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Autism Spectrum Disorder

Furthering Inclusive Practices for Students with an

Autism Spectrum Disorder in Irish Primary Schools

By

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A dissertation submitted for the degree of Doctor of Philosophy

University of Dublin

Trinity College

Dublin 2, Ireland

This research was conducted

in the School of Psychology

Declaration

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December 9, 2010

Jennifer McCann

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Summary

Inclusion of students with autism spectrum disorder has been the focus of the research. Absent from previous research is the focus on how programmes written and designed for the U. S. school system can succeed in Ireland. The primary goal of the thesis is to supplement the work currently utilised in Ireland to educate students with autism spectrum disorder in the least restrictive environment. Specifically, the study presents a body of research to provide an understanding of inclusive practices for students with autism spectrum disorder in Irish primary schools. A mixed method approach was utilised to investigate the research questions posed. The first study, Chapter 2, presents a national survey which examined where and how students with autism spectrum disorder as well as other intellectual disabilities were being included in mainstream Irish primary schools. This included the investigation of specific strategies, accommodations, resources, and supports. The survey also incorporated a satisfaction rating of schools' progress toward inclusion. Schools reported creative or different approaches for students on the spectrum compared to students with intellectual disabilities. Many of the schools responded that they tried to include students in social activities and friendship building activities.

The second study, Chapter 3, presents an investigation of the effects of modified peer mediated pivotal response training to increase social interactions of students with autism spectrum disorder. A study conducted in the home setting showed a generalisation to untrained peers in the school setting. Results lend support to the hypothesis that pivotal response training is a flexible intervention to increase pro-social behaviours. From the study the student manual and procedures for training were designed into a teacher friendly format to be used as part of ability awareness

training to facilitate the successful inclusion of students with autism spectrum disorder into mainstream classrooms.

Chapter 4 presents dual-site case studies designed to develop formal individualised inclusion planning procedures at the school level for students with autism spectrum disorder. In the past research has focused primarily on intervention programmes used in the United States. The study illustrates the adaptations required for the particular needs of a student included with typically developing peers in a mainstream primary classroom in Ireland. To personalize this programme to the Irish education system results from previous studies were incorporated. Outcomes reflect each school's policies on inclusion developed during the study and further procedures needed at school level. The individual case studies within each site illustrate the increase of engaged time a student with autism spectrum disorder spent in the mainstream as a result of the process. The educator and student surveys served to explore the impact on the mainstream teacher and students. These are only a few examples of using an individualised inclusion planning to further inclusion practices which will provide the groundwork for future research.

This thesis examined inclusive practices currently being utilised in Ireland to reflect the missing component of a structured programme to facilitate, support, and monitor the inclusion of a student with autism spectrum disorder. It is evident that if inclusion in Ireland is to succeed, as outlined in the Education for Persons with Special Educational Needs Act (Education for Persons with Special Educational Needs Act [EPSEN], 2004), formal approaches supported by additional evidence-based research needs to be carried out in the Irish educational context.

Furthering Inclusive Practices for Students with an
Autism Spectrum Disorder in Irish Primary Schools

The American Psychiatric Association's Diagnostic and Statistical Manual of Mental Disorders (American Psychiatric Association [APA], 2000) specifies that autism spectrum disorders "involve limitations in social relatedness, verbal and nonverbal communication, and range of interests and behaviours" (Ozonoff & Rogers, 2003, p. 5). The five specific autism spectrum diagnoses are: (a) autistic disorder, (b) Asperger disorder, (c) Rett disorder, (d) childhood disintegrative disorder, and (e) pervasive developmental disorder-not otherwise specified (Ozonoff & Rogers, 2003). The basis for the term spectrum disorders is that there is evidence of a triad of similar basic impairments which may differ in severity and symptoms (Wing & Potter, 2002). Communication deficits include delay or absence of spoken language, difficulty in initiating or maintaining a conversation, repetitive language, and imitation and pretend play in those diagnosed with autistic disorder (Ozonoff & Rogers, 2003). Language difficulties can include a failure to develop friendships and difficulties in social interactions such as turn-taking (Ochs, Kremer-Sadlik, Sirota, and Solomon, 2004). With regard to the interests and behaviour domain there can be unusual interests and inflexibility to non-functional routines (Ozonoff & Rogers, 2003). The DSM-IV (2000) distinguishes between autism and Asperger by the fact that there is no clinically significant general delay in language or cognitive development in Asperger. Asperger syndrome and high functioning autism may be used interchangeably (DES, 2001).

Epidemiology

There have been many studies over the years related to the prevalence of autism beginning in 1966 with Lotter reporting 4 to 5 cases per 10,000 (Charman, 2002). Charman (2002) cited three recent studies with autism spectrum disorder prevalence rates of 6 per 1,000. Autism prevalence is thought to be on the rise due to a broader definition of the disorder, better diagnostic measures, including early detection and increasing awareness (Charman, 2002; Dawson & Osterling, 1997; Tager-Flusberg, Joseph, and Folstein, 2001; Wing & Potter, 2002). Methodological differences and ranging diagnostic criteria may be reasons for increased prevalence (Charman, 2002; Fombonne, 2001). Fombonne (2001) suggested more intricate monitoring systems to examine changes in the incidence of autism spectrum disorders. Fombonne (National Research Council [NRC], 2001) discussed the recent debate around the epidemiology of autism and the consequences of that debate such as increased demand for autism-specific services. These studies have important repercussions for planning with regard to research and clinical provision (NRC, 2001).

Fitzgerald, Birkbeck, and Matthews (2002) reported the autism spectrum disorder prevalence rate in Ireland as 60 per 10,000 births. This rate is based upon data from 1992 to 2001 in three health board regions. The United States and the United Kingdom are ahead of Ireland in tracking prevalence rates, and therefore any figures based upon incomplete data would be underestimates at this time (DES, 2001). Asperger syndrome is often left out of prevalence data but based upon international research; the report of the task force on autism (DES, 2001) indicates that a provision should be made for services for 20 per 10,000 with autistic disorder and 36 per 10,000 with Asperger syndrome.

International Policy

In June of 1994 delegates from 92 governments and 25 international organizations met in Salamanca, Spain to reflect on the major policy shifts needed to address inclusive education for students with special needs. The Salamanca statement and subsequent framework for action were adopted at the conference. The framework was based upon the principle of inclusion and “by the recognition of the need to work towards ‘schools for all’ – institutions which include everybody, celebrate differences, support learning, and respond to individual needs” (UNESCO, 1994. p. iii). They contributed to the agenda for achieving education for all and schools educational initiative to be more effective (UNESCO, 1994). The beliefs of UNESCO (2009) are that students with special needs have fundamental rights, unique learning needs, strengths, and interests. Education systems and programmes need to take into account these varied features and needs when planning for those individuals. There should be access for individuals with special needs in regular education schools with the appropriate accommodations for them to succeed at their present level of functioning. These schools should “accommodate them with in a child-centred pedagogy capable of meeting these needs” (UNESCO, 1994, p. viii). Today mainstream schools with an inclusive orientation present “the most effective means of combating discriminating attitudes and creating welcoming communities” (UNESCO, 1994, p. ix). The Salamanca statement calls upon governments to improve education systems and approve policies which will affect the principle of inclusion.

The World Education Forum, April 2000, discussed the difficulty in defining inclusion. Inclusion has progressed from a view of challenging exclusion of students with disabilities to one which challenges all exclusionary policies and practices (UNESCO, 2000). The two practical suggestions offered by UNESCO (2000) are:

1. Inclusion means physically placed with typical peers while participating in the same activities.

2. Inclusion is social acceptance but individually relevant.

For a practical application this can mean that students with disability have the right to individual relevant learning which may imply various arrangements to meet the goal (UNESCO, 2000). These meanings may differ depending on the cultural context (UNESCO, 2000). Booth and Ainscow (1998) recognized that there cannot be only one standpoint on educational matters or that practical applications can all be generalised without taking into account local contexts and meanings. There are distinctive political, economic, and social conditions connected to national systems of education which make attempts to compare different countries difficult (McDonnell, 2003).

Although there has been increased educational legislation for the purpose of reducing exclusion, many European countries have a strong history of segregation in their schools (McDonnell, 2003). Ireland enacted the Education for Persons with Special Educational Needs Act in 2004 (EPSEN, 2004). It will take time for practice to realise the goals of policy. Between September 2004 and February 2005 the National Disability Authority (National Disability Authority [NDA], 2006) undertook research on the current state of education provision of children with disabilities. One of the areas they examined was integration and inclusion. Participants agreed that a critical factor in designing effective inclusive education was the capacity to deliver at all levels of the system “from local school level to the Department of Education and Science, and including planning, assessment and support services, inspection and other accountability structures, communications networks linking services-government departments, schools and families” (NDA, 2006, p. 8). The report

observed a lack of leadership by the department of education and science with more short-term solutions presented instead of long-term support (NDA, 2006). With regard to knowledge on autism spectrum disorders, participants identified a lack of understanding throughout the school system and felt schools were seen as unable to provide leadership in addressing the educational and social needs of this population (NDA, 2006). Mainstream placement was strongly endorsed in theory, but the need for other specialised environments remain as participants felt that mainstream schools were not adequately prepared to deal with children with autism or attention-deficit hyperactivity disorder (NDA, 2006). The National Disability Authority (2006) report found that inclusion was perceived to have advantages for mainstream students and those present with a disability, but positive action is required by schools to foster inclusion. Successful peer interactions will not be realised with placement in mainstream schools only. Structured support for whole school approaches are crucial to full participation (NDA, 2006).

Emerging Issues-Perspectives for Stakeholders in Inclusion

Many issues are emerging for stakeholders in the inclusion movement. Students, parents, teachers, as well as school systems have their own critical issues embedded in the principle of including children with disabilities in mainstream schools and classrooms.

In a viewpoint of inclusion in relation to general disability, Pivik, McComas, and Laflamme (2002) identified through focus group meetings what students with mobility limitation and their parents felt were barriers to inclusion. Identified in the study were the physical environment, intentional attitudinal barriers, unintentional attitudinal barriers, and physical limitations. Intentional and unintentional attitudinal barriers were reported most frequently. Parents were bothered by the lack of

information and having their needs addressed. Facilitators to inclusion to alleviate these barriers were identified as communication and consultation regarding improvement of environments, programs, and policies (Pivik, McComas, and Laflamme, 2002). More intense review of parents' concerns has been documented in literature and little of the students themselves (Pivik et al., 2002). The authors of the study asserted that students are capable of expressing concerns about accessibility and should be allowed to participate in evaluating inclusive environments. The students were able to identify both barriers as well as facilitators to their inclusive school environments. Implications for practice were obtaining policies and resources with an inclusive principle. Teacher training was identified to allow for adaptations to include all children, and it is important to listen to students to better understand their reality. In Aaroe and Nelson's (1998) survey of students with disabilities perspectives on curricular matters, they identified a topic for future research as the need to consider student beliefs to guide treatment decisions.

Norwich and Kelly (2004) examined the views of students with moderate learning difficulties in mainstream and special schools with regard to their current placement. Findings revealed that student perspectives were mixed. Although most were positive about their current placement they did note a high level of reported name calling, teasing, and physical bullying. The students with moderate learning difficulties experienced some tension about their differences. This should be viewed in context to the recent research in Ireland which revealed that up to 40% of nine year olds have experienced bullying in the year preceding the survey (Williams, Greene et al, 2009). Bullying in the mainstream environment exists for many different populations of students. This is an important consideration when planning and monitoring the inclusion of students with disabilities with their mainstream peers.

Palmer, Fuller, Arora, and Nelson (2001) studied parent views on inclusion for children with severe disabilities. The severely disabled students were being served in traditional special education placements. The findings illustrated that the support of inclusion involved beliefs that students would benefit because of higher expectations, challenging environments, and exposure of students without disabilities to their children (Palmer, Fuller, Arora, & Nelson, 2001). Parents who opposed inclusion indicated the severity of their child's disability and that the general education program would not be accommodating to their child. General education perception played a role in parent's views of how their child would fit into these programs. Palmer et al. (2001) stated that the inclusion movement is being promoted by advocates of children with significant disabilities. The current study indicated that parents made decisions based on many factors (Palmer et al., 2001).

Students with autistic spectrum disorders have their own unique issues. In particular there is some debate as to the benefits of including students who have autism spectrum disorders because they vary widely in ability and personal characteristics (Bunton-Pierce & Dunlap, 1999). The report on the task force on autism (DES, 2001) noted that some mainstream primary and post-primary schools were reluctant to consider admitting students with autism spectrum disorders. The task force report on autism (DES, 2001) further recognized that:

Inclusive education should be firmly promoted as a realistic and realisable goal and not placed in parenthesis for those who may attain within the education system 'with support.' A commitment to provide whatever support is needed should be the rule and not the exception. (p.122)

Ireland has maintained a parallel nature of mainstream and special education which has resulted in limited research on inclusive practice (Shevlin, Kenny, & McNeela, 2001). In order to fully include students with disabilities, systematic

support is needed to create the appropriate conditions so that the student is not asked to adjust, but rather the school can accommodate the student (Shevlin et al., 2001).

Theory

Critical theory was utilised as a lens with which the researcher designed methodology to answer research questions and view situations and as a course to change those situations (Giroux, 2003b). Bronfenbrenner's (1979) theoretical perspective for research in human development is introduced as it is the structure with which the researcher organised the general discussion of the thesis.

With the increasing popularity of inclusion as a legislative theory, the practice of inclusion has gone through changes. Currently, there is a shift from a medical model to a social model (Ainscow, Farrell, & Tweddle, 2000; Jordan, 1999; Simeonsson, Carlson, Huntington, Sturtz McMillen, and Lytle Brent, 2001). The medical model focuses on student deficits due to disability and consequently their remediation. Inclusion is based more on the social model of disability which concentrates on strengths, interests, and accommodation for students so that they may reach their full potential (Ainscow et al., 2000; Mittler, 2005; Simeonsson et al., 2001). Theorists such as Vygotsky support active participation as a necessary component for learning and development (Simeonsson et al., 2001).

Vygotsky (1978) proposed the concept of the zone of proximal development to explain the relationship between learning and development. Students could accomplish more when assisted by teachers or able peers to guide them (Vygotsky, 1978). This zone is the discrepancy between a child's mental age and what they can accomplish with guidance such as a leading question, beginning the solution for the child to complete, or modelling (Vygotsky, 1978/1986). Vygotsky (1986) discussed schools previous direction where "instruction was oriented to the child's weakness

rather than his strength” (p. 189). Vygotsky’s theory places a primary concentration on social interaction as a mode in which children develop with people who are trained in the practices and techniques of supporting children in learning (Tudge & Rogoff, 1999). This is not helping children alone but includes the “relation to maturing functions needed for transition to the next age period” (Chaiklin, 2003, p. 57). The zone of proximal development lends itself to the principle of inclusion; whereby, the teacher and peers can model for students with autism spectrum disorder.

Mediation as part of the zone of proximal development is one of the tenets of Vygotskian theory and is well documented in the literature regarding inclusion. Mediation can be facilitated by adults such as the teacher or special needs assistant as well as by typical peers within the mainstream classroom (Chaiklin, 2003). Scaffolding as a mediational technique was a direct result of Vygotskian ideas (Kozulin, Gindis, Ageyev, & Miller, 2003). Vygotsky described assisting children “through demonstration, leading questions, and by introducing elements of the task’s solution” (Lidz & Gindis, 2003, p. 209). This assumption that higher mental functions are a result of social origin is one that has been investigated further to discover the nature of assistance provided during scaffolding (Lidz & Gindis, 2003). Scaffolding is building upon the present knowledge and building understanding. Peer involvement has long been proven to be a successful instructional practice (Carothers & Taylor, 2004). Peer modeling and peer mediated strategies in the mainstream classroom is one of the important aspects of instructing students of all different level of needs together. It requires planning and support but can have a meaningful effect on all the stakeholders involved.

Vygotsky was well ahead of his time when he wrote about inclusion of students with special needs and differentiation of instruction for students to reach their

full potential (Kouzulin et al., 2003; Gindis, 2003). In the last few decades there has been an increased understanding of how proximal environments help shape learning and development for children (Odom & Wolery, 2003). The model of differentiated instruction is based on flexibility of approach to adjust to the learner instead of having the learner adjust to the curriculum (Hall, 2002). Differentiation values the individual and can be applied to classroom practices by the following principles: (a) ongoing assessment linked to instruction, (b) teachers ensure respectful activities for all students, and (c) flexibility of grouping students within the class (Timlinson, 1998).

Vygotsky further developed his ideas, from promoting integration as a geographical placement to a more sociocultural concept of inclusion (Gindis, 2003). Real inclusion could be achieved not just through physical integration but academic as well through accommodations such as extra time, specific teaching methods, and extra adult support (Gindis, 2003). Gindis (2003) contended that Vygotsky understood the importance of social inclusion in nonacademic activities such as lunchtime, playground, music, and art for the students with disabilities and their typical peers. Vygotsky stated that inclusion is not a place but rather the participation of all students together learning from one another. Vygotsky's approach is unique in his view of disability as a sociocultural developmental phenomenon rather than a biological impairment (Gindis, 1999).

Early critical theorists viewed critical theory as an "on going critique between the world it examines and as it actually exists" (Giroux, 2003a, p. 27). The Frankfurt school which consisted of theorists Max Horkheimer, Theodor Adorno, and Herbert Marcuse had some unique aspects. One aspect revealed that it was open to interdisciplinary appropriation of theories and methods from the social sciences, and it included the first systemic effort to employ traditional empirical research techniques

such as survey research (Morrow & Brown, 2003). The Frankfurt school believed in “the contradictions of society that one could begin to develop forms of social inquiry that analysed the distinction between *what is* and *what should be*” (Giroux, 2003a, p. 28). Critical theory analyzes the roles that schools play as agents of social and cultural change (Giroux, 2003a). Jurgen Habermas developed a systematic methodological revision of critical theory and his name is associated with critical theory today (Morrow & Brown, 1994).

Critical theory now “engages action researchers in extending process to involve others in collaborating in all phases of the research process” (Carr & Kemmis, 1986, p. 182). The aim of critical theory is to transform the present to produce a different future (Carr & Kemmis, 1986). The aim of critical theory and the view of educational reform that is participatory and collaborative (Carr & Kemmis, 1986) is one which the researcher embraced throughout the thesis.

Bronfenbrenner’s (1979) theoretical perspective of the developing person, the environment, and especially of the evolving interaction between the two was appropriate to view in the study. The definition of the ecology of human development:

Involves the scientific study of the progressive, mutual accommodation between an active, growing human being and the changing properties of the immediate settings in which the developing person lives, as this process is affected by relations between these settings, and by the larger contexts in which the settings are embedded. (Bronfenbrenner, 1979, p. 21)

The research study aims to study students with autism spectrum disorder, the best practices in teaching them, and how teaching those students in inclusive environments can be accomplished. Inclusion is about setting and students with disabilities being educated alongside typical peers. Bronfenbrenner discussed the developmental potential of a setting:

Is enhanced to the extent that the physical and social environment found in the setting enables and motivates the developing person to engage in progressively more complex molar activities, patterns of reciprocal interaction, and primary dyadic relationships with others in that setting. (p. 163)

Inclusion is not about changing the student but rather making accommodations to the setting in order to meet the needs of that student.

Inclusion Versus Integration

There has been increased awareness of the moral and practical implications of including students with disabilities with their typical peers in less restrictive environments. This has led to more research and debate on the topic of inclusion. Before going into the practices, strategies, and programmes which facilitate inclusion, it is necessary to make distinctions between the various terms which are utilised in the literature. Inclusion, full inclusion, mainstreaming, and integration are terms which may be used to describe educating students with disabilities with their peers. Some of these may be used interchangeably while others are very different in their meaning.

Integration or mainstreaming began as a systems reform and a way to describe the rights of children with disabilities to receive an education (Vislie, 2003). Pijl and Meijer (1991) used the term integration as a collective noun to describe attempts to avoid a segregated and isolated education of students with disabilities. Today integration or mainstreaming implies that students need to acquire the necessary skills to participate in mainstream classrooms (Booth & Ainscow, 1998; Renzaglia, Karvonen, Drasgow, Stoxen, & Craig, 2003). Integration or mainstreaming further implies that the student needs to change in order to be ready to take part in education with their typical peers.

Sebba and Ainscow (1996) described inclusion as a process; whereby, schools address students as individuals with varying emotional, educational, and physical

needs. Through the process the school builds a capacity to accept students from the community and no student is excluded (Sebba & Ainscow, 1996). Mesibov and Shea (1996) described how the term full inclusion developed from earlier terms such as integrating or mainstreaming. Full inclusion is the concept that students with disabilities can and should be educated with their typically developing peers with the proper accommodations and services (Mesibov & Shea, 1996). Full inclusion supposes that all students are educated together in mainstream classrooms all day every day. Inclusion recognizes the right and benefits of students learning together in mainstream classrooms with a need for a continuum of placement options. Both terms usually refer to a placement in a classroom where the majority of students are typical peers with a few students with disabilities (Odom & Diamond, 1998). The task force report on autism (2001) defines successful inclusion for students with autism as “dependent on the provision of additional support and accommodation to overcome the disadvantages of core social and communication impairments” (p. 123).

Diagnosis and Implications for Inclusion

There is some agreement that early diagnosis and intervention are important for children with autism spectrum disorder in order to facilitate improved outcomes for the individual and the families (Dawson & Osterling, 1997; Jordan, 2004; NRC, 2001; Rogers, 1996). Stahmer and Ingersoll (2004) studied an early inclusion intervention for children under 3 years of age with autism spectrum disorder. Improvements were observed in standardized assessments, functional outcomes, and increases in social and play behaviour..

Autism spectrum disorder is a developmental disorder and can be accompanied by other learning disabilities or mental impairments. Diagnosis and labeling are necessary in order for the child with autism spectrum disorder to obtain

an individualised programme (Department of Education and Science [DES], 2006; NRC, 2001). In an evaluation of educational provision for children with autistic spectrum disorders in Ireland it was noted that “features of ASDs and general learning disabilities have significant implications for approaches to education and intervention” (DES, 2006, p. 22). Increased awareness and identification of autism spectrum disorder has implications for levels of educational provision and services. There is a need for professionals who have knowledge and experience with this population. Professionals need to understand on a psychological level the diverse needs of a student with autism rather than one that only deals with the behaviours the student presents (Powell & Jordan, 1993). Peers need to have an understanding of autism spectrum disorder so that they can be more tolerant of aggressive or defiant behaviours (Jordan, 2004). With respect to inclusion, particular attention needs to be taken that supports aid to inclusion (Jordan, 2008).

Best Practices Autism Spectrum Disorder

Best practices in teaching students with autism spectrum disorder can present educators and parents with many decisions to make due to the varied presentation of the diagnosis and the wide variety of interventions and treatments available today (Iovannone, Dunlap, Huber, & Kincaid, 2003; Simpson et al., 2005). There have been many interventions and treatments over the years which have seemed initially sound but have disappeared due to the lack of meaningful effects (NRC, 2001; Simpson, Myles, & LaCava, 2008). Many of these interventions have not been scientifically proven, thus the process of designing a learning programme for the student can be much more difficult (Simpson et al., 2008). The following interventions and treatments have been analysed by Simpson et al. (2005) and relegated to the following categories: (a) scientifically based practice, (b) promising practice, (c) limited

supporting information for practice, and (d) not recommended. Scientifically based practices refer to the interventions and treatments that have a considerable amount of thorough research that have yielded positive and consistent results for children and youth with autism spectrum disorder (Simpson et al., 2005). Promising practice refers to interventions and treatments that have been used extensively and for some time with very few unfavourable results. They require further research and evidence to be a scientifically based practice (Simpson et al., 2005). Three areas will be reviewed in relation to interventions and treatments: (a) skill-based, (b) cognitive and interpersonal relationship interventions, and (c) treatments.

Skill-based interventions and treatments are described by Simpson et al. (2005) as methods used in schools and other educational settings. The purpose “is to develop, maintain, or support functional demonstration of specific skills rather than to facilitate relatedness and bonding” (Simpson et al., 2005, p. 47). These interventions assess performance in areas relevant to the person with autism spectrum disorder and use specific skills to teach and improve functioning in the areas of need (Simpson et al., 2005). The skill-based interventions and treatments classified as scientifically based practice by Simpson et al. (2005) are: (a) applied behaviour analysis methods, which include (b) discrete trial teaching, and (c) pivotal response training. Those deemed a promising practice in this area are: (a) picture exchange communication system, (b) incidental teaching, (c) augmentative and alternative communication, (d) joint action routines, and (e) structured teaching (Simpson et al, 2005). Applied behaviour analysis is defined by Baer, Wolf, and Risley (1968) as:

The process of applying sometimes tentative principles of behaviour to the improvement of specific behaviours, and simultaneously evaluating whether or not any changes noted are indeed attributable to the process of application- and if so, to what parts of the process. (p. 91)

Wolf (1978) explained that applied behaviour analysis procedures need to be important to the individual so that the goals of intervention lead to meaningful changes and a better quality of life. Goals, procedures, and outcomes make up the process of applied behaviour analysis. Goals need to benefit the individual, procedures should be as minimally invasive as possible, and outcomes should enhance the quality of life for those involved (Heflin & Alaimo, 2007). Applied behaviour analysis has been identified as an important effective process in academic instruction for students with autism spectrum disorder (Dunlap, Kern, & Worcester, 2001). It focuses on the individual with a commitment to functional analyses which corresponds to the focus on individual learning needs that is the principle of special education (Dunlap et al., 2001).

Recent reviews and meta-analyses have been conducted regarding Early Intensive Behavioural Intervention (EIBI). Eldevik et al., 2009 conducted a meta-analysis building upon Reichow and Wolery (2009). Reichow and Wolery (2009) included studies that were not controlled and those with various outcome measures. Although the findings were strong the authors warned against making the findings appear larger than they are as the comparison groups were poorly organized. Still, they found that EIBI is an effective intervention for some children with autism (Reichow & Wolery, 2009). Eldevik et al., 2009 expanded and improved analysis. Despite limitations which included a small number of studies and the quality of the studies they found EIBI effective when compared against studies with no controls or eclectic and autism-specific educational interventions (Eldevik, et al., 2009). Howlin, Magiati and Charman (2009) found that the average effects were good but there was considerable variability across individual children. They identified challenges for future research as the variety of assessments being used in studies and

the fact that EIBI usually has more intervention hours than control groups (Howlin et al., 2009). Rogers and Vismara (2008) reviewed evidence-based comprehensive treatments for early autism. Of the four best-designed controlled studies- Lovaas (1987); Smith, Lovaas and Lovaas (2002); Eikeseth et al., (2002); and Cohen et al., (2006) they found this treatment meets criteria for a “well established psychosocial intervention for improving the intellectual performance of young children with autism spectrum disorders (p. 25, Rogers & Vismara, 2008). They identified questions for future research as (a) whether this approach, independent of intensity is more effective than other comprehensive approaches; (b) which children is it efficacious? and (c) for what areas of functioning is it more efficacious than other approaches of similar intensity? The significant body of research conducted in this area has found applied behaviour analysis to be an effective method for some children with autism.

Lovaas' (1987) landmark study developed the debate. The study reported that 47 % of children in the experimental group with intelligence quotient (IQ) scores of 37 or above achieved normal intellectual and academic functioning after 2 to 3 years of an intensive 40-hour a week intervention. A follow-up of nine of the best outcome children showed that eight had maintained their status (McEachin, Smith, and Lovaas, 1993).

The University of California, Los Angeles study was criticised as being quasi-experimental because of the lack of random assignment and outcome measures limited to the IQ and educational progress (Schopler, Short, & Mesibov, 1989). Despite flaws many authors claim that the Lovaas (1987) study and following replications are among the methodologically strongest studies in autistic treatment literature (Rogers, 2000).

