour.

### 2.13.3 Research

As an individualised intervention, research into social stories often concentrates on single participants and various social targets (Ali and Frederickson, 2006). The child has a written story that explains a social situation or event, detailing thoughts and beliefs. Most studies do reveal general, if not modest improvements in the targeted behaviour, and though may cumulatively provide generalisable results, taken individually this is difficult. In conjunction with this, these stories are often used alongside other interventions, for example; support by a teaching assistant, and therefore it would be difficult to show which intervention led to any improvements recorded.

Hagiwara and Myles (1999) also studied social stories but theirs were multi-media in design, and accessed by children on computers. Their research

studied three children, so in line with other research, is not generalisable to the rest of the ASD population. With some success use of written social stories already acknowledged, this could however, be a useful way for children in mainstream schools to access this intervention and could easily be used by whole classes. An ongoing difficulty with all types of social story intervention, has been the poor generalisation of learned skills into other areas, and this was one of the concerns quoted in this piece of research. It could be argued that this intervention does nothing more than teach the child to perform for reward rather than understanding, in much the same way as the behaviourist approach. Are we then teaching children to conform for the benefit of the context rather than to improve their own experience or understanding?

Group work is another approach used to promote social skills in children with ASD. Social constructivists such as Mallory (1994), argue for a paradigmatic shift away from the individualistic models of development and learning to a model supportive of more inclusive classroom practices through an emphasis on the role of social activity. Whitaker (2004), carried out a study involving ten youngsters with ASD educated in a unit attached to a mainstream school, and a group of volunteer 'peer tutors'. The children met in weekly interaction sessions designed to promote shared play and communication. Following ten hours of sessions, there was no statistically significant difference in the amount of shared play observed between peer and child with ASD and no increase in joint attention. Whitaker suggests that peers enjoyed the sessions and children with ASD were not stressed by them, however this would seem

very little to show for a time consuming intervention. Whitaker himself suggests it was somewhat optimistic to expect 30 minutes a day for 20 weeks to have a significant effect on interaction.

Criticisms of this study include the lack of a control group of children with which to compare findings. Outcomes targeted could also be open to debate as the views of the children with ASD and their parents were not gathered although views of peers and their parents were. The study set out to improve the initiation of social contact by children with ASD. The responses they received back however, claimed benefit only to the peers. This time consuming intervention, for both professionals and peers, is not positively balanced with improved outcomes for children with ASD and it would seem that this strategy provides little in the way of positive outcomes.

Whitaker's previous study of using a Circle of Friends intervention (Whitaker et al, 1998) to employ peer support, was less disruptive to the learning needs of peers as it took place during lunch times. This study led 6 different circles of peer support, each for a child with ASD in a mainstream setting. This time, the views of the child with ASD were sought, alongside peers, parents and professionals. The children in this study were more able than those in the 2004 study and greater benefits to interaction were seen here. However, though more interaction and play were reported, the target children were not described as 'friends'. Outcomes viewed as positive by Whitaker, for example; 'increased time spent with peers', were not through the development of friendships but through learned interaction. This seems again to echo the

behaviourist reward learning for the sake of conformity in the social environment rather than a development of skills for the benefit of the children with ASD. No generalisation or increased socialisation in other areas was reported.

#### 2.13.4 Conclusion

Social theorists claim to fill gaps in cognitive social learning. However, studies show a lack of generalisation and development of skills and appear to give a rote learning effect. Though interventions here could easily be supported in mainstream schools, they could be time consuming and lack evidence of real social learning or benefit to children with ASD. Like the behaviourist approach, rote learning of social skills may occlude the underlying difficulty, for example, the child who screams and complains of auditory pain is taught by a social story to walk calmly and sit quietly in a dining room for praise and reward. This child may continue to suffer the pain of sensory sensitivity but rather than communicate his distress, may learn to hide his feelings in order to receive reward.

### **2.14 Sensory processing**

#### 2.14.1 Background

Though previous theorists have offered a variety of strategies and reasons for challenging behaviour, some psychologists have a very different view. In discussing sensory processing, Menzinger and Jackson (2009, p 171) suggest 'It is good for teachers to remember that what we call 'challenging

behaviour' is often no more than a way of trying to cope with experiences of pure terror'.

Literature suggests that, although sensory processing difficulties are not universal or specific to ASD, the prevalence of such abnormalities in ASD is relatively high, with estimates ranging from 30–100% of both hypo- and hyper responsiveness to sensory input (Dawson and Whatling, 2000). Following a study of 42 individuals with Asperger Syndrome, Myles et al (2000) found that more than 50% of the children had sensory processing problems. This evidence was gathered by completion of a sensory profile, though this is a technique open to interpretation. One of the questions asked for example 'fears falling' which could be said to be part of the human condition. The interpretation of this could be either that a child who fears falling has vestibular processing difficulties, or a child who does not fear falling has either processing difficulties or poor danger awareness. A lose, lose situation. A study by Tomcheck and Dunn (2007) went further by comparing 281 children with ASD, with 281 typically developing children. They found significant differences between the two groups, with 95% of the ASD children having some form of sensory processing difficulty. Their ASD group however, were at the lower functioning end of the spectrum and therefore their behaviour had to be interpreted which as we have already seen, can lead to data that is ambiguous.

Sensory processing abnormalities have also been found to be correlated with higher levels of stereotypic, rigid, and repetitive behaviours (Baranek, Foster,



& Berkson, 1997). Indeed, it would seem easily arguable that a child, who for example, finds the noise and smell of people distressing through hyper sensitivity, should withdraw from social contact, leading to poor development of communication and interaction, and this was seen by Menzinger and Jackson (2009). In their recent study of children with Asperger's syndrome in school, a lack of response by the child was not thought to be social aloofness, but rather auditory processing; because of noise, children may not respond to their name being called in class or hear a question asked by their teacher. This theme continued over the researchers' 10 weeks of observation where one observed boy was always active on the periphery, never joining the main group of pupils directly. If the noise level of the main group increased, he would start to shout and then remove himself to another part of the school's grounds. Conventional forms of day-to-day classroom observation are clearly not detailed enough to show if this is a lack of social skills, understanding, frustration or sensory processing. The importance of a questioning attitude cannot be overstated according to these researchers who found that pupils often behaved very differently in different situations. They found therefore, the observations of other professionals to be essential. This recommendation for multi-agency detailed observation and collaborative working may prove not only useful to schools, but supportive of previously viewed policies. Other recommendations from this study include the need for a place of safety, away from sensory overload, a strategy that maybe useful in schools, where a spare room and supportive member of staff can be found.

### 2.14.2 Firsthand Accounts

Sensory processing difficulties are also frequently reported as firsthand accounts from people with ASD (Table Two).

Table Two. Firsthand accounts of sensory processing.

'When I was a child I craved the feeling of being hugged but then I withdrew because I was overwhelmed by the tidal wave of sensation'  
(Grandin, 1992)

'Fabrics dangled in front of me in my dark cupboard, the security of my chosen darkness. Here the bombardment of bright light and harsh colours, of movement and blah-blah-blah, of unpredictable noise and the uncontrollable touch of others were all gone . . . . Here, there was no final straw to send me from overload into the endless void of shutdown'.  
(Williams, 1994, p. 22)

'The noise of children in the classroom is like the sound of dynamite going off in my ears'.  
Hall (2001)

Though at first, it would appear that firsthand accounts should be unquestionable, a lack of insight into the perceptual experiences of others may lead to unreliable or misleading evaluation of what may be a common experience. This could be seen, for example, with Grandin's (1992) difficulties in screening out background noise while using the telephone, which could be argued as a somewhat normal phenomenon for the general population. O'Neill and Jones (1997) point out that a number of firsthand accounts are the outcome of lengthy contacts between the author(s) and the autistic individual, thus opening up the possibility that what is presented may have been influenced by interpretation or selection by others. This could produce a

biased or misleading picture of the actual extent and significance of the sensory-perceptual abnormalities described. Happé (1991) highlighted a number of difficulties in autobiographical writings by individuals with ASD including lack of empathy with the reader, flitting between subjects, perseveration on a topic, and idiosyncratic use of language. These same factors can of course make it difficult to establish the salience of sensory abnormalities within the wider autistic experience. The voice of people with ASD is often just a small number of more able, prolific writers and generalisation cannot be taken for granted. Ethically though, we cannot ignore individual accounts and may produce as evidence the lack of accounts of sensory processing difficulties in the general population and other developmental disabilities.

We can however, look to psychological research to support for these sensory phenomena. Parent responses frequently report sensory anomalies, as was seen by Ornitz et al (1978) and Wing and Attwood (1987) in larger scale questionnaires to parents. These researchers did see that greater sensory problems lead to greater social aloofness though it could be argued, that the more severely affected individual in one area may also have greater severity in other areas, rather than the interpretation that severity in one area has caused the other.

### 2.14.3 Conclusion

In a review of research in 2000 by Dawson and Whatling, little evidence was to be found on interventions to support sensory difficulties. What research

was available was found to be limited to small groups of 1-3 children and had poor results with little evidence of improvement in processing or behaviour. In the 10 years since this, it appears that this is still an area in need of further research.

Despite methodological weaknesses in much of the psycho-physiological research to date, both James and Barry (1980) and Dawson and Lewy (1989) in comprehensive reviews of the area have argued that the weight of evidence clearly indicates abnormalities in both orienting and habituation responses to sensory stimuli in autistic subjects. Perhaps because of the need for observer interpretation, research has often been unhelpful in giving us estimates of numbers of children affected from less than a third to all children, this area however, cannot be ignored.

The physical environment for children with physical disabilities is provided for by way of ramps and widened doorways, it could be argued then, that ASD is also a physical disability with abnormalities in sensory processing requiring adaptations to the physical environment, but so far, research has failed to provide evidence for supportive strategies.

## **2.15 Therapeutic intervention**

### **2.15.1 Theoretical background**

Cognitive Behavioural Therapy (CBT) is a term used to describe psychotherapeutic interventions that aim to reduce psychological distress and maladaptive behaviour by altering cognitive processes (Kaplan et al, 1995).

Therapeutic intervention is an under-researched area where children with ASD are concerned. At the time of the first study to research this area, (Hare, 1997) there were no other papers concerning the use of Cognitive Behavioural Therapy in people with ASD. A systematic review of CBT and its use with ASD was carried out in by Lang et al in 2010, and found nine studies, all focusing on anxiety related difficulties and carried out within clinical environments.

### **2.15.2 Research**

The original study (Hare, 1997) describes behaviours associated with ASD as reflecting the individual's interpretation of their immediate situation rather than using global or historical factors and so sees CBT as a viable intervention. The lack of research in this area means that this study is included here even though it is the case study of a 26 year old man. This individual had a diagnosis of Asperger Syndrome and very severe depression.

The therapeutic intervention took place over 15 sessions and strategies included the individual keeping a diary of his actions and giving a number each day to show his emotional state. This was used to link his emotional

state with his actions in order to help him understand the link between how he was feeling and what he did. Although levels of depression and self harm did reduce during intervention, they increased again in the months following, though not to original levels. Outcomes were difficult to assess though some improvement was described, this could have been as the result of techniques given to write down and link emotional states and thoughts rather than the CBT itself. The diary also gave a structured daily routine, similar to that provided by the TEACCH approach, and may therefore have reduced anxiety, when this was stopped, behaviours once again began to escalate.

Two years after this study, Hare was once again involved in the only other study of the time regarding the use of psychotherapeutic interventions with people with ASD (Hare et al, 1999). This study of four individuals, attempts to explore the feasibility of using Personal Construct Psychology (PCP). The difficulties seen in ASD are described here as including depression and anxiety and this research attempts to use PCP to explore the bipolar descriptors of the way individuals construct their world in order to understand their approach to reality.

This research was also studying a limited number of adult males (mean age 26, n=4) and therefore cannot be generalised to use with either other adults or children. Though all were described as intellectually able, two of the four subjects found eliciting concepts difficult due to rigid thinking and difficulty interpreting the thoughts of others, fitting with previous cognitive descriptions. The researchers concluded that PCP may be a useful assessment tool for

some people with ASD but was time consuming and an appropriate therapeutic intervention for this group is yet to be developed. Although it is indisputable that children with ASD display anxieties (Gillott et al, 2001), it may be more useful to look for early intervention strategies than later therapeutic intervention.

More recent studies have concentrated on anxiety in individuals with ASD and have been modified by adding intervention components typically associated with applied behaviour analysis (e.g. systematic prompting and differential reinforcement) (Lang et al, 2010), in fact White et al (2009), view the need for a completely new approach, based on CBT. Therapists have used increased amounts of visual aides (e.g. cartooning, writing) and use of “special interests”, with some approaches being similar to social stories (Sze and Wood, 2008; Wood et al, 2009). Therapists have sought to teach appropriate behaviour and suppression of, for example, stereotypical motor movements (Sze and Wood, 2008), which could raise concern about the ethics of hiding ‘symptoms’. A larger study of 40 children (Wood et al, 2009), sought to provide an adapted CBT manual. Remission of anxiety disorders appeared for them, to be an achievable goal among high-functioning children with ASD but CBT needed to be substantially expanded. Poor social skills were seen to reduce the efficacy of traditional CBT unless modifications were made and though positive effects of anxiety reduction were reported, children’s self reports did not show any effect. The CBT in this study was used alongside parent training and social skills groups.

### 2.15.3 Conclusion

As yet then, though some therapeutic intervention may be useful during assessment of adult's needs, it is still very early days in using CBT with children with ASD. It appears to be generally agreed that CBT needs to be adapted for use with children with ASD, but in doing so, it could be argued that the intervention is moving towards a behavioural or social constructionist approach. It can therefore be supposed that much more work needs to be done before therapeutic intervention can be usefully introduced into schools, the concern being that cognitive differences may provide a barrier to therapeutic success. It would clearly be more useful to support a proactive approach than a reactive therapeutic intervention.

### **2.16 CONCLUSION**

Policy, research and interventions seem to show a long history of attempts to support the inclusion of children with ASD within mainstream schools. Children have often shown little generalisation of skills, and intervention could be viewed as an attempt to change behaviour and encourage conformity rather than to develop real learning. Policies have done little to describe ASD or suitable interventions. With almost 50% of children with ASD and a statement of SEN still attending special schools in this LA, it seems the LA may have a long way to go if they want to reduce out of county and special school placements.



Observable behaviours can have many hypotheses and interventions. Behaviourists view observable behaviour and change this through what could be described as rote teaching. This misses out the systems around the child and seeks only to change the child itself, perhaps using their excellent rote memory. If this were the case, it could be argued that there would be no need for special schools at all and does not explain why children need to change environments such as when moving to special schools.

TEACCH grew from the behaviourist tradition but recognises the cognitive differences of ASD. Its strengths based approach bridges the gap between cognitivists and behaviourists though in its pure form, is time consuming and intensive.

Cognitivists have attempted to explain the behaviour often seen in ASD, though theories fail to account for all areas of need or offer suitable intervention. Much cognitive research focuses on whether there is a cognitive difference rather than what interventions to use. Theory of mind may offer one explanation of poor social skills, and this area is one of the most studied and supported through research and intervention, though children appear to learn these skills by rote and are then unable to generalise. Difficulty in social learning has been seen to lead to anxiety and poor mental health, but therapeutic intervention is not yet ready to offer more than tentative support.

It could be argued that the physical environment of a special school could be different and better support children's sensory needs. If this were the case, we would expect to find reports of less stimulating environments including low

arousal areas, smaller number of pupils and less movement around school. Along with this, a greater tolerance by special school staff of sensory stimulation from children, including fiddling and movement around the classroom, would expect to be seen. Special schools may also accommodate and respect difference whilst lacking the need for conformity that it could be argued, is sought within mainstream.

It seems likely that no single theoretical background can account for or support ASD. The social construction of what it is to have ASD may lead to a deficit model with little recognition of strengths. Perhaps the cognitive and sensory differences that result from a possibly biological/genetic disorder, produce behavioural problems, some of which may be socially constructed as appropriate or not. Social difficulties and low expectation may lead to mental health problems. Therefore, there are many hierarchies within which to understand and target intervention.

### **2.17 Research questions**

This literature review has raised a number of questions that will be asked within the research in order to support the mainstream inclusion of children with ASD. These result from exploration of different theoretical perspectives and their use to support children with ASD. Questions are also raised following the review of the local and national context, autism agenda and parents role. The questions are shown in detail in Table Five following questionnaire design.

Three overarching research questions are therefore asked:

1. What are the differences, if any, between the ways in which mainstream and special schools approach interventions for children with ASD?
2. How do the opinions of the parents compare to those of schools?
3. What does opinion suggest may be the barriers to inclusion?

Twelve sub-questions support the answering of the main research questions:

1. When comparing perceptions of intervention use: Is there a tendency for special schools to perceive using more or less behavioural perspectives than mainstream schools?
2. Do schools and parents think that children with ASD have poor theory of mind and/or weak central coherence?
3. When comparing perceptions of intervention use: Is there a tendency for special schools to perceive using more or less cognitive perspectives than mainstream schools?
4. When comparing perceptions of intervention use: Is there a tendency for special schools to perceive using more or less of the TEACCH perspective than mainstream schools?

5. When comparing perceptions of intervention use: Is there a tendency for special schools to perceive using more or less social perspectives than mainstream schools?
  
6. When comparing perceptions of intervention use: Is there a tendency for special schools to perceive using more or less therapeutic perspectives than mainstream schools?
  
7. When comparing perceptions of intervention use: Is there a tendency for special schools to perceive using more or less sensory processing perspectives than mainstream schools?
  
8. What strengths do parents and schools report children with ASD have?
  
9. Why do parents believe their children with ASD moved from mainstream schools to either special or out of county schools?
  
10. Is there a reported difference in the training and confidence of staff in mainstream or special schools to support children with ASD?
  
11. Do mainstream schools, special schools and parents have different opinions of suitable outcomes for children with ASD?

12. Why do respondents think that children with ASD leave mainstream schools.

### **3. Research Methodology**

#### **3.1 Introduction**

This chapter will describe the ontological and epistemological assumptions that underpin this research and how this led to the choice of methodology and the collection of largely quantitative data in order to make comparisons between types of schools and parents. The choice and method of sample selection is given in section 3.4 before explanation of the limitations of this research. The design of the questionnaires is then given along with information about piloting. The chapter then moves on to view ethical considerations before completing with a discussion of the data analysis methods used.

#### **3.2 Ontology and epistemology**

In the philosophical debate between nominalist and realist assumptions (Cohen et al, 2008), this research will seek a critical realist stance. Taking neither external reality nor social construction as a standpoint, instead seeing external reality apprehended by the human mind and expressed through the process of human knowing.

Theories which only offer an account of constraining social structures (that is, theories adhering to naïve realism) are rejected for their failure to take account of the role which social actors play in defining their experience (Houston, 2001). The work of Bhaskar (1998) is acknowledged, relating to his

conviction that there is a reality independent of our thoughts or impressions. He divides reality into three levels: the empirical level consisting of experienced events; the actual level comprising all events, experienced or not; the causal level, embracing the mechanisms which generate events. (Bhaskar, 1998). This causal level is important within the theory, though it may not be open to direct perception it is still viewed as real as it causes events to occur. Houston (2001) describes this like magnetism and iron filings. At the empirical level, filings are seen to be pulled into a pattern by the magnet. Any satisfactory explanation however, must accept the unseen causal mechanism, i.e. magnetism.

This research will acknowledge the link between beliefs and actions, for example, that mechanisms promoting the need for inclusion may cause school staff to want to believe they are inclusive. This may lead to an attempt to show inclusive practice through the data they provide. In much the same way, parents may want to believe their child's move to a special school was appropriate, and therefore describe increased intervention within special schools.

Critical realism argues that the world consists of diverse systems, each with its own mechanisms. This research will therefore look for understanding and explanation of the tendencies of opinions as the combined effects of these systems means that we can never predict outcomes. Houston attempts to describe this inability to predict as the ingestion of an infection that leads to disease. Critical realism would argue against this simple cause and effect and

suggest that some individuals may ingest the same infection but remain healthy, perhaps because of a more resilient immune system. Causal laws are therefore analysed as the tendency of things rather than rules. In this research, it is not the plan to discover an intervention that will cause inclusion to happen, but to find opinions and tendencies. In individual cases, systems may reinforce or contradict each other, causing firm predictions to be wanting. Critical realism offers a philosophical framework for accommodating different knowledge claims and allows for knowledge that is uncertain or provisional in nature. The knowledge gathered within this research is that of opinion and is viewed as the provisional first step towards supporting inclusion of children with ASD. As such, participants are asked for their opinions and it is opinion that is reported through out this research,

### **3.3 Methodology**

Bhaskar (1998) advised critical realists that actors' accounts should be the starting point of any enquiry, understanding that these accounts would be open to the possibility of a distorted perception. For example, a school's account may be tainted by the effects of society's ideology of inclusion and the power of the LA to enforce inclusive practices. The results must therefore be viewed with some scepticism and form the first stage of enquiry. The need and recommendation for further research will be described following the conclusion to this piece of research.



Many commonly accepted research methods were investigated before a decision on the most appropriate method was made. Case studies were considered in order to gather rich and in-depth qualitative data from the accounts of parents and school staff. This however, would have narrowed the number of participants who could have taken part in the study which would not have met with the LA directive as this would have limited the number of schools and parents who could be included and have made the research findings difficult to generalize.

Direct observations were considered in order to view theories and interventions used, giving a hard external reality to data though necessarily interpreted through the eyes of the researcher. Observation may however, have led to unnatural behaviour of both children and staff and may not have been ethically defensible. The anonymity of participants would have been difficult to achieve in either case study or direct observation. Due to time constraint, observation would not have facilitated collection of data from many schools so a method to enable accounts from a wide number of individuals was needed.

Given the research questions and the need to discover general opinions and tendencies, questionnaires were chosen as the method most suitable and feasible within the constraints of the study. Questionnaires provided many advantages including collection of data in standardised form (Robson, 2002). The opinions of a large set of people and schools could be gathered in an efficient, low cost way and this took a short period of time but gathered large

amounts of data. This meant that all parent and schools who fulfilled research criteria could be included within the study. Collecting quantitative data also made it easier to make comparisons and see patterns between participants. The truth each tells is personal and interpreted but tendencies could begin to be discovered. This method was also beneficial due to its ability to allow anonymity across all participants therefore encouraging frankness (Robson 2002). The design and limitations of questionnaires is discussed later in this chapter.

### **3.4 Sample selection**

#### **3.41 Schools**

The LA has 9 of its own special schools and also uses 12 out of county special schools for children with ASD. These 21 schools were all questioned in this study in order to obtain data to show a comprehensive view of the schools perceptions of theories and interventions they use for children with ASD. In order to gather data from mainstream schools, for each special or out of county school questioned, a mainstream school of similar age group, known to have at least one child with a statement for ASD, was sent a questionnaire. The mainstream schools were selected by age groups of children attending whilst also covering each geographical area of the LA. A map of the LA was used in selection. Mainstream schools who had a statemented child with ASD attending were highlighted. The number and age range required were then chosen with as wide a geographical spread as possible. It is acknowledged that this may not show a representative sample

of mainstream schools, however, this was a purposive sampling of mainstream schools from a range of areas and age groups who had at least one pupil with a statement of SEN for ASD. The size of this sample was also necessarily restricted by the LA in terms of time, money and administration.

Sample selection led to 9 LA special schools, 12 out of county special schools and 21 mainstream schools being sent questionnaires. It was difficult to precisely match mainstream schools in terms of age groups attending, as five of the special and out of county special schools took children from all age groups and 6 took junior and secondary age together, which does not compare directly to any LA mainstream provision. Mainstream primary schools were favoured above infant or junior schools as primary take a larger age range so are a closer match to special provision. This resulted in a mainstream selection of 8 secondary schools, 11 primary schools and 1 each of infant and junior schools being sent questionnaires.