There have been no studies which have completely replicated the UCLA study. Though some modified versions have been carried out (Birnbauer & Leach, 1993). Birnbauer and Leach's (1993) study involved 19 hours of 1:1 discrete trial training for 9 experimental children in comparison to 5 controls. Similar to Lovaas' (1987) findings almost one-half of the children made substantial gains in comparison to 20 % of the control children who received no treatment. The study shared the methodological flaws of the first with a lack of random assignment and information about treatment fidelity.

Sheinkopf and Siegel (1998) exposed 9 children with autism to 27 hours per week of home-based discrete trial training for 20 months and compared the effects to 9 control children receiving 11 hours per week for 18 months of a nondescript form of school based treatment. Results showed an increase in their IQ from an average of 63 to 90 in the experimental group; whereas, no differences were found in the control group. No differences were found in the number and severity of autistic symptoms and similar problems with treatment integrity were found. The reliance on parent reporting of the number of treatment hours is questionable. In the experimental group parent-reported treatment hours ranged from 12 to 43 meaning that it was possible that some children got 3 times more treatment than others in the experimental group. While containing a number of methodological flaws, these studies provide some evidence for the effectiveness of intense applied behaviour analysis for educating children with autism. Attempts to replicate the early Lovaas (1987) study have some methodological flaws and therefore there must be some caution in accepting the conclusions. However, many studies have flaws and ABA is an intervention which permeates the literature on teaching children with autism.

There is an opposing view that a mix of applied behaviour analysis with other methods is the most effective treatment for children with autism. These studies raise the controversial question of exclusivity, namely whether applied behaviour analysis is more effective on its own or in conjunction with other methods (Harris & Delmolino, 2002). For example, in an evaluation of the UCLA treatment programme, Jordan, Jones, and Murray (1998) argued that it was not the treatment itself but rather the intensity of treatment that was responsible for the remarkable results. This conclusion was reached from the control and experimental groups which received behavioural treatments, and the difference being that the experimental group received 40 hours a week and the control group received 10. An interesting counter argument to this point, however, was illustrated by Eikeseth, Smith, Jahr, and Eldevik (2002) who compared the effects of 28 hours per week of behavioural treatment to 29 hours of eclectic special education treatment for children with autism between the ages of 4 and 7. It was found that the behaviourally treated children made significantly more progress on measures of intellect, language, and adaptive functioning than the eclectic special education group after 1 year of treatment, thus highlighting that when the effect of intensity of treatment is controlled behavioural interventions still emerge as valuable.

Applied behaviour analysis can be practiced in many different settings which include special education and mainstream (DES, 2001). Prizant (2009) noted that applied behaviour analysis is not the only intervention or the best as has been purported previously. Rogers and Vismara (2008) contend that there needs to be more research on the multitude of interventions needed to address the needs of children with autism. This needs to be taken into consideration when planning an intervention

programme for children with autism spectrum disorders due to the individualised nature of this developmental disorder.

Discrete trial teaching is a common intervention based on applied behaviour analysis. Frea (2000) described discrete trial teaching as the “intensive application of ABA principles within a structured teaching environment to teach specific skills” (p. 181). Discrete trial teaching is a process of steps which can be as few as three or as many as eight which always contain five components: (a) attention, (b) presentation of stimulus, (c) student response, (d) feedback, and (e) inter-trial interval (Heflin & Alaimo, 2007). A discrete trial may differ in the manner in which it is presented and show the different uses and styles of behavioural teaching (National Research Council, 2001). The intervention is helpful with teaching skills but needs to be utilised in combination with other treatments and settings in order to increase generalisation (Goldstein, 2002; Heflin & Alaimo, 2007).

Pivotal response training is a naturalistic treatment developed by Koegel and Schreibman (Matson, 2009). This behavioural treatment intervention is based upon applied behaviour analysis. It differs in that it is more a child-directed approach; whereas, discrete trial teaching is therapist or teacher driven. Pivotal response training uses reinforcement related to the activity and child choice (National Research Council, 2001; Mastergeorge, Rogers, Corbett, & Solomon, 2003). Motivation and responsivity to cues are the two pivotal behaviours identified that affect other behaviours. The behaviours are fundamental to a variety of other behaviours so that positive changes should have extensive effects on them all (NRC, 2001). The role of motivation is explicitly identified by Koegel et al., (1989) on teaching pivotal behaviours to children with autism. The motivation role was designed to target behaviours such as speech, language, and social behaviour based on the assumption

that improving the pivotal behaviours of motivation and responsivity to multiple cues would improve the target behaviours as they are seen as crucial elements to many behaviours of a child with autism spectrum disorder. Conventionally pivotal response training has been used to increase language of individuals of autism (Pierce & Schreibman, 1995). Naturalistic treatments such as pivotal response training and incidental teaching are important as they are flexible enough to be implemented by peers and can take place in flexible settings such as the classroom as well as the playground (Pierce & Schreibman, 1995).

Picture exchange communication system (PECS) is a highly structured programme which enhances and facilitates communication through the exchange of pictures, symbols, photographs, and objects. This behaviourally based programme was designed by Bondy and Frost (2001). Training begins with the act of requesting tangibles which are more motivating (Bondy & Frost, 2001). The six phase process starts with pictures and progresses to multi-picture sentences and a range of communicative functions (Bondy & Frost, 2001). The system utilises behavioural techniques such as shaping, differential reinforcement, and the transfer of stimulus control to teach functional communication (Charlop-Christy, Carpenter, Le, & Kellet, 2002). Charlop-Christy, Carpenter, Le, and Kellet (2002) described the process of how a child is taught to communicate through selecting picture cards to create a sentence. With regard to the concerns of parents and professionals that a picture-based system would deter children from gaining speech (Bondy & Frost, 2001), there is research which demonstrates that augmentative communication systems have been shown to enhance the progress or improvement of speech (Charlop-Christy et al., 2002; Ganz & Simpson, 2004). Howlin et al. (2007) researched the effectiveness of expert training and consultancy for teachers of children with ASD in the use of PECS.

This randomised control trial confirmed the success of earlier studies (Bondy & Frost, 1994; Charlop-Christy et al., 2002) that children with ASD can learn to use PECS and can increase their initiations of communication (Howlin et al., 2007). However, there was no evidence that PECS increased verbal communication.

Incidental teaching is a systematic procedure of instruction that takes place in natural environments to facilitate language development and improve behaviour and development in the child (Stanton-Chapman, Kaiser, Vijay, & Chapman, 2008). This type of instruction utilises the "highly desired materials of the child as well as prompting and shaping techniques rooted in natural contexts, and child-initiated ("natural") interactions" (NRC, 2001, p. 134). This naturalistic intervention has been used with both typical children and children with autism to increase peer interactions, social skills and language (Hart & Risley, 1974; McGee, Almeida, Sulzer-Azaroff & Feldman, 1992). It has been utilised as a peer mediated intervention but has not resulted in a generalisation across settings, thus participants can be dependent upon prompts to the children (Stanton-Chapman et al., 2008).

Augmentative and alternative communication is used to improve communication using low and high-tech services and devices (Heflin & Alaimo, 2007). Augmentative and alternative communication systems can be used to complement, substitute, or both an existing communication method (Heflin & Alaimo, 2007). These systems can include sign language, photographs, picture exchange systems, communication books, and computer systems (Koegel, 2000; National Research Council, 2001). Simpson et al. (2005) commented that "fifty percent (50%) of children with autism will not develop functional speech" (p. 77). Therefore it is important that augmentative and alternative communication systems are developed for this group. Children with ASD also present with multifaceted

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communication conditions. Consequently communication for these individuals presents teachers with complicated needs that “require flexibility and creative interventions” (Simpson et al., 2005, p. 77). It is important for non-verbal children with autism spectrum disorder to learn alternate forms of communication as young as possible so that the lack of functional communication does not display itself in problematic behaviour (Mastergeorge et al., 2003). In Dawson and Osterling’s (1997) review of important elements in programming for students with autism spectrum disorder they point to augmentative communication methods as common to most successful models.

Joint action routines teach participation in routines with a central theme or purpose (Synder-McLean, Solomonson, McLean, and Sack, 1984). Joint action routines are based on the foundation that to increase communication skills there needs to be motivating situations with opportunities to communicate (Simpson et al., 2005). The principles of the natural language paradigm are present in joint action routines and are believed to be appropriate for children with autism “because they lack understanding of the function of communicative behaviour and that communication is a reciprocal event” (Simpson et al., 2005, p. 107). These routines work best for children who do not initiate communication and would benefit from the scaffold support of a familiar routine with appropriate response practiced (Heflin & Simpson, 1998). Although Simpson et al. (2005) referred to limited research on joint action routines, they comment that the method seems to have face validity. More recent research includes Green et al.’s (2009) investigation into the efficacy of parent-mediated communication-focused treatment in children with autism (PACT). This intervention targeted social interactive and communication impairments in autism by providing a range of strategies, one being joint action routines (Green et al., 2009).

While authors could not recommend the PACT intervention for the purpose of reducing autism symptoms it did have positive parent-reported outcomes for the parent-child interactions (Green et al., 2009). A more successful study was that done by Dawson et al., 2009, on The Early Start Denver Model (ESDM) an intervention for toddlers with autism. This intervention utilised joint activity routines as the frames for teaching. Procedures included developing play activities into joint action routines designed to build skills and complete current learning deficits (Dawson, et al., 2009). Outcomes included an increase in IQ scores of 17 points as well as significant gains in language and adaptive behaviours. However, it is unclear whether these gains can be sustained and a follow-up is suggested (Dawson, et al., 2009).

The treatment and education of autistic and related communication-handicapped children programme was developed by Mesibov, Shea, and Schopler, (2004) during the 1970s at the University of North Carolina at Chapel Hill. The approach is based upon structure (NRC, 2001), and the four main components of this process are physical organization, visual schedules, work systems, and task organization (Simpson et al., 2005). The programme is described as structured teaching that “a method for teaching new skills and a way of organizing any setting so that it is understandable and meaningful for any individual with an ASD” (Mesibov, Shea, & Schopler, 2004, p. 34). The programme was developed around the strength of those individuals with autism spectrum disorder for areas of visual processing and skills to overcome deficits in the area of auditory processing (Panerai, Ferrante, and Zingale, 2002; Simpson et al., 2005). The visual aids increase independence and assist the child with autism spectrum disorder with simplification and clarification of their environment (Panerai et al., 2002).

Cognitive interventions and treatments are those relating to self-monitoring of behaviour by individuals with autism spectrum disorder. Outcomes would be for those individuals to ultimately reinforce and manage their own behaviour (Simpson, et al., 2005). The intervention shown to be a scientifically based practice is learning experiences which is an alternative program for preschoolers and parents. Promising practices in this area include cognitive behavioural modification, cognitive learning strategies, social stories, and social decision-making strategies (Simpson et al., 2005).

The Learning Experiences, an Alternative Programme for Preschoolers and their Parents (LEAP) includes a preschool programme, a behavioural skill training programme for parents and outreach activities (NRC, 2001). This programme is known for its peer-mediated social skills interventions and was one of the first in the United States to include children with autism with typical children (NRC, 2001). Learning experiences-an alternative programme for preschoolers and their parents focuses on learning through interaction with peers and staff as well as exploration of new materials (Jordan, Jones, & Murray, 1998; Simpson et al., 2005). Curriculum centres on social and emotional growth, language and communication abilities, independence in work and play activities, choice making, capacity to cope with transitions and behaviour, cognition, and physical abilities (Simpson et al., 2005).

Cognitive behavioural modification is described by Heflin and Simpson (1998) as a group of interventions designed to develop more independent behaviour through self-management strategies and self-verbalization. The strategy is taught by direct instruction, modeling, and guided practice (Simpson et al., 2005). Although the strategy was found to work with a variety of students with autism spectrum disorder, it may be most appropriate for students with high-functioning autism or present with Asperger syndrome, as they have more of the pre-requisite skills (Simpson et al.,

2005). Strain, Kohler, Storey, and Danko (1994) implemented a self-management package in the school and home for three students with autism. Key results included increased interactions with siblings and peers, positive impact on social behaviours, and a reduction of adult prompts and reinforcements in both settings. This is a promising practice as it takes little time to train students and provides a fast result which is useful in settings such as the classroom (Koegel, Koegel, Hurley, & Frea, 1992). Jordan and Powell (1990) tested a computer-generated cognitive curriculum approach in children with ASD and got positive results in this 'self-control' quasi experimental design. The results of this pilot study indicated direction for future research to employ the principles used in the computer programmes to be applied to using non-computer presented activities (Jordan & Powell, 1990).

Simpson et al. (2005) defined cognitive learning strategies as procedures utilised in a systematic process and applied to a problem situation that leads to a successful solution. Studies by Kellas, Ashcroft, and Johnson (1973) showed similar results for those with mental retardation and Leon and Pep's (1983) study in 1983 for children with learning disabilities. There have only been two studies to address this in children with autism spectrum disorder both by Bock (1994/ 1999). Bock (1994/1999) created a categorization strategy that teaches sorting items by dimension. These cognitive learning strategies make use of matching particular characteristics, needs, and learning styles of children with autism spectrum disorder (Simpson et al., 2005). The child is treated as an individual and utilises a systematic procedure using behavioural techniques which facilitate maintenance and generalisation (Simpson et al., 2005).

Social stories are individualised cognitive interventions that illustrate the social cues and appropriate responses needed for a particular social situation

(Simpson et al., 2005). Gray and Garand (1993) described the usefulness of the intervention when it is written from the perspective of the child. Originated by Gray (2004) social stories are written to help children with an autism spectrum disorder to understand social situations and perspectives of others. They can be individualised to the needs of the student for various social behaviours such as waiting in lines, greetings, sharing, and turn taking (Mastergeorge et al., 2003). The criteria for a social story are to answer *wh* questions such as who, what, where, when, and how (Helfin & Alaimo, 2007). Adams, Gouvousis, VanLue, and Waldron (2004) investigated the use of social story intervention during homework time. Results demonstrated decreased frustration and carryover to the classroom environment (Adams, Gouvousis, VanLue, & Waldron, 2004). Although there needs to be future research on this promising practice due to the lack of empirical evidence (Barry & Berlew, 2004), the results of studies have shown it to be a useful tool in decreasing inappropriate social behaviours (Adams et al., 2004); as well as to teach play skills and choice making to children with autism (Barry & Burlew, 2004). Barry and Burlew (2004) did not find the positive effects surprising as social stories incorporate empirically based practices such as task analysis and modeling of appropriate behaviour.

Social decision-making strategies are utilised to help children with autism spectrum disorder to overcome their lack of social understanding and subsequent inappropriate reactions in particular social contexts (Simpson et al., 2005). Simpson et al. (2005) identified these strategies as social autopsies: (a) situation-options-consequences-choices-strategies-simulation and (b) stop, observe, deliberate, and act. These strategies help children identify the problem, create alternatives, understand consequences, and determine the best way to correct the situation (Simpson et al., 2005).

Interpersonal relationship strategies are described by Simpson et al. (2005), as based upon Kanner (1943). Students on the spectrum display an “emotional reaction associated with an absence of parental warmth and caring” (p. 13) which are relationship-based interventions. Psychotherapy plays a part in some of the interventions and treatments. Due to the varied deficits of students with autism spectrum disorder, therapy can be limited. Hobson (1990) argued for those with autism spectrum disorders can express their attachments in other ways. Play-oriented strategies have been categorized as a promising practice in this area.

Play-oriented strategies are ones that are used instead of traditional play therapy (Simpson et al., 2005). Wolfberg and Schuler (1993/1999) discussed how integrated play groups are based on guided participation and physical arrangement. They include natural integrated settings, well designed play spaces, selection of play materials, consistent schedule and routine, forming balanced play groups, focus on child competence, and full immersion in play. These integrated play groups are based on Vygotsky’s theory that social support aids cognitive advances (Wolfberg, 1995). Naturally participating in play and other social activities is one of the distinct deficit areas for children with autism spectrum disorder (Quill, 1995; Simpson et al., 2005). Play impacts social skills and language development (Heflin & Alaimo, 2007). There is a definite need for future research in this area in order to facilitate inclusive activities in a variety of settings such as homes and schools (Simpson et al., 2005).

Best Practices Inclusion

The reality of an increasing number of students with autism spectrum disorder being included in mainstream environments has pointed to the need for evidence-based specific strategies, interventions, and programmes to facilitate success.

Harrower and Dunlap (2001) provided a review of data-based strategies for facilitating the educational inclusion of students with autism. The strategies and interventions include antecedent procedures, delayed contingencies, self-management strategies, peer-mediated interventions, multi-component interventions, pivotal response training, and naturalistic teaching strategies (Harrower & Dunlap, 2001).

Antecedent procedures are proactive in nature and address challenging behaviours before they happen by modifying routines or environments (Harrower & Dunlap, 2001). Although often characterised as a set of contingent procedures, Dunlap, Kern, and Worcester (2001) discussed the usefulness of applied behaviour analysis as an antecedent intervention which focuses on developing a supportive environment to decrease or avoid challenging behaviour. Dunlap and Kern (1993) noted that instruction is more likely to occur once a supportive environment has been established with a corresponding reduction of challenging behaviours. Routines incorporate a social context of naturally occurring contact and are of key importance for communication and language development (Prizant, Wetherby, and Rydell, 2000). Dawson and Osterling (1997) discussed the need that students with autism have for predictability and routine. The authors commented on studies which have shown that these students become more socially responsive and attentive when information is disseminated in a highly predictable way (Dawson & Osterling, 1997). Specific antecedent procedures used purposely for students with autism in mainstream classrooms consist of priming, prompt delivery, and picture scheduling (Harrower & Dunlap, 2001).

Priming or pre-practice is the process of reviewing material that may be challenging to students (Harrower & Dunlap, 2001). This process is an important facilitator in the inclusion of a student with autism spectrum disorder in that it

connects individual instruction to larger classroom group activities (Harrower & Dunlap, 2001). A study by Zanolli, Daggett, and Adams (1996) reported positive results with regard to priming and increasing the initiations of social interactions with typical peers. Koegel, Koegel, Frea, and Green-Hopkins (2003) used priming to decrease disruptive behaviours and increase academic responding. Priming activities can include social stories and video priming.

Prompting strategies are another important approach to assist the inclusion of students with autism in mainstream classrooms because these students may not respond to traditional instructions (Harrower & Dunlap, 2001). Sainato, Strain, Lefebvre, and Rapp (1987) studied two different prompting strategies to assist school transition times. One strategy was a peer buddy situation where the teacher provided prompts and modeling to a typical peer who then provided those prompts to the student with autism. As the antecedent condition, the teacher gave prompts to the student with autism alone and instructed the peer buddies not to help. Both conditions showed increases in appropriate behaviours as well as reductions in teacher prompts over time. However, it is important to note the challenges to this prompting strategy. MacDuff, Krantz and McClannahan (2001) warn against prompt dependence where the student is responding to the prompt and not the cue. In addition, prompting that was effective for teaching one skill may not be as effective for another (MacDuff et al., 2001).

Visual supports are utilised with many students with autism spectrum disorder because of their difficulty in processing auditory information (Dettmer, Simpson, Myles, & Ganz, 2000; Quill, 1995). Picture schedules are often used for predictability and verbal and written instruction (Harrower & Dunlap, 2001; Iovannone et al., 2003). Visual schedules aid students in understanding their environment (Heflin &

Simpson, 1998) which lends itself to a structured teaching environment that is an integral part of the treatment and education of autistic and related communication handicapped children programme. Iovannone Dunlap, Huber, and Kincaid, (2003) identified the programme as an important factor in teaching students with autism spectrum disorder. Structured learning environments support the student with autism spectrum disorder in the acquisition of specific skills (Iovannone et al., 2003).

Independence of academic functioning is one of the primary goals of inclusion (Harrower & Dunlap, 2001). It has often been noted that students with autism spectrum disorder do not retain their independence with learned skills once contingencies have been removed (Harrower & Dunlap, 2001). Dunlap, Koegel, Johnson, and O'Neill (1987) inspected the degree to which delayed or unpredictable contingencies can facilitate the generalisation of behaviour in the absence of direct supervision.

Self-management strategies are another way to aid independence in the classroom (Harrower & Dunlap, 2001). Harrower & Dunlap (2001) explained these strategies as ones that teach the student to: (a) discriminate between appropriate and inappropriate behaviours, (b) evaluate her or his own behaviour, (c) monitor her or his behaviour over time, and (d) reinforce her or his behaviour when prespecified criteria are met. Koegel, Harrower, and Koegel (1999) found that self-management aids independence and result in independent functioning; whereby, the help of a teacher or a one-on-one aide is no longer needed. Self-management strategies allow students with autism spectrum disorder to become more involved in their classroom environments (Gilberts, Agran, Hughes, & Wehmeyer, 2001; Harrower & Dunlap, 2001; Koegel et al., 1992).

Peer-mediated interventions form the basis of the majority of recent practical interventions which include peer tutoring and cooperative learning. Peer tutoring occurs when two students work together on an instructional strategy with one student providing instruction, assistance, and feedback to the other (DuPaul & Eckert, 1998; Harrower & Dunlap, 2001). Cooperative learning consists of academic lessons that are presented by the teacher to a small group of students such as four typically developing children and one with a disability (Harrower & Dunlap, 2001). These students are taught the principles of cooperative learning-social skills at the beginning of the lesson. The five skills are: (a) working together, (b) sharing things, (c) helping each other, (d) talking politely to each other, and (e) checking that others understand and agree (Harrower & Dunlap, 2001). Effective groups should include careful selection of typically developing peers, instruction on cooperative learning social skills to all members of the group, and supervising group performance during group work but not getting overly involved (Murphy, Grey, & Honan, 2004). Cooperative learning is a useful inclusion strategy because it addresses the challenge of heterogeneous classrooms to engage all learners and it has a focus on academic and social goals (Murphy et al., 2005). Dugan et al. (1995) studied the effects of integrating two students with autism in a mainstream social studies class. Results yielded increases from pre-test to post-test items, academic engagement, and duration of student interaction. The authors cautioned, however, that although the intervention yielded both academic and social benefits, there was low reliability. Possible curriculum modifications to individualise for students would have been beneficial, and teachers' implementation strategies fluctuated. This suggests that interventions are only as good as those facilitating or implementing the strategy. Both of these

strategies can be utilised within a mainstream classroom setting in order to promote positive peer interactions (Harrower & Dunlap, 2001).

Multi-component interventions utilise more than one intervention strategy to facilitate the educational inclusion of a student with autism (Harrower & Dunlap, 2001). Hunt, Alwell, Farron-Davis, and Goetz (1996) studied a comprehensive individualised intervention which incorporated: (a) ongoing information to classmates about various aspects of the disability experienced by the target student during naturally occurring interactions or in weekly club meetings, (b) various media used for communicative interactions, and (c) the establishment of a rotating buddy system. Results included increased peer interactions and a decrease in assistance from special needs assistants or paraprofessionals. Beaumont and Sofronoff (2008) conducted a multi-component study on increasing social skills for students with Asperger syndrome. They incorporated a computer game, small group sessions, parent training sessions, and teacher handouts. Results included improved social skills and better emotional understanding for students with Asperger syndrome.

Strategies not specifically designed for inclusive classrooms do facilitate inclusion (Harrower & Dunlap, 2001). Pre-task sequencing, pivotal response training, and naturalistic teaching strategies can be implemented within the context of the mainstream classroom. Singer, Singer, and Horner (1987) defined the antecedent procedure of pre-task sequencing as a process where a series of short and easy tasks are requested prior to a difficult request in order to build momentum for improved response. Pivotal response training and incidental teaching approaches centre on improving motivation by integrating choices, reinforcing attempts, modeling, and providing natural consequences, thereby facilitating the inclusion of children with autism in mainstream classrooms (McGee et al., 1992; Pierce & Schreibman,

1995/1997). Incidental teaching and pivotal response training can utilise peers as trainers (McGee et al., 1992; Pierce & Schreibman, 1995/1997). One difference is pivotal response training focuses on targeting motivational variables which when targeted result in positive changes in other variables as well (Koegel, Koegel, Harrower, & Carter, 1999). These targets include self-regulation of behaviour, self-management, and self initiations, as well as motivation to initiate and respond appropriately to social and environmental situations (Koegel et al., 1999).

Generalisation across untrained peers was achieved when Pierce and Schreibman (1997) extended an earlier study to use multiple peer trainers. Kohler and Strain (1999) merged naturalistic teaching and peer-based strategies to address IEP objectives of preschoolers with autism. Their findings supported the use of naturalistic teaching and peer-based strategies as a cost-effective and complete method to take into account the individual and diverse learning needs of students with autism (Kohler & Strain, 1999).

As more research is gathered on effective educational practices for students with autism spectrum disorder, so does the search for intervention programmes which utilise best practices. There are other specific strategies which facilitate the inclusion of a student with autism spectrum disorder in mainstream classrooms. Dawson and Osterling (1997) conducted a meta-analysis of some early intervention programmes for students with autism spectrum disorder. They discovered common elements of successful programmes. Iovannone et al. (2003) and the National Research Council (2001) also identified core components which have empirical support and should be included in programmes for students with autism spectrum disorder. These components consist of curriculum content and systematic instruction, need for highly supportive teaching environments and generalisation strategies (Dawson & Osterling,

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1997; Iovannone et al., 2003; National Research Council, 2001), predictability and routine, functional approach to problem behaviours (Dawson & Osterling, 1997; Iovannone et al., 2003), transition from pre-school classroom (Dawson & Osterling, 1997), and family involvement (Dawson & Osterling, 1997; Iovannone et al., 2003; National Research Council, 2001).

Personal Perspective and Action Research

The researcher of the study has practiced for over 10 years in the area of special education and has experienced the continuum of services provided for students with special needs first hand. The researcher is not a proponent of full inclusion for all but rather inclusion so it makes sense for the individual student with autism spectrum disorders. The researcher has experienced the behaviours which cause parents and schools stress while developing specific educational programmes. The researcher comes from an educational background of collaboration and currently co-teaches in a primary classroom with a mainstream teacher. Collaboration between mainstream teachers with speech and language and occupational and physical therapists has become the cornerstone of the researcher's practice. Herr & Anderson, 2005) collaborated in their definition of action research:

Systematic inquiry that is collective, collaborative, self-reflective, critical, and undertaken by the participants of the inquiry. The goals of such research are the understanding of practice and the articulation of a rationale or philosophy of practice in order to improve practice. (p. 148)

Kemmis & McTaggart (1982) stated the following action cycles of action research as:

1. To develop a plan of action to improve what is already occurring.
2. To implement the plan.
3. To observe the effects of action in the context in which it occurs.

4. To reflect on these effects as a basis for further planning, subsequent action, and through a succession of cycles.

The research in this thesis came from a co-operative approach, to work with families, schools, and students rather than on them (Heron & Reason, 2006). Schools and families are active systems and should be regarded as participating in their own research. Heron and Reason (2006) defined one of the objectives of co-operative inquiry that “to learn how to act to change things you may want to change and find out how to do things better” (p. 144). The authors discuss that one problem with traditional research is that the thinking is often theoretical rather than practical. The researcher was immersed in the schools and families and left them with practical, evidenced-based materials to use on a wider scale. Although the researcher's work was a small pilot, it is the beginning for more research which may contribute to the field.

Thesis

The purpose of the study was to gain baseline information on the current inclusion practices for students with intellectual disabilities as well as those students who have autism spectrum disorders. The aim was to ascertain whether there was a difference in how much time Irish primary schools included students when comparing schools with students with intellectual disabilities only and those providing educational instruction to students with autism spectrum disorder. Findings from the initial study provided direction. Schools reported including students with their peers in extra curricular activities such as play or sports. The findings suggested a lack of formal inclusion programmes to facilitate the inclusion of a student with autism

spectrum disorder. The study focuses on a study designed to investigate the effectiveness of modified peer mediated pivotal response training conducted in a home setting for increasing the social behaviours of children with autism spectrum disorder. Skills were then monitored for generalisation to untrained peers at school. Findings from the study were used to build a programme called *How to be a great friend* for teachers to implement as disability awareness training. This training was part of an inclusion facilitation programme. Parents were active participants as they were trained to understand operational definitions and take data on play sessions. Schools were involved in organizing generalisation play dates and followed the progress of the study. Two schools were monitored as they developed and implemented a research driven programme to facilitate inclusion for a student with autism spectrum disorder. Parents, teachers, and administrators worked together to help design individualised inclusion plans for specific students. Particular attention was paid to changes for the Irish educational context, and both schools sought to define their inclusive programmes as policy in their respective schools.

Chapter 2

Pilot-National Survey of Inclusive Practices in Ireland

Introduction

The international community has prioritised the right of inclusion for students with disabilities in education over the past decade (Frederickson, Dunsmuir, Lang, and Monsen, 2004; Freire & Cesar, 2003; Norwich & Kelly, 2004; Vislie, 2003). The UNESCO (1994) conference in Salamanca defined the need for regular schools to adopt an inclusive ethos to educating students with disabilities because this was the most effective way to combat discriminatory attitudes and create a community which welcomes and helps to build an inclusive society. In the Salamanca statement: Framework for action for special needs education, it called upon governments to adopt either law or policies that would reflect the principle of inclusive education and to "enroll children in regular schools unless there are compelling reasons for doing otherwise" (1994, p. ix). With regard to systematic change, teacher education programmes of pre-service and in-service were identified as key components to help address the conditions of special needs education in inclusive schools. In 1995 UNESCO conducted a survey of 63 countries and found that although integration was a key policy idea only a few countries outlined their guiding principles. In-service training for teachers around special needs was again noted as a critical variable but lacking. In a statement 5 years after the Salamanca statement a review of UNESCO (1999) activities acknowledged that the framework for action outlined in 1994 was a process and a challenge. The education for all strategy and programs were largely inappropriate or unsatisfactory with respect to the needs of children with special needs, thus a wider agenda was identified. No longer would the identification of children with learning difficulties be enough. Now barriers to learning for all children

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and the mobilization of resources within learners, teachers, communities, and governments needed to be addressed (UNESCO, 1999).

Since the Salamanca statement (UNESCO, 1994), the inclusion movement has continued to gather momentum across the globe. Frederickson, Dunsmuir, Lang, and Monsen (2004) stated that many countries have adopted national legislation to promote inclusive education for students with special education needs or disabilities, including the United Kingdom. They discussed that the legislation and related guidance has typically fallen short of unqualified support for full inclusion and has built-in a number of reasons for doing otherwise as alluded to in the Salamanca statement. In the United States, Congress has recently passed a new version of the Individuals with Disabilities in Education Act of 2001. The act calls for states and schools to gain more control over their own programmes. The U. S. government has recommitted to pay 40 % of special needs costs to state bodies for education. The ranking democrat on the education committee Senator Edward Kennedy released a statement regarding the need for reauthorisation of the Individuals with Disabilities in Education Act on November 19, 2004. He stated that with the new legislation “the debate is no longer whether children with disabilities should learn alongside all other children, but how best to do it.” In July of 2004 the President of Ireland signed an Education for Persons with Special Educational Needs Act (2004) after being passed by both houses of the Oireachtas which states that the education of people with special needs:

Shall, wherever possible, take place in an inclusive environment with those who do not have such needs, to provide that people with special educational needs shall have the same right to avail of, and benefit from, appropriate education as do their peers who do not have such needs, to assist children with special educational needs to leave school with the skills necessary to participate, to the level of their capacity, in an inclusive way in the social and economic activities of society and to live independent and fulfilled lives. (p. 5)

This act further reflects the establishment of a national council for special education to provide for the greater involvement of parents and to confer certain functions on health boards to provide a range of services with regard to people with special needs. It is clear that the international community feels inclusion makes good educational and social sense. Countries are supporting the Salamanca statement by enacting laws and policies to reflect the inclusion principle. The fiscal and personnel constraints, however, continue to place a strain on the inclusion reality in many countries (UNESCO, 1999). Inclusion in policy and practice encompass many different barriers.

Emerging Issues for Inclusion Movement

Friere and Cesar (2003) suggested that the literature has shown that changes in political policy and laws are not immediately followed by changes in educational practice. Vlachou (2004) discussed the implications for research and practice with regards to education and inclusive policy-making. Vlachou suggested that more reflection should go into how regular schools operate with respect to meeting the needs of individuals before searching for the conditions needed for inclusive school communities for students with special needs of inclusion policies related to education of students with special needs in 17 European countries. It revealed that if funds are not allocated in line with a clear inclusion policy, then inclusion is not likely to occur in practice. Croll and Moses (2000) identified through interviews with education officers and head teachers of special and mainstream schools in the United Kingdom that inclusion was supported as an ideal with limited influence on educational policy. One of the most prevalent criticisms in the interviews related to the extent of resourcing which was ultimately viewed as a limiting factor for children being in

mainstream schools. Additional barriers to the inclusion movement are ethos, curricular arrangements, inappropriate learning, and teaching approaches (UNESCO, 2004). Nutbrown and Cough's (2004) study of early childhood educators' view about issues of inclusion cited Poulou & Norwich (2000) with respect to teacher professional development as an important factor in successful inclusion. The need for professional development for early childhood educators around special needs was identified, as their access to special educators is limited in many programmes. UNESCO (2003) identified curriculum as a major impediment or tool in the facilitation and development of a more inclusive educational system. A curriculum that is too demanding or rigid leaves little room for teachers to test and attempt new approaches. More recently the Council of Europe commissioned an expert report on the education and social inclusion of children and young people with autism spectrum disorders (2007). Some specific considerations included initial and on-going training for professionals, designing individual plans to facilitate transitions within the education system and beyond into adulthood and employment, specific teaching in mainstream schools wherever possible, a range of schooling options, processes of internal and external evaluation to ensure the availability and quality of inclusive education for children with ASDs, training and on-going support for families and educational services to help manage challenging behaviours. Finally, the need for research was stressed to support educational, therapeutic and inclusion strategies because that information can help identify new problems, develop solutions and achieve satisfactory results (Council of Europe, 2007).

The Present Study

The purpose of the study is to gain baseline information on inclusive practices across Irish primary schools. Autism is one of the fastest growing disabilities

(Dybvik, 2004). The U. S. Department of Education statistics show the number of students diagnosed with autism has grown more than five-fold during the 1990s (Dybvik, 2004). Increased numbers of children diagnosed with autism spectrum disorder has prompted an inclusion movement due to legislation and other parental and educational initiatives. In Ireland the report of the task force on autism (DES, 2001) acknowledges the significant issues that need to be considered when including students with special needs in the least restrictive environment. In 2004 the Irish government released the education for persons with special needs (EPSEN, 2004) document which acknowledges the need for inclusive plans for social and academic inclusion.

The document does not, however, address the diverse and varied populations of students with special needs, specifically students with autism spectrum disorder. The policy does include a general educational plan which includes the following steps:

1. The nature and degree of the child's abilities, skills, and talents.
2. The nature and degree of the child's special educational needs and how those needs affect his or her educational development.
3. The present level of performance of the child.
4. The special educational needs of the child.
5. The special education and related support services to be provided to the child to enable the child to benefit from education and to participate in the life of the school.
6. Where appropriate the special education and related support services to be provided to the child to enable the child to effectively make the transition from primary school education to post primary school education.

7. The goals which the child is to achieve over a period not exceeding 12 months. (EPSEN, 2004)

What is missing is more specific planning and intervention strategies identified with educating students with autism spectrum disorders in mainstream settings.

Autistic spectrum disorders include a broad definition of autism that includes related disabilities such as Asperger syndrome and pervasive developmental disorder. Students with autism lack normal social responsiveness from a very early age, have a high need for structure and routine, and exhibit an idiosyncratic cluster of characteristics that interfere with learning. (Barsuck & Friend, 2002; Myles & Simpson, 2001) There is some debate, therefore, as to the benefits of including students with autism spectrum disorders in mainstream settings because they vary widely in ability and personality (Dunlap & Bunton-Pierce, 1999). Recent research suggests that this assumption may not be valid. If supported with accommodations and resources along a continuum of services which reflect the individual's needs, inclusion can be successful for students with a severe disability such as an autism spectrum disorder (Renzaglia et al., 2003).

Successful inclusion needs to incorporate specific strategies to address the impairment in communication, social skills, and behavioural challenges which are identified with autism spectrum disorder. Three types of specific strategies to include students with autism spectrum disorder have been described by Leach and Duffy (2009) as preventative, supportive, and corrective. Preventative strategies can be described as ones that happen before a lesson. They concentrate on practices that plan for the lesson and look at grouping accommodations, outcome options, and environmental considerations (Leach & Duffy, 2009) which include social stories (Gray & Garand, 1993), visual schedules (Charlop-Christy et al., 2002), and picture

exchange communication system (Bondy & Frost, 1994). Supportive strategies are employed by teachers while they are teaching which include verbal instructions paired with visual cues, peer supported cues (McGee et al., 1992), and giving clear expectations before the lesson (Leach & Duffy, 2009). Corrective strategies are utilised when the teacher needs to correct behaviour or actions of the student with autism spectrum disorder. They can be used to redirect the student to focus on the activity or the task of the lesson. One of the most important is prompt-fading procedures which consist of providing prompts so that the student knows what is expected of them (Leach & Duffy, 2009). These three strategies aim to minimize distractions and maximize engagement for the student in the mainstream setting.

The study was designed in light of the absence of literature looking at inclusion in Irish primary schools. The purpose was to gain a baseline on current inclusive placements and strategies being used in the schools today.

Method

Description of Study

The survey used in the study was researcher designed to gain information from Irish primary schools regarding current inclusive practices for students with autistic disorder, Asperger syndrome, and intellectual disabilities.

Research Design

A cross-sectional design was utilised to describe the characteristics of a population and note differences between populations at one point in time.

Research Questions

The aim of the study is to investigate the current state of inclusion in primary schools across Ireland and gather information to further identify areas of needed

research on inclusion within the Irish educational context. Four specific research questions were derived and tested through a survey design:

1. What accommodations, supports, and resources are currently being utilised with regard to the inclusion of students with autism spectrum disorder or intellectual disorder?
2. What strategies and or accommodations are different for students with autism spectrum disorder?
3. What are the satisfaction levels of inclusion progress in Irish primary schools?
4. Are there additional creative approaches that foster inclusion?

Participants

Respondents in the study consisted of 169 primary schools from across the Republic of Ireland. The questionnaire was mailed to the principal or administrator of the school. Most respondents were from rural locations or 67.1 % and 32.9 % were from urban schools. The health service area most represented was the Western Health Board with 10.7 %. The Southern and South Eastern Health Boards had 10.1 % of the schools in the region respond respectively.

Instrument

A two-page questionnaire was developed specifically for the study by two different means: (a) a review of the literature and (b) the researcher's own experience working as a special educator for over 10 years in the United States as shown in Appendix B. The questionnaire was constructed by the researcher to ascertain the current state of inclusion in Irish primary schools, specifically how many students included and for what amount of time. The questionnaire was not piloted prior to dissemination. The questionnaire was given to the researcher's colleagues at a school in Boston, Massachusetts and to the doctoral supervisor. Feedback included whether it

was better to send it out in June at the end of the school year or in September at the beginning of the school year. It was unknown which month yielded better response rates. For some the end of the year was a better time to reflect on the year while others thought September was a time that included a full schedule. This was an attempt to counter a low response rate which leads to response bias (Shaughnessy, Zechmeister, and Zechmeister, 2003). Other feedback helped clarify the open ended questions. However, prior examination of the survey by the researcher and the reviewers did not reveal the problem on the average time included question.

Data were collected on the location of school-urban versus rural, number of students with an intellectual learning disability, autistic disorder, and Asperger syndrome. A scale was designed to glean what percentage of time those students were included with mainstream peers. The 5-point scale included, not integrated at all as of yet, less than 25 % of the time, 26 % to 50 % of the time, 51 % to 75 %, and more than 75 % of the time. The type of environment was examined by asking respondents to check off from a list of where these students generally would be included such as outside play time, physical education, assemblies, school functions, academic instruction, and other-please specify. An open ended question was posed to obtain information on the ways schools include students such as type of strategies, accommodations, resources, and supports. The next question examined to what degree the school was satisfied that included students with intellectual disabilities, autism, or Asperger syndrome is progressing in their school. Answers were part of a 4-point Likert scale which was assigned as the following: (a) 4-very satisfied, (b) 3-satisfied, (c) 2-not satisfied, and (d) 1-very unsatisfied. This even numbered scale is also called a 'forced choice' scale because it has no middle or neutral response. This was used so that respondents would be forced to decide whether they lean more towards

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satisfaction or dissatisfaction end of the scale. The next open-ended question asked the school to describe and comment on anything else they do at the school to foster inclusion of students with a disability, including any creative approaches. Finally, respondents were asked to comment if the accommodations and strategies for students with autism or Asperger syndrome differed from those used for students with intellectual disabilities. If they answered yes then they were asked to describe the differences.

A cover letter accompanied the survey shown in Appendix C which included a statement explaining the research and university affiliation and the purpose of the survey-questionnaire. The survey was designed to gather information during the initial phase of research about the state of inclusion for students with autism spectrum disorder and other developmental disabilities. School staff was asked to contribute to the knowledge base by completing the questionnaire and that the information gleaned would be organized into a booklet for distribution to schools nationwide and help to inform the Department of Education special needs section that funded this stage of the project to plan further investigations. The cover letter and envelopes were addressed to the principal and administrator and requested that the school staff to contribute to the questionnaire. For example, on open ended questions it was anticipated that principals/administrators would ask staff for additional feedback.

Procedure

Survey instruments of 3,200 were distributed on June 23, 2004 of which 1,300 were posted and 1,900 were emailed to Irish primary schools. The School of Psychology reviewed and approved this study and the ethical consideration taken when composing the cover letter and the consent procedures. The cover letter included the aims of the study as well as that all responses were confidential and the

survey was voluntary. The contact list was obtained from the Department of Education. Surveys were collected over the summer into the autumn of 2004. There were 389 undeliverable due to incorrect email addresses that were not pursued. All surveys returned were included in the results. The response rate was 169, which is 6 % of the total sent out. This is an extremely low return rate and therefore this can only be considered a pilot survey.

Data Analysis

Exploration of the research questions involved descriptive statistics and coding open-ended questions for themes. Results were entered into the statistical package for the social sciences (SPSS)-12.

Content Analysis

The data from open-ended questions were content analysed. After reading the responses notes were taken in the margin and themes and categories were noted (Creswell, 2007). For example, many schools listed a staff person as their strategy, accommodation, resource, or support. Other schools wrote about an inclusive ethos. Some of the responses fell into more than one category or theme and were noted for each code. The open-ended question regarding strategies, accommodations, resources, and support were coded as follows:

1. School support: This included a reference of the class teacher, resource teacher, learning support teacher, and special needs assistant.
2. Curriculum modification: This included providing appropriate text for the current level, exempt from Irish, group work, team games, opportunities to express themselves, collaboration, and modified lesson plans.

3. Services and physical accommodations: This included occupational therapies, inclusive team groups, sports, drama, music, computer, concrete materials, and specialized seating.

4. Attitudes and beliefs: This referred to fostering an atmosphere of inclusion and encouragement to participate, acceptance of individual differences, enrolled in mainstream environment but instructed according to ability, inclusive ethos, and take part to the best of their abilities.

5. Other: This included a comment regarding progress.

Responses were coded as follows for any additional approaches used to foster inclusion:

1. Contact with agencies.
2. Contact with parents.
3. Peer strategies: This included paired reading, circle time, peer mentoring, and the buddy system.
4. Ethos of full participation.
5. Extra curricular activities: This included school plays, art, music, dance, drama, outings, daily jobs, and yard play.
6. Small group work.
7. Reverse integration.
8. Daily plan with targets.
9. Other: This included reading on the disability, including students in Irish instruction from which they are usually exempt and appropriate physical access.
10. Discover the student's hidden talents.
11. Good communication: This is between mainstream class and resource classroom.

12. Disability awareness.
13. Contact with parents and peer strategies.
14. Whole school planning.
15. Adapt discipline approaches to fit individual needs.
16. Add support for teachers and parents.

More codes were used for this open response so that the researcher could fully reflect the range of responses.

Different strategies for students with autism spectrum disorder were coded in the following way:

1. Picture schedule.
2. Flexibility.
3. Slower pace of inclusion in games and group activities.
4. Time-out required more often.
5. Closely monitor.
6. Additional individual help and reinforcement.
7. Social stories.
8. Other: This included comments projecting what they thought if they did

have a student with autism spectrum disorder.

9. Extra understanding and tolerance.
10. Cooperative approach.
11. Preparing student for any change.
12. Consistent approach.

Reliability

Reliability for responses to open-ended items was rated by two raters independently. Discrepancies were then discussed and a consensus was reached.

Results

The results are presented in three parts:

- 1. Descriptive data were presented on respondents: (a) type of disabilities serviced in schools, (b) amount of time included, and (c) type of environment included. There is a report on the degree of satisfaction, including students with intellectual disabilities or autism-Asperger syndrome in schools who answered the survey.
- 2. A compared relationship was presented between type of disability and amount of time included with mainstream peers.
- 3. An examination of themes found in open-ended reports by respondents.

Of the schools who responded to the survey, 35.6 % came from urban schools and 63.7 % from rural schools. Overall disability types yielded the following percentages as shown in Table 2.1.

Table 2.1

Disability Type Serviced in Schools

Type of Disability	%
None	12.6
Intellectual Disability Only	45.9
Mixed (Intellectual and ASD)	26.2
ASD only (Autism and Asperger)	14.8

Schools were asked to respond with an average of how often students with intellectual disability, autistic disorder, and Asperger syndrome were included with mainstream peers. Some schools were not included in the data as they either responded that they did not have any students with these disabilities at their school or

they responded to the question as if it were a continuous and not a categorical question such as they checked off several of the percentage time intervals. Table 2.2 illustrates that 81.5 % of valid respondents were including these students for more than 75% of the time.

Table 2.2

Average Amount of Time Students are Included with Mainstream Peers

Amount of Time	<i>n</i>	%
Not integrated at all as yet	4	3
Less than 25% of the time	4	3
26%-50% of the time	6	4.4
51%-75% of the time	11	8.1
More than 75% of the time	110	81.5

Table 2.3 shows the type of environment these students generally would be included in the school. Over 90 % responded that they included these students in all environments, including outside play, physical education, assemblies, and academic instruction.

Table 2.3

Frequencies in Percentage Form of Environment Type Included

Environment students included	%
Outside play time	1.5
All environments (Outside Play, P.E., Assemblies, Academic)	94.1
P.E., Assemblies, Academic	1.5
Outside Play, P.E., Academic	0.7
Outside Play and Academic	0.7

Schools were asked to respond to what degree they are satisfied that including students with intellectual disabilities or autism-Asperger syndromes progressing in their school shown in Table 2.4. Satisfied and very satisfied received 38.5 % and 28.4 %, respectively. Together these two categories made up 66.9 % of respondents. There were 39 surveys which did not answer this question. Although the survey was two pages back and front, they either did not answer this question or in some cases omitted the entire second page which included the open-ended questions. Items not answered were marked as invalid missing items and were not included in the statistical analysis of the given question.

Table 2.4
Degree of Satisfaction Inclusion is Progressing

	<i>n</i>	<i>%</i>
Very dissatisfied	2	1.2
Not satisfied	15	8.9
Satisfied	65	38.5
Very satisfied	48	28.4
Total	130	76.9
Missing	39	23.1
Total	169	100

The open ended question regarding strategies, accommodations, resources, and support were coded and the results are reflected in Table 2.5. School support acquired the largest percentage with 41.5 %. While attitudes and beliefs garnered 25.8

% and curriculum modifications obtained 25.4 %, services and physical accommodations yielded 6.6 %.

Table 2.5
Strategies, Accommodations, Resources, and Support

	<i>n</i>	%
1. School Support	93	41.5
2. Curriculum Modification	57	25.4
3.Services and Physical Accommodations	15	6.6
4. Attitudes and Beliefs	58	25.8
5. Other	1	0.44

Schools responded about any other creative approaches they utilise to foster inclusion shown in Table 2.6. Extra curricular activities obtained the largest percentage at 29.7 %. The category coded as other received 20.2 %. This category included statements of need for support and money. Reported in this question was the removal of students with autism spectrum disorder because of disruptive behavior. Peer strategies and ethos received 13.1 % and 10.7 %, respectively. Peer strategies included paired reading, circle time with typical peers, peer mentoring, and the buddy system.

Table 2.6

Other Creative Approaches

	<i>N</i>	<i>%</i>
1. Contact with agencies	4	4.7
2. Contact with parents	6	7.1
3. Peer Strategies	11	13.1
4. Ethos	9	10.7
5. Extra curricular activities	25	29.7
6. Small group work	1	1.2
7. Daily plan with targets	1	1.2
8. Other	17	20.2
9. Discover Hidden Talents	2	2.4
10. Good communication	1	1.2
11. Disability Awareness	2	2.4
12. Flexibility of approach	2	2.4
13. Whole School Planning	1	1.2
14. Adapt discipline approach	1	1.2
15. Additional support for teachers and parents	1	1.2

In the final open-ended question schools were asked to identify any strategies which were different for teaching students with autism spectrum disorder. The largest category reported was other at 42.9 % which did not actually include strategies. Instead it reflected needs such as support staff for the removal of the student with autism spectrum disorder from the mainstream setting and comments on what they would do if they had a student with autism spectrum disorder. Schools commented on

their needs for additional funding. The code for closely monitor, student with autism spectrum disorder, obtained 10.7 %. While preparing student for change and time-out both received 7.1 %. All of the percentages are presented in Table 2.7.

Table 2.7
Different Strategies for Students with Autism Spectrum Disorder

	N	%
1. Picture Schedule	1	3.6
2. Flexibility	2	7.1
3. Slower pace	1	3.6
4. Time-out	2	7.1
5. Closely Monitor	3	10.7
6. Additional individual help/reinforcement	1	3.6
7. Social Stories	1	3.6
8. Other	12	42.9
9.Extra understanding/tolerance	1	3.6
10. Cooperative approaches	1	3.6
11. Preparing student for change	2	7.1
12. Consistent Approach	1	3.6

Discussion

Most schools who answered the questionnaire were satisfied with the way inclusion was progressing at their school. Due to the low response rate there is a possibility that mostly satisfied schools responded to the survey. There were not enough questionnaires returned to draw definitive conclusions which limited sample instead served to highlight important issues that might be present in some schools.

The first open-ended question investigated ways the schools include students. Respondents were asked to comment on strategies, accommodations, resources, and support. School support comprised the largest category followed by attitudes and beliefs and by a very small margin were curriculum modifications. Services and physical accommodations comprised the fourth largest group. School support comprised almost one-half of the responses. While staff is crucial in supporting students there is a concern that students may only be included for the activities they can handle without dedicated supports. While special needs assistants are a valuable resource, they are not trained to be a teacher. At times they can actually interfere with the teacher or peers from interacting with the student with a disability (Booth, Ainscow, and Dyson, 1997).

Extra curricular activities comprised the largest category on the second open-ended question which asked for more description or comments on any other creative approaches followed to foster inclusion. This included students in sports, clubs, school plays, music, drama, and other interest areas seen as giving students as one school commented "a common ground to work from." This can be difficult for students with autism spectrum disorder as social impairment is the most debilitating of the triad of impairments (Rogers, 2000). The second largest category was the group designated as other which included reading up on the disability and students in Irish for which they are usually exempt from participating. Disability awareness is crucial to planning and accommodating for the individual learner (Vogel, 1993). Participating in Irish with accommodations captures the essence of inclusion. It is not a place but rather a delivery of services which allows a student with a disability to access curriculum and learning alongside his or her typically developing peers. The third group was peer strategies which has been identified by Vogel (1993) as a best practice for including

students with autism spectrum disorder. Schools identified peer strategies such as paired reading, circle time with typical peers, peer mentoring, and the buddy system. There was a lack of any report in the questionnaire on a formal training programme for implementing a peer strategy in the mainstream classroom. There appears to be a lack of guidance available to support schools in using peers effectively. Ethos was the fourth largest group of responses and reveals how schools support inclusion as their underlying philosophy. Contact with parents has long been considered an integral part of creating inclusion plans for students with autism spectrum disorders and was represented with 7.1 % of the responses on this question (Leach & Duffy, 2009; Simpson, de Boer-Ott, and Smith-Myles, 2003).

The third open-ended question dealt with any different strategies used for students with autism spectrum disorder. The coded category which had the most percentage was other. This category was coded as other because it did not answer the question of different strategies but instead described needs for support staff and financial resources. Schools commented on what they saw as a safety risk if they had a student with autism spectrum disorder. One school commented that students with autism can be “very disruptive and cannot be reasoned with.” The next category described the practice of closely monitoring the student with autism spectrum disorder. The third category was preparing the student with autism spectrum disorder for change. Monitoring and preparing students for transitions are best practices in teaching all students.

With regard to reliability and validity of the open-ended questions, the reliability of the use of categories was established with a second rater. The validity of the codes and categories on the open-ended questions was not independently established because the researcher external to the study only looked at the reliability

of the codes. The responses did fall into categories which have been reported on in the inclusion literature. Vogel (1993) discussed that successful inclusion incorporates many of the following support systems: (a) attitudes and beliefs, (b) services and physical accommodations, (c) school support, (d) collaboration, and (e) instructional methods. The researcher did not explicitly read the Vogel research and apply the same codes and categories but may have read this at some point which could have influenced the coding.

Limitations of the Pilot Study

Limitations include the number of responses from schools. The low response rate indicates that the information may not be representative of the practices of all primary schools in Ireland. Measurement error was evident in school surveys that did not respond to all items (Dillman, 1991). Another limitation is design of the questionnaire. Particular attention should have taken into account that different children in numerous schools might be included for varying amounts of time. The questionnaire should have been piloted which may have caught the problem with the interval scale for percentage of time spent in the mainstream. This can only be considered as a pilot, a study which to learn from for future projects.

Conclusion

The pilot study served to collect some preliminary data and helped to design a research plan for future studies (Teijlingen & Hundley, 2001). As this was not a direct questionnaire, respondents were not influenced by an interviewer pushing their views on the respondent or that they felt pressure to answer a certain way (Shaughnessy et al., 2003). Mail surveys are considered more reliable. Well presented professional surveys are said to enhance response rates (Shaughnessy et al., 2003).

The survey was sent out by the Department of Education and Science from the special

needs section which added to its professional appearance. These were steps taken to bolster response rates but ultimately did not help.

The pilot study was able to identify best practices being utilised in some Irish classrooms today. A review of the current literature on including students with disabilities in mainstream classroom settings along with the responses from the anonymous mail survey served as the basis for an informational booklet. The booklet shown in Appendix D was distributed across all Irish primary schools (McCann & Honan, 2005). Findings from the survey and the literature review informed further studies for the thesis. To investigate peer mediated strategies to involve students with autism spectrum disorders socially can be the most detrimental of the triad of impairments when facilitating inclusion (Myles & Simpson, 2001). In the responses received schools mentioned peer strategies in more general terms and did not identify any formal intervention such as peer mediated pivotal response training. There was only one programme mentioned as a support to inclusion in the responses received called workshop way by Sr. Grace Pilon. There was an obvious lack of references to any systematic approach to including students with a disability which is a particular consideration when educating students with autism spectrum disorder (Iovannone et al., 2003). Action research was identified as an approach with which to investigate how to make a difference the way children with autism spectrum disorder are enabled to be included in mainstream schools.