Information needed to be collected from key participants and individuals questioned needed to be knowledgeable about the events and the questions. Therefore, within schools, questionnaires were sent to SENCo's as the member of staff responsible for co-ordinating the support of children with statements of special educational needs.

Table Three School response rates

<b>Type of school</b>	<b>Age range</b>	<b>Number of responses</b>	<b>Percentage of responses</b>
Mainstream	2 secondary 4 primary 3 infant 1 nursery/infant	10	48%
Special	2 secondary 2 all ages (2-19) 1 primary-secondary 1 junior-secondary 2 unspecified	7 (3 LA, 4 out of county)	38%

### 3.42 Parents

Although it may have been interesting to send questionnaires to all parents of children with ASD, the numbers then required would not be feasible within this research due to the restrictions of time, resources and money. Including all parents would also include such a wide range of children and needs that it would be difficult to tell if children still within mainstream schools were there because of good practice, low level of need, or were in fact moving toward a place at a special school and questionnaires may have become complex in order to identify all variables. A subgroup therefore needed to be identified. Children who had only ever been at special school may have arguably had needs too severe at present for inclusion in mainstream. The opinions of parents of children who have moved from mainstream to special were thought to be a more suitable subgroup for participation as they would have experience of both types of provision and may arguably be the most likely population to have a child return to mainstream provision. It could also be imagined that children would move from mainstream to special provision as their needs had not been fully supported in mainstream and therefore,

differences between their previous experience and their present special school experience, could usefully be examined. Had their mainstream school fully supported their needs, it could be imagined they would not have had the need to move to special school unless by parental choice. These may not then be representative of all children with ASD, but are representative of the subgroup of those for whom mainstream had been an option. Another subgroup, whose views would have been of interest, would be those who had moved from special schools to mainstream schools, however, no one from this subgroup could be identified by the LA.

It was not possible to tell from data held within the LA, which children currently attending special schools had previously attended mainstream schools. This information would have been available by searching the children's individual files. Files are however, held within a variety of area bases, and to search each file for 162 cases would not only have given unnecessary access to personal information, but would not have been feasible within time constraints. All parents who fulfilled all 3 criteria shown were therefore sent a questionnaire:

1. Child with a statement of SEN
2. Primary need is ASD as identified by the statement of SEN
3. Child attends a special or out of county school

Introduction letters (Appendix Four) asked parents if their children had previously attended mainstream schools and if they had not, parents were

asked to return them uncompleted in order to understand the numbers this involved. The criteria resulted in 162 parents being sent questionnaires.

The response rate was 35% overall, with 18% fulfilling criteria and therefore used for data analysis. 5 questionnaires were returned by the Post Office marked 'no longer at this address', 30 parents returned completed and appropriate questionnaires i.e. their child had moved from mainstream to special school, 27 parents returned uncompleted questionnaires as their child did not fulfill criteria.

### **3.5 Limitations**

Questionnaires are generally not without disadvantage as what they cannot do is provide more than an individual's own interpretation. Data can be affected by characteristics of the respondent, for example memories of parents may be affected by negative experience or motivation. From a critical realist position, this individual opinion is one that is valued, however, schools may also want to offer a socially desirable response in order to show themselves in good light. One of the challenges of this research will be that described by Argyris & Schön (1974). Schools may describe their "theory of action" perspective, what they say they do, as compared to what they actually do – espoused theory vs. theory-in-use. This is acknowledged by critical realists within individual beliefs and interpretation. To minimise the effect of beliefs and mechanisms which may cause schools to give socially desirable answers rather than their own opinion, for example, what schools felt they

should say to show they are inclusive, questionnaires were anonymous and tendency was sought.

Questionnaires, usually postal, can have a typically low response rate. Questionnaires were therefore kept as short as possible to maximise return rate as it has been shown that shorter questionnaires are more likely to be completed by participants (Nakash et al, 2006). The study by Nakash et al also showed that repeated questionnaires or telephone reminders may help to improve response rate, however, as questionnaires were anonymous, it would not have been possible to identify non-returnees and one could also argue that repeated reminders may be intrusive. 105 parents did not return questionnaires, and sending out reminders would also have overstretched the already tight LA budget for this research.

It will be difficult to know whether the sample is representative of the population as it is self selecting, i.e. only those people who chose to return the questionnaire. All special schools used for children with ASD were sent questionnaires, however, with a 38% response rate, a sampling error may be seen and therefore, any extremes within data, i.e. responses that do not follow tendency, will be highlighted. The schools may not be a sample representative of the whole population, however, attempts to generalise to all schools is not the aim of this research, instead, tendency is gathered through the response of individuals as a first step in improving provision within mainstream schools for children with ASD. The 18% response rate from the chosen subgroup of parents also means that this population may not be representative. Data

analysis of parent responses also looked for any tendencies and any extremes or blanks are highlighted.

People with reading, writing or language barriers would be expected to be less likely to respond. Researcher contact details could have been provided to offer reading support and to scribe answers, however, there was a risk of entering into an interview situation and diverting from questionnaire questions and this was thought to be a risk to reliability and validity. Respondents were therefore encouraged to seek support from a friend to complete the questionnaires. Had it been requested, questionnaires could have been translated via the LA though it is acknowledged that parents with poor English skills may have been excluded from the research. To minimise misrepresentation, questionnaires were sent to all parents who fulfilled the categories and questionnaires were piloted to avoid misunderstanding and ambiguity. Full details of the pilot questionnaire are given in section 3.8. Some respondents may not have treated questionnaires seriously so an explanation was given of the research.

The voice of the child has not been gathered within this research but is acknowledged as an important missing variable. Within the scope of this research it was not possible, or requested by the LA, to gather the child's voice, but this is recommended as a next step for this research and for future projects.



### **3.6 Design**

A covering letter was sent with each type of questionnaire (Appendices Three and Four), formatted using the checklist for cover letters in Oppenheim (1995). This provides information for respondents about the research, sponsorship and confidentiality as well as supporting motivation for completion.

The questionnaires (Appendices Three and Four) start with factual questions to engage participants and ensure appropriate population sample. For parent questionnaires, this included a filter question to check the child was previously in a mainstream school but is now attending a special or out of county school. The question regarding details of diagnosis not only ensured appropriate population but also personalised the questionnaire. For schools, questions to confirm age group and either mainstream or special school status were initially asked. If sampling is faulty this may lead to a problem of external validity. It was for this reason that criteria for participant's inclusion were confirmed within the questionnaires.

For both school and parent questionnaires, many questions were closed, with a choice of yes/sometimes/no/don't know type answers to allow for coding and quantitative data to be collected and compared; however, questions also asked the participant to describe further, allowing for the collection of rich qualitative information giving valuable information about how interventions are delivered within different settings and ensuring the question had been

understood. Some questions used a funnel approach (Oppenheim, 1995), starting with a broad question about a theoretical approach before becoming more detailed about the subject. Factual, exploratory questions for example; age, type of school, diagnosis, were used as well as attitudinal and hypothesis testing questioning that include phrases such as 'in your opinion'. The final question was a rank ordering question. This was to determine the importance of outcomes for example social skills versus academic learning.

Construct validity within parent questionnaires was sought by asking for example;

**23. Does your child have sensory difficulties eg dislike of particular sound/movement?**

Yes            Sometimes            No            Don't know

Please describe briefly.

If the parent responds with 'yes', they were then asked to further describe, therefore allowing confirmation that this is indeed a sensory difficulty. These types of questions may support construct validity by viewing the description given by participants, we can confirm that the required construct was being explored and reported upon. Similarities between participant's responses were taken as face validity, an acceptance of what would seem reasonable; any that contrasted greatly were reviewed in more depth for errors in construct validity, seen by qualitative responses that did not support quantitative responses.

Parents were asked if they used a particular intervention at home. It could be argued that parents would know what they had used at home and therefore, if a 'don't know' reply had been given by them as part of the schools data, it would be possible to confirm by the 'do you use this at home' type questions, whether the parent did not know because the school had not told them, or because they did not know of the intervention.

A follow up letter to encourage completion of questionnaires was not used because for the questionnaires to remain anonymous necessarily meant that there was no way of knowing who had not responded and prompts to participants who had not completed and returned questionnaires were considered intrusive. It was considered more important to guarantee anonymity of both schools and parents in order for participants to feel able to voice opinions without giving socially desirable answers. Questionnaires were all returned within the stamped addressed envelopes provided and therefore it is known that only original questionnaires were returned. There was no use of incentives as this was not financially viable and was thought inappropriate within an educational research project.

Questionnaires for parents and school were designed by asking questions to explore use of interventions that are commonly seen within each perspective according to the literature review (Table Four, Table Five, Table Six). Questions were matched in terms of seeking opinions of interventions; however, they were not matched in terms of exact questions. This was done in order to make questions clear and relevant to the respondents for example

asking parents if a child fidgets at meal time compared to asking a school if the child twiddles during lessons. Schools were also asked for more detail about interventions used, where as parents may not have known the details of how interventions were used within schools. This may cause some variation when comparing opinions; however, it is the variation of opinion that is being sought rather than comparing any true or exact knowledge. Parents were of course answering with their own child in mind. Within the introduction letter, schools were introduced to the statistics for children with ASD and a statement of SEN within the LA. They were not asked to think of a particular child as this would not be comparable between mainstream who may only have one or two children with ASD, and special schools who may have many. It was the general opinion of the use and availability of interventions that was being sought.

The following tables show first a summary of perspectives and interventions seen in the literature review that supported design of the questionnaires. Tables 5 and 6 are divided into sub-questions derived from the literature review that support the ability to answer the research questions. Table five shows how sub-questions link to questions within the school survey. Table six shows how sub-questions link to questions within the parent survey. Any difference between parent and school questionnaires is highlighted.

Table Four– A summary of theoretical perspectives from the literature review that informed development of questionnaires.

Theoretical Perspective	Mainstream context	Special School or alternative context	Interventions
Behavioural	Grindle, C.F., Hastings, R.P., Saville, M., Hughes, J.C., Kovshoff, H. and Huxley, K. (2009) Intensive behavioural intervention  Koegel, R.L.and Frea, W.D. (1993) Behaviour Modification	Lovaas, O.I. (1987) Intensive operant conditioning  Koegel, R.L.and Frea, W.D. (1993) Behaviour Modification  Koegel, L.K., Koegel, R.L., Hurley, C. and Frea, W.D (1992) Self modification using rewards	ABC charts  Rewards  Sanctions  Rote learning
TEACCH		Panerai, S et al (2002) Comparative study using TEACCH in specialised class and control group in mainstream	Structured environment  Time visualisation  Precise routines  Incidental teaching using functional rewards  Individualised communication  Staff training
Cognitive Deficit	Ozonoff, S. and Miller, J.M. (1995) Teaching Theory of Mind in small groups  Baron-Cohen,S	Baron-Cohen,S et al (2007) Transporters video	Transporters video  Mindblindness games

	et al (2007) Transporters video		
Socially based theories	Brownell, M.D. (2002) Musical social stories  Hagiwara, T. and Myles, B.S. (1999) IT based social stories  Whitaker, P. (2004) Social skills group  Whitaker, P. et al (1998) Circle of friends groups	Whitaker, P. (2004) Social skills group	Social stories  Comic strip conversations  Circle of Friends  Social skills groups
Sensory processing	Menzinger, B. and Jackson, R. (2009) Effects of senses on behaviour		Low arousal area  Appropriate sensory stimulation  Sensory room/resources
Therapeutic	<b>Not used within schools</b> Hare, D.J. (1997) CBT with adult Hare, D.J. et al (1999) PCP with adult Sze. K and Wood, J. J. (2008) Wood, J. J. et al, (2009) White, S. W. et al (2009)		Cognitive Behavioural Therapy (CBT)  Personal Construct Psychology (PCP)

Table Five – Research sub-questions and corresponding questions used within schools questionnaires.

Sub-question	Corresponding questionnaire questions
<p>1. When comparing perceptions of intervention use: Is there a tendency for special schools to perceive using more or less behavioural perspectives than mainstream schools?</p>	<p>Do you use rewards/reinforcers to change unwanted or inappropriate behaviour? Do you use ABC techniques? (Such as keeping a record of Antecedent, Behaviour, Consequence)</p>
<p>2. Do schools and parents think that children with ASD have poor theory of mind and/or weak central coherence?</p>	<p>Do you think children with ASD are able to understand other people's thoughts and feelings? Do you think children able to see the 'bigger picture', for example; take into account everything they are told or see in order to create a coherent whole rather than concentrating on small parts individually?</p>
<p>3. When comparing perceptions of intervention use: Is there a tendency for special schools to perceive using more or less cognitive perspectives than mainstream schools?</p>	<p>Do you use any strategies for teaching theory of mind, emotions or mind blindness? eg The Transporters video, games, social stories, comic strips'. Please state.</p>
<p>4. When comparing perceptions of intervention use: Is there a tendency for special schools to perceive using more or less of the TEACCH perspective than mainstream schools?</p>	<p>Does your school use any visual interventions to structure the child's day? Do you use any form of communication other than verbal to support any children with ASD? Do your classrooms have dedicated areas for different activities? (eg reading area, ICT area) Are individual workstations available? (eg a separate table for one individual with their own resources, not used as a punishment) Do children have their individualised tasks with a clear start, expectation and finish? Are children <u>specifically</u> taught routines for example lunchtime (wash hands, line up, choose food etc) ?</p>
<p>5. When comparing perceptions of intervention use: Is there a tendency for special schools to perceive using more or less social perspectives than</p>	<p>Do you use social stories in school? Do you have social skills groups running? Do you have 'Circle of Friends'</p>

mainstream schools?	running?
6. When comparing perceptions of intervention use: Is there a tendency for special schools to perceive using more or less therapeutic perspectives than mainstream schools?	Is there access to Cognitive Behavioural Therapy or Personal Construct Psychology available within your school for pupils with ASD?
7. When comparing perceptions of intervention use: Is there a tendency for special schools to perceive using more or less sensory processing perspectives than mainstream schools?	Do you have colourful displays around the classroom? Do you have low arousal areas? Are children warned of sudden noises eg fire bell, playtime bell? Do you use specific sensory equipment in school? Are children able to hold, fiddle with items eg blu tac during lessons? Are children able to leave over stimulating areas? Are children able to get up and move around during lesson time?
8. What strengths do parents and schools report children with ASD have?	What do you think are some of the strengths of children with ASD in your school?
9. Why do parents believe their children with ASD moved from mainstream schools to either special or out of county schools?	Schools were not asked this question which was an unfortunate omission as this may have shown the opinions of school staff to barriers to inclusion.
10. Is there a reported difference in the training and confidence of staff in mainstream or special schools to support children with ASD?	What training in Autism (if any) have your staff had in the last 2 years? How confident do you think staff in your school are in supporting pupils with ASD?
11. Do mainstream schools, special schools and parents have different opinions of suitable outcomes for children with ASD?	Please order these outcomes for children with ASD in your opinion.
Other questions to show information about the environment that may affect intervention, for example, a quiet low arousal environment, adult time to implement interventions.	Total number of children on average per class (not just ASD). If there is a child with a statement of SEN for ASD in the class, what is the usual number of adults there would be in class? Number of times a child will change classroom for lessons during the day. How often do children have breaks?



Table Six – Research questions and corresponding questions used within the parents questionnaires.

Research Question	Corresponding questionnaire questions
1. When comparing perceptions of intervention use: Is there a tendency for special schools to perceive using more or less behavioural perspectives than mainstream schools?	Have rewards or positive reinforcers ever been used for your child? Parents were not asked if ABC techniques were used as it was thought that parents would only be aware of the intervention and not the underlying understanding of the behaviour the school had.
2. Do schools and parents think that children with ASD have poor theory of mind and/or weak central coherence?	Do you think your child can understand other people's thoughts and feelings? Is your child able to summarise the plot of a story or film rather than tell you all the details?
3. When comparing perceptions of intervention use: Is there a tendency for special schools to perceive using more or less cognitive perspectives than mainstream schools?	Has your child ever used any strategies to learn theory of mind, emotions or mind blindness? eg The Transporters video, games, social stories, comic strips'.
4. When comparing perceptions of intervention use: Is there a tendency for special schools to perceive using more or less of the TEACCH perspective than mainstream schools?	Does your child use any visual interventions (eg timetable, now next chart)to structure his/her day? Does your child use any form of communication other than verbal?
5. When comparing perceptions of intervention use: Is there a tendency for special schools to perceive using more or less social perspectives than mainstream schools?	Does you child use social stories? Has your child ever taken part in a social skills group?
6. When comparing perceptions of intervention use: Is there a tendency for special schools to perceive using more or less therapeutic perspectives than mainstream schools?	To your knowledge, has your child ever had Cognitive Behavioural Therapy or Personal Construct Psychology?
7. When comparing perceptions of intervention use: Is there a tendency for special schools to perceive using more or less sensory processing perspectives than mainstream	Does your child have sensory difficulties eg dislike of particular sound/movement? Has your child received any support or interventions for sensory difficulties?

schools?	Does your child find it difficult to sit still throughout, for example; a meal time, television programme, without getting up and moving around?
8. What strengths do parents and schools report children with ASD have?	What would you say are your child's main areas of strength?
9. Why do parents believe their children with ASD moved from mainstream schools to either special or out of county schools?	Do you think your child ever negatively affected the efficient education of other children in their mainstream school? What was the main reason for your child no longer attending mainstream school? Whose initial suggestion was it for your child to attend their present school?
10. Is there a reported difference in the training and confidence of staff in mainstream or special schools to support children with ASD?	Parents were not asked about this as it seemed doubtful that parents would be aware of what training school staff had.
11. Do mainstream schools, special schools and parents have different opinions of suitable outcomes for children with ASD?	Please order these outcomes for children with ASD in your opinion.
Other questions to show information about the environment that may affect intervention, for example, a quiet low arousal environment, adult time to implement interventions.	How many adults/children are in your child's class?

### **3.7 Ethical considerations**

On the face of it questionnaires can appear to be fairly unproblematic in ethical terms. Participation for example, can be a way to give consent (Cohen et al, 2008) and anonymity is easy to achieve if questionnaires do not contain identifiable data. Within this research however, there was an added dilemma that the questionnaires were not sent to a random population, but needed to be sent to particular individuals. This meant that names and addresses of participants had to be identified in order to post the questionnaires and

therefore, before participants had given their consent for involvement. Cohen et al, (2008) considered a participant anonymous when neither the researcher nor another person could identify the participant through any information provided. The questionnaires themselves were therefore anonymous, but the names and addresses of participants necessarily needed to be initially identified. Frankfort-Nachmias and Nachmias (1992) suggested ways of achieving anonymity including the use of codes to identify people and to use password-protected files and deletion of identifiers. These were strategies incorporated into the ethical resolutions given below.

A University of Birmingham ethical review of research self assessment form was completed prior to carrying out this research and ethics approval gained (Appendix Five). Information about the study was also sent to the LA commissioning department in order to gain ethical approval and to ensure compliance with the Data Protection Acts (1998; 2003). The British Psychological Society Code of Conduct, Ethical Principles & Guidelines (2005) was also adhered to. Relevant directives from the code are given here in bold followed by how these were met (BPS, 2005).

**Record, process, and store confidential information in a fashion designed to avoid inadvertent disclosure.**

Participants were identified by the LA assessment, statementing and review service. A list of schools and parents who met criteria required were provided via internal password protected, encrypted e-mail. Envelopes were printed within the educational psychology service and posted out to parents. The e-

mail containing details of participants was then permanently deleted and no personal information was stored.

**Ensure that clients, particularly children and vulnerable adults, are given ample opportunity to understand the nature, purpose, and anticipated consequences of any professional services or research participation, so that they may give informed consent to the extent that their capabilities allow.**

**Seek to obtain the informed consent of all clients to whom professional services or research participation are offered.**

A letter of explanation about the research accompanied all questionnaires (Appendix four). Participants were free to choose whether to return the questionnaire and this was made clear within the letter. It could be argued that some parents may have had difficulty reading or comprehending the letter, however, as contact was only made through this letter, it was not considered possible to support parents with this. It may be presumed that parents who could not read the letter, would not have been able to access the questionnaire and so would not have completed it or would have sought support, therefore also accessing the letter. Return of the questionnaire was taken as consent. No personal identification of individuals or schools was recorded on the questionnaires and therefore no person or school could be identified. Once the questionnaire had been returned, withdrawal from the study was not available as questionnaires were anonymous and therefore no individual questionnaire could be identified.

**Consider all research from the standpoint of research participants, for the purpose of eliminating potential risks to psychological well-being, physical health, personal values, or dignity.**

There were no consequences for non completion or return of the questionnaire. It was made clear that the research would not affect the child's current provision or lead to withdrawal of specialised provision as this may have caused distress.

Returned questionnaires did not carry any personal information and were therefore anonymous to all. Completed questionnaires were kept within locked drawers that have limited personnel access, within the educational psychology service and will be stored there for 10 years as required by the University of Birmingham. Findings released were necessarily anonymous as the researcher has no information to show who completed or abstained from completing questionnaires. No risk to individuals, environment or society was identified.

**Debrief research participants at the conclusion of their participation, in order to inform them of the outcomes and nature of the research.**

Separate parent and school information leaflets were produced at the end of the research and sent to all schools that had been sent questionnaires. Special schools were be asked to send a copy of the parent information sheet to any parent of a child with ASD and a statement of special educational needs.

**Take particular care when discussing outcomes with research participants, as seemingly evaluative statements may carry unintended weight.**

As parents from mainstream schools had not been involved within the study, they were not sent research results. This also ensures that no unfair expectations of either mainstream or special schools are created. It was made clear to schools and parents that tendencies were being reported and that each case was different. If they had concerns with a child's support, they were advised to speak to their school or educational psychologist.

### **3.8 Pilot**

If questions are incomprehensible or ambiguous, participants may interpret questions differently and then answer in different ways, this may lead to problems of internal validity (Robson, 2002). It is also important to confirm that questionnaires collect the data required to inform the research. In order to fulfil both of these requirements, a pilot was carried out for parent and school questionnaires.

The questionnaires were piloted by a parent within another LA and a mainstream school within the LA who would not be asked to complete a questionnaire in the actual research. This was to ensure that completion of a pilot questionnaire did not affect completion of the research questionnaire by giving piloted parents or schools extra time to think about or research socially

desirable or more specific answers by, for example, if a parent asked their schools about interventions, the parent's then not giving their own perspective. This variable may have had an impact on the outcome of research if parents or schools received both pilot and actual questionnaires. Pilots were returned and no changes were made.

The pilot participants were asked how long the questionnaire took to complete in order to provide this information to future participants. It was reported by pilot participants that questionnaires would take about 5-10 minutes to complete.

### **3.9 Data analysis**

As described in the previous sections, 3.4 'sample selection' and 3.5 'limitations', the sample size within this research is small and may not be representative of the whole population. This means that inferential statistic analysis was not completed as it has been shown that a much higher percentage and representative sample is needed for this (Robson, 2002). This research aims to reveal opinions and tendencies within actors' accounts and therefore, descriptive analysis was preferred. In analysing data, comparisons and relationships between types of schools and parents were viewed.

Percentages were shown as well as actual numbers in order to make comparisons between groups of different sizes. A reply of yes or sometimes was taken as the opinion that a strategy was used and the percentage of use

was therefore calculated. Where more than one question was asked for one area of intervention, a single percentage was calculated from the total amount of possible yes/sometimes answers. This allowed for schools not using interventions at all times as they may only sometimes be needed. Using an intervention 'sometimes' could be appropriate as it may not always be needed or appropriate. This research is aimed at finding opinions and tendencies and is looking in the first instance at whether schools use similar interventions. The opinion of appropriateness or success of interventions would add another dimension to the research. The literature review has already shown that many interventions lack evidence of usefulness and this was not an area this research had scope to address.