Chapter 3

Peer Mediated Pivotal Response Training to Increase Social Behaviours

Introduction

Autistic spectrum disorders constitute a diverse but related group of pervasive developmental disorders, including autistic disorder, Asperger syndrome, and pervasive developmental disorder-not otherwise specified (APA, 2000). Inherent in a diagnosis of autism spectrum disorder is a fundamental failure in social development (APA, 2000). Difficulties include a failure to develop friendships, difficulties in social interactions, and problems in understanding non-verbal communication (Ochs, Kremer-Sadlik, Sirota, and Solomon, 2004; Simpson et al., 2003). The social impairments act as initial barriers against inclusion and is well documented that physical integration alone does not help a child with autism spectrum disorder to engage socially or academically (Choi, 2000; DES, 2001; Grey, Bruton, Honan, and Daly, 2003).

Many interventions have been employed to promote the social inclusion of children with autism spectrum disorder in mainstream settings such as cooperative learning (Murphy et al., 2004), adult-mediated interventions (Baker-Ericzen, Stahmer, and Burns, 2007; Koegel, Dyer, and Bell, 1987; Koegel et al., 1989; O'Dell, Dunlap, and Koegel, 1983), and peer-mediated interventions (Grey, Honan, and Murphy, 2003; McGee et al., 1992; Pierce & Schreibman, 1995/1997; Reggint, 1994; Simpson et al., 2003).

Adult-mediated interventions include clinician-child and parent-child interventions. Pivotal response training is included in these two categories. Koegel and Koegel (1995) noted that pivotal behaviours are those that appear to be

fundamental to wider areas of performance. For example, self-management is a behaviour that once taught can facilitate generalisation of a number of other behaviours across different environments and people (Koegel & Koegel, 1995). When there is a change in these pivotal behaviours it produces change in other behaviours. Koegel et al. (1989) designed a manual for clinician and parents to teach pivotal behaviours to children with autism. This stemmed from a comprehensive review highlighting the central role of motivation in the behaviour of children with autism (Koegel & Mentis, 1985). The manual was designed to target important behaviours such as speech, language, and social interactions by improving pivotal responses such as motivation. While such adult-mediated interventions have proven successful, they have typically been found to be time consuming (Grey et al., 2003) and have poor generalisation to peer interactions (Rogers, 2000) which is attributed to the fact that they are based in extremely controlled environments (McGee et al., 1992).

Peer-mediated interventions typically involve teaching peers a range of skills such as turn taking, joint attention, and reinforcing communicative behaviours to increase social interactions of the target child (Goldstein, Kaczmarek, Pennington, and Shafer, 1992; Honan, Grey, and Murphy, 2003; McGee et al., 1992; Simpson et al., 2003). Odom et al. (1999) evaluated the efficacy of peer-mediated interventions by comparing three different social interventions such as structured play, adult instruction, peer-mediated techniques, and found that the peer-mediated interventions were associated with greater maintenance and generalisation across people and settings. Choi (2000) captured the advantages of peer-mediated interventions succinctly describing how they “can be thought of as software necessary to make proper use of the hardware of physical integration” (Implications section, para.1).

Among the most significant work on peer-mediated interventions is by Pierce and Schreibman (1995/1997). They adapted Koegel et al.'s (1989) pivotal response training manual in order to teach peers how to implement the intervention. Typically, developing peers were taught 10 strategies for interacting with target peers. The 10 strategies included paying attention, turn-taking, reinforce attempts, encourage conversation, and extend conversation. Results for two children with autism demonstrated increases in initiations, maintenance of prolonged interactions with a peer, and language use. These studies by Pierce and Schreibman are significant because authors concluded that peer-mediated pivotal response training can be effective for enhancing complex social behaviours and increasing language skills in natural environments. It was found however that social gains generalised poorly to new peers and the authors suggested that future research should incorporate multiple peers. A follow up study (Pierce & Schreibman, 1997) using multiple peers reported greater generalisation, thus supporting the value of training multiple peers. The authors concluded that in the school setting, where most adults are busy with multiple activities, the use of peer trainers is a viable and potentially effective option.

Honan, Grey, and Murphy (2003) built upon the work of Pierce and Schreibman (1995/1997) and developed a modified version of the manual that involves a reduction in the number of skills taught to five. This body of work was carried out with primary school aged children in two phases (Grey et al., 2003; Honan et al., 2003). In phase one, 12 mainstream peers were trained in basic techniques to increase particular social skills for 6 children with Asperger syndrome. The pivotal skills taught were how to orient attention, how to give choices, how to praise, how to ask your friends questions, and how to tell your friend what you are doing. The dependent variables targeted were maintaining interactive play, parallel play,

maintaining conversation, initiating conversation, and initiating play. Findings of phase one included an increase in two of the social behaviours such as maintaining conversation and interactive play. In phase two, 6 mainstream peers were trained in pivotal response training for two children with autistic disorder. The second phase improved upon perceived limitations of phase one and reported more notable success. The authors attributed this to reducing the number of key strategies from five to three such as orienting attention, turn-taking, and praise insuring the use of toys with an interactive nature and increasing the number of sessions. The adapted peer training was successful in increasing levels of interactive play in all dyads. It was not successful in increasing levels of maintaining conversation across dyads.

Generalisation was achieved through the use of multiple peers during the intervention phase, particularly those aged 8 and older with female peers being more effective.

The studies discussed thus far have been implemented in school settings. One of the claimed advantages of pivotal response training is its flexibility for implementation in any natural setting (Pierce & Schreibman, 1995). The purpose of the research is to assess the effectiveness of pivotal response training conducted in home-based settings and the transfer of the effects to the school setting. Current research suggests that home-based behavioural interventions are a viable support to the work going on in schools (Ozonoff & Cathcart, 1998). These interventions for children with autism have shown considerable effects on development (Ozonoff & Cathcart, 1998; Sheinkopf & Siegel, 1998). Sallows and Graupner (2004) demonstrated that home-based interventions of children with autism yielded similar outcomes to interventions conducted in clinical settings in their study of intensive behavioural treatment over a 4-year period. Sheinkopf and Siegel (1998) illustrated similar results in their study of children with autism. No elevation in stress levels has

been observed in children with autism as a result of the implementation of the behavioural interventions in the home (Hastings & Johnson, 2001). Researchers have reported on the importance of home-based intervention as a way for parents to act as advocates for their children and give them the opportunity to understand and deal with their children (NRC, 2001; Ozonoff & Cathcart, 1998).

Although there are no published studies that have implemented peer-mediated pivotal response training in the home, many studies have examined the effect of home-based interventions on different areas of a child's development. For example, Laski, Charlop, and Schreibman, (1988) built upon O'Dell, Dunlap, and Koegel's (1983) work on the natural language paradigm bringing it from a clinic setting into the home. Parents were trained in the clinic and then continued to implement the procedure in their home. Results showed increased verbalisations from baseline to intervention sessions.

One of the limitations reported by Honan et al. (2003) was a failure to find an increase in verbal communication, specifically with respect to initiating and maintaining conversation with other children. An initial consideration when interpreting the results is to examine the differences between the study and the study by Pierce and Schreibman (1995) on which it was based. One strategy omitted by Honan et al. was the recommendation to use simple instructions. The use of easy, short sentences to give clear direct instructions has been recommended repeatedly in the literature according to Stokes (2001). In a recent study Thiemann and Goldstein (2004) examined two social interventions: (a) peer training and (b) written text treatment. Peer training was implemented first and increases in initiations and contingent responses were found, but all target children continued to show deficits in specific social-communication skills. Written text treatment involved providing each

peer trainer with a labeled sheet of each target skill and written phrases appropriate to the planned activity printed in text bubbles. A 10-minute instruction before each session included developing targets for how many times they would use the skill. Following written text treatment all of the target children used the three communication skills more often and more effectively. Their findings suggest that peer training alone was not sufficient to improve a child's use of specific social initiation strategies. Combining it with written text treatment achieved gains in verbal communication skills. While the use of such active adult involvement and structured sessions may interfere with the natural setting (Odom, Hoyson, Jamieson, and Strain, 1985), the use of simple, specific sentences by peers towards target children, which peers can go over before each session, can be seen as an extension to Pierce and Schreibman's (1995) second strategy.

Peer-mediated pivotal response training has shown consistent results for increasing positive social interactions and generalisation, particularly when multiple peer trainers are used. The home has been found to be a successful setting for effective behavioural interventions.

The Present Study

The purpose of the study is to: (a) examine the effectiveness of peer implemented pivotal response training for increasing social behaviours in a home setting, (b) to investigate whether any changes seen in social interactions of the students with autism spectrum disorder can generalise to other untrained peers in a novel setting such as school, and (c) to establish whether a new variable on verbal communication adapted from Pierce and Schreibman (1995) will be successful in increasing levels of initiating and maintaining conversation in the children with autism spectrum disorder.

Methods

Research Design

The study was an exploratory piece of action research. An applied behaviour design was used across individual participants.

Research Questions

The study was designed to answer the following questions:

1. Would a peer implemented pivotal response training increase the social behaviours of students with autism spectrum disorder in a home setting?
2. Is there generalisation to untrained peers at school?
3. Does the new variable, encourage conversation, increase the target behaviours to initiate, and maintain conversation?

Confidentiality

No actual names or locations are revealed throughout this document. Pseudonyms are used for names and schools.

Participants

Two verbal children with autism spectrum disorder and 6 typically developing peers took part in the study. Both students with autism were in the same non-integrated classroom for children with autism spectrum disorder within a mainstream primary school. Liam a 6-year-old had been diagnosed at age 4 and one-half years old with autistic spectrum disorder and attention deficit and hyperactivity disorder by a consultant psychiatrist with more than 20 years of experience in the field. Like liked to create new games rather than play according to set rules making interactive play difficult for peers. His routinised obsession with trains caused particular difficulties, as others did not play with the trains the right way. Anthony a 7- year-old had been diagnosed by the same consultant psychiatrist at the age of 4 with a pervasive

developmental disorder-not otherwise specified. Then he was diagnosed by a clinical team which consisted of a consultant psychiatrist, senior psychologist, speech and language therapist, social worker, and occupational therapist at age 6 with Asperger syndrome. He enjoyed Playstation™ and trains and was good at playing board games according to the rules. Routine was very important to him and he disliked any sudden changes to his routine.

The typical peers were from 7 to 10 years of age. Five peers attended the same school as Liam and Anthony, and the sixth peer was Liam's neighbour. Nine-year-old John and 7-year-old Abby were paired with Liam. John was volunteered by his mother following an information night at the school. She felt it might help his social development as he found it difficult to make friends. He did not know Liam prior to the study. Abby lived on Liam's street, was a friend of his sister, and often played in their house. Amy a 10-year-old and Noelle an 8-year-old were paired with Anthony. Amy was put forward following the information meeting at the school. She did not know Anthony prior to the study. Noelle is Liam's sister. Her parents felt being paired with Anthony would ultimately help to improve her ability to interact with Liam. An additional 2 neurotypical peers participated in the generalisation stage of the study only. They were both unfamiliar to the two target children. Seven-year-old Emily played with Anthony and 6-year-old Ethan was the generalisation buddy for Liam.

Ethical considerations

In line with the guidelines for research with children, Trinity College Dublin and the code of ethics set out by the Psychological Society of Ireland, participants were informed that they could withdraw their consent at any time during the study without prejudice. The participants were informed that no names, addresses, or any other personally identifying information would be included in any report, publication,

or in the thesis. All confidential information was stored in a locked file cabinet in the researcher's office and on a password-protected computer. Ethical approval for the study was obtained from the ethics committee from the School of Psychology, Trinity College Dublin shown in Appendix E. An information night was held at the school to give an overview of the study and answer questions. Information sheets shown in Appendix F and consent forms shown in Appendix G were distributed.

Setting and Materials

Baseline, intervention, and follow-up play sessions took place in the homes of Liam and Anthony. Toys and games were laid out in the sitting room of each of their houses prior to each session. Although this was the focal play area, the children were free to play throughout the house and in the back garden. Parents were provided a list of toys to make available for play sessions. The list included board games, balls, card games, and toy figures. Parents were advised to include toys that the children enjoyed playing but to omit toys which were an obsession. It was stressed that the most important criteria for choosing a game or toy was that it should be interactive in nature and of interest to the children. In both homes a selection of these toys were left in the corner of the sitting room. If the children chose a game that was not part of this selection, as in playing on the trampoline, this was permitted. Instructions were to keep the television off during sessions, as it interferes with the interaction of the children. The television was on in some sessions and off in others. Results from sessions where the television was kept on were not used due to the intrusion. Data sheets which included operational definitions of the dependent variables were provided to parents following instruction in their use.

Initial pivotal response training with peer trainers took place in a small meeting room at the children's school. Peers were presented with a manual adapted

from Pierce and Schreibman (1997) containing only the four strategies to be taught with accompanying illustrations. The strategies used in training were for getting your friend's attention, taking turns, praising your friend, and encourage your friend to talk. The specific questions and statements used to illicit a conversation were noted on the appropriate page in the manual. Following training parents of the peer trainers were given a reminder sheet which summarized the strategies to verbally review with their child just prior to a play session to strengthen their use of the key skills learned.

Generalisation sessions took place in an infrequently used classroom in the school. The games available at the generalisation sessions were different to those available in the homes but interactive in nature.

Baseline

Baseline sessions were conducted in the target children's homes and in the generalisation setting-school. Three baseline sessions were conducted with each peer trainer and one with each generalisation peer. During baseline each dyad was told to play together. The sessions were monitored for target behaviours as well as any stress to the participating children. Anecdotal notes were used in the baseline evaluation. For example, during Anthony's second baseline session with Amy the percentages were very low as compared to the first and third session. It was revealed by Anthony's mother that he had wanted to play with a younger boy who lived on his street that day and, therefore, was not happy to be playing with a girl that he did not know.

Data Collection Form

The data collection form used during observation sessions was a tally sheet measuring 8 and one-half inches long by 11 inches wide with the target behaviours written in the left margin and the time slots written in the top margin shown in

Appendix H. Additional comments could be noted in the bottom margin or on the

back of the sheet. The observer held the sheets on a clipboard and sat within listening distance of the participants during play sessions. The form was designed to record the presence or absence of dependent measures in 1 minute intervals. Intervals were signalled by the researcher whispering the word time. The researcher and an assistant recorded data during baseline. Parents collected data during intervention and follow-up with one of the researchers acting as a reliability probe for 25 % of the sessions.

Dependent Measures

The second 10 minute segment of each 30-minute play session was scored for ten 60-second intervals for the presence or absence of the following behaviours:

1. Maintaining play-two categories:

- i. Interactive: Continued engagement in the same play activity as the peer such as sharing, turn taking, or conversation around the activity.
- ii. Parallel: Playing alone or alongside the peer trainer. Engagement of a negative nature was not counted such as hitting or yelling.

2. Maintaining conversation: Continued engagement in the same verbal activity as the peer such as responding repeatedly to a preceding verbalisation by the peer. Verbal engagement of a negative nature was not counted.

3. Initiating play: Any verbal or nonverbal initiation of novel play or game to the peer such as handing the peer trainer a ball or saying play blocks while engaged with a different toy was scored.

4. Initiating conversation: Verbalisations that were not in direct response to a preceding question or that occurred at least 5 seconds after a preceding verbalisation. Exclamations and questions of a repetitive or negative nature were not scored.

The behavioural definitions were developed by Grey, Honan, and Murphy (2003) and Honan et al. (2003). The second 10 minute segment was chosen for data collection, as

this would allow for the researchers to prompt, if needed, the peer trainer during the initial 10 minutes of the 25 % of sessions they attended for reliability probes. The prompts or positive reinforcement comments to the peer trainers were important to the morale of the trainers during the continued sessions.

Inter-rater Reliability

Inter-rater reliability was calculated for 100 % of baseline and at least 25 % of generalisation, intervention, and follow-up sessions. Parents of the child with autism spectrum disorder were trained in this procedure during baseline sessions by observing the researcher and assistant during discussion and practice. They observed the researcher and assistant during the first session. At the beginning of the second session the record sheet and dependent variables were explained to them, and in the final baseline session the parents were asked to take data to establish if training was successful. Interval by interval reliability was calculated for each dependent measure by dividing the number of intervals in which both observers agreed a behaviour either did or did not occur by the number of intervals in which they agreed plus disagreed. During baseline and generalisation sessions the two observers were the researcher and a fourth year psychology student who acted as an assistant. Intervention and follow-up session observers were one parent and one researcher. Both observers were present watching the play sessions, and no video recording was used. The rationale for not using a video recorder was due to insufficient resources to secure a camera for the study. Reliability was calculated for each dependent measure for occurrences and non-occurrences. The reliability is highly contingent upon the number of times a target behaviour was present. In the study the number of intervals that target behaviours could be present was considerably smaller than previous studies, namely ten 60-second intervals as opposed to sixty 10-second intervals Honan et al. (2003)

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which would lead to artificially low reliability ratings. The interval by interval reliability, therefore, is arguably the most appropriate for the current design. For maintaining interactive play interval by interval reliability was 97 % between the range of 80 % to 100 %. For parallel play it was: (a) 98 % between the range of 70 % to 100 %, (b) 94 % between the range of 50 % to 100 % for maintaining conversation, (c) 99 % between the range of 90 % to 100 % for initiating play, and (d) 94 % between the range of 70 % to 100 % for initiating conversation.

Pivotal Response Training

The neurotypical children first viewed a general informative video on autism spectrum disorders prepared during an earlier research project (Grey et al., 2003). It was ethically important to provide the children with some background on the condition of the boys that they would be playing with during the study. Students with autism spectrum disorder from the school are in the video which illustrates through words, cartoons, and video clips the concepts of same and difference with respect to autism. It explains to the peer trainers that they have been chosen to play with students from those classrooms because they can show them how to play and how to be a great friend.

The training manual (Appendix I) was adapted from Pierce and Schreibman (1995/1997). The original study described eight pivotal response training strategies while the current study implemented four, and the final study is an amalgamation of two strategies:

1. Orient attention: Ensure that the target child is paying attention before delivering a prompt or suggestion. This may include standing in front of and facing the target peer and holding the preferred toy near their eyes.

2. Praise: Verbally reinforce any attempt by the target child to engage in social interaction or play activities such as while playing skittles say the words great shot.

3. Turn taking: Take turns during play to provide examples of appropriate play to promote sharing and increase motivation.

4. Use simple sentences to encourage conversation: Tell the peer trainer that it is important that they try to facilitate speech. While playing, the peer trainer can use simple questions or statements to illicit more conversation such as: (a) what else happened? and (b) tell me more.

The rationale for reducing the number of skills was based on previous studies by Honan et al. (2003) which showed greater success when limiting the number of skills taught. The first three strategies were chosen because of their association to earlier successful studies by Pierce and Schriebman (1995/1997). Social orientation has long been seen as an important skill for students with autism and a lack of orientation is considered to be one of the possible underlying contributors to social and communication impairments (Dawson, Meltzoff, Osterling, Rinaldi, and Brown, 1998). Dawson, Meltzoff, Osterling, Rinaldi, and Brown (1998) found that it is possible to develop joint attention and social orienting abilities in children with autism by increasing motivation to attend to social stimuli. Charman (2002) studied concurrent and longitudinal associations between joint attention and other social communication abilities. The study describes joint attention as being pivotal because of the significance it appears to play in the development for individuals with autism (Charman, 2002).

Training took place with 4 peer trainers over 2 days for 1 hour each day after school. During the first training session peer trainers watched the video, and reviewed the manual researchers provided the children by listening to the descriptions of the

strategies to be a great friend. The researchers role-played each strategy in turn with each other. The role-play illustrated the skills using good and poor examples which the children evaluated as being one or the other. The peer trainers were then asked to role play the various skills with one of the researchers and were given feedback.

Session two began with a review of the strategies in the manual. The peer trainers participated in adult-peer role-play as well as with other peer trainers. The researcher asked the peer trainers questions about what they had done after the role play to help their understanding of the important elements of the strategies. They were ready to proceed with intervention play sessions when they consistently achieved 80 % accuracy for describing the skills to the researchers and modelling each skill with another peer. In Pierce and Schreibman's (1995) training manual it is suggested to reach 75 % because it is vital that the peer must be able to implement each strategy accurately before continuing with the sessions. This means they must reach at least 75 % accuracy during role-playing and question-answer periods for each strategy. This can be assessed by using a simple question-answer sheet at the end of training.

During intervention sessions where a researcher was present for reliability, peer trainers were given feedback on their competency of using the skills. This took place throughout the session with the exception of the 10 minutes of data recording.

Intervention and Follow-Up Data Collection

Intervention data were collected over a 7-month period. Follow-up sessions took place over 2 months with a 2 to 3 month break following intervention. Generalisation assessment occurred for 25 % of the sessions approximately every month over the duration of the study. Reliability probes took place for 25 % of the sessions which was approximately once per month. Data on 25 % of the generalisation sessions were recorded by two researchers for reliability.

Data were recorded for the second 10-minute segment of each of the 30-minute play sessions. The time sample was broken into ten 60-second intervals during which the absence or presence of each of the four dependent variables was recorded. Generalisation sessions occurred approximately once per month. The sessions followed the same format as baseline generalisation sessions.

Prompts

Parents of typically developing peers were given written reminders about the intervention strategies to remind their own child of the strategies just prior to each play session shown in Appendix L. When the researchers were present at intervention and follow-up sessions they took the peer trainer aside and went through the strategies again briefly prior to meeting. Brief verbal prompts were given when necessary during the first 10 minutes, the last 10 minutes of these sessions, or both. For example, if John was trying to get Liam's attention he was prompted to say Liam's name. No prompts were given during data recording. The parents were instructed not to give prompts or intervene unless a dangerous situation occurred such as hitting. Peer trainers were praised for their efforts to be a good friend before and after reliability probes.

Results

Results are presented in Figure 3.1 and Figure 3.2 as percentages of the total number of 60-second intervals where the desired target behaviour was observed in a given session. Mean percentage increases in target behaviours for each dyad are depicted in Table 3.1 and Table 3.2.

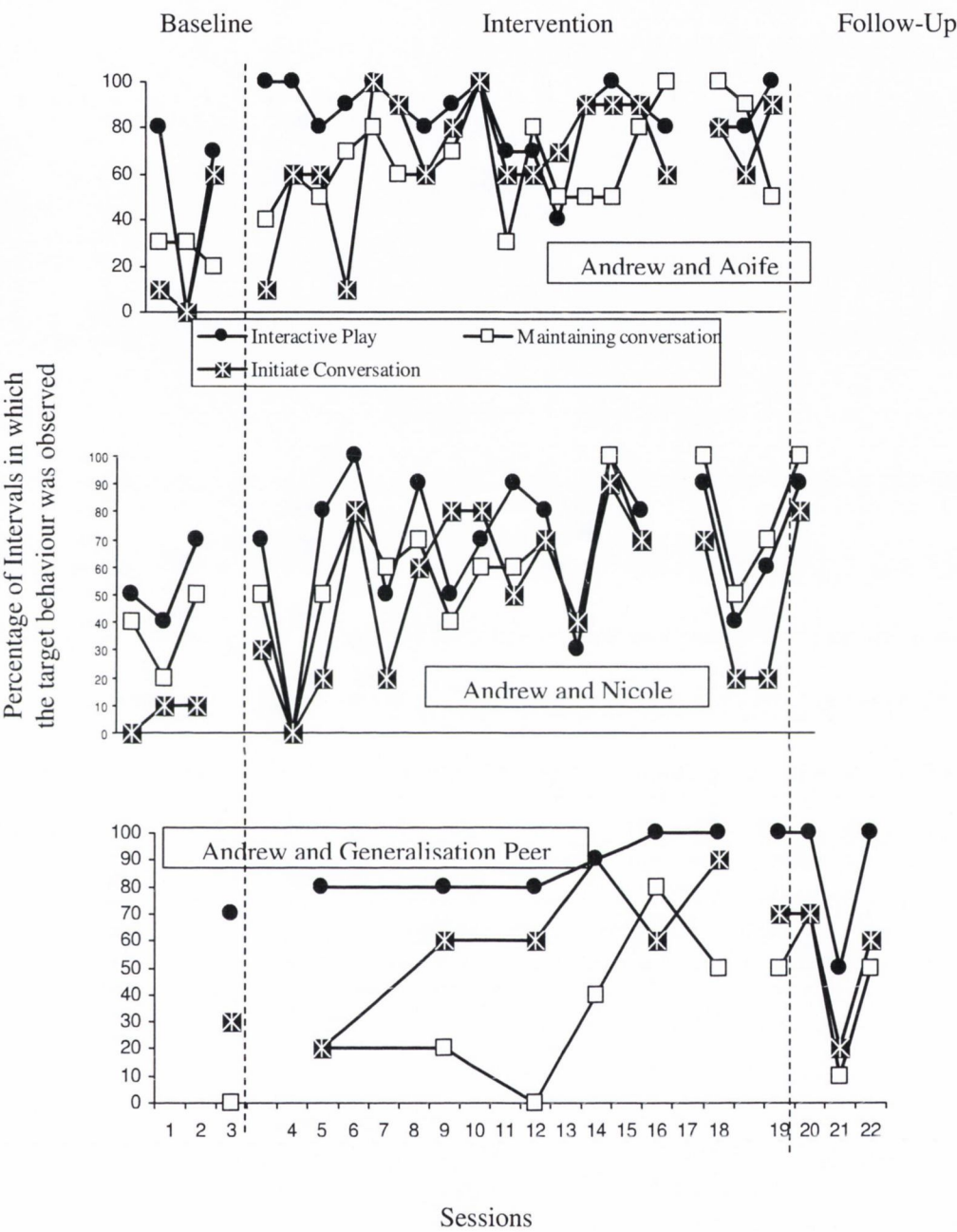


Figure 3.1. Percentage intervals of engagement by Andrew in target behaviours during 10-minute observations at baseline, intervention and follow-up.

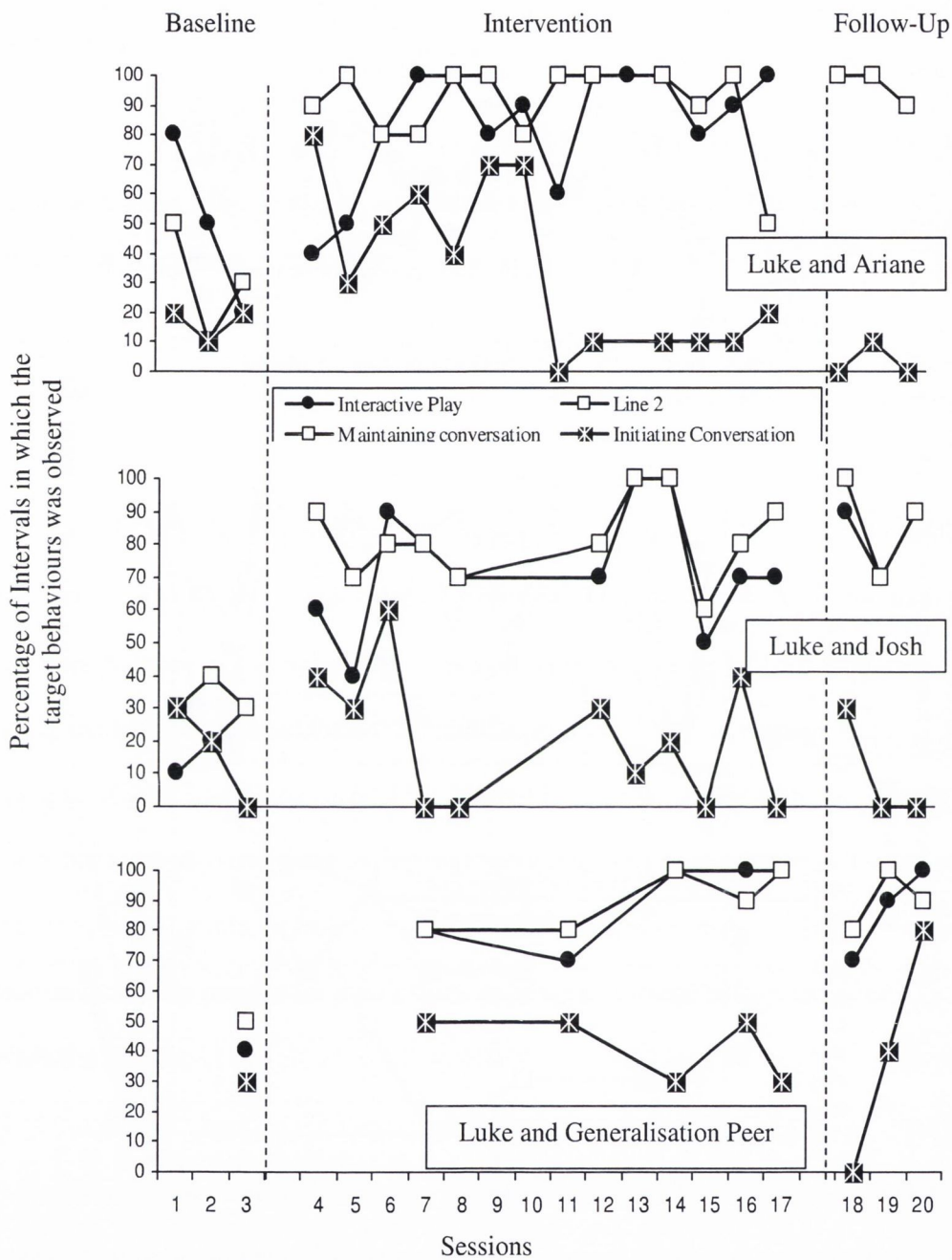


Figure 3.2. Percentage intervals of engagement by Luke in target behaviours during 10-minute observations at baseline, intervention and follow-up.

Table 3.1

Mean Percentage Engagement by Anthony on Each Dependent Measures with Each Peer.

Dependent Variable	Anthony-Amy			Anthony-Noelle			Anthony-Emily (Generalisation)		
	Base line	Intervention	Follow-up	Base line	Intervention	Follow-up	Base line	Intervention	Follow-up
Interactive Play	50%, range = 0-80%	85%, range = 40-100%	93%, range = 80-100%	53%, range = 40-70%	68%, range = 0-100%	70%, range = 40-90%	70%	88%, range = 80-100%	88%, range = 50-100%
Parallel Play	33%, range = 0-100%	6%, range = 0-50%	3%, range = 0-10%	20%, range = 0-30%	18%, range = 0-90%	23%, range = 0-80%	30%	3%, range = 0-10%	0%, range = 0-0%
Maintaining Conversation	27%, range = 20-30%	64%, range = 30-80%	73%, range = 50-90%	37%, range = 20-50%	53%, range = 0-100%	80%, range = 50-100%	0%	35%, range = 20-80%	45%, range = 10-70%
Initiating Play	7%, range = 0-10%	11%, range = 0-40%	17%, range = 0-30%	13%, range = 0-20%	11%, range = 0-30%	13%, range = 0-20%	0%	8%, range = 0-20%	8%, range = 0-20%
Initiating Conversation	23%, range = 0-60%	68%, range = 10-100%	77%, range = 60-90%	7%, range = 0-10%	53%, range = 0-80%	48%, range = 20-80%	30%	63%, range = 20-90%	55%, range = 20-70%

Table 3.2

Mean Percentage Engagement by Liam on Each Dependent Measures with Each Peer.

Dependent Variable	Liam-John			Liam-Abby			Liam-Ethan (Generalisation)		
	Baseline	Intervention	Follow-up	Baseline	Intervention	Follow-up	Baseline	Intervention	Follow-up
Interactive Play	20%, range = 10-30%	73%, range = 40-100%	83%, range = 70-90%	50%, range = 20-80%	82%, range = 40-100%	97%, range = 90-100%	40%	90%, range = 70-100%	87%, range = 70-100%
Parallel Play	43%, range = 20-50%	26%, range = 0-60%	3%, range = 0-10%	30%, range = 0-80%	8%, range = 0-30%	0%, range = 0-0%	50%	6%, range = 0-20%	3%, range = 0-10%
Maintaining Conversation	33%, range = 30-40%	82%, range = 60-100%	87%, range = 70-100%	30%, range = 10-50%	96%, range = 50-100%	97%, range = 90-100%	50%	90%, range = 80-100%	90%, range = 80-100%
Initiating Play	13%, range = 10-20%	7%, range = 0-30%	7%, range = 0-10%	10%, range = 0-20%	16%, range = 0-50%	7%, range = 0-20%	20%	6%, range = 0-20%	0%, range = 0-0%
Initiating Conversation	17%, range = 0-30%	21%, range = 0-60%	10%, range = 0-30%	17%, range = 10-20%	35%, range = 0-80%	3%, range = 0-10%	30%	42%, range = 30-50%	40%, range = 40-80%

Baseline levels of interactive play were moderate for Liam and Anthony with means of 35 % and 52 %, respectively; however, they are highly variable across dyads. Liam and John display stable levels of interactive play (mean = 20 %, range = 10 % to 30 %); whereas, the data with Abby are highly variable. The data from Anthony and Noelle are characterised by a high baseline in contrast to Amy which ranged from 0 % to 80%. Baseline levels of maintaining conversation are more stable for both target children with the same mean rating of 32 % for Liam and Anthony. Throughout the baseline sessions initiations of play or conversation occurred at lower rates than maintenance, but they were found to be relatively stable with the exception being Anthony and Amy for initiating conversation with a range of 0 % to 60%.

An increase in the mean occurrence of interactive play is evident in all four of the dyads during intervention and follow-up sessions with an intervention mean increase of 43 % for Liam and 55 % for follow-up sessions. Anthony displayed a 25 % mean increase for intervention; whereas, his follow-up sessions reflected a 30 % increase. While these increases were stable across both of Liam's dyads in comparison to baseline levels, Anthony's data shows higher variability with a intervention mean increase of 35 % with Amy and 15 % with Noelle. Follow-up sessions showed a 43 % and 17 % increase for Amy and Noelle, respectively. A related reduction in the occurrence of parallel play was found in all four dyads.

Baseline levels of interactive play are moderate for Liam and Anthony with means of 35% and 52%, respectively; however, they are highly variable across dyads. Liam and John display stable levels of interactive play (mean = 20%, range = 10 % to 30 %); whereas, the data with Abby is highly variable. The data from Anthony and Noelle is characterised by a high baseline in contrast to Amy which ranged from 0 % to 80 %. Baseline levels of maintaining conversation are more stable for both target

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Among the most marked increases evident in Figure 3.1 and Figure 3.2 are those of maintaining conversation. The data from Liam and Abby in which baseline levels of 30 % rose to a stable mean intervention level of 96 % (range = 50 % to 100 %), displayed a mean increase of 66 %. Their follow-up mean increase was 67 %. A similar intervention trend is evident between Liam and John with a mean increase of 49 %. Follow-up sessions showed a mean increase of 54 %. Anthony's data demonstrates a comparable trend, as levels of maintaining conversation show an intervention increase of 37 % with Amy and 46 % for follow-up. A less substantial intervention increase of 16 % for Noelle, but an enhanced 43 % increase during follow-up sessions was established.

Initiations of conversation show substantial mean increases in all of the dyads; however, they are considerably more variable than maintaining conversation. The

data with Abby shows a mean increase of 18 % compared with baseline levels. Follow-up data fell below baseline at 3 %. While Anthony's levels of initiating conversation increased by an average of 46 %, the data from both dyads show extreme variability. Levels of initiating play displayed relatively no change between baseline and intervention sessions as well as baseline and follow-up sessions.

The increase in dependent variables recorded during generalisation sessions is comparable to experimental conditions. As was the case with all four of the experimental dyads, increases in interactive play, maintaining conversation, and initiating conversation were seen for both target children in the generalisation sessions with an accompanying expected reduction in parallel play and negligible change in initiating play.

Discussion

The findings of the study are discussed in light of certain methodological limitations; however, they lend support to the hypothesis that pivotal response training is a flexible intervention to increase pro-social behaviours and is one that can be implemented in home-based settings. Generalisation to the school setting and an untrained peer was observed.

Interactive play increased in all four dyads with a concomitant reduction in parallel play. Increases in maintaining conversation showed the most sizeable positive movement from baseline to intervention and follow-up with stable increases in all four dyads. Increases in initiations of conversation were erratic; however, a mean increase was found in all four dyads. Increases in initiations of play were negligible. This is not surprising since it was not targeted. In the study the underlying premise of pivotal response training comes into question, as it seems that unless behaviour was

specifically targeted it did not increase. This was found in an earlier study by Grey et al. (2003).

Interactive play showed an overall increase of 34 % from baseline to intervention. Follow-up illustrated an overall increase of 43 %. Some data were not reported due to a confounding variable such as the television. This was particularly seen with respect to Liam and John's data. For example, intervention session six showed a dramatic drop. The session took place on a different day to their usual day, and the family kitchen was being renovated which restricted Liam and John as they typically liked to play throughout the house. The television was left on and for the duration of the session both boys simply sat and watched television. This highlights the importance of regular, consistent session times but illustrates an important point noted by Honan et al. (2003) with regard to the choice of activities for play sessions. Toys that encourage interaction and turn taking are seen as crucial for the success of pivotal response training (McGee et al., 1992), and the activity most detrimental to interaction is the television.

Of considerable interest is the marked increase in conversation, as this was a specific aim of the study. Results suggest that the new strategy was successful as increases in initiations and maintenance of conversation were found across all dyads. Maintaining conversation for Anthony and Amy was stable, and the increases for maintaining conversation for Anthony and Emily rose gradually. Liam and Abby had high levels of maintaining conversation which was sustained throughout the study. This demonstrates the need to specifically target behaviours to be increased.

Abby made a consistent effort to encourage conversation with Liam persisting with questions until he answered. This awareness was echoed by Noelle whose sessions produced stable increases in maintaining conversation and interactive play.

The trend suggests that while the specific sentences provided during pivotal response training were not employed regularly, they promoted awareness about how to maintain a conversation. There appeared to be an understanding that maintaining a conversation did not mean asking a string of unrelated questions but instead following through with a particular topic. Anecdotal notes revealed that some of the peer trainers used choices in order to facilitate an answer to a question. One of Pierce and Schriebman's (1995) original strategies enhanced motivation by offering choices. Although this strategy was not employed in the study, one of the examples given to the peer trainers during conversation modeling was to offer choices of what to play. This was taken a step further when students began giving examples during training of how to illicit a conversation when posed with a non-response.

Initiations of play had the smallest margin of increase of all target behaviours. It must be noted that data were recorded from the second 10 minute segment of each play session. The likelihood of initiating a new game every 60 seconds is far lower than the likelihood of playing a given game interactively for 10 minutes. The number of initiations of play, therefore, must be considered in the context of the level of interactive play. For example, in the majority of Anthony's play sessions with Amy they played Playstation™ interactively for the full 10 minutes of data recording conversing throughout. Their level of interactive play was the highest and most consistent of all four dyads, but the number of initiations of play often remained at zero as they began the game within the first 10 minutes of the session. This illustrates that although initiations are important social behaviours, low rates of initiating play are not necessarily as indicative of social isolation as low levels of maintenance of interactive play.

While differences within the data of each dyad have been discussed and explained an important consideration is the differences found between dyads for each target child. Some peers did not know each other before the study began. One mother involved her son in the peer training because he found it difficult to make friends and she felt the study would benefit his own interpersonal skills and self-confidence. At times he found it difficult to maintain the same level of perseverance as other peers. The contrast between the persistence of other peers highlights an important point for optimal characteristics of a peer trainer. Lord (1984) pinpointed the qualities of persistence and tenacity as being particularly beneficial.

On analysing the reasons behind other dyad sessions with low levels of target behaviours, it was discovered that preference is crucial. At times peers became upset about playing with their peer trainer because they wanted to do something different. This provides support for the importance of regular session times. It reflects a need to let children choose their playmates. Anthony voiced a reoccurring theme throughout the study which was that he did not like girls and wanted to play with boys. His classroom consists of boys only. After the study began he looked forward to his sessions with the female peer trainers.

The negligible increases in initiating play must be considered in light of the considerable improvement of interactive play. Initiating interactions become more relevant when in a context with untrained peers. This was demonstrated in intervention generalisation sessions with Anthony and Emily. Emily was extremely shy, and while the dyad played interactively she made no attempt at initiating interactions with Anthony. Anthony often initiated a conversation to which Emily's reply would be to smile or nod her head instead of verbalise. This can be seen in Figure 3.1 in which Anthony made six attempts at initiating a conversation; whereas,

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he only maintained a conversation twice due to Emily's failure to answer verbally. This highlights the importance of choosing peer trainers carefully and how this generalisation peer would have benefited from the pivotal response training.

The data from intervention and follow-up generalisation sessions show a positive trend for both dyads with increases in all target behaviours except initiating play which is analogous to the experimental dyads. Anecdotal evidence from the mothers of both children provided additional support to the presence of generalisation, as they both noted improved social interactions with children that were not associated with the study.

The positive results of the study must be considered in light of certain methodological limitations and related recommendations for future research. The most obvious limitation is the applied behaviour design. This can be considered a pre-experimental design as there would need to be more phases to be certain about the role of the intervention in changing any behaviour (Kazdin, 1982). This was not an experiment due to the lack of control of the variables. There were threats to validity as it is assumed that the pivotal response training instruction had a positive effect on the target behaviours; thus, it is not known whether there were other external conditions which affected the outcomes. There could have been a drift in the implementation of procedures by parents collecting data. "Drift refers to the tendency of observers to change the manner in which they apply the definitions of behavior over time" (Kazdin, p. 142, 1977). Parents were trained to take data by the researcher. Reliability checks were done to monitor the integrity of the intervention, and no drift was noted at the reliability checks throughout the study. However, parents taking the data were aware that these checks were being done. The parents could have been on their 'best behaviour'. Kazdin (1977) suggests not letting observers know that

reliability checks are taking place as it can change their behaviour and reliability.

Unfortunately, this was not an option in the naturalistic setting where this study took place. Although no drift was noted at the reliability checks it cannot be ruled out as there is no definitive way to know if some drift did take place. Changes were made in an applied behaviour design with the desired effect being the increase of target behaviours. A more effective design for future research would be multiple-baseline across individuals or across target behaviours. This would provide for a demonstrated change in performance for each individual as the intervention was introduced (Kazdin, 1982).

Originally a multiple baseline across individuals was planned. While assessing baseline data it was decided that it would not be in the best interests of the children to withhold the training as these play sessions were designed to be fun play dates. Ethically it did not seem prudent to delay training of the typical peers as some stress was observed during baseline. The stress was due to the lack of responsiveness of the target child during play sessions. Training was designed to improve interaction.

It is not clear what brought about the change in this study. It is possible it was the peer mediated pivotal response training or it could have been utilising peers as change agents to target social behaviours. Pivotal implies that you expect other behaviours will change once pivotal behaviours are targeted. This was not actually observed, and there was some evidence of generalisation. A better design for future research would be a multiple-baseline across behaviours. This was not done in the study as the researcher was replicating previous studies by Grey et al. (2003) and Honan et al. (2003). The study utilised established procedures of Grey et al. (2003) and Honan et al. (2003) in a different context. To proceed with a multiple-baseline across behaviours would have been to dismantle the manual and procedures tested in

the previous research. In order to maintain the integrity of the established procedures there is a definite weakened design.

Conversely, the participatory nature of the action research to work with families and teachers in the natural settings where students play lends an ecological validity (Herr & Anderson, 2005). This can be seen as a strength because the setting for the study is the real-life environment of the home. This was in context for future use of this programme to be used with teachers applying the procedures.

Bronfenbrenner (1979) defined ecological validity as “the extent to which the environment experienced by the subjects in a scientific investigation has the properties it is supposed or assumed to have by the investigator” (p. 29).

There were a small number of baseline sessions in relation to the total number of intervention and follow-up sessions. The study was designed to proceed over a set number of months (November through March). At the end of that time participants were asked if they would like to continue (until the end of June). All dyads decided to proceed with intervention sessions until the end of the school year with a follow-up piece at the beginning of the next academic year. The decision to increase the timeframe of the study was offered as an approach to increase generalisation. Odom, Hoyson, Jamieson, and Strain (1985) focused extensively on achieving generalisation across settings but reported mixed results. Although their intervention continued every day in three different settings, the entire study took place over 5 weeks. They argued that it is too much to expect lasting changes that generalise across settings from such a brief timeframe. Reggint, (1994) concurred that the duration of an intervention should be looked at as a possible contributing factor in the success of some interventions. The benefit of extending the length of the study offset the limitation of a small number of baseline sessions.

The use of a home-based setting has been shown to be an effective setting for implementation of pivotal response training, thus with a natural setting comes the increased risk of extraneous variables. For example, although it was made clear from the beginning that each session should be solely for the target child and his peer trainer, Anthony's younger sister was present for various intervention sessions. She often distracted the attention of the peer trainer and spoke for Anthony when the peer trainer attempted to initiate a conversation with him. In intervention seven Amy attempted to discourage the sister's involvement by telling her that the game was for her and Anthony. It would be more appropriate for such a situation to be prevented by the parent. Children on the spectrum can be expected to learn to play interactively with one peer in a one-on-one situation, but it can be too confusing when faced with more than one peer simultaneously. Even adults with an autism spectrum disorder state this as true for them.

Recommendations

It is recommended that future home-based interventions allocate a specific time each week for play sessions from the beginning of the intervention so as to reduce the number of possible confounding variables. Anthony's reaction to not being able to play with his friend at a time that he usually does, and the effect on Liam and John of having the session on a different day to their normal time illustrates the importance of choosing an appropriate, regular time for both children. The importance of routine has been a well documented characteristic of autistic children (Dawson & Osterling, 1997), and both mothers found allocating a specific time each week provided more stability for the target peers and easier to schedule.

Conclusion

The current findings provide tentative support for the conclusion that peer-mediated pivotal response training in a home-based setting is an effective intervention for increasing the social behaviours of children with autism spectrum disorder and that skills gained generalise to other settings and non-trained peers. Incorporating the variable specifically aimed at increasing verbal communication appears to have been successful. It is not clear whether the pivotal nature of the intervention was successful. It could be argued that the targeted four behaviours increased using peers as change agents. Given the methodological limitations highlighted with the study it is recommended that future research attempts to replicate the current findings with an experimental design in order to establish support for the applicability of peer-mediated pivotal response training to a home based setting. Investigating whether or not learned behaviours can be maintained when the target child is in a group of children for social activities could be assessed.

The results of previous studies by Pierce and Schriebman (1995/1997), Honan et al. (2003), and Grey et al. (2003) and the current study confirm that pivotal response training of typical peers can be used as a strategy to increase social interaction skills of children with autism spectrum disorder. The literature indicates that it is insufficient to simply place students with special needs in mainstream settings without some training for persons in the receiving environment. Inclusion procedures must be developed as part of a structured programme which utilises peer mediated strategies to promote social interactions between students with autism and their typically developing peers (Kamps et al., 2002; Myles, Simpson, Ormsbee, and Erickson, 1993). Kohler & Strain (1999) supported the usefulness of utilising peer-mediated and naturalistic strategies to meet the diverse learning needs of children with

autism spectrum disorder. Both strategies are thorough and cost-effective which allows teachers to benefit from their use in classrooms. Researching pivotal response training of typically developing peers in inclusive settings could prove a valuable component to facilitate the successful inclusion of a child with autism spectrum disorder. Further investigations might explore whether or not the target student gains are transferable to group settings.

Chapter 4

Dual-Site Case Studies

Introduction

The literature identifies common elements to successfully integrate students with autism spectrum disorder with their typically developing peers. Myles, Simpson, Ormsbee, and Erickson (1993) reported on their findings of integrating preschool children with autism. They recommended that programmes to include students with autism spectrum disorder must be planned with attention to direct skill-instruction, antecedent prompting methods, and peer-initiation procedures. These methods should be used in connection to one another to reap the most benefits (Myles et al., 1993). Arrangement of appropriate human support staff such as trained special needs assistants with opportunities for consultation and collaboration is important (Myles et al., 1993; Simpson et al., 2003). Simpson, Myles, and LaCava (2008) stated that the importance of nonhuman resources such as time for teacher planning, professional development for staff, and reduced class size when including students with autism. Support is crucial in the form of a team which includes psychologists, social workers, language and speech pathologists, occupational therapists, physical therapists, and counsellors allowing mainstream and special education teachers to call upon professionals for assistance in demonstrating best practice strategies (Myles et al., 1993). Support includes collaborative planning and problem solving between mainstream, special educators, and parents (Dunlap & Fox, 1999; Iovannone et al., 2003; Myles et al., 1993). Since students take their cues from adults the attitudes of those adults are so important. A necessary component of any successful integration programme is to have school-wide staff participate in ability awareness training so

that they understand the unique characteristics of students who present on the spectrum (Myles et al., 1993).

Simpson, de Boer-Ott, and Smith-Myles (2003) sought to present a revised autism inclusion collaboration model from Myles et al. (1993). The foundation of the model is collaboration (Simpson et al., 2003). The model has five major components:

1. Environmental and curricular modifications, general education classroom support, and instructional methods.
2. Attitudinal and social support.
3. Coordinated team commitment.
4. Recurrent evaluation of inclusion procedures.
5. Home-school collaboration.

Pugach and Allen-Meares (1985) stressed the distinction that is present in consultation versus collaboration. They asserted that consultation implies a relationship between professionals that may be unbalanced with regard to position while collaboration reflects more of a team approach to support and share information. The autism spectrum disorder inclusion collaboration model promotes collaborative consultation.

Dunlap, Clarke, and Steiner (1999) reviewed intervention research in behavioural and developmental disabilities from 1980 to 1997. Trends in inclusion revealed the number of studies taking place in general education settings has progressively increased over the years (Dunlap, Clarke, and Steiner, 1999). Most research was carried out by a clinician or researcher with no increase in using teachers or parents as mediators of change (Dunlap et al., 1999). Jordan (1999) discussed the need to involve not only natural settings in research but involving those stakeholders who will put strategies into practice. Ainscow, Howes, Farrell, and Frankham (2003)

looked at the findings of the collaborative action research network in the United Kingdom to advance the development of inclusive practices. Ainscow et al. (2003) argued that this entails “social learning processes that occur within a given workplace” (p. 227). They explained that collaborative working arrangements can be promoted by utilising various forms of evidence that interrupt thinking so that overlooked or new possibilities for moving practice forward can be identified (Ainscow, Howes, Farrell, and Frankham, 2003). The current study is action research and therefore utilised teachers, parents and administrators as part of a collective team when looking at progress and policy for inclusion with regard to individual cases and for the school as a whole.

Action research is appropriate for the study because of the cycle of inquiry: (a) plan, (b) act, (c) observe, and (d) reflect (Kemmis & McTaggart, 1982). The action research is defined as such because it was done with insiders of the school community versus other types of research (Herr & Anderson, 2005). Herr and Anderson (2005) outlined the responsibility of action research to affect some “action (improvement of practice, social change, and the like) and research (creating valid knowledge about practice)” (p. 5) which can set up a conflict between the rigor and the relevance of the research. The research is done in collaboration and in the natural setting establishes an ecological validity to the research. Due to the shifting challenges presented to educators and school systems today, it is not surprising that they are becoming part of the research process. By looking at their practices and policies in an in depth manner they can adjust to their specific needs. As an action researcher the aim was to involve the stakeholders in that process. Carr and Kemmis (1986) asserted that action research “engages the action researcher in extending the action research process to involve others in collaborating in all phases of the research process” (p. 182).

The current trend of inclusion is a challenge for school systems in many countries today (Ainscow, 2005). Ainscow (2005) discussed the levers for change with regard to developing inclusive education systems. Ainscow's framework referenced the shift that came about from the Salamanca statement (UNESCO, 1994) and places mainstream schools at the centre of analysis to "support the participation and learning of an increasingly diverse range of learners" (p. 112). Ainscow referenced the recent research he and colleagues have completed with regard to the factors which can act as a lever for change within schools and in the larger context. Within school conditions identified include surveys of staff, students, and parent views. Observation of classroom practices by more than one observer with a discussion of what happened is needed. Ainscow discussed the wider context of inclusion and important factors identified were "clarity of definition and the forms of evidence" (p. 117) to utilise when measuring educational performance.

Students with autism spectrum disorder are currently attending mainstream classrooms without support or accommodations. This does not correspond with the definitions of inclusion set forth in the introductory literature review. It is not enough for students with autism spectrum disorder to be physically placed in the mainstream. They need to be participating and engaged in learning. This population of student presents distinctive challenges to plan effective programmes (Iovannone et al., 2003) which require planning, accommodations, and review of data to ensure that they are meeting the goals set forth in either an IEP or individualised inclusion plan. The successful inclusion practice incorporates five components outlined by Simpson, de Boer-Ott, and Smith-Myles (2003) as part of an autism spectrum disorder inclusion collaboration model. This model assumes that mainstream teachers will take on responsibility for students with autism spectrum disorder with a special educator and

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other staff support and resources (Simpson et al., 2003). Odom and Buysee (2006) utilised the quality of inclusive experiences measure designed by Wolery, Pauca, Brashers, and Grant (2000) to investigate inclusive experiences of inclusive preschoolers in their study cost, quality, and outcomes of preschool inclusion. This measure has components which can be utilised to investigate programme purpose and goals as well as participation and engagement.

The Current Study

The purpose of the current research study was to examine the impact of a licensed programme such as the successful inclusion practice for children with autism spectrum disorders (De Boer 1997), and to develop individualised inclusion plans at the school level for students with autism spectrum disorder. While this is not the first research on including students with ASD in mainstream classrooms it is new research in the Irish context. This study aimed to implement an inclusion programme in the conditions which prevail in the school systems and the resources they have available today. As new laws come into effect that promote inclusion in Irish schools it was important to involve the schools in the research so that they had a practical understanding of how inclusion could work in their schools. The two school sites became involved for different reasons. School 1 had been implementing some integration of students with ASD when they were 'ready' for the mainstream. They felt this was not the best system. In addition, they said they had no measure for how integration of those children was working. They also wanted to include students not just when they were ready for the mainstream but rather how they could prepare the mainstream for those students. School 2 approached this study for some similar reasons and some different. The parents of a student with ASD asked the school what were the plans for inclusion of students from the separate assisted learning class into

the mainstream. While they did not have any students included as of yet they wanted to know how to plan for that eventuality as they are an 'educate together' school with an ethos of inclusion. Both schools had an ethos of inclusion but had no inclusion programme for students with ASD being educated in separate classrooms within the schools. They presented with different school conditions and resources available to them which had an affect on how they implemented the programme. Planning action research in these two different sites revealed common themes and those which were very much individualised to their school site.

The impact of the inclusion plan was measured for the amount of time spent in the mainstream environment as well as levels of participation and engagement. As the population of students with autism spectrum disorders grow, it is essential that the knowledge base on effective programmes be increased taking into account the cultural context. By using quantitative and qualitative methods the programme outcomes and processes were evaluated (Greene, Caracelli, and Graham, 1989). Action research as a methodology allows for different types of data collected through a range of techniques (Mertler, 2009). This was done by examining the time spent participating and engaged in the mainstream classroom environment as well as through the collaborative planning by the inclusion intervention team. The national survey and peer mediated pivotal response training were incorporated into the successful inclusion practice programme to personalise it to the Irish education system.

This study was designed to answer the following questions:

1. Does the programme increase the amount of time a student with autism spectrum disorder spends in the mainstream?

2. Is that time in the mainstream successful such as engaged time for the individual student?

3. What impact, if any, does it have on the MS teacher and students?

4. Does a structured programme to facilitate the inclusion of a student with autism spectrum disorder help to define school policies around inclusion?