A possible total was found for each intervention, i.e. if all replies were 'yes' or 'sometimes', and a percentage score was then worked out. These were shown on a bar graph in order to easily view tendencies of opinion between groups of different sizes. Parents had been asked different questions that were considered more appropriate to them in some cases so it is not possible to offer a direct comparison of percentages. The opinion of parents was considered to see whether parents thought mainstream or special schools offered different interventions. Any extremes or answers that were not in line with tendencies were included but also reported separately.

For preferred outcomes, a score was assigned to each answer given, ranging from 7 for that described as most important, to 1 for least important. This was the opposite way to the numbers respondents had been asked to assign.



Respondents were asked to give 1 as most important as this seemed a more natural request. When scoring, it was clearer to give a larger number for the most important as this could then be seen on a bar graph, the higher number being the more important. As there were more parent respondents than schools, comparison using a graph was difficult as parents' totals were necessarily much higher due the larger number of responses. Totals of parent scores were therefore halved in order to make comparison between scores easier to view within a bar graph. Scores were not being directly compared, popularity of choice was being examined, and therefore, halving scores did not affect the result.

It could be argued that parents may see their present school in a more positive light than the previous mainstream which, it could be imagined, had failed to support their child appropriately. This may be shown in the data, by a similarity in results when comparing parents and special schools, against differing results when comparing parents with mainstream schools. Comparisons were an important part of data analysis and reasons for comparisons and differences are later explored.

Questions and answers were coded (Appendix Six ) and then recorded using a Microsoft Excel spreadsheet (Appendix Seven) by direct keying in from questionnaires. A trade off could have been made between decreasing the complexity of the data and losing information, however, it was felt unhelpful to lose some of the richness of data, so all was included. Data was 'cleaned' by being entered twice to check for errors as recommended by Robson (2002).

Each school or parent was given its own row. Each cell contained data from a particular variable with missing data left missing, 'The most acceptable solution to the problem of missing information is to not have any' (Youngman 1979, p21 in Robson, 2002 p.396). Putting zero may have caused confusion so cells with missing data were left blank, however, the reason for missing data is explored later as in social research it is always worth questioning the reason for missing data (Robson, 2002). If a 'don't know' response was available but was not taken, this was also questioned.

Descriptive statistics were used to analyse quantitative data followed by exploratory analysis which involves exploring the data to find out what they tell you (Fink, 1995). As recommended by Robson (2002), summaries in the form of graphs, means and amounts of variability were recorded to help make clear what the data had found. Memos were made as data coding took place in order to make note of any observations.

Qualitative data was gathered from parent questions concerning targeted behaviours, sensory difficulties and interventions and children's strengths. Qualitative data was also gathered from schools concerning targeted behaviour, sensory interventions, providers of training and children's strengths. In order to organize all qualitative data gathered, a table was produced to display qualitative answers to questions (Appendix 8). Robson describes the mantra of qualitative data analysis to be 'you know what you display' (2002, p 476). Robson rightly pointing out that data must be

displayed in order to be viewed and understood. The qualitative data from the questionnaires was therefore displayed within a table, allowing for comparison, tendencies and patterns to be recorded and missing data to be noted. Data that appeared not to follow tendencies was further investigated as it may show a misunderstanding of the question. Patterns were sought within some questions, for example, when looking at what strengths the child may have, the most common answers i.e. given by more than one respondent, were reported. In order to preserve the integrity and wholeness of each individual, the questionnaire number was entered next to qualitative responses. This allowed for corresponding quantitative data to be compared across individuals' data.

## **4. Results**

### **4.1 Introduction**

In this chapter, the results of data gathered from the questionnaires are shown. Each research sub-question is focused on in turn. Each section will start with a bar graph in order for tendencies of opinion to be easily viewed. Each section will then go on to describe quantitative and qualitative data relevant to that research sub-question, including reports of missing or extreme data. Percentages are reported along with the actual number of participants which is given within brackets. This section concludes with a brief summary of school environment information which may aid data interpretation and recommendations in following chapters.

#### **Key to abbreviations used within bar graphs**

MS – Mainstream schools

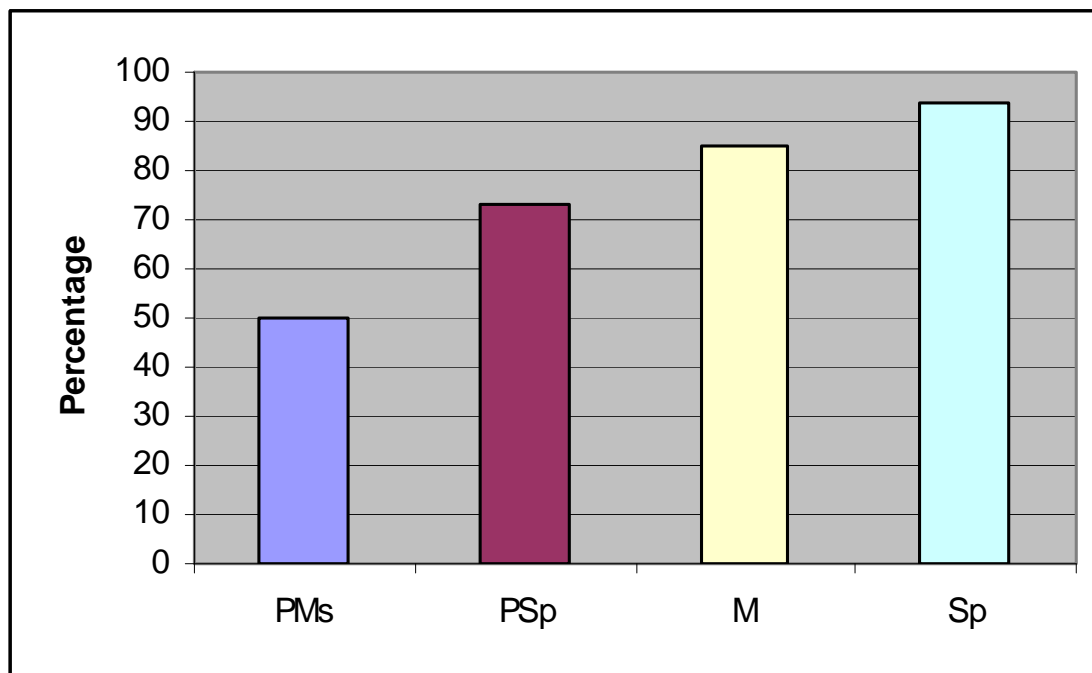
Sp – Special schools

PMS – Parent report of mainstream schools

PSp – Parent report of special schools

**4.2 When comparing perceptions of intervention use: Is there a tendency for special schools to perceive using more or less behavioural perspectives than mainstream schools?**

Figure One



Behaviourist interventions reported by schools and parents

Table Seven Questions asked to gather opinions of behavioural perspectives

Participants	Question asked	No. of responses
Parents	Have rewards or positive reinforcers ever been used for your child?	Responses 30 M/S 15 = 50% Sp 22 = 73%
Mainstream schools	Do you use rewards/reinforcers to change unwanted or inappropriate behaviour?  Do you use ABC techniques? (Such as keeping a record of Antecedent, Behaviour, Consequence)	Respondents 10 Yes 10  Respondents 10 Yes 3 Sometimes 4 No 3  Total yes/sometimes 17=85%
Special schools	Do you use rewards/reinforcers to change unwanted or inappropriate behaviour?	Respondents 8 Yes 8

	Do you use ABC techniques?	Yes 4 Sometimes 3 No 1 Total yes/sometimes 15 = 94%
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Table Eight Targeted behaviour reported

Parents	Mainstream schools	Special schools
Putting hand up Reinforce doing well Mood swings, swearing Ongoing targets Depression, frustration, low self-esteem, anger Toilet training, sharing Physical and verbal aggression Finishing work Anger management Complying with adult requests Social skills, inappropriate behaviour Learning abilities, behaviour, social skills Aggression Aggression, social, anxiety, sensory difficulties To reduce inappropriate ways of coping with stress, self harm/violence Stress management, behaviour issues, anger management To help with anxiety	None specified Calling out, inappropriate touching Silly noises, Flapping, Humming, rocking, hiding under tables Positive reinforcement Keeping school rules – be polite, keep safe, do your best Doing 'must do' jobs, sitting well on carpet, changing activity, going out/coming None specified Excellent work, time keeping, behaviour, attendance Attempting to write a sentence swearing, flirting, screaming, physical/verbal aggression	Socially expected behaviour, completion of work, remaining on task Distracted behaviour, off task Aggressive behaviour, language towards staff and peers, refusal to comply, inability to focus on task None specified Class disruption, shouting, self-harm, swearing, staying in class, working Remaining in class, completing tasks, use of appropriate language Inappropriate comments, noise, fixations Keeping class rules, IEP targets

Table Nine Rewards reported

Mainstream	Special
Free choice, stickers, choice of activity Stickers, Certificates, House points, Computer time, 1 <sup>st</sup> sitting dinner Stickers Golden time, verbal praise, positive messages home, stickers, thumbs up, trophies, certificates 5 minutes of construction, computer, stickers House points, certificates, canteen voucher, ipod nano, geometry sets, entry in £100 prize draw Stickers, reward time House-points, stickers, inform staff/parents, time with key worker	Points/grades to be exchanged for money or activities <b>Merits, house points, sweets</b> A motivating activity/object to be used for a limited period after successful completion of a task Praise, credits and computer time Favourite book or activity Verbal praise, stickers, points, stars, head teacher reward

All schools reported using rewards and sanctions.

70% (7) of mainstream schools reported using ABC at least sometimes.

87% (7) special schools reported using ABC at least sometimes.

63% (19) parents reported using rewards and sanctions at home.

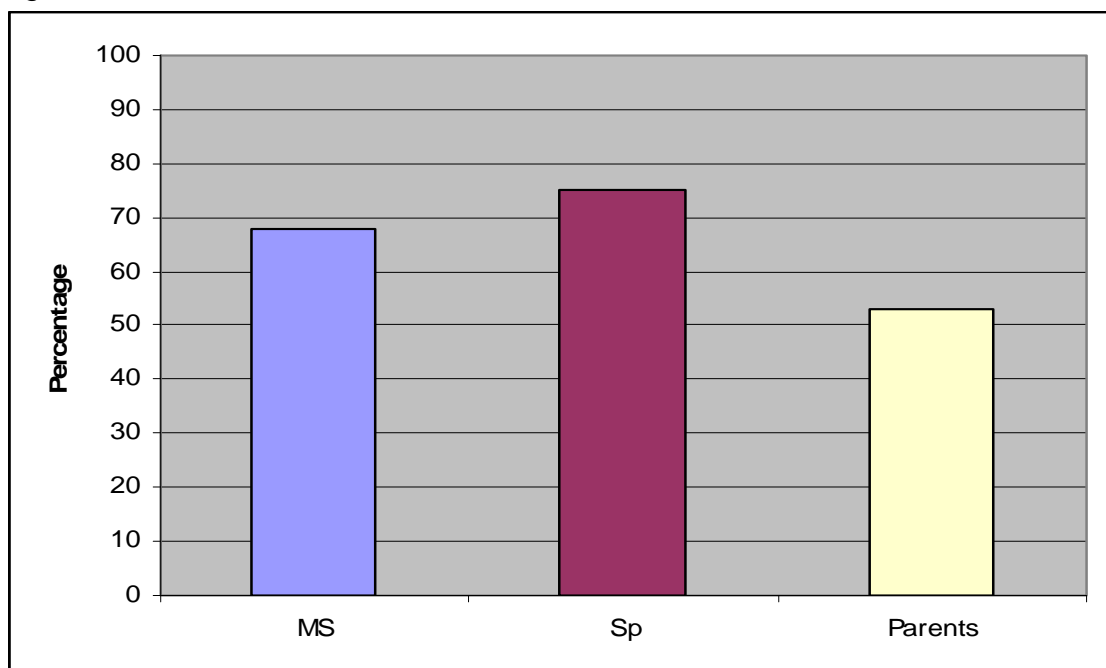
50% (15) of parents reported rewards and sanction in mainstream and 73% (22) in special schools. Stickers were the more frequently reported reward within mainstream schools, and motivating activities within special schools.

Parents' reports of the success of rewards and sanctions were that 50% (15) of the parents thought these were only sometimes successful, 10% (3) thought they never were and 23% (7) thought they were successful.

Though parents' opinions showed that behaviourist approaches were being used less than schools opinions reported, both agreed that they were used more often within special schools. All schools reported using rewards and sanctions though fewer mainstream schools reported use of antecedent, behaviour, consequence (ABC) techniques than special schools.

**4.3 Do schools and parents think that children with ASD have poor theory of mind and/or weak central coherence?**

Figure Two



Percentage of cognitive ability skills reported by schools and parents

Table Ten: Questions asked to gather opinions of cognitive skills

Participants	Question asked	No. of responses
Parents	Do you think your child can understand other people's thoughts and feelings?	Responses 30 Yes 4 Sometimes 19 No 7
	Is your child able to summarise the plot of a story or film rather than tell you all the details?	Responses 30 Yes 6 Sometimes 3 No 20 DK 1  Total yes/sometimes 32 = 53%



Mainstream schools	<p>Do you think children with ASD are able to understand other people's thoughts and feelings?</p> <p>Do you think children able to see the 'bigger picture', for example; take into account everything they are told or see in order to create a coherent whole rather than concentrating on small parts individually?</p>	<p>Responses 10 Yes 0 Sometimes 7 No 3</p> <p>Reponses 9 Yes 0 Sometimes 6 No 3</p> <p>Total Yes/sometimes 13 = 68%</p>
Special schools	<p>Do you think children with ASD are able to understand other people's thoughts and feelings?</p> <p>Do you think children able to see the 'bigger picture', for example; take into account everything they are told or see in order to create a coherent whole rather than concentrating on small parts individually?</p>	<p>Respondents 8 Yes 0 Sometimes 7 No 1</p> <p>Responses 8 Yes 0 Sometimes 5 No 3</p> <p>Total Yes/sometimes 12 = 75%</p>

The results table shows a percentage where 100% would be all participants in that group expressing that children could show theory of mind and central coherence at all times

70% (7) of mainstream schools reported that children with ASD could sometimes show theory of mind. 30% (3) thought they could not. 66% (6) of mainstream schools thought that children with ASD sometimes showed good central coherence. 33% (3) thought they did not. 1 school did not answer.

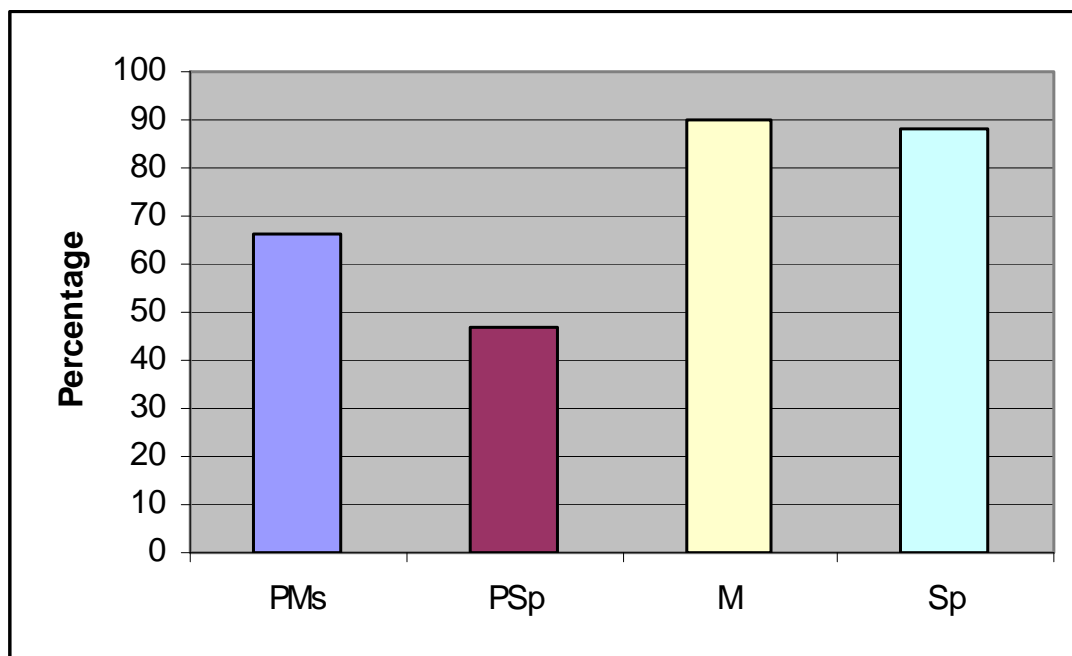
87% (7) special schools thought that children with ASD could sometimes show theory of mind. 12% (1) thought they could not. 62% (5) of special

schools thought that children with ASD sometimes showed good central coherence. 37% (3) thought they did not.

66% (20) of parents viewed their child having an area of weak central coherence. 63% (19) viewed their child sometimes showing theory of mind, 13% (4) thought they did have theory of mind.

**4.4 When comparing perceptions of intervention use: Is there a tendency for special schools to perceive using more or less cognitive perspectives than mainstream schools?**

Figure Three



Percentage of cognitive interventions reported by schools and parents

Table Eleven Questions asked to gather opinions of cognitive perspectives

Participants	Questions asked	No. of responses
Parents	Has your child ever used any strategies to learn theory of mind, emotions or mind blindness? eg The Transporters video, games, social stories, comic strips'.	Responses 30 Sp 14 = 47% MS 20= 66%

Mainstream schools	Do you use any strategies for teaching theory of mind, emotions or mind blindness? eg The Transporters video, games, social stories, comic strips'. Please state.	Total responses 10 Yes 9 Sometimes 0 No 1 Total Yes/sometimes 9= 90%
Special schools	Do you use any strategies for teaching theory of mind, emotions or mind blindness? eg The Transporters video, games, social stories, comic strips'. Please state.	Total responses 8 Yes 7 Sometimes 0 No 1 Total yes/sometimes 7= 88%

Table Twelve Cognitive strategies used

Mainstream School	Special school
Social stories, comic strip conversations, games	Social thinking approaches
Social stories	Social stories
Social games and stories, role models	Social stories, comic strips, emotional literacy training
Social stories, comic strips	Social stories, timelines, picture portraits, role play
Social stories	We use SEAL and a wide range of resources
Games, Thomas the tank faces	Games, social stories, comic strips
The Transporters, games, social stories, comic strips	Social stories
Social stories	
Social stories, comic strips	

90% (9) of mainstream schools reported using strategies to support cognitive deficit.

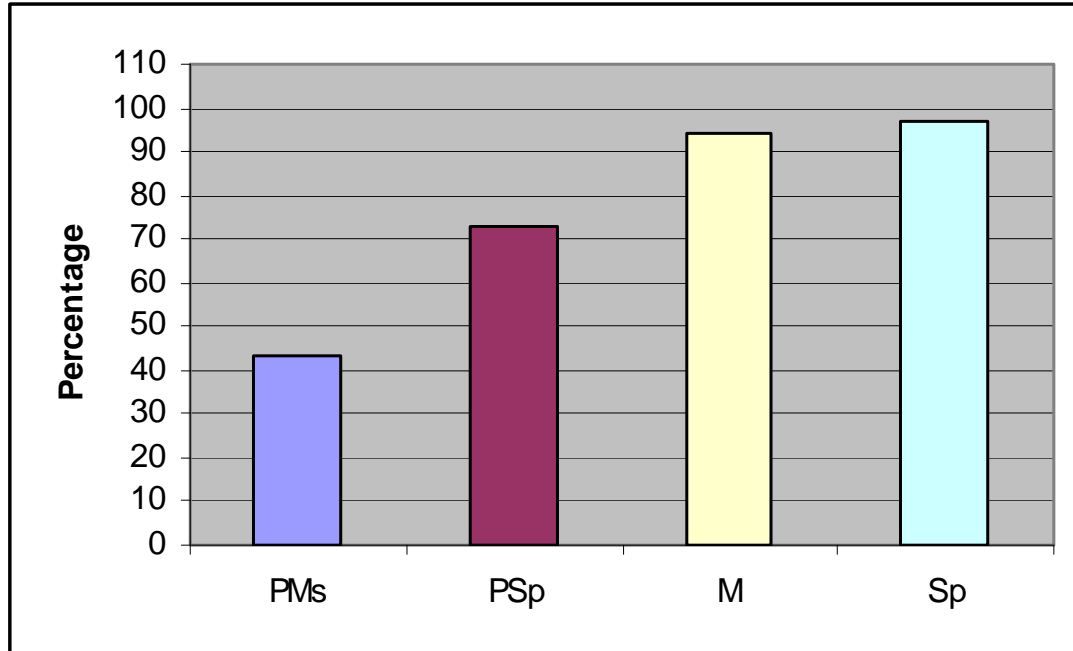
88% (7) of special schools reported using strategies to support cognitive deficit.

66% (20) of the parents thought their child had accessed cognitive deficit support from their mainstream school, 6 had not and 3 did not know. 47% (14) thought their child had accessed cognitive support from their special school, 37% (11) had not and 17% (5) did not know.

This appears to be the highest supported area of need as nearly all schools reported using some interventions to support cognitive deficit. The most common support for theory of mind was social stories, reported by 80% (8) of mainstream schools and 71% (5) special schools.

**4.5 When comparing perceptions of intervention use: Is there a tendency for special schools to perceive using more or less of the TEACCH perspective than mainstream schools?**

Figure Four



Percentage of schools and parents reporting TEACCH interventions

Table Thirteen Questions asked to gather opinions of TEACCH perspective

Participants	Questions asked	No. of responses
Parents	Does your child use any visual interventions (eg timetable, now next chart) to structure his/her day? Does your child use any form of communication other than verbal?	Total responses 30 Special 22 = 73% Mainstream 13 = 43%  Special 10 Mainstream 7
Mainstream schools	Does your school use any visual interventions to structure the child's day? Do your classrooms have dedicated areas for different activities? (eg reading area, ICT area) Are individual workstations available? (eg a separate table for one individual with their own resources, not used as a punishment) Do children have their individualised tasks with a clear start, expectation and finish? Are children <u>specifically</u> taught routines for example lunchtime (wash hands, line up, choose food etc)?	Total responses 10 Yes 7 Sometimes 3 No 0 Total responses 8 Yes 1 Sometimes 5 No 2  Total responses 10 Yes 10  Total responses 10 Yes 5 Sometimes 5 No 0 Total responses 10 Yes 7 Sometimes 2 No 1  Total yes/sometimes 45 = 94%
Special schools	Does your school use any visual interventions to structure the child's day? Do your classrooms have dedicated areas for different activities? (eg reading area, ICT area) Are individual workstations available?	Total responses 7 Yes 5 Sometimes 2 No 0 Total responses 8 Yes 3 Sometimes 5 No 0  Total responses 7 Yes 7

	(eg a separate table for one individual with their own resources, not used as a punishment) Do children have their individualised tasks with a clear start, expectation and finish? Are children <u>specifically</u> taught routines for example lunchtime (wash hands, line up, choose food etc)?	Total responses 8 Yes 8 Sometimes 0 No 0 Total responses 8 Yes 7 Sometimes 0 No 1  Total yes/sometimes 37 = 97%
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**Table Fourteen Visual interventions reported**

Mainstream Schools	Special Schools
Visual timetable Visual timetable, written prompts and reminders Communication in print, visual timetables and displays Visual timetable Symbols Visual timetable, widget symbols, makaton Visual timetables Coloured timetable, time out card Visual timetable, communication in print, labels, worksheets Visual timetable	Visual prompts, visual timetables, social stories Visual timetable, flash cards Teacch schedules, boardmaker symbols, PECS Visual timetable, social stories Visual timetable, time out card, sign Behaviour management sheets, feelings cards, timetable Objects of reference, now/next charts, timetables

All mainstream schools reported using visual timetables at least sometimes. 13% (1) believed they had specific areas for activities though 63% (5) sometimes did. 100% (10) reported offering individual work stations. 50% (5) of the mainstream schools reported individual tasks with a clear start and finish, the other 50% (5) sometimes thought they provided this. 90% (9) reported teaching specific routines at least sometimes.

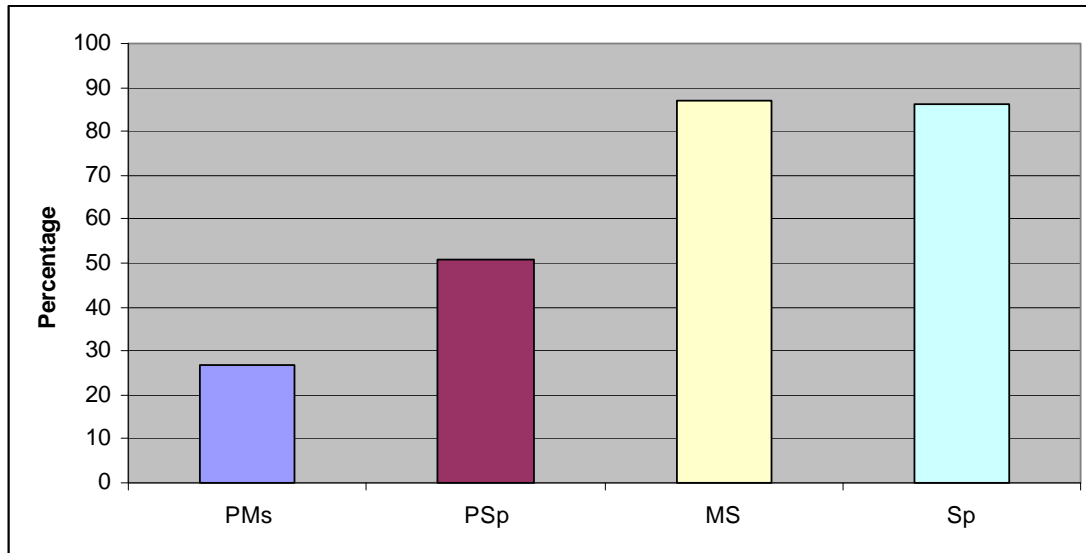
All special schools that answered this question reported using visual timetables at least sometimes. 1 school did not answer this question but had answered all other questions so may simply have missed this in error. 38% (3) reported having specific areas for activities though 71% (5) reported sometimes having this. 100% (7) reported offering individual work stations. All the special schools reported individual tasks with a clear start and finish. 88% (7) believed they taught specific routines at least sometimes

43% (13) of parents thought their mainstream school had used visual routines where as 73% (22) thought their special school had. Children did not appear to need extra communication strategies; this could be because of the population sample i.e. previously in mainstream so possibly high functioning.

Once again, parents were of the opinion that the special school offered more frequent use of strategies than mainstream. For both types of school, parents reported less than the amount of interventions the schools claimed to provide. Most schools claimed to use many TEACCH based strategies, with the main difference being all special schools claimed to offer individual tasks with a clear start and finish where as only half of the mainstream schools did.

**4.6 When comparing perceptions of intervention use: Is there a tendency for special schools to perceive using more or less social perspectives than mainstream schools?**

**Figure Five**



**Percentage of social interventions reported by schools and parents**

**Table Fifteen Questions asked to gather opinions of social perspectives**

Participants	Questions asked	No. of responses
Parents	Does your child use social stories?	Total responses 30 Special 15 Mainstream 9
	Has your child ever taken part in a social skills group?	Total responses 29 Special Yes/Sometimes 21 No 4 Don't know 4 Mainstream Yes/sometimes 10 No 17 Don't know 2
	Has your child had a Circle of Friends?	Total responses 29 Special Yes/Sometimes 9 No 9 Don't know 10 Mainstream Yes/sometimes 5 No 17 Don't know 6
	Total social interventions used	Total yes/sometimes Special 45 = 51% Mainstream 24 = 27%



Mainstream schools	<p>Do you use social stories in school?</p> <p>Do you have social skills groups running?</p> <p>Do you have 'Circle of Friends' running?</p>	<p>Total 10 Yes 9 Sometimes 1 No 0 Total used 10</p> <p>Total 10 Yes/past 7 No 3</p> <p>Total Yes/sometimes/past 27 = 87%</p>
Special schools	<p>Do you use social stories in school?</p> <p>Do you have social skills groups running?</p> <p>Do you have 'Circle of Friends' running?</p>	<p>Total 7 Yes 3 Sometimes 4 No 0 Total used 8</p> <p>Total 7 Yes/past 4 No 3</p> <p>Total yes/sometimes/past 19 = 86%</p>

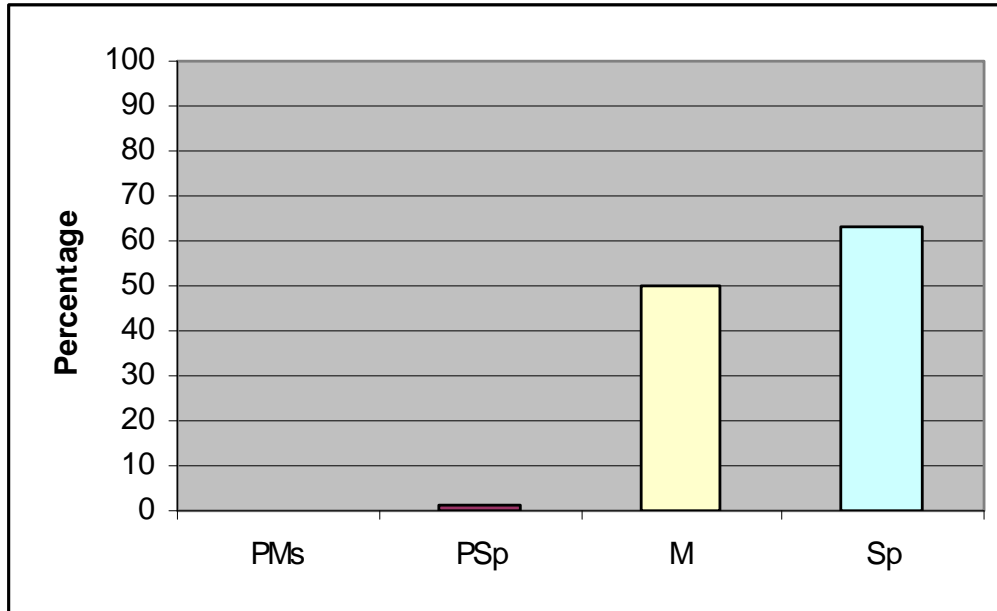
All mainstream schools reported using social stories at least sometimes. All thought they had at sometime used social skills groups though only 60% (6) thought they were presently running one. 70% (7) reported either using circle of friends or had in the past.

All special schools reported using social stories at least sometimes. All special schools thought they had at sometime used social skills groups 85% (6) were presently running one. 42% (3) reported either using circle of friends or had in the past.

In mainstream school, parents thought their child had accessed, at least sometimes, social stories (33% (9)), social skills groups (34% (10)) and Circle of Friends (17% (5)). In special schools, parents thought their child had accessed, at least sometimes, social stories (50% (9)), social skills groups (72% (21)), and Circle of Friends (31% (9)).

**4.7 When comparing perceptions of intervention use: Is there a tendency for special schools to perceive using more or less therapeutic perspectives than mainstream schools?**

Figure Six



Percentage of therapeutic interventions reported by schools and parents

Table Sixteen Questions asked to gather opinions of therapeutic perspectives

Participants	Question numbers that gathered data	No. of responses
Parents	To your knowledge, has your child ever had Cognitive Behavioural Therapy or Personal Construct Psychology?	Total responses 15 Special 1 = >1% Mainstream 0
Mainstream schools	Is there access to Cognitive Behavioural Therapy or Personal Construct Psychology available within your school for pupils with ASD?	Total responses 10 Yes 2 No 4 Outside Agency 3 Don't know 1  Total Yes/outside 5 = 50%
Special schools	Is there access to Cognitive Behavioural Therapy or Personal Construct Psychology available within your school for pupils with ASD?	Total responses 8 Yes 5 No 2 Outside Agency 0 Don't know 1  Total Yes/outside 5 = 63%

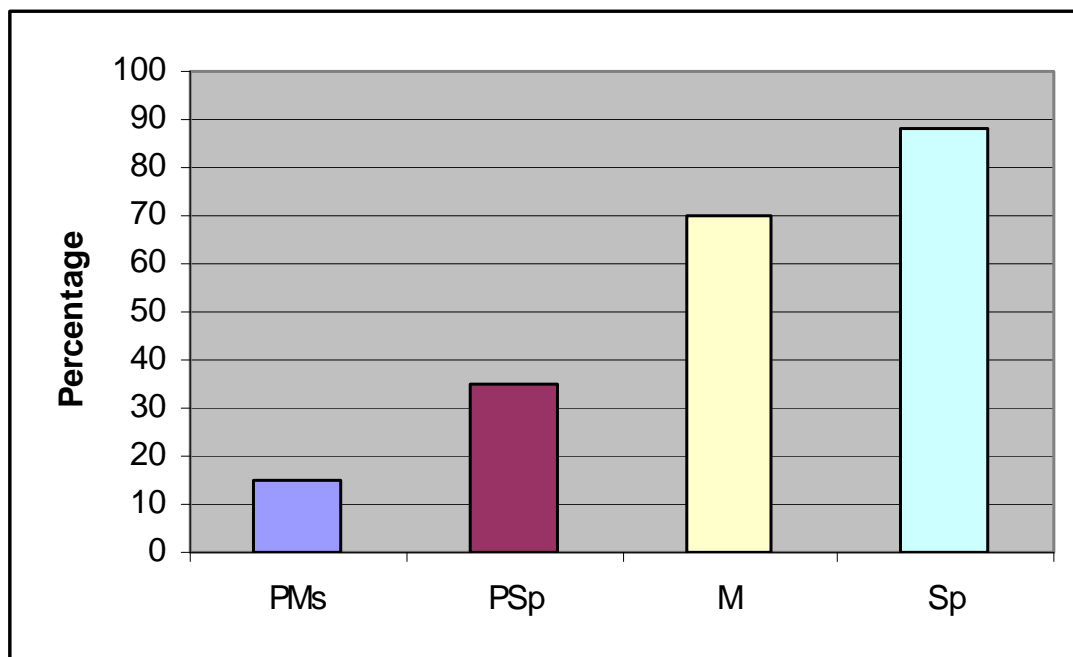
20% (2) mainstream schools viewed therapeutic interventions such as CBT and PCP as being available though 30% (3) reported them being available via outside agencies.

75% (5) special schools reported that therapeutic intervention was available.

Only one parent (>1%) reported the availability of a therapeutic intervention and this was within a special school.

**4.8 When comparing perceptions of intervention use: Is there a tendency for special schools to perceive using more or less sensory processing perspectives than mainstream schools?**

Figure Seven



Percentage of sensory interventions reported by schools and parents

Table Seventeen Questions asked to gather opinions of sensory perspectives

Participants	Questions asked	Number of respondents
Parents	<p>Does your child have sensory difficulties e.g. dislike of particular sound/movement?</p> <p>Has your child received any support or interventions for sensory difficulties?</p> <p>Does your child find it difficult to sit still throughout, for example; a meal time, television programme, without getting up and moving around?</p>	<p>Total respondents 30 Sensory difficulties 20 = 66%</p> <p>Total respondents 20 Special 9 = 35% Mainstream 5 = 15%</p> <p>Total respondents 20 Yes 20</p>
Mainstream schools	<p>Do you have colourful displays around the classroom?</p> <p>Do you have low arousal areas?</p> <p>Are children warned of sudden noises eg fire bell, playtime bell?</p> <p>Do you use specific sensory equipment in school?</p> <p>Are children able to hold, fiddle with items eg blu tac during lessons?</p> <p>Are children able to leave over stimulating areas?</p> <p>Are children able to get up and move around during lesson time?</p>	<p>Total respondents per question 10</p> <p>Yes 10</p> <p>Yes 1</p> <p>Yes 8</p> <p>Yes 1</p> <p>Yes 10</p> <p>Yes/Sometimes 10</p> <p>Yes 9</p> <p>Total yes/sometimes 49 = 70%</p>
Special schools	<p>Do you have colourful displays around the classroom?</p>	<p>Total respondents per question 8</p> <p>Yes 3</p>

	Do you have low arousal areas?	Yes 8
	Are children warned of sudden noises eg fire bell, playtime bell?	Yes 6
	Do you use specific sensory equipment in school?	Yes 8
	Are children able to hold, fiddle with items eg blu tac during lessons?	Yes 8
	Are children able to leave over stimulating areas?	Yes/Sometimes 8
	Are children able to get up and move around during lesson time?	Yes 8
		Total yes/sometimes 49 = 88 %

Table Eighteen Sensory support reported

Parents Mainstream	Parents Special	Mainstream	Special
Own quiet room tried but limited success ear defenders quiet area	Quiet place to go if noisy Taught to cover ears can help him better because less numbers sensory toys to calm and weighted blanket to relieve anxiety Quiet classes, no loud bell, no noisy assemblies or concerts, quiet areas for lunch. quiet area daily support Sensory activities, hydro-pool, trampoline, clay etc	Weighted blanket, wobble cushion, vests Own small item to hold	Fidget toys, wobble cushions, Swiss belts Tactile equipment, sensory room with bubble tubes, cause and effect switches Sensory diet SI room Toys and games Sea drum Sensory room

All mainstream schools reported having colourful displays within their classes but only 10% (1) reported a low arousal area within class though 30% (3) report low arousal areas within school and another 10% (1) thought they had plans to have one. 50% (5) mainstream schools viewed no low arousal area or plans for one.

37% (3) of special schools reported colourful displays with the remainder having these in some areas only. All special schools thought they had a low arousal area either within class or within school.

All schools thought they would allow children to fiddle at least sometimes. All schools believed they would also allow children to leave over stimulating areas at least sometimes. 10% (1) of mainstream schools reported using specific sensory resources to support children compared with all the special schools. 90% (9) of mainstream schools and all special schools thought they would allow children to move around the class if needed.

Mainstream schools reported less frequent breaks, with 10% (1) reporting breaks every 30 minutes compared to 37% (3) of special schools reported breaks every 30 minutes. 70% (7) of mainstream reported breaks every 30-120 minutes compared to 50% (4) special.

80% (8) of mainstream schools and 87% (6) of special schools believed they warned of sudden loud noises at least some of the time.

66% (20) of parents reported their child having sensory processing difficulties, all of which included over sensitive hearing. According to parents, only 50%(10) of the children with sensory difficulties had been supported in school for this, 15% (4) in mainstream and 35% (9) in special school. 66% (20) of parents reported their child having difficulty sitting which correlates to the number of children reported having sensory difficulties. Qualitative data provided by parents often reported environmental support for example. Quiet area, no noisy assemblies.

#### **4.9 What strengths do parents and schools report children with ASD have?**

Table Nineteen Questions asked to gather opinions strengths

Participants	Question asked	Number of respondents
Parents	What would you say are your child's main areas of strength?	30
Mainstream schools	What do you think are some of the strengths of children with ASD in your school?	10
Special schools	As above	8

Table Twenty – Children’s strengths reported by parents and schools

Parents	Mainstream Schools	Special Schools
<p>Can be loving and caring, academic learning, loves younger children.                      Loving, drama, dancing, reading                      Constant need to learn new things, very happy, extremely helpful, good person, Kind, very thoughtful.                      Maths, science, sport, swimming, football, tennis, running, polite.                      Learn quickly what he wants to learn                      Maths, gaming                      Physically agility, loving to family                      Focus, concentration, aptitude for subjects that are of interest, reading, general knowledge. Awareness of self and diagnosis                      IT, technology, practical things, helping others                      Memory, art. IT                      Loving, fun, caring towards family, very knowledgeable about natural science, animals, interested                      Gardening, art, cooking, maths                      Sometimes loving, no other strengths, struggled through school and will into adulthood                      Intelligence                      Intelligent, knowledgeable about science and maths, healthy diet, exercises</p>	<p>Honest, curious, humour                      They bring a different dimension to school life. They make mainstream children more tolerant and accepting, make us all smile.                      Honesty, open minded, lovely manners, seeing independence develop                      Happy to come to school, achieve alongside peers, their needs are addressed                      Individual strengths, specific abilities, relationships                      Particular interests, learning to follow routines                      Respond to 1:1 motivation, perseverance                      They are part of the school, they take part in all areas of school life                      Loyalty, confidence, courage, hard working, acceptance, tolerance</p>	<p>Logical, analytical thinking, ability to learn in depth, musical talent, ability to learn and live alongside others with special needs, artistic talents.                      Good role model, well motivated, well behaved, always try to do their best                      Ability to follow routines, use of technology, sorting equipment, drawing, memorising lines for a part in a play, visual perception                      Behaviour management – self                      Sense of humour, creative insight into the world, just kids                      They access a range of lessons and are able to work with a range of staff. They achieve a wide range of accreditation and learn in a supportive and understanding environment.                      Independence, adaptability.                      Flexibility, coping with change</p>

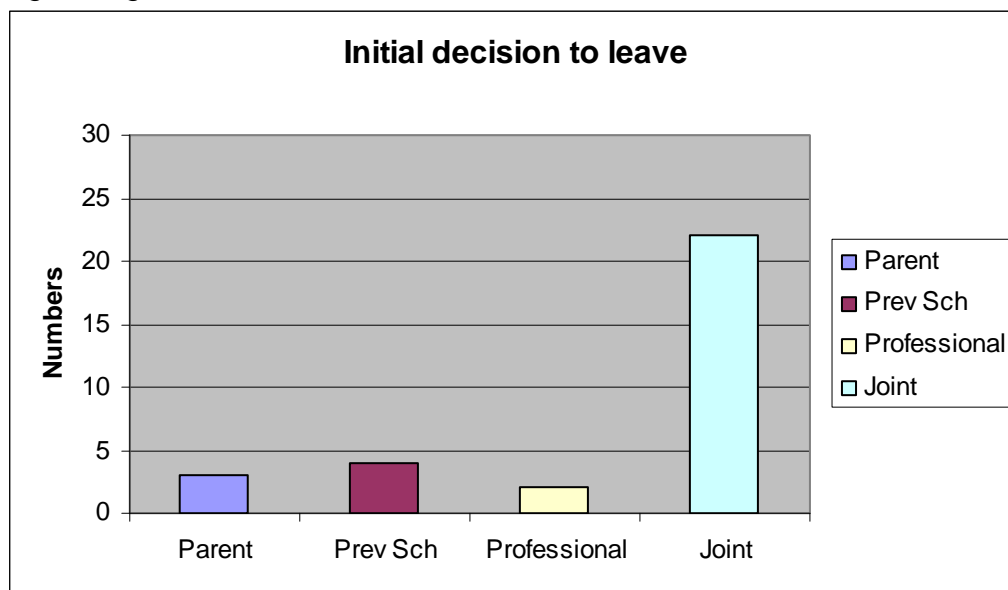


<p>Humour, intelligence, single minded, loyalty to friends, compassion Technical creativity, deconstructive intelligence Remembering facts Tries hard, likes to make everyone happy Academically able Physical ability, memory Tries to be normal, wants to be accepted, wants to learn, wants to go to mainstream Academic learning Agile, trampoline, bouncing ball Intelligent, caring to animals, kind to others Sense of humour, likeable, cheerful, art, look after others in need</p>		
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Parents most frequently cited ‘loving’ as one of their child’s strengths. Other strengths frequently seen were humour, memory, IT and specific knowledge of special interests. Schools also mentioned memory, humour and special interests as strengths. Only one parent reported their child having no strengths and expected them to fail in adulthood as they had at school.

**4.10 Why do parents believe their children with ASD moved from mainstream schools to either special or out of county schools?**

Figure eight



Number of parents reporting initial reasons to leave mainstream schools

Table Twenty One Questions asked to gather opinions of reasons to leave mainstream schools

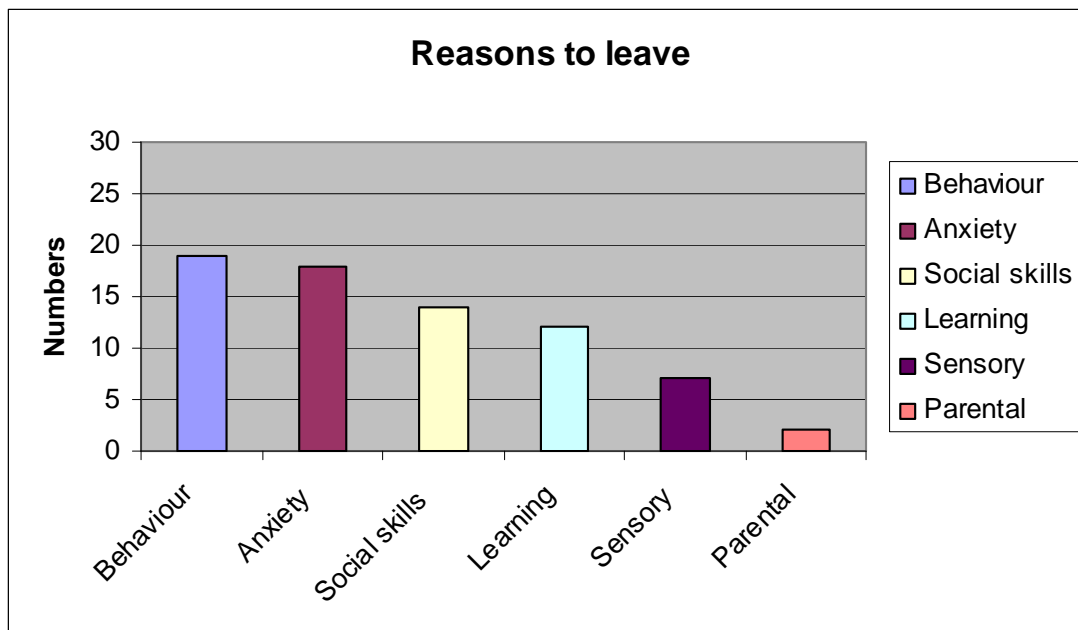
Participants	Question numbers that gathered data	Number of respondents
Parents	Whose initial suggestion was it for your child to attend their present school? Do you think your child ever negatively affected the efficient education of	30

	<p>other children in their mainstream school?          What was the main reason for your child no longer attending mainstream school?</p>	
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76% (23) parents thought their child had a negative effect on peers at sometime.

73% (22) parents thought it had been a joint decision to move to a special school, only 10% (3) parents thought it had been their idea and 13% (4) thought it was the previous mainstream schools idea.