Method

Pilot

A pilot study was conducted during the spring of 2005 prior to the final study in order to see what modifications needed to be made to a programme to include students with autism spectrum disorder into a mainstream classroom for it to make the most sense in the Irish educational context. Initial reports focused on anecdotal notes to monitor participation and engagement as well as a formal data sheet to collect baseline information on the amount of time spent in the mainstream classroom. Initial inclusive activities included social time with typical peers in a mainstream environment.

From the national survey it was revealed that schools often tried to include students with disabilities in extra curricular activities. From the peer mediated pivotal response training component of the thesis, a teaching unit was developed to be utilised as an ability awareness programme. This programme was implemented by teachers to whole classrooms to prepare for the inclusion of a student with autism spectrum disorder. The effectiveness of the research instruments was further assessed and subsequent amendments were made. The quality of inclusive experiences measure (Wolery, Pauca, Brashers, and Grant, 2000) was identified as a viable measure for the final study.

Stakeholders which included administrators, mainstream, special educators, and parents found the successful inclusion practice programme overwhelming with information and forms. The original successful inclusion practice contained a lot of

extraneous information on U.S. special education law and definitions. Most of the programme was presented in a descriptive, on-going process. Suggestions were elicited and then employed to streamline the information into steps or actions to take in a chronological order. The revised programme was converted into a binder which was organised into sections for frequently used forms and the steps with descriptions of actions to take place at each step. Some forms were modified to include Irish terminology such as special needs assistant for paraprofessional. Other forms were created out of need and others adapted based upon feedback. For example, the observation form for the special education teacher to observe the student with autism spectrum disorder was adapted into an observation of student in special education classroom form so that the mainstream teacher could use it to observe the student in his or her separate classroom shown in Appendix L. A section on the form was added for special vocabulary used with the student and the context. During the pilot the mainstream teacher noticed the special education teacher using certain terms with the student and she wanted to be more aware of special vocabulary to use. A form was developed by the researcher for the inclusion team notes. The form included a section for agenda items, progress of what has been happening, and what are the outcomes and next steps looking forward as to what should happen next shown in Appendix M. The mainstream teacher and the special education teacher met separately from stakeholder meetings in order to plan lessons, identify student accommodations, and review day to day progress. A consultation meeting form was designed by the researcher which documented topics discussed and outcomes and follow-up if needed shown in Appendix L. The on-going general education classroom observation of student activity form was included in frequently used forms section. The researcher condensed separate forms from the successful inclusion practice for comments and

questions for the inclusion facilitator or special education teacher into one form for the mainstream teacher and special needs assistant. During the pilot the parent requested having a book to write down comments or questions and so a form was added for parents. These forms were kept in an inclusion binder which included sections for student summary of abilities and interests, goals, and objectives in the mainstream classroom, emergency plan, team meeting notes, communication book, observation forms, and behaviour plan if needed.

Feedback during the pilot phase revealed that stakeholders wanted more reverse mainstreaming activities to take place which was for several reasons. Mainstream teachers wanted to observe the student with autism spectrum disorder in the environment where they are most comfortable. Mainstream, special education teachers, and parents felt that this would help the mainstream students with a better understanding and comfort level with students with autism spectrum disorder. These reverse mainstream activities would happen prior to and while the student was included in the mainstream classroom.

This pilot study was the first phase of the cyclical nature of action research. There was a plan to include a student with autism spectrum disorder. The school acted on that plan by following the successful inclusion practice. The effects were observed by school staff and the researcher. From those observations there was much reflection on changes not only to the successful inclusion practice so that it fit the local context but how the researcher could measure and monitor what happened during the study.

Design

The purpose of the action research dual-site case study was to better understand a research problem by converging quantitative and qualitative data (Creswell, 2007; Johnson & Onwuegbuzie, 2004). The basis for using the method is

that by using different methods for different inquiry components we will get a more complete picture (Greene et al., 1989). For example, using quantitative data revealed time spent in the mainstream, participation, and engagement levels. Qualitative data was used to discover how different schools developed their inclusion policy.

Stakeholder meeting notes revealed areas of need for schools and other topics. Both methods can be used to measure overlapping facets of the study to gain an enhanced understanding for the purpose of complementarity (Greene et al., 1989). For example, time sampling was used to measure the relationship between the inclusion programme to facilitate inclusion for a student with autism spectrum disorder and the amount of engaged time spent in the mainstream. At the same time the inclusion procedures and policies were explored using stakeholder meeting notes, document review, and structured interviews at each school. Perceptions from mainstream teachers, peers, and families of students with autism spectrum disorder were explored through questionnaires. Miles and Huberman (1994) reflected how “fieldwork involves a steady integrated collection of both quantitative and qualitative data as needed to understand the case at hand” (p. 41). Action research has been described as “suited to study change processes in social contexts” (Blichfeldt & Anderson, 2006, p. 2).

Participatory action research and case studies are specific to critical theory in the “use of case study methods for the purposes of the kind of comparative generalization and intensive explication involved with models of social and cultural reproduction” (Morrow & Brown, 2003, p. 257).

Participants and Recruitment

Two urban educate together nondenominational primary schools took part in the study which had 450 students and 36 staff. The primary schools had 2 special classrooms for students with autism spectrum disorder with 12 students, 2 teachers,

and 3 special needs assistants. The second school was smaller with 150 students and 14 staff which had an assisted learning classroom with 5 students and 2 special needs assistants. Two students at each site participated in the individual case studies. The first student to participate at the primary schools was Tim an 8-year-old boy in a segregated classroom for children with autism spectrum disorder. Tim was independently diagnosed with an autistic disorder at age 3 years and 7 months by a psychiatrist with 10 years experience at a family and child services centre. Academically he was at a second class level. The second student to participate was Liam a 7-year-old diagnosed at age 4 and one-half years old with autistic spectrum disorder and attention-deficit and hyperactivity disorder by a consultant psychiatrist with more than 20 years of experience in the field. At the second school the first student to participate was Robby a 7-year-old boy with an independent diagnosis of autistic disorder. Robby was receiving all instruction in an assistive learning classroom substantially separate from the mainstream first class. The second student from the second school was Colin a 6-year-old boy diagnosed with high functioning autism was unable to fully participate in the programme. There is no data for Colin because he had initial steps of meeting with stakeholders, training the typical peers, and a limited number of reverse mainstream activities.

The school site from the study was approached to take part in the case study research. They had a history with working with the School of Psychology of Trinity College and were invested in identifying future research with regard to including students from their special needs classrooms. A member of the board of management from the second school contacted the researcher about consultation to the school regarding inclusion for their students with autism spectrum disorder. The school was subsequently invited to take part in the dual-site case studies. Individual students were

chosen by the special needs teacher and principal using the list of skills a child with autism should have to facilitate a successful inclusion program outlined in the successful inclusion programme (1997) which are: (a) toleration of proximity of others; (b) generalised and good imitation skills; (c) appropriate attending; (d) listening and sitting skills; (e) waiting skills; (f) some appropriate, independent, and sustained play skills; (g) verbal praise; and (h) attention functioning as a reinforcer.

Ethical Considerations

Information sheets shown in Appendix O and consent forms shown in Appendix P were distributed to teachers, administrators, parents of students with autism spectrum disorder, as well as parents of mainstream peers. The introductory letter outlined the purpose of the study and what would be asked of participants. Participants were notified that if the study was published in any form no identifiable information about their child would be used. They were reminded that all information received would be treated as confidential unless an agreement to use their image, first name, or both was obtained. If they allowed their child to participate they were free to withdraw their consent at any time without consequence. All children would have the right to express any reservation around participating and this would be respected. In the first school an information night was held per the request of the school to answer any questions. In the second school the principal decided to write her own letter introducing the research project to accompany the information sheets and consent forms. It was the intention of the researcher to protect the rights and well-being of research participants by informed consent, protection of identities, and debriefing of results.

Confidentiality

No actual names or locations are revealed throughout this document.

Pseudonyms are used for names and schools.

Reliability

A well-organized case study protocol of procedures was prepared to increase external reliability. Video data were coded by the primary researcher and an individual not involved in the study. Twenty five percent of video observations were scored by a second researcher to establish inter-rater reliability which was calculated for 25 % of intervention sessions. Reliability was secured by dividing the number of times the 2 observers agreed by the number of opportunities to agree and then multiplied by 1 hundred resulting in a percentage. Inter-rater reliability for Tim was 100 %, 95 % for Liam, 90 % for Robby, and 80 % for each of the observed times over the course of the study which was February and May.

Credibility of the qualitative content analysis was derived by member checking and researcher agreement of codes. Field notes were written up soon after stakeholder meetings and then member checked at the next meeting. Initial themes were coded by the researcher after multiple readings of the field notes. The coding process included the development of some codes from the research questions and others from issues, concerns, or observations during the course of the study. The two inclusion facilitators, special education teachers, read through and independently evaluated the validity of codes and themes developed during the preliminary analysis. A code book was developed and field notes were entered into NVivo 8 a qualitative analysis package. A researcher external to the study coded all field notes while the researcher coded 25 % of all notes. A file was kept in NVivo on questions or

disagreements between data analysts with regard to the coding and was negotiated until all parties agreed.

Validity

Using multiple sources of evidence such as document review, structured interviews, questionnaires, naturalistic observations, and adaptive behaviour scales such as Vineland adaptive behavior scales-II and having a draft case study report reviewed by key informants served to increase construct validity. The quality of inclusive experiences measure which is a dependent measure was used from recent successful studies accomplished by Odom & Buysee (2006).

Settings and Materials

Inclusion activities took place in two designated schools both of which were located in the suburbs of County Dublin. Intervention sessions were videotaped using a Sony Mini DV digital video camera recorder. Successful inclusion practices for children with autism spectrum disorders and a workshop for special education teachers and inclusion facilitators (De Boer, 1997) was the programme modified in the pilot study to reflect previous studies in the thesis and the Irish educational context.

Measures

Vineland II adaptive behaviour scales parent-caregiver rating form (De Boer, 1997) provides scores in adaptive behaviour domains, including communication, daily living skills, and socialization skills. Within each of these domains are three sub-domains. For the purpose of the study particular interest was paid to the communication and socialization domains as they are areas of particular deficit in children with autism spectrum disorder and can impact their inclusion experience (NRC, 2001).

Wolery et al. (2000) designed a measure based upon the “need to evaluate the experiences of children with disabilities and the factors that influence those experiences” (p. 4). Programme goals and purpose as well as participation and engagement from the quality of inclusive experiences measure (Wolery et al., 2000) were utilised. A data collection form shown in Appendix S was designed to gather statistics on the amount of time spent in the mainstream. Data collected included the date, brief description of the activity, duration of activity, location, ratio of student with autism spectrum disorder to peers, and additional comments.

Inclusion programme goals and purpose were investigated using three assessment methods: (a) review of written documents, (b) interviews, and (c) written questionnaires (Wolery et al., 2000). A copy of the schools’ programme written philosophy statement and administrator and classroom teacher interviews served to identify a purpose and goals rating per the quality of inclusive experiences measure. A written questionnaire as part of the quality of inclusive experiences measure was completed by the administrator and teacher. The measure relates that the rationale for these measures is to identify the existence, development, content, and influence of the programme’s philosophy statement. This approach identifies the extent to which staff views inclusion as a central component of the child care programme. The questionnaire distinguishes the extent to which staff members are committed to inclusive services.

Data Coding

Each month students were included in the mainstream classroom. One hundred minutes of inclusive activities was video and paper recorded then coded and analysed using the quality of inclusive experiences measure shown in Appendix T. Participation was defined as the child with autism is participating in the same

activities, routines, and transitions as other children in the mainstream class. Then it was investigated whether the child is engaged in those activities and routines (Wolery et al., 2000). The 1 hundred minute observation was divided into 5-minute intervals during which the recorder used a stop and start timer to measure the time the targeted student participated and engaged. To discern participation the question, was the student with an autism spectrum disorder in the same activity or routine as the typically developing students, was asked at the end of each 5-minute interval. If the student with autism spectrum disorder spends more than 4 minutes doing what at least one other child was doing then the answer was yes. To get the total percentage for participation each 5-minute interval is marked yes or no with regard to whether the student is participating in the same activity as his or her peers. Take the total number for yes and divide by the total number of intervals and then multiply by 1 hundred.

From the quality of inclusive experiences measure (Wolery et al., 2000), engagement of the student was defined as follows: (a) the child is playing or doing what is appropriate for the given context and situation that is observed, and (b) this may include playing with toys or interacting with others. Waiting was present when the child does not have materials but is behaving appropriately, namely waiting for a turn, waiting in line, waiting for help, and is doing so appropriately. Waiting for more than 85 % of any 5-minute interval was classified as non-engagement. Non-engaged is defined as when the child has materials or things to do but is not interacting with or manipulating the materials or is not interacting appropriately with peers or adults. Non-engaged, inappropriate behaviour is any behaviour that is not acceptable for the situation and includes behaviours that would be classified as: (a) aggressive such as hitting, biting, and kicking others; (b) non-compliant such as refusing to do what is asked or refusing to follow classroom routines; (c) destructive to materials such as

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throwing, banging, or smashing materials or equipment in ways other than their intended use; (d) tantrums such as crying and screaming; or (e) disruptive behaviour such as running dangerously around the room or screaming. There was the possibility that the student with autism spectrum disorder could be participating in an activity other than that of his peers and yet be engaged (Wolery et al., 2000).

The engagement rating scale was broken down into more specific time intervals such as minutes and seconds so that the video could be observed using a stop watch for more precise measurement. Engagement rating scale:

1. 1 = Child spends most or more than 85 % of the time waiting, non-engaged, or doing inappropriate behaviour with minimal engagement (0 to 0.75).

2. 2 = Child frequently is waiting, non-engaged, or inappropriate but occasional engagement occurs (0.76 to 1.9).

3. 3 = Child spends about one-half of the time engaged and one-half of the time waiting, non-engaged, or exhibiting inappropriate behaviours (2.0 to 3.08).

4. 4 = Child frequently engaged but occasional waiting, non-engagement, or inappropriate behaviour (3.09 to 4.24).

5. 5 = Child spends most or more than 85 % of the time engaged with minimal waiting, non-engagement, or inappropriate behaviour (4.25 to 5.0).

To get a total of average rating of engagement for one session, add the numbers assigned from the engagement rating scale for each 5-minute interval then divide by the total number of intervals of 20 (Wolery et al., 2000).

Qualitative Coding

Following the validity checks of initial themes which related to the research questions additional codes were identified in the data set. Using the qualitative analysis package NVivo 8 tree nodes and their sub nodes identified in Table 4.

Tree nodes are organized in a hierarchical structure moving from a general category to more specific categories.

Table 4

Qualitative Tree Nodes and Sub Nodes

Tree Node	Sub Node
Child	Tim Robby Liam Colin
Commentator	Teacher or SNA Principal or Administrator Researcher Parent
Child's Characteristics	Needs, goals and challenges Strengths
Programme Development	Need for programme Action Collaboration Accommodations for student Policy Programme success Reverse mainstreaming Support and resources needed Existing support and resources Hurdles and concerns in programme implementation Observation
Programme Impact	Impact on child Impact on teacher Impact on MS students Other programme impact

Procedures

Administrators and teachers participated in structured interviews and completed questionnaires on their current programme at the beginning and end of the study. These instruments are part of the quality inclusive experiences measure (Wolery et al., 2000). Parents completed a Vineland II survey form at the beginning and end of the study to provide a gross level of the students adaptive functioning.

Teachers completed a Vineland adaptive behaviour scales classroom edition survey form at the beginning and at the end of the study. Stakeholders such as school principal or other high level administrator, designated mainstream and special needs teachers, and parents met to plan and review progress of the programme. Video observations of the student with autism spectrum disorder and their peers took place during inclusive activities to record participation and engagement data using the quality inclusive experiences measure. At the end of the study teachers, parents, and children completed a questionnaire on the inclusive classroom (Salend, 2005).

At the beginning of the study administrators and teachers participated in structured interviews and completed questionnaires, components of the instrument quality inclusive experiences measure (Wolery et al., 2000) on their practices at the time. The measures were repeated at the end of the study in June. Parents and special educators completed a Vineland II survey form and a Vineland adaptive behaviour scales classroom edition survey at the beginning and at the end of the study, respectively, to provide an assessment of each targeted student's level of adaptive functioning across a range of areas. Stakeholders such as administration, teachers, and parents met approximately once a month under the guidance of the researcher to plan and review the progress of the individualised support plan for the four students with autism spectrum disorder across the two targeted schools. An adapted version of the successful inclusion programme (DeBoer, 1997) was followed and shown in Appendix Z. There was limited information for Colin as the programme did not continue because the necessary support resources were not available. The individualised support plans were developed as a result of the above mentioned assessments, the successful inclusion programme, and the individual needs identified for the students and schools. Video observations of the student with autism spectrum

disorder and their peers took place during inclusive activities to record participation and engagement data using the quality inclusive experiences measure. At the end of the study teachers, parents, administrators, and children completed a survey on the inclusive classroom (Salend, 2005).

Additional stakeholder meetings were based upon the experiences implementing the individualised support plans and to discuss and review drafts of the inclusion policies for each school. These policies included procedures and on going assessment guidelines for implementation. Drafts of these policies were presented at staff meetings and to the boards of management in both schools during May and June of 2006.

The special educator acted as the inclusion facilitator and instigated the inclusion process and supervised the entire ongoing process. The prescribed steps for developing an individualised inclusion plan for a student with autism spectrum disorder are illustrated in Appendix Z.

Data Analysis

Data of participation and engagement scores were analysed using the rating criteria developed by Wolery et al. (2000) in the quality inclusive experiences measure Wolery et al. (2000) described the conclusions from participation percentages as an expectation that the participation percentage to be at or above 90 %. The authors stated that from the engagement scores it can be concluded that because engagement as rated here is not dependent upon the performance of given behaviours the average rating should exceed 4.25 to be considered acceptable. The authors did not provide a detailed explanation or justification for this 4.25 rating. It appears to be based on their broad experience working in the field. This rating can be converted to the percentage of 85% which is typical in research for attaining an acceptable level.

Purpose and goals were scored using the quality inclusive experiences measure with the following statements about the programme’s organization and focus in mind:

- 1. Scores range from 18 to 90.
- 2. In general the higher the score the greater the organization and commitment to inclusive services.
- 3. A total score of 81 or more probably indicates high quality in programme organization and focus.
- 4. A total score of 53 or less indicates the programme is in significant need of improvement, as it relates to the programme’s organization and focus.

An interpretation guide is summarised in Table 4.1.

Table 4.1

Interpretation Guide for Measures in the Quality Inclusive Experiences Measure

Measure	Score	Rating	Interpretation Guide
Participation	100%	Excellent	Maintain Efforts
	90-99%	Good	Continue Efforts and improve as needed
	75-89%	Mediocre	Improvement needed
	50-74%	Poor	Significant improvement needed
	49% or below	Very Poor	Significant and immediate improvement required
Engagement	4.75-5.0	Excellent	Maintain Efforts
	4.25-4.74	Good	Continue Efforts and improve as needed
	3.25-4.24	Mediocre	Improvement needed
	2.5-3.24	Poor	Significant improvement needed
	2.49 or below	Very Poor	Significant and immediate improvement required
Programme Goals and Purpose	81-90	Excellent	Maintain Efforts
	72-80	Good	Continue Efforts and improve as needed
	54-71	Mediocre	Improvement needed
	36-53	Poor	Significant improvement needed
	35 or less	Very Poor	Significant and immediate improvement required

The Vineland adaptive behaviour scales, the classroom edition, provides an assessment of adaptive behaviour in the classroom for individuals who are 3-years-old to 12-years and 11-months-old. It assesses adaptive behaviours in four different domains: Communication, daily living skills, socialisation, and motor skills. It provides a composite score that summarizes the individual's performance across all of these domains. Adaptive behaviours are those day-to-day activities that are necessary for individuals to get along with others and take care of themselves. These activities change as a person grows older and becomes less dependent on the help of others, but at every age certain skills are important in the home, school and community.

Learning about an individual's adaptive behaviour helps gain a total picture of that individual. The Vineland classroom edition can be used to evaluate progress at the end of a programme. The information obtained is different from other instruments. It is an objective measure of a child's daily functioning and was utilized in the study to add to a more comprehensive evaluation. Domain scores for Tim, Liam, and Robby are shown in Table 4.9 and sub-domain scores are reported in Table 4.10.

Mainstream classroom surveys were analysed using the statistical package for the social sciences 12.0 for descriptive statistics.

Field notes from stakeholder meetings were transcribed into research protocols with as much detail as possible soon after the meeting. The researcher then completed data reduction on qualitative data by thematically coding the protocols (Li, Marquart, and Zercher, 2000) which were then put into a matrix for each child (Miles & Huberman, 1994). Quantitative data from engagement measures and Vineland scores and surveys were reduced by assembling descriptive statistics, tables, and graphs (Li et al., 2000). Data transformation on the Vineland scores was achieved by tables of the most important domains and sub-domains for discussion. The classroom and

teacher survey items relating to the research questions of process and impressions of inclusion in their class were summarised using tables and narrative description. Data from the amount of time spent and engagement levels were compared to stakeholder meeting and field notes from observations for data comparison (Li et al., 2000). Data integration was achieved by formulating individual case reports which summarized and integrated the results.

Results

Results will be presented on individual measures for each case study student in response to the research questions set forth in the action research study. Reported first is time spent in the mainstream classroom with participation and engagement, Vineland scores and survey instruments from mainstream teachers, and mainstream peers and families of student with autism spectrum disorder. Themes from stakeholder meetings will be presented for each student’s stakeholder meetings. It will begin with information on school policies as well as other themes discovered as part of the reflective stage of the action research. For ease of reading the Vineland scores were condensed into two tables.

Tim

Tim increased his time spent in the mainstream classroom from baseline for November and January through June except for December, as shown in Table 4.2. The month of June depicts a decrease but was not a full month as there was a school break for a week and school let out for the year. Data sheets indicate that he spent academic as well as social time such as snack and free play time called golden time, school-wide activity, on Friday afternoons. Figure 4.1 shows time spent in the mainstream and continued reverse mainstream activities. The time Tim spent in the mainstream was identified as participating 100 % with his peers as well as being

engaged. The quality of inclusive experiences measure rates his engagement in the excellent range shown in Table 4.3. There were relatively low numbers with regard to reverse mainstream activities. Tim had been part of the pilot study the previous spring and had engaged in reverse mainstream activities at that time so this was expected.

Table 4.2

Tim Time Spent in Mainstream

Month	Number of Minutes in Mainstream
September (Baseline)	120
October (Baseline)	110
November (Intervention)	198
December (Intervention)	104
January (Intervention)	250
February (Intervention)	310
March (Intervention)	560
April (Intervention)	465
May (Intervention)	1495
June (Intervention)	325

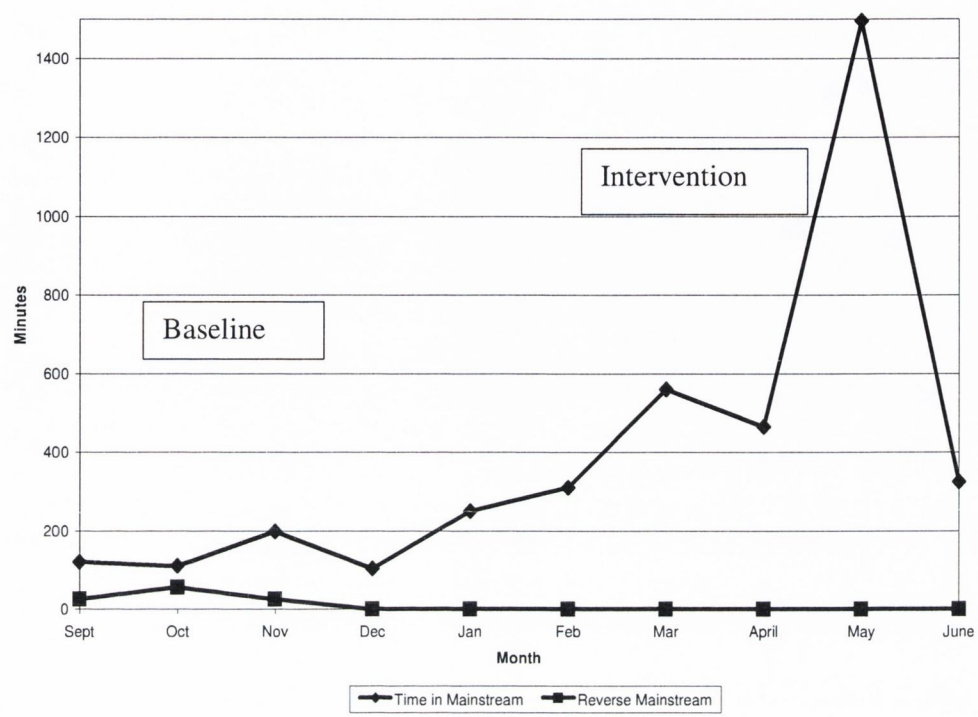


Figure 4.1. Tim's Reverse Mainstream and Included Time.

Table 4.3

Tim's Participation and Engagement

Month	Average Participation (QIEM) %	for Average Engagement (QIEM)	for Rating (per QUIEM)
November	100%	5	Excellent
December	100%	5	Excellent
January	100%	5	Excellent
February	100%	5	Excellent
March	100%	5	Excellent
April	100%	5	Excellent
May	100%	4.95	Excellent
June	100%	5	Excellent

Teacher Vineland

Tim's pre-intervention standard score on the adaptive behaviour composite where 100 is age average, was 76 with a percentile rank of 5; that is, 95 % of children his age would score higher than him on this instrument. The confidence level of 90 % yielded a confidence band of 73 to 79 which falls in the moderately low adaptive level for his age group. For post-intervention Tim's standard composite score *r* was 86 with a percentile rank of 18. His adaptive level had increased to adequate. These scores can be viewed in Tables 4.4 and 4.5.

Table 4.4
Vineland ABS Teacher Survey – Domain Scores

Vineland ABS	Participant	Pre Intervention			Post Intervention		
Domain							
Commun- ication		Standard Score	Percentile Rank	Adaptive Level	Standard Score	Percentile Rank	Adaptive Level
	1 (Tim)	81	10	Mod.Low	82	12	Mod.Low
	2 (Liam)	89	23	Adequate	89	23	Adequate
	3 (Robby)	66	1	Low	73	4	Mod.Low
Daily Living							
Skills	1	72	3	Mod.Low	84	14	Mod.Low
	2	87	19	Adequate	98	45	Adequate
	3	64	1	Low	69	2	Low
Socialisation							
	1	84	14	Mod.Low	101	53	Adequate
	2	112	79	Adequate	112	79	Adequate
	3	69	2	Low	69	2	Low
Total Score							
	1	76	5	Mod.Low	86	18	Adequate
	2	95	37	Adequate	99	47	Adequate
	3	64	1	Low	68	1	Low

Table 4.5

Vineland ABS Teacher Survey – Subdomain Scores

Vineland ABS Subdomain	Participant	Pre Intervention		Post Intervention	
		Raw Score	Adaptive Level	Raw Score	Adaptive Level
Expressive Communication	Tim	51	Adequate	52	Adequate
	Liam	49	Adequate	51	Adequate
	Robby	23	Low	38	Low
			Interpersonal Relationships		
	Tim	22	Mod. Low	26	Adequate
	Liam	31	Adequate	31	Adequate
	Robby	13	Low	14	Mod. Low
			Play and Leisure Time		
	Tim	16	Mod. Low	25	Adequate
	Liam	29	Mod. High	29	Mod. High
	Robby	16	Mod. Low	16	Mod. Low
			Coping Skills		
	Tim	22	Adequate	31	Adequate
	Liam	16	Average	18	Above Average
	Robby	5	Low	6	Low

Tim’s level of adaptive functioning within the communication domain for pre-intervention was moderately low for his age group. His standard score of 82 resulted in a confidence band of 75 to 89 at the 90 % confidence level. He had an adaptive level of adequate for expressive communication. At post-intervention Tim’s level of adaptive functioning within the communication domain remained moderately low. His standard score of 81 resulted in a confidence band of 75 to 87 at the 90 % confidence level. Expressive communication continued as adequate.

Pre-intervention level of adaptive functioning within the socialization domain was moderately low for Tim. His standard score is 84 which results in a confidence

band of 79 to 89. His percentile rank was 14. The subdomain score for interpersonal relationships play and leisure time was moderately low and adequate for coping skills. In post-intervention all sub-domain scores increased and were rated as adequate. Tim's standard score for the socialization domain was significantly different at the 0.01 level from the average for all of the domains. The large difference is very rarely seen in the normative sample.

Parent Vineland

All scores on the Vineland II parent-caregiver form can be seen in Table 4.6 and Table 4.7. Tim's pre-intervention adaptive behaviour composite standard score of 85 summarized his overall level of adaptive functioning. The 90 % confidence level shows that the chances are good that Tim's true adaptive behaviour composite is within the range of 81 to 89. His adaptive behaviour composite classifies his general adaptive functioning as below average. Tim's post-intervention adaptive behaviour composite standard score of 84 continued to classify his general adaptive functioning as below average.

Table 4.6

Vineland-II Adaptive Behaviour Scales Parent Caregiver Form-Domain Scores

Vineland-II ABS Parent/Caregiver Domain Communication	Partici-pant	Pre Intervention			Post Intervention		
		Standard Score	Percentile	Adaptive Level	Standard Score	Percentile	Adaptive Level
	1 (Tim)	90	25	Average	90	25	Average
	2 (Liam)	88	21	Average	96	39	Average
	3 (Robby)	77	6	Below Average	84	14	Below Average
	1	85	Daily 16	Living Below Average	Skills 81	10	Below Average
	2	79	8	Below Average	89	23	Average
	3	78	7	Below Average	79	8	Below Average
	1	85	16	Sociali- sation Below Average	87	19	Average
	2	82	7	Below Average	98	7	Average
	3	69	2	Low	76	6	Below Average
	1	85	Total 16	Score Below Average	84	14	Below Average
	2	81	10	Below Average	92	30	Average
	3	73	4	Below Average	78	7	Below Average

Table 4.7

Vineland-II Adaptive Behaviour Scales-Subdomain Scores

Vineland-II ABS Subdomain	Participant	Pre Intervention		Post Intervention	
		v-Scale Score	Adaptive Level	v-Scale Score	Adaptive Level
Expressive Communi- cation	Tim	16	Average	15	Average
	Liam	10	Below Average	12	Below Average
	Robby	6	Low	10	Below Average
			Interpersonal Relationships		
	Tim	12	Below Average	12	Below Average
	Liam	11	Below Average	13	Average
	Robby	8	Low	10	Below Average
			Play and Leisure Time		
	Tim	12	Below Average	12	Below Average
	Liam	8	Low	13	Average
	Robby	7	Low	9	Low
			Coping Skills		
	Tim	13	Average	15	Average
	Liam	16	Average	18	Above Average
	Robby	13	Average	13	Average

Note: V-scale scores are a standard-score scale used to describe an individual’s level of functioning on the sub-domains. They have a mean of 15 and a standard deviation of 3.

Tim’s pre-intervention standard scores in the communication adaptive behaviour domain and the bands of error at the 90 % level of confidence were communication 90 ± 7 (83 to 97). His score in the communication domain corresponds to a percentile rank of 25 and is at the average adaptive level. Tim’s pre-intervention v-scale scores in the sub-domains of expressive communication was average. Tim’s post-intervention standard scores in the communication domain and the bands of error at the 90 % level of confidence were 90 ± 7 (83 to 97). Tim’s post-intervention v-scale scores in the communication domain continued to be rated at the average adaptive level with an age equivalent of 10 : 6.

Tim's pre-intervention socialization score 85 ± 7 (78 to 92) had a percentile rank of 16 is classified as below average when compared with other children the same age. Tim's pre-intervention v-scale scores in the sub-domains and the bands of error at the 90 % level of confidence were interpersonal relationships 12 ± 2 (10 to 14), play and leisure time 12 ± 3 (9 to 15), coping skills 13 ± 2 (9 to 15). Within the socialization domain interpersonal relationships and play and leisure time received an adaptive level of below average while coping skills were at an average range. Age equivalents were 6 : 7, 6 : 7, and 7 : 5, respectively. Post-intervention scores for socialization was 87 ± 7 (80 to 94). His socialization scores which correspond to percentile ranks of 9, respectively, were classified as average. This was an increase from pre-intervention. His post-intervention v-scale scores in the socialization domain stayed the same as pre-intervention with below average, interpersonal relationships and play and leisure time, and average, coping skills, adaptive levels, with age equivalents of 6 : 8, 7 : 0, and 10 : 6.

The impact on mainstream teachers and students. A survey of mainstream peers (Salend, 2005) was conducted post-intervention to assess the impact of being part of an inclusion classroom shown in Appendix U for Tim's classroom. Tim's class responses on a survey of mainstream peers are summarized in Table 4.8. The peers felt they understood about how people are different (85.2%) and how they are the same (66.7%). Over one-half of the class said they were comfortable with others who look or act in a different way with 37 % saying maybe. Only one person said they were afraid of others who learn, act, look, or speak in a different way. The class responded with 85.2 % reporting that they like being in a class with different types of students. With regard to whether they felt it was easy to make friends with classmates

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who are different 74.1 % responded yes. Over one-half the class said they liked having more than one adult in the room such as a teacher and special needs assistant. Students reported that 96.3 % of them would like to be in a class like this next year. Students reported that 92.6% felt all types of students learning in the same class is a good idea.

Table 4.8

Tim's Class Survey

Question	Yes Frequency-%		Maybe Frequency-%		No Frequency-%	
I understand more about how people are the same.	18	66.7	8	29.6	1	3.7
I understand more about people's differences.	23	85.2	4	14.8	0	0
I am more comfortable with others who look or act in a different way.	16	59.3	10	37	1	3.7
I am afraid of others who learn, act, look, or speak in a different way.	1	3.7	0	0	26	96.3
I like being in a class with different types of students.	23	85.2	3	11.1	1	3.7
I feel that it was easy to make friends with my classmates who are different from me.	20	74.1	4	14.8	3	11.1
I liked having more than one adult in the classroom.	19	70.4	8	29.6	0	0
I would like to be in a class like this next year.	26	96.3	1	3.7	0	0
I feel that all types of students learning in the same class is a good idea.	25	92.6	1	3.7	1	3.7

Mainstream teachers participated in an educator survey (Salend, 2005) on inclusion post intervention. The questionnaire utilised a Likert scale. Individual items were examined to determine teachers' feelings about inclusion and how their class had progressed. Responses for Tim's mainstream teacher are shown in Table 4.9

Table 4.9

Educator Survey

- 1=Strongly Agree
- 2=Agree Somewhat
- 3=Neither Agree/Disagree
- 4=Disagree Somewhat
- 5=Strongly Disagree

Question	Tim's MS Teacher	Liam's MS Teacher	Robby's MS Teacher
I feel that I have the training to implement inclusion successfully.	2	4	3
I feel that inclusion is working well in my class.	2	2	1
I feel that I have the time to implement inclusion effectively.	4	4	4
I feel that I have a greater enjoyment of teaching as a result of inclusion.	1	2	1
I feel that I receive the necessary support and assistance from supportive service personnel to implement inclusion successfully.	4	2	2
I feel that it is difficult to modify instruction and my teaching style to meet the needs of students with disabilities.	2	4	2
I feel that I have the skills to promote social interactions between students with and without disabilities.	1	2	2
I feel that I receive the necessary support and assistance from administrators to implement inclusion successfully.	4	2	2
I feel that I have less time for students without disabilities.	2	4	2
I feel that I have the resources to implement inclusion successfully.	4	4	2
I feel that I have been sufficiently involved in the inclusion process in my school.	1	4	1
I feel that I receive the necessary support and assistance from other teachers to implement	4	2	1

inclusion successfully.			
I feel that I have the skills to individualize academic instruction for students with disabilities.	2	2	2
I feel that it is easy to communicate effectively with other professionals.	1	2	1
I feel that inclusion has encouraged me to experiment with new teaching methodologies.	1	2	2
I feel that it is difficult to address the behavioural challenges of students with disabilities.	4	4	1
I feel that having other adults in the classroom is a problem.	5	4	5
I feel that I do not have enough time to communicate and collaborate with others.	1	4	2
I feel that I benefited professionally and personally from working in a collaborative team.	1	2	1
I feel that I would like to teach in an inclusion class next year.	1	4	2
I feel that our school is doing a good job of implementing inclusion.	2	2	1
I feel like I need more information about inclusion.	2	2	2
I feel that inclusion is a good idea.	2	2	1
My students have learned to feel comfortable interacting with other students.	1	2	1
My students' academic performance has been negatively affected.	4	4	2
My students have become more accepting of individual differences.	1	2	1
My students have "picked up" undesirable behaviours from their classroom.	4	4	3
My students receive less teacher attention.	4	4	2
My students have grown socially and emotionally.	2	2	1
My students have received a better education this year.	2	3	2
My students have received the necessary training to be successful in an inclusion classroom.	1	2	1
My students have the social skills needed to interact with others.	2	2	1
My students feel positive about my class.	1	2	2

Tim's mainstream teacher reported a strongly agree for items which referred to the following: (a) enjoyment of inclusion teaching, (b) having the skills necessary to promote social interactions, (c) involvement in the inclusion process at the school, (d) it is easy to communicate effectively with other professionals, (e) inclusion has

provided encouragement to experiment with new teaching methodologies, (f) feeling that she has benefited professionally and personally from working in a collaborative team, and (g) would like to teach in an inclusion class next year. She answered strongly agree with regard to the item *I feel that I do not have enough time to communicate and collaborate with others*. In her class the teacher reported strongly agree in relation to her students for the following: (a) learned to feel comfortable interacting with other students, (b) have become more accepting of individual differences, (c) have received the necessary training to be successful in an inclusion classroom, and (d) my students feel positive about my class.

Tim's teacher reported strongly disagree on the item which states *I feel that having other adults in the classroom is a problem*. She did respond disagree somewhat to the following items: (a) I have the time to implement inclusion effectively, (b) I receive the necessary support and assistance from supportive service personnel to implement inclusion successfully, (c) I receive the necessary support and assistance from administrators to implement inclusion successfully, (d) I have the resources to implement inclusion successfully, and (e) it is difficult to address the behavioural challenges of students with disabilities. The following were in response to items about her students: (a) their academic performance has been negatively affected, (b) they have picked up undesirable behaviours from their classroom, and (c) they receive less teacher attention. There were no items marked neither agree-disagree.

Tim's teacher marked other items with agree somewhat in relation to training: (a) to implement inclusion, (b) inclusion working well, (c) difficult to modify instruction, (d) less time for students without disabilities, (e) I have the skills to individualise academic instruction, (f) the school doing a good job with inclusion, (g) I need more information on inclusion, (h) I feel that inclusion is a good idea, (i) my

students have grown socially and emotionally, (j) my students have received a better education, and (k) my students have the social skills needed to interact with others.

All three families participated in a family survey shown in Table 4.10 post-intervention to assess their satisfaction with the inclusion programme by answering questions on experiences and perceptions (Salend, 2005). Tim's family reported strongly agree on the following items: (a) I feel satisfied with the general education services my child is receiving, (b) satisfied with the special education and supportive services my child is receiving, (c) satisfied with the school's communication with families, (d) I feel that being in an inclusion class has been positive for my child, (e) I feel that families are adequately involved in the inclusion process, (f) the school did a good job of explaining the inclusion programme to me, (g) my child talks positively about school, (h) my child feel positive about being in an inclusion class, (i) my child has been treated well by his classmates, (j) my child has received the necessary training to help him be successful in an inclusion classroom, and (k) my child would like to be in an inclusion class next year.

Table 4.10

Family Inclusion Survey

- 1=Strongly Agree
- 2=Agree Somewhat
- 3=Neither Agree/Disagree
- 4=Disagree Somewhat
- 5=Strongly Disagree

Question	Tim's MS Teacher	Liam's MS Teacher	Robby's MS Teacher
I feel satisfied with the general education services my child is receiving.	1	1	2
I feel satisfied with the special education and supportive services my child is receiving.	1	2	2
I feel satisfied with the school's communication with families.	1	1	2
I feel that being in an inclusion class has been positive for my child.	1	2	2
I feel that I would like my child in an inclusion class next year.	2	2	2
I feel that families are adequately involved in the inclusion process.	1	2	2
I feel that the school did a good job of explaining the inclusion programme to me.	1	1	2
I feel I need more information about the inclusion programme.	5	4	2
I feel that inclusion is working well at my child's school.	2	2	2
My child learned a lot.	2	4	2
My child talks positively about school.	1	4	3
My child has learned to feel comfortable interacting with other students.	2	3	3
My child has grown socially and emotionally.	2	3	2
My child feels positive about being in an inclusion class.	1	3	3
My child has made more friends.	2	4	3
My child has been treated well by his/her classmates.	1	4	3
My child has received the necessary training to help him/her be successful in an inclusion classroom.	1	4	2
My child has been teased by his/her classmates.	5	1	4
My child's teacher has communicated with me.	2	1	2
My child would like to be in an inclusion class next year.	1	4	2

Items recorded with a strongly disagree by Tim's family were: (a) I need more information about the inclusion programme and (b) my child has been teased by his

classmates. There were no items recorded as disagree somewhat or neither agree/disagree.

Items which received an agree somewhat by Tim's family were the following:

(a) I would like my child in an inclusion class next year, (b) I feel that inclusion is working well at my child's school, (c) my child learned a lot, (d) my child has learned to feel comfortable interacting with other students, (e) my child has grown socially and emotionally, (f) my child has made more friends, and (g) my child's teacher has communicated with me.

The programme helps define policies around inclusion. A reoccurring theme was action and policy development. Policy was defined as any mention of creating and implementing policy and future directions of the successful inclusion programme related policy. The full resulting policy is shown in Appendix X. The first school began looking at the inclusion procedures set forth in the successful inclusion programme for Tim and began discussion about the implications of a policy for the school. Meetings took place in March to review what they knew so far. Policy discussions began with the stakeholder group discussing what are we as a school buying into, inclusion, or integration. The principal expressed full inclusion as an aspiration ideal but with their reality of teacher student ratio of 30 to 1 they will try to be as inclusive as possible. Inclusion would be decided on a case by case basis. The first school decided to design their policy not only for students with autism spectrum disorder but for all students with special needs. They decided to add the procedures used in successful inclusion programme as steps in the policy. The group added that success of the policy was contingent upon support from the department of education and science. Their policy included a rationale, aims, general guidelines, guidelines for special needs (De Boer, 1997), success criteria, roles and responsibilities, time-frame

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for implementation, ratification and communication, time-frame for review, and responsibility for review. Action was any mention of actions and programme adaptations conducted by the researcher. Adaptations to the successful inclusion programme were completed in the pilot phase of the intervention.

Related to policy was support and resources needed. These were programmatic rather than child centred resources required to implement the programme successfully and sustainably: money; sufficient personnel; training of personnel; time to train personnel plan for intervention, and implement it; and external support through political or involvement by agencies and entities that are external to the school. Supports and resources were considered in relation to many different aspects related to this inclusion process. Tim's school reported that they were trying to be creative with support staff so as to go forward with the programme. They found many of the support organisations such as the health services clinical team members and the regional special educational needs organiser were not meeting their needs. The organisations would only provide support for a certain amount of time. At the beginning of the intervention the team decided to have the special needs teacher accompany Tim to the mainstream so that he might be able to better plan with the mainstream teacher. They co-taught lessons together. The special needs teacher felt this better enabled him to guide special needs assistants before assigning them to support Tim in the mainstream environment. Although the first school's staff used creative accommodations for support coverage there were still times when Tim could not go to the mainstream because of special needs assistant absences or the mainstream teacher being out. At the May team meeting the stakeholders felt that Tim could be included more if they had more special needs assistant support. Special needs assistants were utilised at the first school with an open policy so that the school

could be more creative with its coverage of inclusive activities. The school found that if they had one specific special needs assistant designated for inclusion, thus if that person was absent inclusion did not happen. They, therefore, rotated special needs assistants so that all were trained to support Tim within the mainstream classroom. Continued professional development for special needs assistants was seen as a priority of the school.

Reverse mainstream was first identified during the pilot programme as being important for both the student with autism spectrum disorder to get to know his peers but for them to become comfortable with Tim. The mainstream teacher observed not only the child but how the special needs teacher facilitated learning for that child. The special needs teacher realised what accommodations might be needed with regard to including Tim with his peers. These observations were later used during collaborative time when planning. Observations of Tim from the special needs teacher revealed how natural Tim looked after being included with his peers.

Accommodations were discussed at many of the meetings with regard to what he might need and what they realised he no longer needed. For example, a separate work station had been proposed at the beginning of intervention in case Tim needed a place to go to sit and work if he became overwhelmed or anxious. As time progressed the team decided that Tim was coping well and that a separate station was not needed.

With regard to the impact on Tim, one of Tim's goals was for him to feel comfortable in the mainstream setting. Tim's mother reported on different occasions that Tim was asking when he would be in the mainstream class full time. At the June meeting the team felt that Tim's goals and needs were being met in the mainstream classroom.

Collaboration was seen by team members as an important time to plan lessons, discuss accommodations, and how to differentiate the curriculum. This time was seen as the most difficult aspect to schedule but also the most crucial. In addition to the ability awareness provided at the beginning of the programme continued awareness with regard to specifics about Tim were deemed necessary for peers to further facilitate his inclusion.

Programme goals and purpose are outlined in Table 4.11. The first school show an increase by educator and administrator for goals and purpose. The rating was still within the mediocre range of the quality of inclusive experiences measure which designates that improvement is needed. It was the same administrator for Tim and Liam. Tim’s mainstream teacher showed the largest increase score from the pre-intervention questionnaire to post-intervention for the first school.

Table 4.11

Programme Goals and Purpose

Programme Goals and Purpose	SCHOOL 1 Tim		SCHOOL 1 Liam		SCHOOL 2 Robby	
	Pre	Post	Pre	Post	Pre	Post
Written Statement	6	9	6	9	5	7
Response of Administrator	33	35	33	35	36	37
Interviews and Questionnaire						
Response of Teacher Interview and Questionnaire	23	32	26	27	36	37
Total Programme goals and Purpose Score	56	67	59	62	72	74
Total Rating	Mediocre	Mediocre	Mediocre	Mediocre	Good	Good

Liam

Initially, Liam did not increase his time spent in the mainstream from baseline shown in Table 4.12. At the beginning of intervention he spent more time participating in reverse mainstream activities where the mainstream teacher could observe him in his current educational placement shown in Figure 4.2. Beginning in April there is a small increase in time spent in the mainstream classroom. During May and June he spent more time in the mainstream where that time was spent participating in the same activities as his peers. Engagement was also rated in the excellent range for May and June shown in Table 4.13

Table 4.12

Liam Time Spent in Mainstream

Month	Number of Minutes in Mainstream
December (Baseline)	0
January (Baseline)	0
February (Intervention)	0
March (Intervention)	0
April (Intervention)	20
May (Intervention)	100
June (Intervention)	115

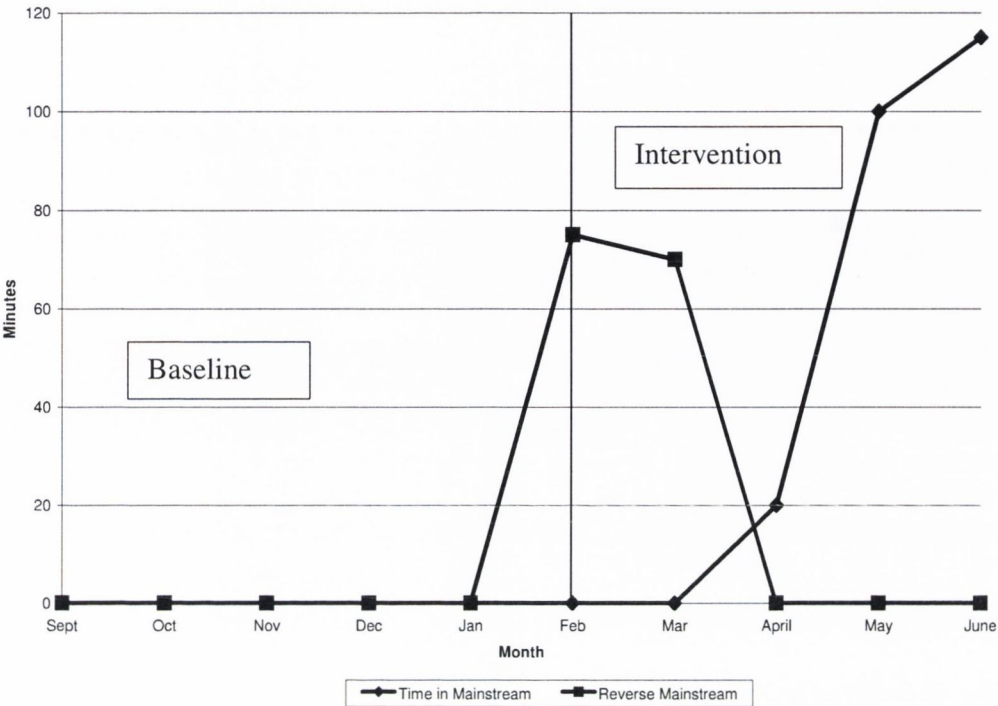


Figure 4.2. Liam’s Reverse Mainstream and Inclusion Time.

Table 4.13

Liam Participation and Engagement

Month	Average Participation (QIEM) %	for Average Engagement (QIEM)	for Rating (per QUIEM)
May	100%	4.75	Excellent
June	100%	5	Excellent

Teacher Vineland

Liam's pre-intervention adaptive behaviour composite standard score of 81 summarized his overall level of adaptive functioning. The 90 % confidence level shows that the chances are good that Liam's true adaptive behaviour composite is within the range of 77 to 85. His adaptive behaviour composite classifies his general adaptive functioning as below average. Liam's post-intervention adaptive behaviour composite standard score of 92 classifies his general adaptive functioning as average which was an increase from pre-intervention.

Liam's pre-intervention standard scores in the communication adaptive behaviour domains and the bands of error at the 90 % level of confidence was 88 ± 7 (81 to 94). His score in the communication domain corresponds to a percentile rank of 21 and is at the average adaptive level. Liam's pre-intervention *v*-scale scores in the sub-domain of expressive communication and the bands of error at the 90 % level of confidence was 10 ± 2 (8 to 12). This is a below average rating for adaptive level. Liam's post-intervention standard scores in the adaptive behaviour domain of communication and the bands of error at the 90 % level of confidence was 96 ± 7 (89 to 103) with an adaptive level of average. Liam's post-intervention *v*-scale scores in the sub-domain of expressive communication and the bands of error at the 90 % level of confidence was 12 ± 2 (10 to 14). His post-intervention *v*-scale score in the expressive communication domain was at the below average adaptive level.

Liam's pre-intervention standard scores in the socialization domain was 82 ± 7 (75 to 89). This domain had a percentile rank of 12 and was classified as below average when compared with other children the same age. Liam's pre-intervention *v*-

scale scores in the sub-domains and the bands of error at the 90 % level of confidence were as follows for interpersonal relationships: 11 ± 2 (9 to 13); play and leisure time, 8 ± 2 (6 to 10); and coping skills, 16 ± 2 (14 to 18). His pre-intervention v-scale scores in the socialization domain were at the below average-interpersonal relationships, low-play and leisure time, and average-coping skills adaptive levels with age equivalents of 3 : 8, 2 : 10, and 8 : 5. Liam's post-intervention standard scores in the adaptive behaviour domains and the bands of error at the 90 % level of confidence was 98 ± 7 (91 to 105). His socialization score corresponds to percentile ranks of 45 and is classified as average. Liam's post-intervention v-scale scores in the sub-domains and the bands of error at the 90 % level of confidence were as follows: interpersonal relationships, 13 ± 2 (11 to 15); play and leisure time, 13 ± 2 (11 to 15); and coping skills, 18 ± 2 (16 to 20). His post-intervention v-scale scores in the socialization domain saw an increase in all areas and were at the average, interpersonal relationships and play and leisure time, and above average, coping skills, adaptive levels.

Parent Vineland

Liam's pre-intervention adaptive behaviour composite standard score of 81 summarized his overall level of adaptive functioning. The 90 % confidence level is at the range 77 to 85. His adaptive behaviour composite classifies his general adaptive functioning as below average. Liam's post-intervention adaptive behaviour composite standard score of 92 classifies his general adaptive functioning as average which was an increase from pre-intervention.

Liam's pre-intervention standard scores in the communication adaptive behaviour domains and the bands of error at the 90 % level of confidence was 88 ± 7

(81 to 94). His score in the communication domain corresponds to a percentile rank of 21 and is at the average adaptive level. Liam's pre-intervention *v*-scale scores in the sub-domain of expressive communication and the bands of error at the 90 % level of confidence was 10 ± 2 (8 to 12). This is a below average rating for adaptive level. Liam's post-intervention standard scores in the adaptive behaviour domain of communication and the bands of error at the 90 % level of confidence was 96 ± 7 (89 to 103) with an adaptive level of average. Liam's post-intervention *v*-scale scores in the sub-domain of expressive communication and the bands of error at the 90 % level of confidence was 12 ± 2 (10 to 14). His post-intervention *v*-scale score in the expressive communication domain was at the below average adaptive level.

Liam's pre-intervention standard scores in the socialization domain was 82 ± 7 (75 to 89). This domain had a percentile rank of 12 and was classified as below average when compared with other children the same age. Liam's pre-intervention *v*-scale scores in the sub-domains and the bands of error at the 90 % level of confidence, were as follows: Interpersonal relationships, 11 ± 2 (9 to 13); play and leisure time, 8 ± 2 (6 to 10); coping skills, 16 ± 2 (14 to 18). His pre-intervention *v*-scale scores in the socialization domain were at the below average, interpersonal relationships; low, play and leisure time; and average, coping skills; adaptive levels with age equivalents of 3 : 8, 2 : 10, and 8 : 5. Liam's post-intervention standard scores in the adaptive behaviour domains and the bands of error at the 90 % level of confidence was 98 ± 7 (91 to 105). His socialization score corresponds to percentile ranks of 45 and is classified as average. Liam's post-intervention *v*-scale scores in the sub-domains and the bands of error at the 90 % level of confidence were as follows: Interpersonal relationships, 13 ± 2 (11 to 15); play and leisure time, 13 ± 2 (11 to 15); and coping

skills, 18 ± 2 (16 to 20). His post-intervention v-scale scores in the socialization domain saw an increase in all areas and were at the average, interpersonal relationships and play and leisure time, and above average, coping skills, adaptive levels.

The impact on mainstream teachers and students. Liam's mainstream class students responded to the questions about whether they understand more about how people are the same and about people's differences with over one-half the class reporting yes or 51.7 % and 58.6 %, respectively, as shown in Table 4.14. While 62.1 % of students felt more comfortable with others who look or act in a different way, only one student responded that they were afraid of others who learn, act, look, or speak in a different way. Over 75 % of students stated that they liked being in a class with different types of students. Over one-half of the students in Liam's class felt that it was easy to make friends with classmates who are different at 58.6 %. In addition, 82.8 % of students liked having more than one adult in the class room while 86.2 % would like to be in a class like it next year. Students reported how they felt about all types of students learning in the same class with 82.8 % responding yes.