**Figure Nine**

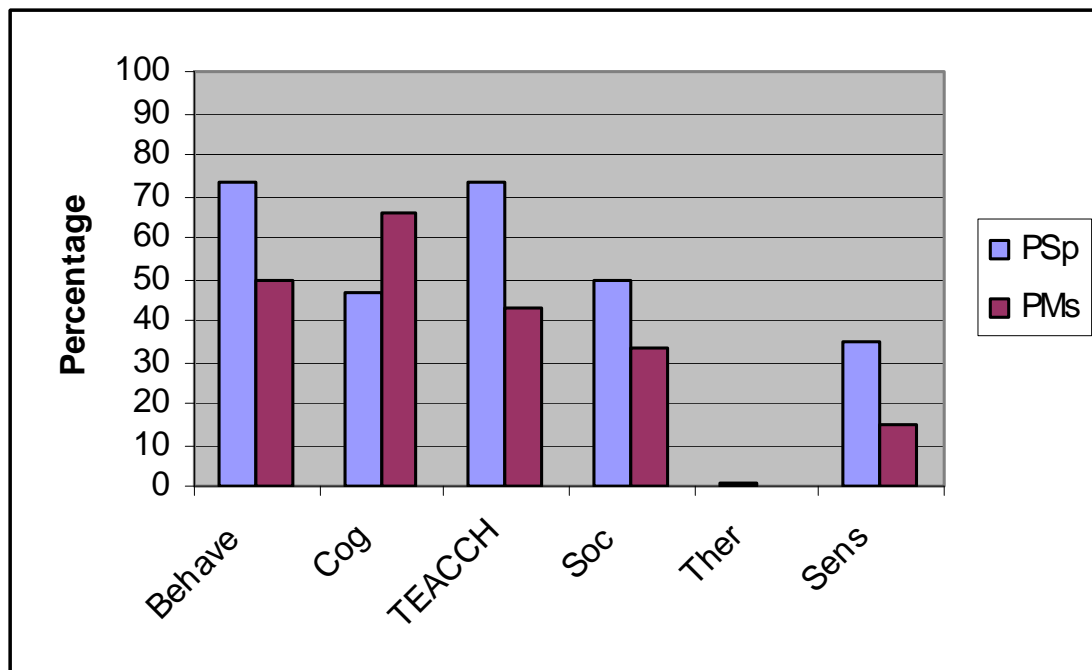


Reasons for children leaving mainstream school as reported by parents

Parents were asked for the main reason that for their child leaving mainstream school. Many parents gave more than one reason and therefore there are more replies than parents. Reasons given for leaving mainstream, in order were: behaviour (19); anxiety (18); social skills (14); learning (12); sensory (7); parental choice (2)

**4.11 Do parents of children with ASD think mainstream and special schools offer different approaches and interventions?**

Figure Ten



**Percentage of interventions used as reported by parents**

Parents were of the opinion that interventions were used in special schools more often than in mainstream with the exception of cognitive interventions. However, with the exception of therapeutic, parents did report all interventions in mainstream schools.

18 questions to parents had options of 'don't know' and 11% (2) of these were used. Two interventions had 50% of the 'don't knows' reported between them. These were therapeutic interventions and Circle of Friends, suggesting these may not be well known to parents. Other answers of don't know were accompanied by knowledge of the intervention within the home, suggesting that parents did not know of its use, rather than not knowing what the

interventions were. Don't know was more often given in reply to interventions used within special schools.

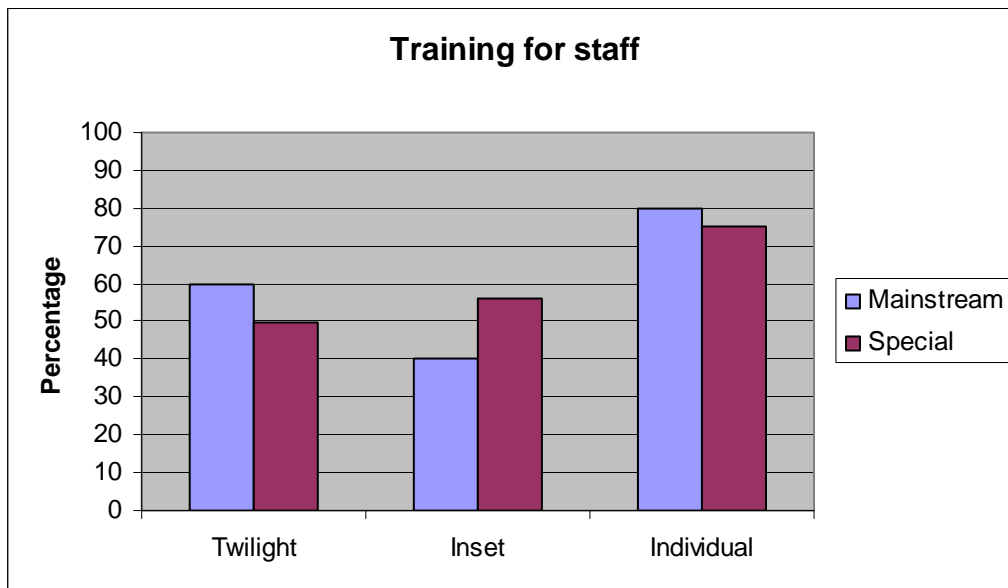
**4.12 Is there a reported difference in the training and confidence of staff in mainstream or special schools to support children with ASD?**

Figure eleven



**Percentage of confident staff as reported by schools**

Figure twelve



**Percentage of training as reported by schools**

Table Twenty Two Questions asked to gather opinions of differences in staff training and confidence

Participants	Questions asked	Number of respondents
Mainstream schools	What training in Autism (if any) have your staff had in the last 2 years? How confident do you think staff in your school are in supporting pupils with ASD?	10
Special schools	As above	8

Table Twenty Three Training providers

Mainstream	Special
IDS, EP	Autism Oxford in house therapy team
IDS	CASS, External ASD agencies, Sunfield School
IDS, SALT, People first	Sunfield school, in house training, SLT team
Local Authority	In house and external, EP specialist in ASD
IDS	ASD support team
ASD Team	Lighthouse
IDS	LA
Students in school with ASD	

20% (2) mainstream schools reported they had all ASD confident staff, 70% (7) reported some confident, 10% (1) reported few confident.

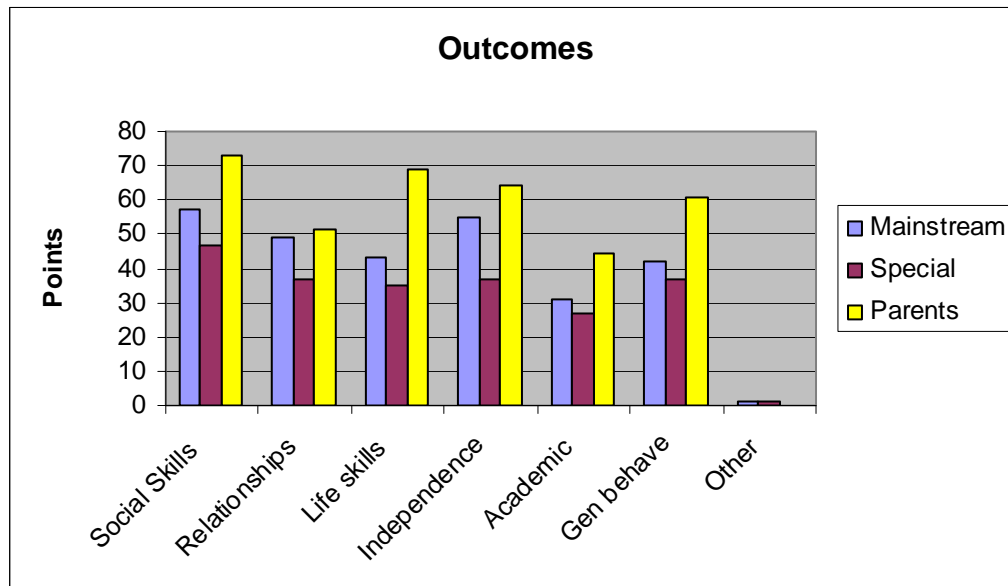
62% (5) of special schools reported all their staff were ASD confident, 25% (2) reported some confidence and 12% (1) reported few confident staff.

Mainstream schools reported 60% (6) twilight training sessions, 40% (4) inset sessions and 80% (8) individuals sent on courses

Special schools reported 50% (4) twilight training sessions, 62% (5) inset days and 75% (6) individuals on courses.

**4.13 Do mainstream schools, special schools and parents have different opinions of suitable outcomes for children with ASD?**

Figure thirteen



**Points awarded to each outcome following report by parents and schools**

**Mainstream schools** Judgement of importance most to least– Social skills, Independence, Relationships, Life skills, General appropriate behaviour, Academic learning

**Special schools** Judgement of importance most to least– Social skills, Independence, General appropriate behaviour, Life skills, Relationships, Academic learning

**Parents** Judgement of importance most to least– Social skills, Life skills, Independence, General appropriate behaviour, Relationships, Academic learning

All groups were of the opinion that academic learning was the least important outcome in the list for children with ASD and social skills was the most important.

Table Twenty Four – Other outcomes stated

Parents	Mainstream schools	Special schools
None	Routine	Self worth, self belief, self confidence

#### **4.14 The school environment**

Table Twenty Five Questions asked to gather opinions of school environment

Participants	Question numbers that gathered data	Number of respondents
Parents	How many adults/children are in your child's class?	30
Mainstream schools	Total number of children on average per class (not just ASD). If there is a child with a statement of SEN for ASD in the class, what is the usual number of adults there would be in class? Number of times a child will change classroom for lessons during the day. How often do children have breaks?	10
Special schools	As above	8



Mainstream schools have approx 3x more children per class than special schools according to parents.

Mainstream schools have approx 2-3x more children per class than special according to schools.

Number of adults per class according to parents (mean) M/S 2.35 Sp 3.06

Number of adults per class according to schools (median) M/S 1-2 Sp 1-2

Mainstream schools report less frequent breaks, with 2/3 having breaks every 30 minutes to 2 hours where as  $\frac{3}{4}$  Sp report breaks every 30 minutes.

#### **4.15 Summary**

This chapter has shown the results gathered from questionnaires. It has shown bar charts and descriptive statistics in relation to each research question and given resulting tendency of opinion from schools and parents before finally reporting on perceived differences in school environments. The next chapter will go on to interpret data and attempt to answer the research questions.

## **5. Discussion**

### **5.1 Introduction**

This research was commissioned to begin to find ways for the LA to reduce expensive out of county and specialist school resources by improving the inclusion of children with ASD in LA mainstream schools.

Data gathered from questionnaires shows reports of similar interventions believed to be used in both mainstream and special schools. Differences between types of school lie in opinion of the number of staff confident with supporting children with ASD in school, the sensory environment and strategies, and the view parents have of intervention availability compared to schools views.

This chapter will now consider inclusion in mainstream schools for children with ASD. Strengths and limitations of the research are then discussed before making recommendations for future practice and research.

### **5.2 Inclusion**

Local and national policies suggest that nearly all children with special educational needs can be successfully included in mainstream education but that schools must accommodate the needs of every child, removing barriers and incorporating the views of parents and children. Inclusive practice, it is suggested (DfES, 2001), relies on knowledge, skills and understanding,

resources and attitudes. Taking into account the duty given by The Special Educational Needs and Disability Act (SENDA) (2001) to educate children with special educational needs in mainstream schools ‘unless it is incompatible with either:

- (a) the wishes of his/her parent, or
- (b) the provision of efficient education for other children’.

Improving inclusive practice for children with ASD is now discussed in more detail following findings from this research under themes drawn from policies of inclusion.

### **5.3 Knowledge, skills and understanding**

‘Children who should be able to be taught in mainstream settings are sometimes turned away and too many staff feel ill equipped to meet the wide range of pupil needs in today’s classrooms’ (Audit Commission, 2002, p.8).

This quote from 2002 seems to be echoed in the tendency of opinion within this research. Data in section 4.12 show that 70% of mainstream schools thought they had ‘some’ staff who were confident to support children with ASD. 60% of special schools however, thought that all their staff were confident. Though schools report similar types of training in terms of inset or individual sessions, there appears to be a difference in reported training providers. Mainstream schools usually reported training provided from within

the LA where as special schools used external providers. It would be interesting to compare the actual training packages different providers give.

The training and confidence reported may reflect the fact that special schools having a higher percentage of children with ASD compared to mainstream schools. A mainstream secondary school for example, may have over 2000 children with only 4 with a statement of special educational needs for ASD. Of course, there are likely to be many more children within the school who have a diagnosis but do not have a statement of SEN. With the National Autistic Society reporting 1 in 100 children having ASD, a mainstream teacher with a class of 30 children may only have a child with ASD once every 3 or 4 years. Ensuring all staff are confident may therefore not seem appropriate to mainstream schools, though it could be argued as necessary to be inclusive to children with ASD. Staff in special schools may be more likely to have children with ASD in their class every year and therefore, whole school confidence may seem more appropriate. Special school staff may feel they have good experience as ASD would not be unusual to them. It would therefore seem fair that we are finding an opinion of whole school confidence in ASD in many special schools but a lower report of confident staff within mainstream schools.

The SEN Code of Practice (2001) suggests that with the right training, strategies and support, nearly all children with special educational needs can be successfully included in mainstream education. Ensuring good quality training and promoting whole school confidence may therefore be a way

forward in inclusion, supporting knowledge skills and understanding within mainstream schools. Looking beyond ASD however, if staff were expected to include children with many different types of SEN, schools could not be expected to train their whole staff in all areas of need. It may be more realistic to have individual staff within a school trained in a particular SEN who can then advise and support their colleagues.

#### **5.4 Resources**

Though government policies (DfES, 2001) report the need for resources to support inclusion, the data shows a wide difference of opinion in the resources thought to be held by mainstream and special schools. This difference is seen ranging from reports of micro resources (section 4.2); such as the more gratifying rewards of schools trips and food treats in a special school rather than mainstreams stickers; to differences in sensory resources (section 4.8) and the physical environment and staffing levels (section 4.14).

Any actual difference in resources could affect specific interventions used. Special schools reported using more TEACCH based interventions than mainstream schools (section 4.5). The largest difference here was that a lower percentage of mainstream schools reported specific classroom areas for specific activities. As seen earlier, TEACCH is made up of six main areas; staff training; physical organisation; communication systems; intervention; task orientation and time visualisation (Mesibov, 1997). If there was a lower rate of physical environmental organisation within mainstream schools,

perhaps because of the restriction of physical space, it could be that a piece of the TEACCH jigsaw would be missing and therefore, the structure that may reduce anxiety and challenging behaviour would be less adequate. This concern is echoed by Greenway (2000) who highlighted the lack of environmental modifications and resources within mainstream schools compared to special schools. According to questionnaires in this study, special schools report offering structured individual tasks more often than mainstream schools, the higher number of staff believed to be available to each child perhaps would make this more logistical.

TEACCH is not the only intervention that could be affected by resources, all mainstream schools reported having colourful displays within their classes but low arousal areas were not often reported. It was earlier hypothesised that the physical environment of a special school could support children's sensory needs. In section 4.8, staff opinions of low arousal areas, smaller number of pupils and less movement around special schools means the environment may indeed be less stimulating to children with ASD and may prove more sympathetic to sensory difficulties. The special school environment may offer benefits that mainstream schools may find difficult not without further resources and this would seem an appropriate line of enquiry to follow up.

## **5.5 Accommodation**

Some of the data gathered from the questionnaires showed a possibility that mainstream schools could be trying to change rather than accommodate children, reflecting a more integrated rather than inclusive view. Though this was not a question specifically asked, it could point to a barrier to inclusion. From the qualitative data gathered in section 4.2, behaviour targeted for change by mainstream schools included reports of, 'flapping, humming, rocking' (mainstream school questionnaire) that may more appropriately need environmental sensory resources, whereas, 'To reduce inappropriate ways of coping with stress' (parent questionnaire about mainstream schools) may call for reduction of the stress inducer rather than appropriate ways of coping. Most special schools reported targeting teaching appropriate skills for example, 'completion of work, class rules'. Mainstream schools could perhaps be inadvertently attempting to change the cognitive make-up of these children rather than accommodating them and teaching appropriate skills, if their reported opinions are reflected in their work.

Other approaches have argued poor generalisation of learned skills into other areas (Ali and Frederickson, 2006), and this was one of the concerns quoted in this piece of research when reviewing behavioural strategies. Many opinions reported interventions appearing to teach the child to perform for reward rather than understanding, in much the same way as the behaviourist approach. Schools may be teaching children to conform for the benefit of the context rather than to improve the child's own experience or understanding,

this conformity rather than accommodation then may lead to anxiety that is reported both in past research (Mesibov, 1997), and in this current study.

## **5.6 Attitudes**

One way we could try to view the attitudes of school staff may be through the expectation they have of their pupils. Special and mainstream schools showed similar expectations of cognitive ability in section 4.3, such as central coherence, though we cannot know if their children were of similar ability and whether their expectations fitted with the child's ability. **Parents had slightly lower opinions of ability than schools though we can only hypothesise why this may be. It may be that schools are not as aware of children's difficulties as parents. It could also be that the environment at school and the interventions offered allow for better use of children's skills and children are not generalising these skills into use at home.** We could perhaps learn something from comparing skills children use at home and school.

Schools and parents gave academic learning the lowest priority compared to other options given (section 4.13). This may mean that staff in mainstream schools could feel their academic teaching ability is not a priority here, but it is already seen that some staff report they do not feel confident to support the specific needs of children with ASD. This could leave staff feeling ill equipped and may prove a barrier to learning and support in mainstream classrooms.



### **5.7 The provision of efficient education for other children.**

In order to help understand how to promote inclusion for children within mainstream schools, this research questioned why children leave mainstream schools. The Special Educational Needs and Disability Act (SENDA) (2001) clause to not include children in mainstream schools if it affects the provision of efficient education for other children was raised. Many parents reported that the behaviour of their child with ASD had a negative effect on peers at sometime (section 4.10), such trends are concerning as this could give rise to children going to special schools for the benefit of their peers. This is not always the case however as one school quoted a strength of 'They bring a different dimension to school life' (section 4.9). They make mainstream children more tolerant and accepting, make us all smile' (mainstream school). This raises a question as to the benefits there can be to mainstream peers of including children with ASD versus the possible negatives. Teaching tolerance and acceptance of difference must surely be a benefit to all.

The shift away from the individualistic models of development and learning to a model supportive of more inclusive classroom practices (Mallory, 1994), emphasised the role of social activity and seems important here, with the need to develop social skills and relationships, where people are of the opinion that children may have a negative effect on peers. The data from the questionnaires showed social skills being the third most reported reason for children to leave mainstream schools (section 4.10) and the most important outcome according to opinions of schools and parents (4.13). The studies

seen in the literature review (Whitaker, 2004; Whitaker et al, 1998) were criticised for not giving children with ASD generalisable social skills. What they did profess to give though, was increased time spent with peers, and positive outcomes for peers in terms of support and understanding for children with ASD. The rote interaction that Whitaker et al (1998) may have developed using Circle of Friends was concluded by Whitaker et al at the time as conformity, and so not highly valued as building friendships, but this could be the first step in a positive relationship with peers.

### **5.8 Wishes of parents**

The wishes of parents and the need to be answerable to parents was a view initially raised as a reason that children may go to special schools (Barnard et al, 2000), yet the majority of parents in this study thought it had been a joint decision between themselves and professionals (section 4.10). Even though statistics tell us that parents of children with ASD are one of the main groups to attend tribunals for school placement, the data from this research does not paint such a negative picture and a more collaborative decision seems commonly reported. This may raise issues of professional development for professionals such as educational psychologists and out reach services who may be part of the collaborative decision to move a child. It must be considered that parents who completed questionnaires however, may be those who have worked collaboratively with professionals and were therefore willing to help with completion. It could be imagined that parents who have

not found professionals so supportive may not have wanted to help although perhaps they may still have taken the opportunity to have their say.

Parents opinions of interventions in special and mainstream schools showed some differences (section 4.11). Parents reported all interventions except cognitive, in mainstream schools less often than they reported in their use in special schools. It could be expected that mainstream schools may not offer interventions as often as special schools as they would have fewer children in need of them., however, parents were only reporting about their child, who it would appear, parents thought had more interventions in special school.

As parents were only reporting opinions about the case of their own child, it could be expected that the child would have similar personal needs in mainstream or special school. Yet parents were often of the opinion that that their child did not have interventions in mainstream school that they did have in special schools, leading to a higher report of intervention in some areas (section 4.11).

It could be argued that parents may not know what is happening in their schools, suggesting that schools may not communicate or work in partnership with parents. However, it could be that parents had higher expectation of special schools because their child had moved there. This expectation could mean that if parents had not heard of an intervention being used within a mainstream school, they thought it was not used. If parents had not heard of an intervention being used within a special school, they interpreted this as

themselves not knowing about its use. A positive attribution to special schools could cause a barrier to mainstream inclusion though it is fair to expect that parents see their present school in a more positive light than the previous mainstream which, it could be imagined, they feel had failed to support their child appropriately.

### **5.9 Barriers to inclusion**

Possible barriers to inclusion were seen within opinions shown in the data. One of the most visible being the difference in parent reports of interventions used, compared with schools (4.11). Parents consistently reported interventions less often in mainstream schools than they reported in special schools. If parents opinions are that interventions are more common in special schools, this could lead them to request a place here. Research suggests that children with SEN can feel isolated within mainstream schools (Ainscow, et al, 1999) and shows that when it comes to special schools, parents and carers can see them as the 'safest' option, creating a barrier to inclusion. With parents seeing the move to special school as a collaborative decision with professionals further research may seek to find professional opinion of differences between mainstream and special schools to ensure professionals have positive expectations and accurate knowledge of schools and interventions as well as knowledge of mechanisms that can cause barriers.

With 66% of parents reporting their child having sensory difficulties (section 4.8), the low reported of support for this area within mainstream schools

alongside opinions of a higher stimulating environment such as colourful wall displays and higher numbers of children per class, could cause a barrier for children with ASD. Sensory processing abnormalities have been found to be correlated with higher levels of stereotypic, rigid, and repetitive behaviours (Baranek, Foster, & Berkson, 1997). Menzinger and Jackson (2009, p 171) suggest 'It is good for teachers to remember that what we call 'challenging behaviour' is often no more than a way of trying to cope with experiences of pure terror'. With a higher stimulating environment reported by mainstream schools compared to special, sensory intervention may ideally have been reported at least as frequently within mainstream schools as special school, however, it is always possible that the children within mainstream schools do not have sensory needs and therefore less intervention is necessary. Training provided to schools would be a valuable data resource to ensure staff are aware of this need however, as anxiety and challenging behaviour could be the result of sensory processing difficulties compounded by the environment.

Research and policy has often failed to tell us what strengths children with ASD have in order to overcome weakness. For children who are often described as having poor social skills and difficulty with relationships, parents most frequently cited 'loving' as one of their child's strengths. This would reinforce the need for children with ASD, like all children, to stay within their local community in order to be close to the families that they love. A view of ASD based on weakness therefore having the possibility of leading to a barrier to inclusion as local peer friendships would not be seen as a reason to stay in their local school.

All groups tended to put academic learning as the least important of listed outcomes for children with ASD and social skills as the most important. This would fit comfortably with peer difficulties already seen within reasons for leaving mainstream schools and Greenway's study (2000) that concentrated on the need for social skills. It would be difficult to imagine how gaining academic qualifications would be useful to a young person leaving school unless they also had the social skills needed to communicate. People with ASD often view social relationships as the most important outcome (Humphrey and Lewis, 2008). The lower priority of academic learning as an outcome would go against the LA idea that children who are at an age appropriate level academically would be more appropriately placed within mainstream schools. If social skills are more important and special schools report more social interventions, more children are likely to move into special provision.

From a critical realist position, outcomes can never be predicted because of the interplay between mechanisms. If different groups seek different outcomes for children however, a conflict may arise and this may explain the difference between LA directive for academically able children to attend mainstream schools, versus schools and parent views on the lower importance of academic achievement. Perhaps this is a route towards the high number of tribunals for children with ASD. The more socially able child may be more easily included in mainstream schools rather than the academically able.

### **5.10 The role of educational psychology**

This research has shown areas where the educational psychologist can play an important role. The recent DfE Green Paper states that 'Educational psychologists can help to develop the skills of teachers and other professionals working with pupils with SEN' (DfE, 2011. p. 105). This has clear implications for supporting the knowledge and confidence of school staff to ensure developing inclusion for children with ASD. For this, EPs would need to ensure their own professional development in the area of ASD to promote awareness of barriers to inclusion and relevant evidence based interventions for support.

EPs can be part of the continued partnership with parents that is needed to enable parental knowledge of what intervention is available within different types of school and how this may meet their child's needs. The recent DfE paper shows how 'Where educational psychologists are deployed to work directly with families, this can help parents to understand their child's needs and the support that will enable the child to fulfil his or her potential' (DfE, 2011. p. 105).

### **5.11 Reflection on Strengths of Research**

This research was designed to begin to find ways to support the inclusion of children with ASD in mainstream schools. In keeping with critical realism, it

attempted to gather accounts from social actor's as the first stage of enquiry. In taking account of the social role played by respondents, the data were examined for tendencies of opinion rather than rules, allowing for participants accounts to be valued as their own truth. This research allowed for opinions to be seen in the reports and expectations of schools and parents rather than attempting to draw firm conclusions and rules for inclusion.

The voice of parents was valued and considered as a strength to this research. Bhaskar (1998) advised critical realists that actor's accounts should be the starting point of any enquiry. The quantitative data gathered was easily compared between parents and between schools. The qualitative data gathered from the questionnaires promoted an interpretive validity that is, catching the interpretations of participants (Cohen et al, 2008). This enabled participants to have a personal voice whilst giving clarification of meaning and understanding.

Collecting information from many respondents permitted numerous accounts to be gathered whilst guaranteeing anonymity to minimise socially desirable answers (Cohen et al, 2008). Questionnaires proved a good place to start in understanding opinions and expectations of participants though observations may be a good place to continue the theme of this research.

Questionnaires allowed invitation to the whole relevant population within the LA within the short space of time available and allowed for a standardised approach. This research can therefore be consistently replicated, adding to



the reliability of the findings. However, although the literature review allowed for the most common interventions and descriptions of inclusion to be identified to support construct validity within questionnaires, the effects of the LA setting and history may require an updating of questions if used again.

All participants could have been affected by 'compensatory rivalry' described by Robson (2002) when a group or individual improves performance when it sees itself under threat. The introductory letter accompanying the questionnaire therefore included confirmation that this research would not affect current provision, to encourage true representations.

### **5.12 Reflection on the limitations of this Research**

The absence of the voice of the child is acknowledged as a limitation in this research. A next step in this research would be to gather children's opinions of their experience in schools and the support they have received. Ethical considerations would need to be carefully explored in order for the children to benefit from this.

The gathering of data was carried out entirely through questionnaires and has not received any form of triangulation. Results therefore are acknowledged as the opinion and interpretation of participants involved, accepting the link between beliefs and actions, for example, a school's account may be tainted by the effects of society's ideology of inclusion and the power of the LA to enforce inclusive practices. This may lead to an attempt to show inclusive

practice through the data they provide. In much the same way, parents may want to believe their child's move to a special school was appropriate, and therefore describe increased intervention within special schools. In the same way, SENCo's completing the questionnaires may not know if interventions are actually used in class, for example, a visual timetable left unchanged at the top of a wall, or a social story left abandoned beneath a pile of books, may prompt the SENCo to imagine it is being used. The reliability of the questionnaire approach is not sufficient to ensure validity. Participant error or bias may have affected answers, however, anonymity and the search for tendencies may help to overcome some degree of this. For example, not needing to give socially appropriate answers as the participants could not be identified. The information gathered did provide a view of the mechanisms that may be at play within the inclusion of children though ecological validity may be lacking due to the framework of questions limiting expression of real experience.

Observations would be a useful addition in further research and show how interventions are used within schools. The addition of open questions within current questionnaires may have helped to define how parents 'knew' what interventions had been used and how staff thought they actually used interventions. Further questions that would have been helpful would ask if staff thought, for example, that having 'some' staff confident with ASD was enough, or if they thought all staff should be confident.

Due to self-selection within the population of the study, generalizability is not possible. It cannot be known if the population is a fair representation of the whole population who were sent questionnaires, for example, severity and presentation of ASD. To increase validity, the respondents could have been compared to information on the whole population; however, this was not available as the LA do not hold data in this form. A single question asking participants who did not plan to return the questionnaire, why this may be, could have given added knowledge and may even have engaged people enough to respond more fully. This may be useful to trial in future to see if a response can be gained and something learned about using questionnaires, for example, if a respondent ticked 'not interested' or 'no time to complete'.

The sample selection of mainstream schools was small as it was matched to the number of special schools who were sent questionnaires. To improve this research, all mainstream schools could have been sent questionnaires as all special schools were. This would have given more data and shown opinions of a wider population. This could have been sent electronically to reduce postage costs, however, although the ability to send emails to all schools now exists within the local authority, it did not at the time of sending the questionnaires. Each school would therefore have to have their email address searched for and keyed in individually which would have been unrealistic within the time available.

Reliability and validity of data interpretation and coding is difficult, for example, the interpretation of language such as 'sometimes', and percentages drawn

from the use of interventions. Opinions expressed tell us nothing about whether the frequency and use of interventions were appropriate or not. The question of appropriateness would again call for opinions and perhaps evaluation of outcomes to show whether interventions had given a desired outcome.

Construct validity is also difficult to prove as the questionnaires could be measuring expectations of parents rather than actual interventions used, however, it was important to understand parental expectation, this was not taken as the truth of interventions used.

## **6. CONCLUSION AND RECOMMENDATIONS**

### **6.1 Conclusion**

Conclusions drawn recognise the construction of reality by participants completing the questionnaires and results must therefore be viewed with some scepticism and form the first stage of enquiry. Further questions arising from this research are given in section 6.3.

Research questions attempted to find whether mainstream and special schools used different approaches to intervention for children with ASD, including opinions of parents, in order to begin to reveal mechanisms that may support or cause barriers to inclusion. Tendencies appear to show opinions of both special and mainstream schools using the same interventions though parents feel they see intervention less in mainstream schools. Data appear to suggest some areas that could be potential barriers to inclusion:

- Differences in staff training providers (Section 5.3)
- Higher levels of staff confidence in special schools (Section 5.3)
- Reports of less resource within mainstream schools including lower staff levels and higher numbers of children (Section 5.4)
- Interventions that may teach rote learning in order to meet the needs of the school rather than the needs of the child (Section 5.5)
- Low priority of academic outcomes (Section 5.6)

- A view of negative effect on peers education (Section 5.7)
- Limited parent knowledge or low expectation of intervention availability in mainstream schools (Sections 5.8, 5.9)
- Higher stimulating environment in mainstream schools with less sensory intervention (Section 5.9).

The Special Educational Needs and Disability Act (SENDA) (2001) gives a duty to Local Authorities to educate children with special educational needs in mainstream schools, ‘unless it is incompatible with either;

(a) the wishes of his/her parent, or

(b) the provision of efficient education for other children’.

So if both of these incompatibilities were removed, it could be expected that fewer children would leave mainstream schools. Interventions to support relationships between children with ASD and their peers could be the key here to further inclusion. Rather than a focus on developing social skills in children with ASD, a move to provide other children with the skills to support and understand their ASD peers, may begin to remove barriers to inclusion.

## **6.2 Recommendations to support inclusion of children with ASD in mainstream schools**

Opinions gathered may point towards the benefit of:

- LA training providers to reduce the cost of individual courses for schools who take whole school training or vice versa, to encourage both in order to improve confidence of all staff rather than individuals on courses (Section 5.3)
- Professionals to support capacity building and confidence within schools in order to improve feelings of confidence of all staff (Section 5.3)
- LA to support mainstreams schools that may require resources such as staffing or space (Section 5.4)
- Schools and LA professionals to ensure interventions are evaluated and reviewed as some interventions may offer no more than rote learning of skills (Section 5.5)
- LA professionals to ensure schools have a functional approach to changing behaviour rather than rote learning (Section 5.5)
- To develop relationships between children with ASD and their peers as a priority (Section 5.7)
- All professionals that work with schools and families should ensure they communication with parents about what interventions are available within schools (Sections 5.8, 5.9).
- Ensure training in schools includes knowledge of sensory processing difficulties (Section 5.9)

### **6.3 Suggestions for Future Research**

This research has raised a number of questions that future research may want to address.

- What do children with ASD think helps them within mainstream and special schools?
- Do schools think mainstream school is appropriate for some children with ASD?
- Do mainstream teachers think children with ASD should be in mainstream schools if academic outcomes are not their priority?
- What do children with ASD think are the barriers to their own inclusion?
- What do peers think helps children with ASD to be supported in mainstream schools?
- What do peers think may be the barriers to the inclusion of children with ASD?
- Do professionals within the LA think that special schools and mainstream schools offer different interventions?
- How do schools and parents think inclusion could be supported in mainstream schools?
- What order do parents think special and mainstream schools would have put outcomes i.e. do parents think mainstream schools seek more academic outcomes?
- Do parents feel welcome in mainstream/special schools as the Children and Young Peoples Plan would expect?



- Are parents consulted by schools before interventions are used?
- Do schools evaluate the usefulness and success of interventions?
- Are there any differences in the training offered by different training suppliers?
- What else could be different between special schools and mainstream schools? Parent support? After school clubs?
- Are there any differences between LA special schools and out of county special schools?

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## Appendix 1. Public Domain Briefing One

“What’s so special about special?  
Improving inclusion for children  
with autism in mainstream  
schools”

Julie Harvey



- Where did it start?
- What did we want?
- Who did we speak to?
- Why did we want it?
- What did we want to find out?

### Figures

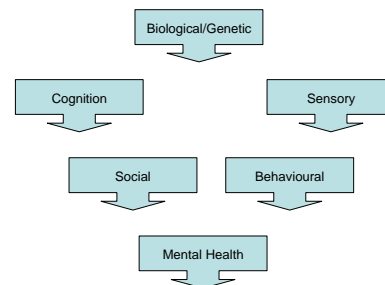
- Warwickshire
- Statement
- ASD



### Carol Greenway 2000

- Behaviourist
- TEACCH
- Cognitive Deficit
- Socially based theories
- Therapeutic intervention
- Sensory processing

- Description
- Research
- Intervention
- Mainstream v Special



## Methodology

- Critical realism
- Questionnaires
- Schools
- Parents
- Theory in action
- Hypothesis
- Research questions

## **Appendix 2. Public Domain Briefing Two**

## What's so Special about Special? Improving inclusion for children with Autism in mainstream schools.

Julie Harvey

## Where to start?

- Inclusion?
- ASD?
- Including children with ASD?
- Exclusion
- Present

## Parents

- Children and young people's plan
- Schools White paper – The importance of teaching (2010, p.61)
- NAS
- Why special?

## Carol Greenway (2000)

- Behaviourist
- TEACCH
- Cognitive Deficit
- Socially based theories
- Therapeutic intervention
- Sensory processing

## Theories

- Theoretical background
- Description of ASD
- Interventions
- Research
- Conclusions



## So what?

- Behaviourist
- TEACCH
- Cognitive Deficit
- Socially based theories
- Therapeutic intervention
- Sensory processing

## The hypotheses of this research are:

- that out of county, special and mainstream schools will all use similar theoretical approaches to intervention apart from when supporting sensory needs which I do not expect to see supported within mainstream schools.
- that the physical and social environment within special and out of county schools will be supportive of sensory difficulties in a way that mainstream is not.
- that parents expect special schools to provide more interventions than mainstream schools.
- that mainstream schools train individual staff to support the few children with ASD they may have, whilst special schools may have whole school staff training in ASD as all staff would be more likely to come into daily contact with children with ASD.

## Questions!

1. Do special schools have a contrasting theoretical approach to interventions for ASD?
2. Why do children move from mainstream to special schools?
3. Do parents of children with ASD think mainstream and special schools offer different approaches and interventions?
4. What theoretical approaches and interventions could be developed within mainstream school in order to improve inclusion?
5. Is there a difference in the training that mainstream, out of county and special schools have?

## Questions!

- Is there a tendency for special schools to show more or less use of behavioural perspectives than mainstream schools?
- Do schools and parents think that children with ASD have poor theory of mind and/or weak central coherence?
- Is there a tendency for special schools to show more or less use of cognitive perspectives than mainstream schools?
- Is there a tendency for special schools to show more or less use of the TEACCH perspective than mainstream schools?
- Is there a tendency for special schools to show more or less use of social perspectives than mainstream schools?
- Is there a tendency for special schools to show more or less use of therapeutic perspectives than mainstream schools?

- Is there a tendency for special schools to show more or less use of sensory processing perspectives than mainstream schools?
- What strengths do children with ASD have?
- Why do children with ASD move from mainstream schools to either special or out of county schools?
- Do parents of children with ASD think mainstream and special schools offer different approaches and interventions?
- Is there a difference in the training and confidence that mainstream, out of county and special schools have for supporting children with ASD?
- Do mainstream schools, special schools and parents seek different outcomes for children with ASD?

## Methodology

- Local authority
- Critical realist
- Case studies
- Observation
- Sample
- Disadvantages

## Questionnaires

- Covering letter
- Factual
- Reason for moving
- Theories
- Rank ordering
- Follow up letter
- Pilot

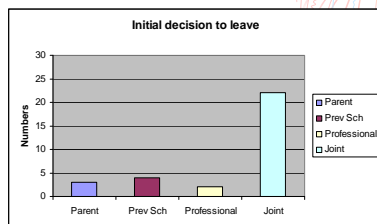
## Data analysis

- Patterns
- Coding frames
- Descriptive analysis

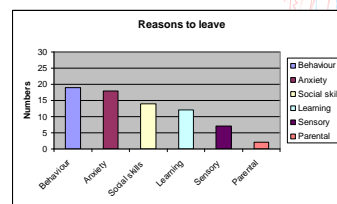
## Ethical consideration

- University and WCC
- Storage
- Informed consent and information
- Potential risks
- Debrief
- Outcomes

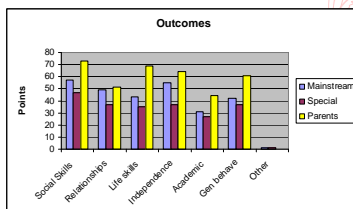
## Decision to leave



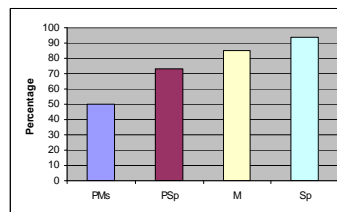
## Reasons to leave



## Outcomes

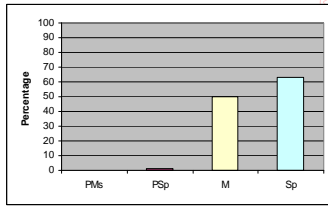


## Behavioural

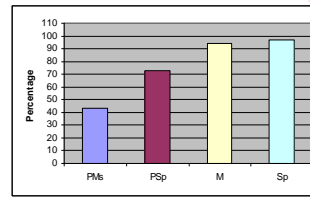




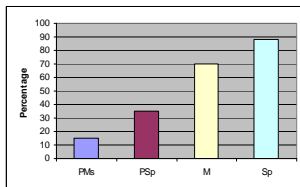
## Therapeutic



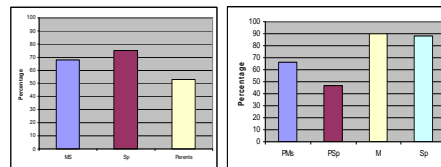
## TEACCH



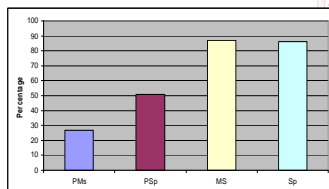
## Sensory



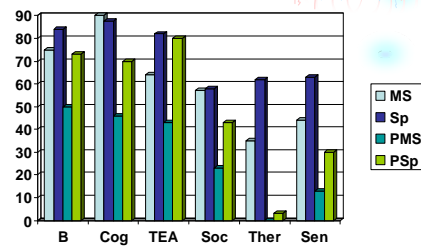
## Cognitive



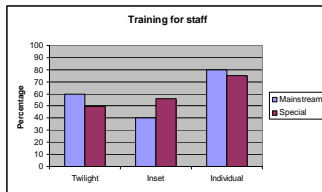
## Social



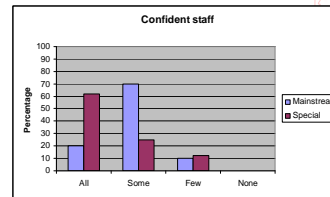
## Difference of opinion



## Training



## Confidence of staff



## Quick summary

- Interventions
- Outcomes
- Critical realism

## Barriers to inclusion

- Lack of whole school staff confidence within mainstream schools
- Relative absence of resources and specific interventions for sensory processing within mainstream schools.
- Interventions may teach rote learning in order to meet the needs of the school rather than the needs of the child
- Low staff levels and high numbers of children in mainstream schools
- Limited parent knowledge of intervention availability in mainstream schools

## Recommendations

- Reductions in the cost of individual courses for schools who take whole school training or vice versa, to encourage both
- To develop relationships with peers as a priority
- Adopt a functional approach to behaviour rather than rote learning
- Develop support for sensory processing difficulties
- Functional rewards should be developed in order to support generalisation of skills
- Ensure interventions are evaluated and reviewed in order to offer more than rote learning of skills

- More flexible use of teaching assistant support than the traditional 1:1 approach
- Use of all areas of the TEACCH approach including modifications to structure the physical environment
- Improve communication to parents of what interventions are available within a school.
- Improve communication to parents of what interventions are used with, or available for use with their child.
- Interventions should meet the needs of the child rather than the school

### **Appendix 3. Schools introduction letter and questionnaire**

Dear SENCo,

I am a Trainee Educational Psychologist working within ..... Educational Psychology Service. I am currently in year 2 of Doctoral research study at The University of Birmingham.

I am presently researching ways to improve inclusion in mainstream schools for children with a diagnosis of Autism. This is being done through the use of questionnaires provided to parents and schools. In ....., 49% of children with autism who have a statement of special educational needs attend special schools. It is hoped that this research will compare theoretical backgrounds and interventions currently in use in different types of schools in order to help services to provide better support.

I would be grateful if you would complete the enclosed questionnaire and return it in the envelope provided. Questionnaires will remain anonymous, please do not put anything on that will allow yourself or others to be identified. Your support would be gratefully appreciated though completion is purely voluntary and you are under no obligation to either complete or return the questionnaire. No personal details will be recorded or stored.

Schools will receive a brief document at the end of the research giving information about results and will be asked to forward a copy of this to interested parents.

Thank you for your help,

Julie Harvey  
Trainee Educational Psychologist  
BSc. Hons Psych.

## School Questionnaire

Please answer these questions ONLY regarding your pupils with ASD unless otherwise stated. If you do not have any pupils with ASD, please return uncompleted in order to help with understanding data.

**Please circle** where appropriate

**1. How would you best describe your school?**

Mainstream    Special            Out of county

**2. Age range of children within the school.**

**3. Total number of children on average per class (not just ASD).**

Up to 10            10-20            20-30            More than 30

**4. If there is a child with a statement of SEN for Autism in the class, what is the usual number of adults there would be in class?**

**In the morning?**

1                    1-2                    3 or more

**In the afternoon?**

1                    1-2                    3 or more

**5. Number of times a child will change classroom for lessons during the day.**

0-2                    3-5                    6 or more.

**6. Do you use rewards/reinforcers to change unwanted or inappropriate behaviour?**

Yes                    No                    Sometimes

Please give brief examples of what behaviour this may be for?

What rewards may typically be used?

**7. Do you use ABC techniques?** (Such as keeping a record of Antecedent, Behaviour, Consequence)

Yes                    Sometimes    No                    Don't know

**8. Is there access to Cognitive Behavioural Therapy or Personal Construct Psychology available within your school for pupils with ASD?**

Yes                    Sometimes    No                    By outside agencies    Don't know

**9. Does your school use any visual interventions to structure the child's day?**

Yes, used daily                      Sometimes      No                      Don't know

Please briefly list those in use.

**10. Do you use any form of communication other than verbal to support any children with ASD?**

PECS    Makaton    BSL    None    Other please state

**11. How confident do you think staff in your school are in supporting pupils with ASD?**

All very confident      Some confident      Few confident      Not confident

**What training in Autism (if any) have your staff had in the last 2 years?**

Twilight Session    Inset day    Individuals on courses

Who provided the training?

**12. Do your classrooms have dedicated areas for different activities? (eg reading area, ICT area)**

Yes                      Sometimes      No      Don't know

**Are individual workstations available?** (eg a separate table for one individual with their own resources, not used as a punishment)

**13. Do children have their individualised tasks with a clear start, expectation and finish?**

Yes                      Sometimes      No      Don't know

**14. Are children specifically taught routines for example lunchtime (wash hands, line up, choose food etc) ?**

Yes                      Sometimes      No      Don't know

**15. Do you think children with ASD are able to understand other people's thoughts and feelings?**

Yes                      Sometimes      No      Don't know

**16. Do you think children able to see the 'bigger picture', for example; take into account everything they are told or see in order to create a coherent whole rather than concentrating on small parts individually?**

Yes                      Sometimes      No      Don't know

**17. Do you use any strategies for teaching theory of mind, emotions or mind blindness?** eg The Transporters video, games, social stories, comic strips'. Please state.

**18. Do you use social stories in school?**

Yes                      Sometimes      No      Don't know

**19. Do you have social skills groups running?**

Now    In the past    Planned for the future    No

**20. Do you have 'Circle of Friends' running?**

Now    In the past    Planned for the future    No

**21. Do you have colourful displays around the classroom?**

Yes    No    Partially

**22. Do you have low arousal areas?**

In classes              In school              Planned                      No

**23. Are children warned of sudden noises** eg fire bell, playtime bell?

Yes                      No                      Sometimes      Don't know

**24. Do you use specific sensory equipment in school?**

Yes                      No                      Sometimes      Don't know

Please state what you use.

**25. Are children able to hold, fiddle with items eg blu tac during lessons?**

Yes                      No                      Sometimes      Don't know

**26. Are children able to leave over stimulating areas?**

Yes                      No                      Sometimes      Don't know

**27. Are children able to get up and move around during lesson time?**

Yes                      No                      Sometimes      Don't know

**28. How often do children have breaks?**

At least every 30 minutes    30mins-1 hour                      1-2 hours                      over 2 hours

**29. Please order these outcomes for children with ASD in your opinion. Start with 1 as the most important and 7 as least.**

Social skills

Relationships

Life skills

Independence

Academic learning

General appropriate behaviour

Other, please state.

**30. What do you think are some of the strengths of children with ASD in your school?**

Thank you for your help. Please return this questionnaire in the envelope provided.

Julie Harvey  
Trainee Educational Psychologist.  
BSc. Hons Psych

## Appendix 4. Parents introduction letter and questionnaire

Dear Parent,

I am a Trainee Educational Psychologist working within .....Educational Psychology Service. I am currently in year 2 of Doctoral research study at The University of Birmingham.

In ....., 49% of children with autism who have a statement of special educational needs attend special schools. The Local Authority is looking for ways to improve inclusion for children with Autism in mainstream schools. I am therefore researching the use of interventions that may support these. This will not affect your child's current provision and will not lead to the removal of special provision, but may help to support children in the future who attend mainstream schools.

The research is being completed through the use of questionnaires provided both to schools, and to parents who have a child with autism who **currently** attends a special school. This is why you have been selected and your knowledge is of such importance.

If your child has also **previously** attended a mainstream school, I would be grateful if you would complete the enclosed questionnaire and return it in the envelope provided by 01.10.2010. The questionnaire should take approximately (5-10) minutes to complete. If you have any difficulty completing this questionnaire, please feel free to seek the support of a friend, relative or professional.

If your child has **never** attended a mainstream school, please return the blank questionnaire in the envelope provided, this will help us to understand the number of children who have never attended mainstream schools.

Completion is purely voluntary and you are under no obligation to either complete or return the questionnaire. Questionnaires will remain anonymous, please do not put anything on that will allow yourself or others to be identified. No personal details will be recorded or stored.

At the end of the research, schools will receive a brief document giving information about results which will also be available to parents through the school as no information to identify parents will be held by this study.

Thank you for your help,

Julie Harvey  
Trainee Educational Psychologist  
BSc. Hons Psych



Parental Questionnaire

Please **Circle ALL** Appropriate Answers.

**1. Age of child –**

**2. Sex of child –** Male Female

**3. What is your child's main diagnosis?** Please circle.

ASD Autism Aspergers Syndrome Other. Please state.

**4. What type of school does you child now attend?**

Mainstream Special Out of County

**5. How long ago did your child leave mainstream school?**

0-1 years 1-2 years 2-3 years More than 3 years ago

**6. Whose initial suggestion was it for your child to attend their present school?**

Parent Previous school Professional Joint decision

**7. Do you think your child ever negatively affected the efficient education of other children in their mainstream school?**

Frequently Sometimes Never Don't know

**8. What was the main reason for your child no longer attending mainstream school?**

Parental choice Learning Behaviour Anxiety Sensory difficulties Social skills

Other, please state

**9. Approximately how many children were in your child's last mainstream class?**

**10. Approximately how many adults were in your child's last mainstream class?**

**11. Approximately how many children are in your child's present class?**

**12. Approximately how many adults are in your child's present class?**

**13. Have rewards or positive reinforcers ever been used for your child?**

At home In mainstream In special school Don't know

What behaviour was targeted?

Was this successful?

Yes No Sometimes

**14. To your knowledge, has your child ever had Cognitive Behavioural Therapy or Personal Construct Psychology?**

Yes in mainstream    Yes in special school    No    Don't Know

If yes, what difficulty was it used to support?

Do you believe this led to positive outcomes and if so what?

**15. Does your child use any visual interventions (eg timetable, now/next chart) to structure his/her day? Please circle ALL that apply.**

At home    At present school    At previous mainstream school    No visual used

**16. Does your child use any form of communication other than verbal?**

**In previous mainstream**

No other communication    PECS    Makaton    BSL    Other please state.

**In special school**

No other communication    PECS    Makaton    BSL    Other please state.

**16. Do you think your child can understand other peoples thoughts and feelings?**

Yes    Sometimes    No    Don't know

**17. Is your child able to summarise the plot of a story or film rather than tell you all the details?**

Yes    Sometimes    No    Don't know

**17.a. Has your child ever used any strategies to learn theory of mind, emotions or mind blindness? eg The Transporters video, games, social stories, comic strips'.**

**At their present school?**

Yes    Sometimes    No    Don't know

**In a previous mainstream school?**

Yes    Sometimes    No    Don't know

**18. Does your child currently use social stories? (An individualised story to teach appropriate behaviour in a particular situation).**

**At home?**

Yes    Sometimes    No    Don't know

**At their present school?**

Yes Sometimes No Don't know

**In a previous mainstream school?**

Yes Sometimes No Don't know

**19. Has you child ever taken part in a social skills group?**

In their current school?

Yes Sometimes No Don't know

In a previous mainstream school?

Yes Sometimes No Don't know

Has you child ever had a 'Circle of friends' intervention?

In their current school?

Yes Sometimes No Don't know

In a previous mainstream school?

Yes Sometimes No Don't know

**20. Does you child generalise learning taught into other areas? For example if your child was taught something at school, could he/she then do it at home?**

Yes Sometimes No Don't know

**21. Does your child have sensory difficulties eg dislike of particular sound/movement?**

Yes Sometimes No Don't know

Please describe briefly.

**22. Has your child received any support or interventions for sensory difficulties?**

Yes No Don't know

In previous mainstream school? Please briefly describe.

In present school? Please briefly describe.

**25. Does your child find it difficult to sit still throughout for example; a meal time, television programme, other without getting up and moving around.**

Yes   Sometimes   No   Don't know

**26. Please put these outcomes in order of importance for your child in your opinion by placing 1 next to most important down to 7 for least important.**

Social skills

Relationships

Life skills

Independence

Academic learning

General appropriate behaviour

Other, please state.

**27. What would you say are your child's main areas of strength?**

Thank you for your help. Please return this questionnaire in the envelope provided.

Julie Harvey  
Trainee Educational Psychologist.  
BSc Hons Psych.

## Appendix 5. Birmingham University ethics form

<p style="text-align: center;"><b>UNIVERSITY OF BIRMINGHAM APPLICATION FOR ETHICAL REVIEW</b></p>
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### Who should use this form:

This form is to be completed by PIs or supervisors (for PGR student research) who have completed the University of Birmingham Ethical Review of Research Self Assessment Form and have decided that further ethical review and approval is required before the commencement of a given Research Project.

**Please be aware that all new research projects undertaken by postgraduate research (PGR) students first registered as from 1st September 2008 will be subject to the University's Ethical Review Process. PGR students first registered before 1<sup>st</sup> September 2008 should refer to their Department/School/College for further advice.**

### Researchers in the following categories are to use this form:

1. The project is to be conducted by:
  - staff of the University of Birmingham; or
  - a research postgraduate student enrolled at the University of Birmingham (to be completed by the student's supervisor);
2. The project is to be conducted at the University of Birmingham by visiting researchers.

**Students undertaking undergraduate projects and taught postgraduates should refer to their Department/School for advice.**

### NOTES:

- Answers to questions must be entered in the space provided – the beginning of an answer field will be indicated by a grey bar ( ).
- Use the up and down arrow keys to move between answer fields; use the side scroll bar to navigate around the document.
- An electronic version of the completed form should be submitted to the Research Ethics Officer, at the following email address: [aer-ethics@contacts.bham.ac.uk](mailto:aer-ethics@contacts.bham.ac.uk). Please **do not** submit paper copies.
- If, in any section, you find that you have insufficient space, or you wish to supply additional material not specifically requested by the form, please it in a separate file, clearly marked and attached to the submission email.
- If you have any queries about the form, please address them to the

**UNIVERSITY OF BIRMINGHAM  
APPLICATION FOR ETHICAL REVIEW**

*OFFICE USE  
ONLY:*  
Application No:  
Date Received:

**1. TITLE OF PROJECT**

What's so Special about Special? Improving inclusion for children with Autism in mainstream schools.

**2. THIS PROJECT IS:**

University of Birmingham Staff Research project   
 University of Birmingham Postgraduate Research (PGR) Student project   
 Other  (Please specify):

**3. INVESTIGATORS**

**a) PLEASE GIVE DETAILS OF THE PRINCIPAL INVESTIGATORS OR SUPERVISORS (FOR PGR STUDENT PROJECTS)**

Name: <small>Title / first name / family</small>	Mr. Nick Bozic
Highest qualification & School/Department	MSc School of Education
Telephone:	
Email address:	n.m.bozic@bham.ac.uk

Name: <small>Title / first name / family name</small>	
Highest qualification & position	
School/Department	
Telephone:	
Email address:	

**b) PLEASE GIVE DETAILS OF ANY CO-INVESTIGATORS OR CO-SUPERVISORS (FOR PGR STUDENT PROJECTS)**

Name: <small>Title / first name / family name</small>	
Highest qualification & position	
School/Department	
Telephone:	
Email address:	

**c) In the case of PGR student projects, please give details of the student**

Name of Course of Principal	Julie	Student	0983920
	App Ch	Email	iulesharvey@btconnect.com
	Nick Bozic		

Name of Course of		Student No:	
		Email	

Principal

4. **ESTIMATED START** Date:  **OF PROJECT**

**ESTIMATED END** Date:  **OF PROJECT**

**5. FUNDING**

List the funding sources (including internal sources) and give the status of each source.

Funding Body	<i>Approved/Pending /To be submitted</i>

**If applicable, please identify date within which the funding body requires acceptance of award:**

Date:

**If the funding body requires ethical review of the research proposal at application for funding please provide date of deadline for funding application:**

Date:

**6. SUMMARY OF PROJECT**

Describe the purpose, background rationale for the proposed project, as well as the hypotheses/research questions to be examined and expected outcomes. This description should be in everyday language that is free from jargon. Please explain any technical terms or discipline-specific phrases.

In the local authority where this research will take place, of the children with a statement of special educational needs where the primary need is Autism, 49% of these children attend either out of county or special schools. The authority would like to support inclusion in mainstream schools and reduce the number of children who attend special or out of county schools.

In a study by Greenway (2000), different theoretical perspectives of autism were examined in order to view the most appropriate perspective for supporting social development of children with Autism. Greenway found some perspectives successfully supporting intervention within mainstream schools.

This research will extend on that by Greenway by looking again at theoretical perspectives, with the addition of sensory development which is an area of autism often missed. The area of autism as a whole, rather than just social development will be examined. By carrying out a literature review, each theoretical perspective will be examined for its description of autism and its associated difficulties. Research around interventions within each perspective will be examined for their success and ability to be used within mainstream schools.

The research itself will send questionnaires to mainstream, special and out of county schools within the Local Authority to find out what is so special about special schools that nearly half of the target group of children go there. Questionnaires will gather data around perspectives and interventions used within schools to look for differences in provision. Parents will also receive questionnaires to compare their own experiences of mainstream and special schools and how they think these differ.

The research expects to find a range of theoretical perspectives and interventions in all types of schools but anticipates better support for sensory needs within special and out of county schools. This would then lead to recommendations to support the sensory environment within mainstream schools.

## **7. CONDUCT OF PROJECT**

**Please give a description of the research methodology that will be used**



Postal questionnaires will be used to gather data.

Questionnaires will be sent to all local authority special schools and all out of county schools used by the local authority for children with autism. For every special school questioned, their nearest key stage equivalent mainstream school, that has at least one children with autism and a statement of special educational needs, will also be sent a questionnaire.

Parents with a child who fulfils all the following criteria will receive questionnaires.

1. A local authority statement of special educational needs.
2. Primary need of autism.
3. Attends a special or out of county school

They will be asked to complete and return the questionnaire, only if their child has moved from a local authority mainstream school into a special or out of county school.

**8. DOES THE PROJECT INVOLVE PARTICIPATION OF PEOPLE OTHER THAN THE RESEARCHERS AND SUPERVISORS?**

Yes  No

Note: "Participation" includes both active participation (such as when participants take part in an interview) and cases where participants take part in the study without their knowledge and consent at the time (for example, in crowd behaviour research).

**If you have answered NO please go to Section 18 . If you have answered YES to this question please complete all the following sections.**

**9. PARTICIPANTS AS THE SUBJECTS OF THE RESEARCH**

Describe the number of participants and important characteristics (such as age, gender, location, affiliation, level of fitness, intellectual ability etc.). Specify any inclusion/exclusion criteria to be used.

Questionnaires will be sent to all local authority special schools and all out of county schools used by the local authority for children with autism. For every special school questioned, their nearest key stage equivalent mainstream school, that has at least one children with autism and a statement of special educational needs, will also be sent a questionnaire.

Parents with a child aged 5-16 who fulfil all following criteria will receive questionnaires.

1. A local authority statement of special educational needs.

2. Primary need of autism.

3. Attends a special or out of county school

They will be asked to complete and return the questionnaire, only if their child has moved from a local authority mainstream school into a special or out of county school.

## 10. RECRUITMENT

Please state clearly how the participants will be identified, approached and recruited. Include any relationship between the investigator(s) and participant(s) (e.g. instructor-student).

*Note: Attach a copy of any poster(s), advertisement(s) or letter(s) to be used for recruitment.*

Participants will be identified by the local authority assessment, statementing and review service. A list of applicable schools and parents will be sent to me via internal encrypted secure e-mail. Envelopes will be printed within the service and posted out to parents. Email containing details of participants will then be permanently deleted and no personal information will be stored.

A letter of explanation of the research will accompany all questionnaires.

## 11. CONSENT

**a)** Describe the process that the investigator(s) will be using to obtain valid consent. If consent is not to be obtained explain why. If the participants are minors or for other reasons are not competent to consent, describe the proposed alternate source of consent, including any permission / information letter to be provided to the person(s) providing the consent.

A letter of explanation of the research will accompany all questionnaires. Participants are free to choose whether to return the questionnaire. No personal identification of individuals or schools is recorded on the questionnaires.

*Note: Attach a copy of the Participant Information Sheet (if applicable), the Consent Form (if applicable), the content of any*

*telephone script (if applicable) and any other material that will be used in the consent process.*

**b)** Will the participants be deceived in any way about the purpose of the study?    **Yes**     **No**

If yes, please describe the nature and extent of the deception involved. Include how and when the deception will be revealed, and who will administer this feedback.

## **12. PARTICIPANT FEEDBACK**

Explain what feedback/ information will be provided to the participants after participation in the research. (For example, a more complete description of the purpose of the research, or access to the results of the research).

Separate parent and school information leaflets will be produced at the end of the research which will be sent to all schools within the local authority and out of county schools used by the local authority. Schools will be asked to send a copy of the parent information sheet to any parent of a child with Autism and a statement of special educational needs.

## **13. PARTICIPANT WITHDRAWAL**

**a)** Describe how the participants will be informed of their right to withdraw from the project.

Parents will be made aware that completion of the questionnaire is voluntary. Once the questionnaire has been returned completed, withdrawal will not be available as questionnaires will be anonymous.

**b)** Explain any consequences for the participant of withdrawing from the study and indicate what will be done with the participant's data if they withdraw.

There will be no consequences for non completion or return of the questionnaire.

#### 14. COMPENSATION

Will participants receive compensation for participation?

i) Financial

**Yes**  **No**

ii) Non-financial

**Yes**  **No**

If **Yes** to **either** i) or ii) above, please provide details.

If participants choose to withdraw, how will you deal with compensation?

#### 15. CONFIDENTIALITY

a) Will all participants be anonymous?

**Yes**  **No**

b) Will all data be treated as confidential?

**Yes**  **No**

*Note: Participants' identity/data will be confidential if an assigned ID code or number is used, but it will not be anonymous. Anonymous data cannot be traced back to an individual participant.*

Describe the procedures to be used to ensure anonymity of participants and/or confidentiality of data both during the conduct of the research and in the release of its findings.

The email containing names and addresses of parents and schools to be sent the questionnaires will be sent via an internal, secure encrypted and password protected email. Once this has been used to print envelopes, the email will be deleted.  
Returned questionnaire will not carry any personal information and will therefore be anonymous to all. Completed questionnaires will be kept within locked drawers within the educational psychology service and shredded once the research is completed. Findings released will necessarily be anonymous as the researcher will have no information to show who completed or abstained from completing questionnaires.

If participant anonymity or confidentiality is not appropriate to this research project, explain, providing details of how all participants will be advised of the fact that data will not be anonymous or confidential.

**16. STORAGE, ACCESS AND DISPOSAL OF DATA**

Describe what research data will be stored, where, for what period of time, the measures that will be put in place to ensure security of the data, who will have access to the data, and the method and timing of disposal of the data.

The email containing names and addresses of parents and schools to be sent the questionnaires will be sent via an internal, secure encrypted password protected email. Once this has been used to print envelopes, the email will be deleted, the information will not be stored at any time.  
Returned questionnaires will not carry any personal information and will therefore be anonymous to all. Completed questionnaires will be kept within locked drawers within the educational psychology service with no access to others. Questionnaires will be shredded as soon as the research has been completed and written up successfully. Findings released will necessarily be anonymous as the researcher will have no information to show who completed or abstained from completing questionnaires.

**17. OTHER APPROVALS REQUIRED?** e.g. Criminal Records Bureau (CRB) checks

YES       NO       NOT APPLICABLE

If yes, please specify.

**18. SIGNIFICANCE/BENEFITS**

Outline the potential significance and/or benefits of the research

Potential benefits of the research will be to inform good practice for supporting children with autism. Information gathered could help mainstream schools to identify strategies used in primarily in special schools and support inclusion for children with autism as well as supporting the local authority in their target to reduce special and out of county placements.

## 19. RISKS

a) Outline any potential risks to **INDIVIDUALS**, including research staff, research participants, other individuals not involved in the research and the measures that will be taken to minimise any risks and the procedures to be adopted in the event of mishap

No risks have been identified.

b) Outline any potential risks to **THE ENVIRONMENT and/or SOCIETY** and the measures that will be taken to minimise any risks and the procedures to be adopted in the event of mishap.

No risks have been identified.

## 20. ARE THERE ANY OTHER ETHICAL ISSUES RAISED BY THE RESEARCH?

Yes  No

If yes, please specify

## 21. CHECKLIST

Please mark if the study involves any of the following:

- Vulnerable groups, such as children and young people aged under 18 years, those with learning disability, or cognitive impairments
- Research that induces or results in or causes anxiety, stress, pain or physical discomfort, or poses a risk of harm to participants (which is more than is expected from everyday life)
- Risk to the personal safety of the researcher
- Deception or research that is conducted without full and informed consent of the participants at time study is carried out

- Administration of a chemical agent or vaccines or other substances (including vitamins or food substances) to human participants.
- Production and/or use of genetically modified plants or microbes
- Results that may have an adverse impact on the environment or food safety
- Results that may be used to develop chemical or biological weapons

Please check that the following documents are attached to your application.

	ATTACHED	NOT APPLICABLE
Recruitment advertisement	<input type="checkbox"/>	<input type="checkbox"/>
Participant information sheet	X	<input type="checkbox"/>
Consent form	<input type="checkbox"/>	<input type="checkbox"/>
Questionnaire	X	<input type="checkbox"/>
Interview Schedule	<input type="checkbox"/>	<input type="checkbox"/>

## 22. DECLARATION BY APPLICANTS

I submit this application on the basis that the information it contains is confidential and will be used by the University of Birmingham for the purposes of ethical review and monitoring of the research project described herein, and to satisfy reporting requirements to regulatory bodies. The information will not be used for any other purpose without my prior consent.

I declare that:

- The information in this form together with any accompanying information is complete and correct to the best of my knowledge and belief and I take full responsibility for it.
- I undertake to abide by University Code of Conduct for Research (<http://www.ppd.bham.ac.uk/policy/cop/code8.htm>) alongside any other relevant professional bodies' codes of conduct and/or ethical guidelines.
- I will report any changes affecting the ethical aspects of the project to the University of Birmingham Research Ethics Officer.
- I will report any adverse or unforeseen events which occur to the relevant Ethics Committee via the University of Birmingham Research Ethics Officer.

**Name of Principal investigator/project**

Nick Bozic

**Date:**

21.05.2010

Please now save your completed form, print a copy for your records, and then email a copy to the Research Ethics Officer, at [aer-ethics@contacts.bham.ac.uk](mailto:aer-ethics@contacts.bham.ac.uk). As noted above, please do not submit



## Appendix 6. Coded questionnaires

### Coded Parental Questionnaire

**1. Age of child –**

**2. Sex of child –** Male 1 Female 2

**3. What is your child's main diagnosis?** Please circle.

ASD 1 Autism 2 Aspergers Syndrome 3 Other. 4Please state.

**4. What type of school does you child now attend?**

Mainstream 1 Special 2 Out of County 3

**5. How long ago did your child leave mainstream school?**

0-1 years 1 1-2 years 2 2-3 years 3 More than 3 years ago 4

**6. Whose initial suggestion was it for your child to attend their present school?**

Parent 1 Previous school 2 Professional 3 Joint decision4

**7. Do you think your child ever negatively affected the efficient education of other children in their mainstream school?**

Frequently 1 Sometimes 2 Never 3 Don't know 4

**8. What was the main reason for your child no longer attending mainstream school?**

Parental choice 1 Learning 2 Behaviour 3 Anxiety 4 Sensory difficulties 5  
Social skills 6 Other, 7 please state

**9. Approximately how many children were in your child's last mainstream class?**

**10. Approximately how many adults were in your child's last mainstream class?**

**11. Approximately how many children are in your child's present class?**

**12. Approximately how many adults are in your child's present class?**

**13. Have rewards or positive reinforcers ever been used for your child?**

At home 1 In mainstream 2 In special school 3 Don't know 4

What behaviour was targeted?

Was this successful?

Yes No Sometimes

**14. To your knowledge, has your child ever had Cognitive Behavioural Therapy or Personal Construct Psychology?**

Yes in mainstream 1 Yes in special school 2 No 3 Don't Know 4

If yes, what difficulty was it used to support?

Do you believe this led to positive outcomes and if so what?

**15. Does your child use any visual interventions (eg timetable, now/next chart) to structure his/her day?** Please circle ALL that apply.

At home 1 At present school 2 At previous mainstream school 3 No visual used 4

**16. Does your child use any form of communication other than verbal?**

**In previous mainstream 16A**

No other communication 1 PECS 2 Makaton 3 BSL 4 Other please state. 5

**In special school 16B**

No other communication 1 PECS 2 Makaton 3 BSL 4 Other please state. 5

**16. Do you think your child can understand other peoples thoughts and feelings?**

Yes 1 Sometimes 2 No 3 Don't know 4

**17. Is you child able to summarise the plot of a story or film rather than tell you all the details?**

Yes 1 Sometimes 2 No 3 Don't know 4

**17.a. Has your child ever used any strategies to learn theory of mind, emotions or mind blindness?** eg The Transporters video, games, social stories, comic strips'.

**At their present school?**

Yes 1 Sometimes 2 No 3 Don't know 4

**b. In a previous mainstream school?**

Yes 1 Sometimes 2 No 3 Don't know 4

**18. Does your child currently use social stories?** (An individualised story to teach appropriate behaviour in a particular situation).

**18A At home?**

Yes 1 Sometimes 2 No 3 Don't know 4

**18B At their present school?**

Yes 1 Sometimes 2 No 3 Don't know 4

**18C In a previous mainstream school?**

Yes 1 Sometimes 2 No 3 Don't know 4

**19. Has you child ever taken part in a social skills group?**

**19A** In their current school?

Yes 1 Sometimes 2 No 3 Don't know 4

**19B** In a previous mainstream school?

Yes 1 Sometimes 2 No 3 Don't know 4

**19C** Has you child ever had a 'Circle of friends' intervention?

In their current school?

Yes 1 Sometimes 2 No 3 Don't know 4

**19D** In a previous mainstream school?

Yes Sometimes No Don't know

**20. Does you child generalise learning taught into other areas? For example if your child was taught something at school, could he/she then do it at home?**

Yes 1 Sometimes 2 No 3 Don't know 4

**21. Does your child have sensory difficulties eg dislike of particular sound/movement?**

Yes 1 Sometimes 2 No 3 Don't know 4

Please describe briefly.

**22. Has your child received any support or interventions for sensory difficulties?**

Yes 1 Sometimes 2 No 3 Don't know 4

In previous mainstream school? Please briefly describe.

In present school? Please briefly describe.

**25. Does your child find it difficult to sit still throughout for example; a meal time, television programme, other without getting up and moving around.**

Yes **1** Sometimes **2** No **3** Don't know **4**

**26. Please put these outcomes in order of importance for your child in your opinion by placing 1 next to most important down to 7 for least important.**

Social skills

Relationships

Life skills

Independence

Academic learning

General appropriate behaviour

Other, please state.

**27. What would you say are your child's main areas of strength?**

School coded questionnaire

**1. How would you best describe your school?**

Mainstream **1** Special **2** Out of county **3** Independent Faith **4**

**2. Age range of children within the school.**

**3. Total number of children on average per class (not just ASD).**

Up to 10 **1** 10-20 **2** 20-30 **3** More than 30 **4**

**4. If there is a child with a statement of SEN for Autism in the class, what is the usual number of adults there would be in class?**

**In the morning?**

**1** **1** **1-2** **2** **3 or more** **3**

**In the afternoon?**

1      1      1-2    2      3 or more 3

**5. Number of times a child will change classroom for lessons during the day.**

0-2    1      3-5    2      6 or more. 3

**6. Do you use rewards/reinforcers to change unwanted or inappropriate behaviour?**

Yes    1      No      2      Sometimes 3

Please give brief examples of what behaviour this may be for?

What rewards may typically be used?

**7. Do you use ABC techniques?** (Such as keeping a record of Antecedent, Behaviour, Consequence)

Yes    1      Sometimes 2      No      3      Don't know 4

**8. Is there access to Cognitive Behavioural Therapy or Personal Construct Psychology available within your school for pupils with ASD?**

Yes    1      Sometimes 2      No      3      By outside agencies 4      Don't know 5

**9. Does your school use any visual interventions to structure the child's day?**

Yes, used daily      1      Sometimes 2      No      3      Don't know 4

Please briefly list those in use.

**10. Do you use any form of communication other than verbal to support any children with ASD?**

PECS 1 Makaton 2 BSL 3 None 4 Other please state 5

**11. How confident do you think staff in your school are in supporting pupils with ASD?**

All very confident 1    Some confident 2    Few confident 3    Not confident 4

**What training in Autism (if any) have your staff had in the last 2 years?**

Twilight Session 1    Inset day 2    Individuals on courses 3

Who provided the training?

**12. Do your classrooms have dedicated areas for different activities?** (eg reading area, ICT area)

Yes 1 Sometimes 2 No 3 Don't know 4

**Are individual workstations available?** (eg a separate table for one individual with their own resources, not used as a punishment)

**13. Do children have their individualised tasks with a clear start, expectation and finish?**

Yes 1 Sometimes 2 No 3 Don't know 4

**14. Are children specifically taught routines for example lunchtime (wash hands, line up, choose food etc) ?**

Yes 1 Sometimes 2 No 3 Don't know 4

**15. Do you think children with ASD are able to understand other people's thoughts and feelings?**

Yes 1 Sometimes 2 No 3 Don't know 4

**16. Do you think children able to see the 'bigger picture', for example; take into account everything they are told or see in order to create a coherent whole rather**

Yes 1 Sometimes 2 No 3 Don't know 4

**17. Do you use any strategies for teaching theory of mind, emotions or mind blindness?** eg The Transporters video, games, social stories, comic strips'. Please state.

**18. Do you use social stories in school?**

Yes 1 Sometimes 2 No 3 Don't know 4

**19. Do you have social skills groups running?**

Now 1 In the past 2 Planned for the future 3 No 4

**20. Do you have 'Circle of Friends' running?**

Now 1 In the past 2 Planned for the future 3 No 4

**21. Do you have colourful displays around the classroom?**

Yes 1 No 2 Partially 3

**22. Do you have low arousal areas?**

In classes 1 In school 2 Planned 3 No 4

**23. Are children warned of sudden noises eg fire bell, playtime bell?**

Yes **1** No **2** Sometimes **3** Don't know **4**

**24. Do you use specific sensory equipment in school?**

Yes **1** No **2** Sometimes **3** Don't know **4**

Please state what you use.

**25. Are children able to hold, fiddle with items eg blu tac during lessons?**

Yes **1** No **2** Sometimes **3** Don't know **4**

**26. Are children able to leave over stimulating areas?**

Yes **1** No **2** Sometimes **3** Don't know **4**

**27. Are children able to get up and move around during lesson time?**

Yes **1** No **2** Sometimes **3** Don't know **4**

**28. How often do children have breaks?**

At least every 30 minutes **1** 30mins-1 hour **2** 1-2 hours **3** over 2 hours **4**

**29. Please order these outcomes for children with ASD in your opinion. Start with 1 as the most important and 7 as least.**

Social skills

Relationships

Life skills

Independence

Academic learning

General appropriate behaviour

Other, please state.

**30. What do you think are some of the strengths of children with ASD in your school?**

## Appendix 7. Spreadsheet of coded quantitative data



	1	2	3	4a	4b	5	6	7	8
1	1	4 to 7	3	2	2	1	1	3	3
2	1	4 to 11	3	3	2	1	1	2	5
3	1	7 to 11	4	2	2	1	1	2	4
4	1	4 to 7	3	3	3	1	1	1	4
5	1	4 to 7	3	2	2	1	1	1	3
6	1	2.9 to 7	3	3	3	1	1	2	3
7	1	4 to 11	4	2	1	1	1	3	4
8	1	11 to 18	3	2	2	2	1	3	1
9	1	4 to 11	4	2	2	1	1	1	3
10	1	11 to 19	3	2	2	3	1	2	2
MS Total									
Mode									
Mean									
SD									
Memos									
10	3	11 to 19	1	3	3	2	1	2	1
12	2	2 to 19	1	2	2	1 or 2	1	1	1
13	3	5 to 19	1	2	2	1	1	1	1
14	3	7 to 18	1			1 or 2	1	1	1
15	3	11 to 19	1	2	2	2	1	2	4
16	3	2 to 19	2			1 or 2	1	2	3
17	3		1	2	2	1	1	3	3
Total									

Mean  
SD

11	4		2	1	1	2	1	1	3
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9	10	11a	11b	12a	12b	13	14	15	16
1	2	3	2	1	1	2	2	2	2
1	4	2	1.3	2	1	2	1	3	2
1	4	2	3	2	1	1	1	2	3
2	1	1	1.2.3	2	1	1	1	2	2
1	2	2	1.2.3	1	1	1	1	2	2
1	2	2	1.2.3	2	1	2	1	3	3
1	1	2	3	1	1	2	1	2	
2	4	1	3	3	1	1	3	3	2
1	4	2	1.3	2	1	1	1	2	3
2	4	2	1	3	1	2	2	2	2
1	4	1	1.2.3	1	1	1	1	2	2
1	1.2	1	2.3	1	1	1	1	3	3
	1.2.3	2	1.2	2	1	1	1	2	2
1	1	1	2.3	2	1	1	1	2	2
1	2	1	1	2	1	1	1	2	2
2	1.2	2	3	2	1	2	1	2	3
2	4	3	3	2	1	2	3	2	3

1	4	1	1.2.3	1		1	1	2	2
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17	18	19	20	21	22	23	24	25	26
1	1	1	1	1	2	1	1	1	1
1	1	2	2	1	4	1	2	1	1
1	1	2	4	1	4	1	2	3	3
1	1	1	1	1	2	1	2	1	1
1	1	1	2	1	1	1	2	1	1
1	1	2	4	1	2	1	2	1	1
1	1	2.3	2	1	4	2	2	1	1
2	2	1	2	1	4	3	2	3	3
1	1	1	2	1	3	2	2	1	1
1	1	1	4	1	4	3	3	1	1
1	1	1	4	1	1	3	1	1	1
1	1	1	1	3	1	1	1	1	1
1	1	1	1	3	1	3	1	1	1
1	2	1	1	3	1	2	1	3	1
1		1		3	2	3	1	1	1
1	2	2	4	1	1	3	1	3	1
1	2	1	4	3	3	1	3	3	3

2	2	2	2	1	2	2	2	3	
---	---	---	---	---	---	---	---	---	--

27	28	ss	r	ls	i	al	gab	o
1	2	7	7	3	5	5	4	
3	2	7	7	7	7	2	7	
2	3	4	5	3	6	2	7	
1	2	5	3	6	7	4	2	
1	1	4	6	5	7	3	2	
3		6			5	7		
3		7	3	5	4	2	6	
3	3	6	7	4	3	2	5	1
3	3	7	6	3	5	2	4	
3	2	4	5	7	6	2	5	
		57	49	43	55	31	42	1
1	1	6	2	4	5	7	3	
1	1	7	4	6	5	2	3	
1	4	2	3	4	6	5	7	
3	2	7	6	4	3	2	5	1
1	1	6	5	4	3	2	7	
1	3	7	6	3	5	2	4	
3	3	6	4	6	7	5	3	
		41	30	31	34	25	32	1

3	3	6	7	4	3	2	5	
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No.	1	2	3	4	5	6	7	8	9
1	16	2	1	2	3	4	1	3,4,5,6	30
2	12	2	1	2	4	4	1	3,6	30
3		1	3	2		4	1		26
4	12	1	3	2	4	1	1	3,4	30
5	8	1	2	2	4	2,3	2	2,3,4,5,6	30
6	12	1	1	3	4	4	2	3	32
7	8	1	1	2	4	4	2	1,2,3,4,5,6	32
8	14	1	3	2	4	4	1	3	36
9	17	1	3	2	4	4	1	2,3,4,6,7	30
10	6	1	1	2	3	4	2	2,3,4,5,6	30
11	13	1	3	2	2	4	4	4	30
12	13	1	3	3	3	4	1	3	32
13	11	1	2	2	3	4	2	1,2,3,4,5,6	38
14	14	1	1	2	2	2	1	2,4	30
15	16	1	3	2	4	2	1	3	30
16	13	1	1	2	4	1	2	2,3,4,5,6	30
17	17	1	3	2	4	4	2	3	30
18	12	1	3	3	2	1	2	4	25
19	13	1	3	2	4	4	4	1	30
20	17	1	2	2	4	4	1	2,3,6	
21	14	1	2	2	4	4	3	4,6	30
22	17	1	2	2	4	4	1	2,4,6	22
23	12	1	2	2	1	4	2	1	30
24	9	1	1	2	3	4	3	1	28
25	9	1	3	2	3	4	2	7	30
26	17	1	2	2	4	3	1	3,4,6	28
27	13	1	2	2	4	4	3	1,2,3,4,5,6	60
28	9	1	3	2	1	4	3	3,4,6	30
29	13	1	3	2	1	4	2	2,4	24
30	11	1	3	2	2	2	3	2,3,4	28
	368						57		30.72414
	12.57143								6.408123

10	11	12	13a	13b	14	15	16a	16b	16
2	9	3	2	2	3				3
2	10	4	4	2	3	1,2,3	2	2	2
2	8	3	1,2,3	1	4	2	1	1	1
3	10	3	1,3	3	3	2	1	1	2
3	7	5	3	1	3	2	2	2,3	3
2	11	3	1,3	3	4	3	2	1	2
3	7	3	1,3	3	3	2	2	2	2
2	14	2	1,2,3	1	4	1,2,3	1	1	2
2	8	2	1,2	3	3	2,3	1	1	2
4	6	4	4		4	2,3	3	3	3
2	10	2	1,2,3	3	3	2,3	1	1	2
2	4	2	1,2,3	3	4	2,3	1	1	2
2	9	5	3	3	3	4	1	1	2
2	12	4	1,2,3	3	3	1,2,3,	2	2	3
2	9	2	1	3	2	2	1	1	2
2	12	3	3	1	4	1,2	1	1	2
1	25	1	2,3	2	3	4	1	1	1
1	10	1	1,3	1	3	1,2	1	1	2
2	10	3	1,2,3		3	1,2,3	1	1	2
					3	1,2	1	1	2
2	10	3	1,2,3	3	4	1,2,3	1	1	3
2	10	3	3		4	2	1	1	2
4	12	4	1,2,3	3	4	1,2,3	1	1	1
3	8	3	1,2,3	3		2,3	1	3	2
2	10	4	3	1	3	2,3	1	3	2
2	8	2	1,2	1	3	4	1	1	3
3	6	5	3	3	4	2	3	3	3
4	8	4	1,2,3	3	3	1,2	1	1	2
2	15	2	1,3		4	2	1	1	1
3	9	4	1,2	3	4	2,3	1	3	2
2.344828	9.896552	3.068966							

17	17a	17b	18a	18b	18c	19a	19b	19c	19d
3	1	1	1	3	3	3	3	3	3
4	3	1	2	4	3	4	3	4	3
3	1	3	1	4	4				
3	1	1	3	2	3	1	3	4	4
3	3	1	3	4	3	4	3		
3	3	3	3	4	2	1	3	4	4
3	1	1	3	2	3	3	3	3	3
1	1	4	3	3	2	1	1	1	1
3	1	1	2	1	4	1	3	4	3
3	3	1	2	1	1	1	1	2	3
3	4	1	2	2	2	1	1	3	3
1	1	3	3	3	3	1	1	4	4
1	1	3	3	1	3	3	3	1	2
3	3	1	3	4	4	1	3	1	1
3	4	4	3	3	3	1	1	3	3
3	2	4	2	4	3	1	1	1	1
1	1	1	1	1	3	1	3	3	3
2	1	3	1	1	3	1	3	1	3
3	3	2	3	1	3	1	3	1	3
3	3	1	2	4	4	1	3	4	3
2	1	1	1	1	3	1	1	1	1
3	1	1	4			4	4	4	4
1	3	1	1	1	1	2	2	4	4
3	4	1	2	1	2	1	2	3	3
2	4	2	2	2	3	1	3	1	3
3	3	2	3	3	1	1	1	3	3
3	2	1	3	3	3	3	3	3	3
3	3	1	1	4	1	1	3	4	3
1	3	1	2	1	3	2	3	3	3
3	4	3	2	1	1	4	4	4	4

20	21	22	25	ss	r	ls	i	al	gab
2	1		1	7	5	3	4	6	2
4	2	3	1	5	6	4	3	2	7
				6	3	4	5	7	2
1	1	1	2	7	2	6	3	4	5
3	2	2	1	7	4	6	3	5	2
2	1	2	3	3	2	7	4	5	6
2	1	1	1	5	3	6	7	2	1
2	3	2	3	7	6	4	3	2	5
1	1	1	3	6	5	3	4	2	7
3	1	1	1	7	3	5	4	2	6
2	1	2	2						
2	3	1	2	2	4	5	7	2	3
1	3	2	1	6	4	3	2	5	7
3	3	2	3	6	3	5	7	4	2
1	3	2	3	3	2	6	7	5	4
2	1	1	2	7	7	3	6	7	7
1	1	2	3		5	7	6		
1	1	2	3	6	5	2	7	4	3
1	1	2	2	7	5	4	3	2	6
2			3	3	2	6	4	5	6
2	1	2	1	7	4	5	6	2	3
2			1	5	4	6	7	2	3
1	1	1	1						
1	1	1	2	6	3	5	4	2	7
2	1	1	1	6	3	7	4	2	5
3	1	2	2	7	3	6	4	2	5
1	1	1	1	4	3	7	5	1	6
1	1	2	1	5	2	6	3	4	7
1	4	2	1						
1	3	2	3	6	5	7	7	3	4
				146	103	138	129	89	121



## Appendix 8. Qualitative data summary

### Qualitative Data Parents

#### Question 13

What behaviour was targeted

1. Putting hand up
3. Reinforce doing well
4. Mood swings, swearing
5. Ongoing targets
6. Depression, frustration, low self-esteem, anger
7. Toilet training, sharing
8. Physical and verbal aggression
9. Finishing work
11. Anger management
12. Complying with adult requests
13. Social skills, inappropriate behaviour
14. Learning abilities, behaviour, social skills
15. Aggression
16. Aggression, social, anxiety, sensory difficulties
17. To reduce inappropriate ways of coping with stress, self harm/violence (*Why not reduce the stressors?*)
18. Stress management, behaviour issues, anger management
21. To help with anxiety

#### Question 14

What difficulty was CBT or PCP used to support?

15. He understood himself more so became more confident

#### Question 21

Sensory difficulties – *two thirds are sound sensitive*

1. Hearing, light touch, busy areas
2. People talking (hearing)
4. Hearing, smell
5. Hearing
6. Background hearing, smells
7. Hearing
9. Hearing, vision
10. Hearing
11. Hearing, smell, taste
16. Hearing
17. Hearing, light
18. Hearing
19. Hearing, smell
21. Hearing, smell
23. Hearing
24. Hearing
25. Taste, texture, smell, Hearing
26. Hearing, smell, light
27. Hearing

## 28. Smell, Hearing, touch

### Question 22

*Mainstream – 4 interventions. Special – 9 interventions but quieter environment.*

1. Special - Quiet place to go if noisy
2. Don't know
4. Previous mainstream – Own quiet room. Special – no longer needs anything
5. None
6. None
7. Mainstream – No. Special – Taught to cover ears
9. Mainstream – tried but limited success. Special – can help him better because less numbers
10. Mainstream – No. Special – sensory toys to calm and weighted blanket to relieve anxiety
11. None
12. CDC provided support
16. Mainstream – ear defenders. Special – Quiet classes, no loud bell, no noisy assemblies or concerts, quiet areas for lunch.
17. None
18. None
19. None
20. None
23. Yes
24. Mainstream – quiet area. Special – quiet area
25. Mainstream – None. Special – daily support
26. None
27. Mainstream – None. Special – Sensory activities, hydro-pool, trampoline, clay etc
28. None
29. None

### Question 27

Main areas of strength

1. Can be loving and caring, academic learning, loves younger children.
2. Loving, drama, dancing, reading
3. Constant need to learn new things, very happy, extremely helpful, good person, Kind, very thoughtful.
4. Maths, science, sport, swimming, football, tennis, running, polite.
5. Learn quickly what he wants to learn
6. Maths, gameing
7. Physically agility, loving to family
8. Focus, concentration, aptitude for subjects that are of interest, reading, general knowledge. Awareness of self and diagnosis
9. IT, technology, practical things, helping others
11. Memory, art. IT
12. Loving, fun, caring towards family, very knowledgeable about natural science, animals, interested
13. Gardening, art, cooking, maths

14. Sometimes loving, no other strengths, struggled through school and will into adulthood (*What expectations!*)
15. Intelligence
16. Intelligent, knowledgeable about science and maths, healthy diet, exercises
17. Humour, intelligence, single minded, loyalty to friends, compassion
18. Technical creativity, deconstructive intelligence
21. Remembering facts
22. Tries hard, likes to make everyone happy
23. Academically able
24. Physical ability, memory
25. Tries to be normal, wants to be accepted, wants to learn, wants to go to mainstream
26. Academic learning
27. Agile, trampoline, bouncing ball
28. Intelligent, caring to animals, kind to others
30. Sense of humour, likeable, cheerful, art, look after others in need

### Qualitative data Mainstream

#### Question 6

##### Examples of targeted behaviour

1. None specified
2. Calling out, inappropriate touching
3. Silly noises, Flapping, Humming, rocking, hiding under tables
4. Positive reinforcement
5. Keeping school rules – be polite, keep safe, do your best
6. Doing ‘must do’ jobs, sitting well on carpet, changing activity, going out/coming
7. None specified
8. Excellent work, time keeping, behaviour, attendance
9. Attempting to write a sentence
10. swearing, flirting, screaming, physical/verbal aggression

##### Rewards

1. None specified
2. Free choice, stickers, choice of activity
3. Stickers, Certificates, House points, Computer time, 1<sup>st</sup> sitting dinner
4. Stickers
5. Golden time, verbal praise, positive messages home, stickers, thumbs up, trophies, certificates
6. 5 minutes of construction, computer, stickers
7. None specified
8. House points, certificates, canteen voucher, ipod nano, geometry sets, entry in £100 prize draw
9. Stickers, reward time
10. House-points, stickers, inform staff/parents, time with key worker

Question 9

Visual interventions used

1. Visual timetable
2. Visual timetable, written prompts and reminders
3. Communication in print, visual timetables and displays
4. Visual timetable
5. Symbols
6. Visual timetable, widget symbols, makaton
7. Visual timetables
8. Coloured timetable, time out card
9. Visual timetable, communication in print, labels, worksheets
10. Visual timetable

Question 11

Who provided training?

1. IDS, EP
2. IDS
3. IDS, SALT, People first
4. Local Authority
5. IDS
6. ASD Team
7. None specified
8. None specified
9. IDS
10. Students in school with ASD

Question 17

Strategies for teaching TOM, emotions, mind blindness

1. Social stories, comic strip conversations, games
2. Social stories
3. Social games and stories, role models
4. Social stories, comic strips
5. Social stories
6. Games, Thomas the tank faces
7. The Transporters, games, social stories, comic strips
8. None
9. Social stories
10. Social stories, comic strips

Question 24

Sensory equipment used

1. Weighted blanket, wobble cushion, vests
10. Own small item to hold

Question 29.

Other desired outcomes

8. Routine

### Question 30

#### Strengths

1. Honest, curious, humour
2. They bring a different dimension to school life. They make mainstream children more tolerant and accepting, make us all smile.
3. Honesty, open minded, lovely manners, seeing independence develop
4. Happy to come to school, achieve alongside peers, their needs are addressed
5. Individual strengths, specific abilities, relationships
6. Particular interests, learning to follow routines
8. Respond to 1:1 motivation, perseverance
9. They are part of the school, they take part in all areas of school life
10. Loyalty, confidence, courage, hard working, acceptance, tolerance

### Qualitative data Special or Out of County **Independent faith school**

#### Question 6

##### Examples of targeted behaviour

10. Socially expected behaviour, completion of work, remaining on task
11. **Distracted behaviour, off task**
12. Aggressive behaviour, language towards staff and peers, refusal to comply, inability to focus on task
13. None specified
14. Class disruption, shouting, self-harm, swearing, staying in class, working
15. Remaining in class, completing tasks, use of appropriate language
16. Inappropriate comments, noise, fixations
17. Keeping class rules, IEP targets

##### Rewards

10. Points/grades to be exchanged for money or activities
11. **Merits, house points, sweets**
12. A motivating activity/object to be used for a limited period after successful completion of a task
13. None specified
14. Praise, credits and computer time
15. None specified
16. Favourite book or activity
17. Verbal praise, stickers, points, stars, head teacher reward

#### Question 9

##### Visual interventions used

10. Visual prompts, visual timetables, social stories
11. **Visual timetable, flash cards**
12. Teacch schedules, boardmaker symbols, PECS
13. Not completed
14. Visual timetable, social stories
15. Visual timetable, time out card, sign
16. Behaviour management sheets, feelings cards, timetable
17. Objects of reference, now/next charts, timetables

Question 11

Who provided training?

10. Autism Oxford in house therapy team
- 11. CASS, External ASD agencies, Sunfield School**
12. Sunfield school, in house training, SLT team
13. Not completed
14. In house and external, EP specialist in ASD
15. ASD support team
16. Lighthouse
17. LA

Question 17

Strategies for teaching TOM, emotions, mind blindness

10. Social thinking approaches
- 11. N/A**
12. Social stories
13. Social stories, comic strips, emotional literacy training
14. Social stories, timelines, picture portraits, role play
15. We use SEAL and a wide range of resources
16. Games, social stories, comic strips
17. Social stories

Question 24

Sensory equipment used

10. Fidget toys, wobble cushions, swiss belts
12. Tactile equipment, sensory room with bubble tubes, cause and effect switches
13. Sensory diet
14. SI room
15. Toys and games
16. Sea drum
17. Sensory room

Question 29.

Other desired outcomes

14. Self worth, self belief, self confidence

Question 30

Strengths

10. Logical, analytical thinking, ability to learn in depth, musical talent, ability to learn and live alongside others with special needs, artistic talents.
- 11. Good role model, well motivated, well behaved, always try to do their best**
12. Ability to follow routines, use of technology, sorting equipment, drawing, memorising lines for a part in a play, visual perception
13. Behaviour management – self
14. Sense of humour, creative insight into the world, just kids
15. They access a range of lessons and are able to work with a range of staff. They achieve a wide range of accreditation and learn in a supportive and understanding environment.
16. Independence, adaptability
17. Flexibility, coping with change