Table 4.14

Liam's Class Survey

Question	Yes Frequency-%		Maybe Frequency-%		No Frequency-%	
I understand more about how people are the same.	15	51.7	10	34.5	4	13.8
I understand more about people's differences.	17	58.6	10	34.5	2	6.9
I am more comfortable with others who look or act in a different way.	18	62.1	8	27.6	3	10.3
I am afraid of others who learn, act, look, or speak in a different way.	1	3.4	3	10.3	25	86.2
I like being in a class with different types of students.	22	75.9	7	24.1	0	0
I feel that it was easy to make friends with my classmates who are different from me.	17	58.6	8	27.6	4	13.8
I liked having more than one adult in the classroom.	24	82.8	3	10.3	2	6.9
I would like to be in a class like this next year.	25	86.2	4	13.8	0	0
I feel that all types of students learning in the same class is a good idea.	24	82.8	5	17.2	0	0

Liam's teacher did not mark any items with strongly agree, strongly disagree, or with neither agree/disagree. The following responses were reported (Table 4.9) as agree somewhat: (a) inclusion is working well in my class; (b) I have a greater enjoyment of teaching as a result of inclusion; (c) I receive the necessary support and assistance from supportive service personnel to implement inclusion successfully; (d) I have the skills to promote social interactions between students with and without disabilities; (e) I receive the necessary support from administrators to implement inclusion successfully; (f) I receive the necessary support and assistance from other teachers to implement inclusion successfully; (g) I have the skills to individualise academic instruction for students with disabilities; (h) it is easy to communicate effectively with other professionals; (i) inclusion has encouraged me to experiment with new teaching methodologies; (j) I benefited professionally and personally from working in a collaborative team; (k) our school is doing a good job of implementing inclusion; (l) I need more information about inclusion; and (m) inclusion is a good idea. With regard to her students Liam's teacher reported the following agree somewhat: (a) my students have learned to feel comfortable interacting with other students; (b) they have become more accepting of individual differences; (c) they have grown emotionally and socially; (d) they have received the necessary training to be successful in an inclusion classroom; (e) they have the social skills needed to interact with others; and (f) my students feel positive about my class.

Items recorded as disagree somewhat were the following: (a) I have the training to implement inclusion successfully; (b) I have the time to implement inclusion effectively; (c) it is difficult to modify instruction and my teaching style to meet the needs of students with disabilities; (d) I have less time for students without disabilities; (e) I have the resources to implement inclusion successfully; (f) I have

been sufficiently involved in the inclusion process at my school; (g) it is difficult to address the behavioural challenges of students with disabilities; (h) having other adults in the classroom is a problem; (i) I do not have time to communicate and collaborate with others; and (j) I would like to teach in a inclusion class next year. On items which related to her students Liam's teacher responded disagree somewhat on the following: (a) my students' academic performance has been negatively affected; (b) my students have picked up undesirable behaviours from their classroom; and (c) my students receive less teacher attention.

Liam's family responded (Table 4.10) with strongly agree to the following items: (a) I feel satisfied with the general education services my child is receiving; (b) I feel satisfied with the school's communication to me; (c) I feel the school did a good job of explaining the inclusion programme to me; (d) my child has been teased by his classmates; and (e) my child's teacher has communicated with me.

Items which were recorded by Liam's family with agree somewhat were: (a) I feel satisfied with the special education and supportive services my child is receiving; (b) I feel that being in an inclusion class has been positive for my child; (c) I feel that I would like my child in an inclusion class next year; (d) I feel that families are adequately involved in the inclusion process; and (e) I feel that inclusion is working well at my child's school.

There were no items recorded as strongly disagree. Neither agree or disagree was recorded for the following items: (a) my child has learned to feel comfortable interacting with other students; (b) my child has grown socially and emotionally; and (c) my child feels positive about being in an inclusion class.

Liam's family responded to the following items with disagree somewhat: (a) I feel that I need more information about the inclusion programme; (b) my child

learned a lot; (c) my child talks positively about school; (d) my child has made more friends; (e) my child has been treated well by his classmates; (f) my child has the necessary training to help him be successful in an inclusion class; and (g) my child would like to be in an inclusion class next year.

The programme helps define policies around inclusion. Much of the data for policy is included in Tim's case study. Liam was in the study for a much shorter period of time of 4 months as compared to Tim of 8 months. Any policy developed for inclusion was for the school as a whole.

Stakeholder meetings regarding Liam's individualised inclusion plan yielded the following themes: Reverse mainstream, collaboration, accommodations, support, and resources needed. Reverse mainstream was an early focus of stakeholder meetings. The mainstream teacher accompanied some of her students for activities in the special needs class. She said, "I'm learning from my own students." She reported that they gave her the confidence not to give in to Liam but remind him if he forgot to take a turn.

Liam's team wanted to have more collaborative time similar to Tim's teachers. The administrator stated she was looking for coverage to allow that to happen. Professional development was identified as a need for the mainstream teacher and special needs assistants.

Liam's mainstream teacher identified the need for consistency with regard to her classroom rules for quiet down, listening, and the bathroom. The special needs teacher was going to work on these same rules in the separate classroom. The team wanted to work on transitions to and from the mainstream to limit disruptions.

There was parental concern over bullying which was coded under support and resources needed as other. Liam's mother had observed bullying by peers at religion

class which is conducted outside of the school. While she did not believe these peers were in Liam's class she did feel that the offenders attended his school. Neither the mainstream nor special needs teacher did not notice anything similar at school but suggested if the students were identified from the school maybe they could be trained to be peer buddies to help them understand Liam better.

Robby

Robby's time spent in the mainstream did not initially increase until December and then only slightly, as shown in Table 4.15. January decreased back to baseline. There were some reverse mainstream activities taking place during both of the months which continued throughout intervention, as shown in Figure 4.3. February saw the first substantial increase in time being included in the mainstream classroom. This increase was somewhat consistent except for March and June which saw more time spent being included. The time was spent 100 % participating with peers. Engagement fluctuated between *good* for February, March, April, June, and the lowest month being May with an average of 3.75 which is categorized as *improvement needed*, as shown in Table 4.16

Table 4.15

Robby Time Spent in Mainstream

Month	Number of Minutes in Mainstream
September (Baseline)	0
October (Baseline)	0
November (Intervention)	0
December (Intervention)	40
January (Intervention)	0
February (Intervention)	160
March (Intervention)	300
April (Intervention)	180
May (Intervention)	180
June (Intervention)	960

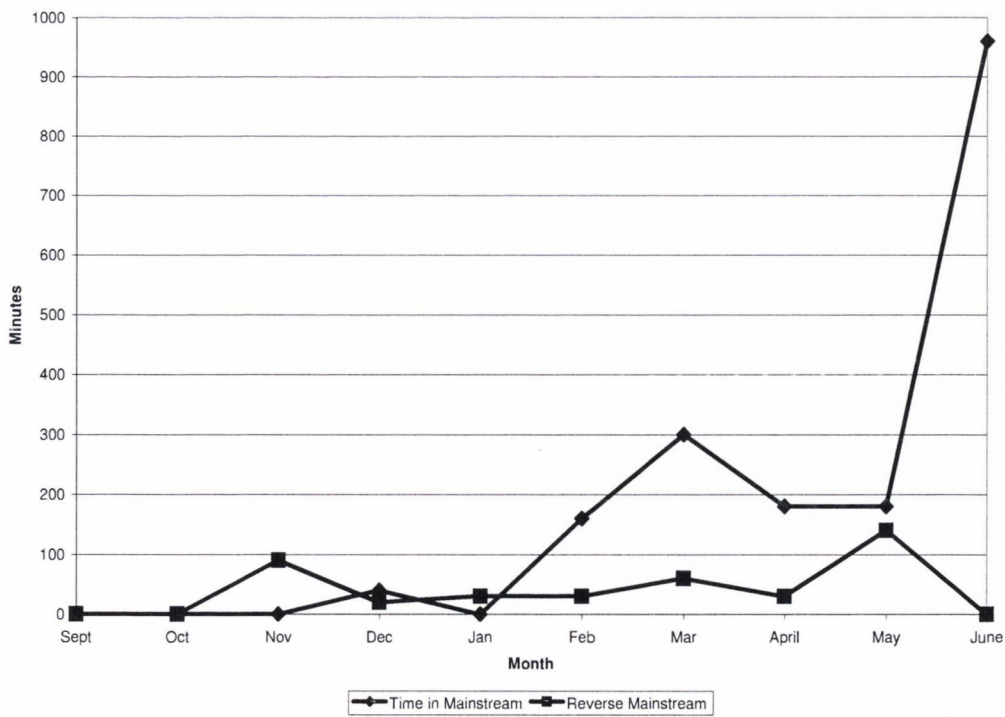


Figure 4.3. Robby’s Reverse Mainstream and Included Time.

Table 4.16

Robby Participation and Engagement

Month	Average Participation (QIEM) %	for Average Engagement (QIEM)	for Rating (per QUIEM)
February	100%	4.55	Good
March	100%	4.35	Good
April	100%	4.25	Good
May	100%	3.75	Needs Improvement
June	100%	4.2	Good

Teacher Vineland.

Robby’s pre-intervention standard score on the adaptive behaviour composite was 64. The confidence level of 90 % yielded a confidence band of 60 to 68. His very low percentile rank of 1 on the adaptive behaviour composite indicated that his score is higher than or equal to only 1 % of similarly aged individuals in the norm group. Post-intervention yielded similar results such as composite score of 67 and percentile rank of 1.

Robby’s Pre-intervention functioning within the communication domain was low for his age group with a standard score of 66 and a percentile rank of 1. The sub-domain score for expressive communication was low. Post-intervention communication functioning increased to moderately low for his age group with a standard score of 73, a confidence band of 67 to 79, and a percentile rank of 4. The

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sub-domain score did not increase for expressive communication but continued to be rated as low.

Robby's pre-intervention adaptive functioning level within the socialization domain was low with a standard score of 69. His functioning levels within the socialization domain was low with the same level for sub-domains interpersonal relationships and coping skills. Play and leisure time was moderately low. Post-intervention yielded a standard score of 69. Interpersonal relationships yielded an adaptive level of moderately low along with play and leisure time. Coping skills continued with a low adaptive level.

Parent Vineland

Robby's pre-intervention adaptive behaviour composite standard score of 73 summarized his overall level of adaptive functioning. The 90 % confidence level shows that the chances are good that Robby's true adaptive behaviour composite is within the range of 69 to 77. His adaptive behaviour composite classifies his general adaptive functioning as below average. Robby's post-intervention adaptive behaviour composite standard score of 78 continued to classify his general adaptive functioning as below average.

Robby's pre-intervention standard scores in the communication adaptive behaviour domain, and the bands of error at the 90 % level of confidence was 77 ± 7 (70 to 84). His score in the communication domain corresponds to a percentile rank of 6 and is at the below average adaptive level. Robby's pre-intervention v-scale scores in the sub-domain of expressive communication, and the bands of error at the 90 % level of confidence was 6 ± 2 (4 to 8). This sub-domain had an adaptive level of low. Robby's post-intervention standard score in the adaptive behaviour domains of

communication, and the bands of error at the 90 % level of confidence was 84 ± 7 (77 to 91). His score in the communication domain corresponds to a percentile rank of 14 and is at the below average adaptive level. Robby's post-intervention *v*-scale scores in the sub-domain of expressive communication, and the bands of error at the 90 % level of confidence was 10 ± 2 (8 to 12). His post-intervention *v*-scale scores for expressive communication domain increased from pre-intervention to a below average adaptive level.

Robby's pre-intervention standard score in the socialization domain was 69 ± 7 (62 to 76). His score in the socialization domain had percentile ranks of 7 and was classified as low when compared with other children the same age. Robby's pre-intervention *v*-scale scores in the sub-domains, and the bands of error at the 90 % level of confidence were as follows: Interpersonal Relationships, 8 ± 2 (6 to 10); play and leisure time, 7 ± 2 (5 to 9); and coping skills, 13 ± 2 (11 to 15). His pre-intervention *v*-scale scores in the socialization domain were at the low, interpersonal relationships and play and leisure time, and average, coping skills, adaptive levels. Robby's post-intervention standard scores in the adaptive socialization domain, and the bands of error at the 90 % level of confidence was 76 ± 6 (70 to 84). His socialization score which corresponds to a percentile rank of 5 was classified as below average. Robby's post-intervention *v*-scale scores in the sub-domains, and the bands of error at the 90 % level of confidence were as follows: Interpersonal relationships, 10 ± 2 (8 to 12); play and leisure time, 9 ± 2 (7 to 11); and coping skills, 13 ± 2 (11 to 15). His post-intervention *v*-scale scores in the socialization domain were at the below average, interpersonal relationships, low, play and leisure time, and average,

coping skills, adaptive levels. This was an increase from pre-intervention for interpersonal relationships.

The impact on mainstream teachers and students. Robby's inclusion class survey results are shown in Table 4.17. His class showed that 72.7 % felt that they understood more about how people are the same; whereby, 81.8 % of them understood more about people's differences. Only 40.9 % of students reported that they were more comfortable with others who look or act in a different way with 27.3 % reporting maybe and 31.8 % answered no. Only two students said they were afraid of others who learn, act, look, or speak in a different way and four students said maybe. In addition, 63.6 % of students reported that they like being in a class with different types of students with 22.7 % reporting maybe and 13.6 % reported no. Robby's class responded to the question that it was easy to make friends with classmates who are different with 77.3 % saying yes. I liked having more than one adult in the classroom and I would like to be in a class like this next year both received yes percentages of 63.6 %. When asked if they would like to be in a class like this next year, 59.1 % answered yes, 31.8 % maybe, and 9.1 % no.

Table 4.17

Robby's Class Survey

Question	Yes Frequency-%		Maybe Frequency-%		No Frequency-%	
I understand more about how people are the same.	16	72.7	3	13.6	3	13.6
I understand more about people's differences.	18	81.8	3	13.6	1	4.5
I am more comfortable with others who look or act in a different way.	9	40.9	6	27.3	7	31.8
I am afraid of others who learn, act, look, or speak in a different way.	2	9.1	4	18.2	16	72.7
I like being in a class with different types of students.	14	63.6	5	22.7	3	13.6
I feel that it was easy to make friends with my classmates who are different from me.	17	77.3	4	18.2	1	4.5
I liked having more than one adult in the classroom.	14	63.6	5	22.7	3	13.6
I would like to be in a class like this next year.	14	63.6	5	22.7	3	13.6
I feel that all types of students learning in the same class is a good idea.	13	59.1	7	31.8	2	9.1

Robby's mainstream teacher is a teaching principal. She reported a strongly agree on the following items: (a) inclusion is working well in my class; (b) I have greater enjoyment of teaching as a result of inclusion; (c) I have been sufficiently

involved in the inclusion process at my school; (d) I receive the necessary support and assistance from other teachers to implement inclusion successfully; (e) I feel that it is easy to communicate effectively with other professionals; (f) I feel that it is difficult to address the behavioural challenges of students with disabilities; (g) I feel that I benefited professionally and personally from working in a collaborative team; (h) I feel that our school is doing a good job of implementing inclusion; and (i) inclusion is a good idea. On items reflecting on student practice Robby's mainstream teacher reported strongly agree on the following: (a) my students have become more accepting of individual differences; (b) they have grown socially and emotionally; (c) they have received the necessary training to be successful in an inclusion classroom; and (d) and my students have the social skills needed to interact with others.

Robby's teacher did report strongly disagree on the following item: I feel that having other adults in the classroom is a problem. A neither agree/disagree was recorded on the following items: (a) I have the training to implement inclusion successfully and (b) my students have picked up undesirable behaviours from their classroom.

The remainder of items on Robby's mainstream teacher survey were recorded as agree somewhat and they were: (a) I receive the necessary support and assistance from supportive service personnel to implement inclusion successfully; (b) it is difficult to modify instruction and my teaching style to meet the needs of students with disabilities; (b) I have the skills to promote social interactions between students with and without disabilities; (c) I receive the necessary support and assistance from administrators to implement inclusion successfully; (d) I have the skills to individualize academic instruction for students with disabilities; (e) inclusion has encouraged me to experiment with new teaching methodologies; (f) I do not have

enough time to communicate and collaborate with others; (g) I would like to teach in an inclusion class next year; and (h) I need more information about inclusion. With regard to her students the following were recorded as agree somewhat: (a) my students' academic performance has been negatively affected; (b) they receive less teacher attention; (c) they have received a better education this year; and (d) my students feel positive about my class.

Robby's family responded with somewhat agree to the following items; (a) I feel satisfied with the general education services my child is receiving; (b) I feel satisfied with the special education and supportive services my child is receiving; (c) I feel satisfied with the school's communication with families; (d) I feel that being in an inclusion class has been positive for my child; (e) I feel that I would like my child in an inclusion class next year; (f) I feel that families are adequately involved in the inclusion process; (g) I feel that the school did a good job of explaining the inclusion programme to me; (h) I feel I need more information about the inclusion programme; (i) I feel that inclusion is working well at my child's school; and (j) my child learned a lot.

There were no items recorded as strongly agree or strongly disagree by Robby's family. They responded with disagree somewhat to the following item: My child has been teased by his classmates. Neither agree/disagree was recorded on the following items: (a) my child talks positively about school; (b) my child has learned to feel comfortable interacting with other students; (c) my child feels positive about being in an inclusion class; (d) my child has made more friends; and (e) my child has been treated well by classmates.

The programme helps define policies around inclusion. Policy review began with the team discussing the rationale for the policy being their existing inclusive

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ethos as an educate together school. They wanted to stress that inclusion can help students with autism spectrum disorder reach their potential and they can witness role models in the typical peers. Inclusion would help mainstream peers understand special needs. They wanted to incorporate the ability awareness and peer mediated pivotal response training for the whole school as this was good social skills. The assisted learning classroom teacher would initiate the inclusion process when students were ready and the principal would liaise. It would be essential for all special needs assistants to be trained to assist in the inclusion classroom. Barriers to the policy were identified as time and money. Not having enough time to plan and collaborate and money to provide the appropriate trained staff coverage needed. A draft of the policy to be presented to staff and the board of management was developed and formally adopted in June 2006, as shown in Appendix Y for a full copy of the policy.

Stakeholder meetings regarding Robby's individualised inclusion plan yielded the following themes: Reverse mainstream, support and resources needed, accommodations, and collaboration.

Reverse mainstream activities were seen as an important benefit to Robby and his typical peers. This gave them the opportunity to utilise the peer mediated pivotal response training they received during ability awareness.

Supports and resources needed revolved around sufficient personnel. One the steps of the successful inclusion programme is to have observations take place by either the mainstream teacher of students in assisted learning classroom or the assisted learning classroom teacher observing in the mainstream. These were difficult to schedule with a teaching principal and the assisted learning classroom teacher needed in her class. The observations did not happen often. Due to the limited observations by the assisted learning classroom teacher she could plan for certain general

accommodations to be made but wanted to see Robby in context of the mainstream classroom. Another resource identified was professional development for special needs assistants so that they would feel more comfortable making accommodations as needed. Related was the sub-code of time. The teaching principal and the assisted learning classroom teacher relayed a desire and a need for more planning time.

External support was identified by the team as needed from national educational psychological service, special education needs organisers and Beechpark psychological services. Currently, they were not receiving support from any of the organisations. There was not enough special needs assistant support for an additional student to attend the mainstream as part of the programme. A child had been identified and he had begun the programme with ability awareness and reverse mainstream activities. The programme could not move forward due to limited resources.

There were discussions of specific accommodations for Robby such as transition activities, manipulatives, pre-teach concepts, preferential seating, and separate manipulatives from mainstream teacher so she could model for Robby and differentiate the curriculum where needed. Academic sessions attended by Robby were based upon his strengths of reading and maths.

The mainstream teacher and assisted learning classroom teacher anecdotally reported that the impact on Robby was positive. He was communicating feelings more, as his language skills had improved to the point where he could explain more of his feelings. Robby's mother reported that "he's gone cheeky lately and that's normal for an 8 year old boy." She observed that he had become more aware of others such as talking with cousins at family gatherings, and he was asking more questions at home.

The second school had a small increase from pre to post intervention and was rated as good on the quality of inclusive experiences measure. The rating suggests to continue efforts and improve as needed. The administrator and the teacher at the second school are the same person as the school operates with a teaching principal.

Colin

Colin began the study in March when baseline data were collected, Vineland instrument, interview with his mainstream teacher, and ability awareness training of the mainstream peers in his senior infants class. In April he participated in reverse mainstream activities. In May it was discussed for him to go the mainstream class for some social time. There was not enough special needs assistant support at that time to allow him to go into the mainstream. His mother stated that at his previous school they didn't have any inclusive activities until second class. She felt this was too late and she wanted him to go when he is ready. She sees that he tries to interact with other children, and she is pleased with programme because it is special just to him. At the June stakeholder meeting the special education teacher, mainstream teacher, and administrator decided that his individualised inclusion plan would be evaluated again in September with the hope that additional resources could be obtained.

Discussion

Discussion will initially focus on points that emerged for each case separately and then a general cross-case discussion. The study investigated how a structured programme to include a student with autism spectrum disorder would affect the amount of time spent included and whether that time was appropriately engaged time for the student. This SIP programme focused on a collaborative team to develop individual inclusion plans for case study students. The impact on the mainstream teacher, peers, and families of the student with autism spectrum disorder is related

through survey results. Implications for the development of inclusion at the department and school levels are considered.

Tim

The first two research questions were to evaluate if the programme increased the time a student with autism spectrum disorder spends in the mainstream and was that time engaged time for the student. The overall amount of time spent in the mainstream classroom did increase for Tim and that time was spent engaged. Variations on the time are discussed based upon anecdotal notes on data sheets, field notes, and stakeholder meeting notes. November saw an increase from baseline of time spent in the mainstream class for Tim. December showed a dip back to below baseline. Data sheets show that the mainstream teacher was out sick and sessions in her class needed to be cancelled. The literature supports the need for appropriate support and resources in the general education classroom to facilitate inclusion of students with ASD (Harrower & Dunlap, 2001; Simpson et al., 2003). However, the team felt that if the appropriate trained staff was not available for those sessions it would be better to cancel then have the student attend the mainstream without the proper support needed. Stakeholder meeting notes revealed the need for time to train personnel. If a student with ASD is not able to attend a mainstream class because support staff is not trained in order to provide coverage, then this hinders inclusion. This combined with a professional development day where the special needs unit was closed along with the winter holiday break made for a decrease of possible time for Tim to spend in the mainstream classroom for December. Conversely, May saw a high amount of time spent in the mainstream. A contributing factor to the high number of total minutes of 1,495 minutes for the month was a field trip where Tim spent the entire school day with his typical peers. All of Tim's time in the mainstream

was valued at 100 % participation and an excellent rating of engagement. Field notes show that the special needs teacher accompanied Tim to the mainstream for November, December, and January. Methodology included co-teaching the lessons. This is a positive outcome as studies have found that there is little collaborative planning or cooperative teaching in mainstream primary schools in Ireland (Coffey, 2004). The literature suggests that collaboration is one of the necessary components of an inclusion programme (DES, 2001; Simpson, et al., 2003). Both the mainstream and special education teacher planned this collaboration in order to monitor the programme and student progress as well as have a better understanding of how to train SNAs going into the mainstream classroom. After January a special needs assistant primarily went to the mainstream with Tim. The special needs teacher continued to attend at least once a month to check on Tim's progress.

Vineland scores on the teacher survey were used to monitor progress from pre to post intervention. These scores showed an increase in Tim's overall adaptive behaviour composite from moderately low to adequate. There was no improvement seen in the expressive communication sub-domain. The socialisation domain increased from moderately low to adequate. Two of the sub-domains of interpersonal relationships and play and leisure time increased to adequate. The parent-caregiver form reported maintenance in adaptive functioning for communication and socialisation domains. The scores indicate that his functioning was not adversely affected by participating in the inclusion classroom. The programme may have instead served to increase the above mentioned areas.

The impact on the MS teacher and students was noted through surveys and stakeholder meeting notes. Tim's mainstream class peers self-reported that they better understand about how people are the same and different. These are the concepts

discussed in the ability awareness procedure developed from the peer mediated pivotal response training study. Harrower & Dunlap (2001) examined the use of multi-component interventions which utilise more than one intervention strategy to facilitate the educational inclusion of a student with autism. One of the components studied by Hunt et al. (1996) is on-going information to classmates about aspects of the disability experienced by the target student during naturally occurring interactions. This also relates to the social support that Simpson et al. (2003) outlined as a crucial component to the autism spectrum disorder inclusion collaboration model. Meeting notes revealed that the *How to be a great friend* programme was helpful but that on-going awareness based upon Tim's individualised needs was important for mainstream peers. High percentages were also reported for items on the classroom survey referring to being in a class with different types of people, namely would they like to be in a class like this next year and that they feel all types of students learning in the same class is a good idea. The responses show an overall understanding from students that there is nothing to fear in people being different and that it can be easy to make friends with students who are different from themselves.

Tim's mainstream teacher reported strongly agree on topics with regard to facilitating social interactions, working as part of a collaborative team, and desire to teach an inclusion class the next year. This is a positive outcome in light of the coordinated team commitment needed to work as part of a collaborative team that is a component of the autism spectrum disorder inclusion collaboration model (Simpson et al., 2003). Responses which require attention are those which were scored as disagree somewhat. The items included receiving necessary support from administrators and having the resources to implement inclusion. This was also a theme noted in the stakeholder meeting notes. Another area of need is that the teacher

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answered 'strongly agree' with regard to not feeling she has enough time to communicate and collaborate with others. This is consistent with the literature, as the importance of nonhuman resources such as time for teacher planning is very significant (Simpson et al., 2008). She agreed somewhat that her students have grown socially and emotionally, have received a better education and have the social skills to interact with others.

Tim's family felt positive about his general education and special education services which indicate satisfaction with the inclusion programme designed. They responded with strongly agree for: (a) satisfaction with the school's communication, (b) the inclusion class has been positive for their child, (c) being adequately involved in the inclusion process, and (d) the school did a good job of explaining the inclusion programme to me. This finding is in agreement with the findings in prior research which shows the benefit of having parents as collaborative team members when developing an individualised inclusion plan (Harrower & Dunlap, 2001).

The policy developed by the stakeholder team members and other staff served to outline rationale, aims, guidelines, and steps to include a student with special needs into the mainstream from the successful inclusion programme. Included from the programme are roles, responsibilities, as well as additional ones developed for the department of education and science regarding ultimate success of the policy. One of the issues highlighted by the school was a need for additional resources to support the inclusion programme. The School added the need for a local service provider that offers clinical support services to children/adolescents with ASD, their families and schools. In addition, they wanted the Board of Management to ensure adequate resources were in place to guarantee the success of the process.

Programme goals and purpose showed an increase overall for the mainstream teacher and principal. The rating was still in the mediocre stage which the quality of inclusive experiences measure indicates that improvement is needed. The principal and teacher indicated an inclusive ethos but did not specify that this includes students with disabilities as a central component. Post-intervention questionnaire items that still scored low were on how well known the policy is known in the community and the commitment of administration to having inclusive services. While this may be understandable because the programme and policy are new to the school it does point to a need. Consideration for future planning would be to inform the community about the specifics of the inclusion services at the school.

Liam

Liam also increased his time spent in the mainstream, although the beginning intervention months of February and March revealed more reverse mainstream activities. April had a 2-week holiday so the team decided to implement inclusion activities at the end of April after the break and then there would not be an interruption in inclusive services which they felt would be counter productive for Liam. This allowed several months of reverse mainstream, observation, and collaborative planning. May and June saw an increases in time spent in the mainstream. That time was found to be participating in the same activities as peers 100 % of the time. Engagement ratings for both months were excellent. One of the suggestions in the successful inclusion programme (SIP) is to proceed with inclusion for less time at first and build towards more time. This is what the team decided for Liam. As his participation and engagement percentages were high once included, this had a positive outcome. Stakeholder meeting notes suggest that the group worked as

a coordinated team to make the most informed decisions for Liam's inclusion into the mainstream classroom.

Vineland scores on Liam's teacher survey and the parent-caregiver forms showed little change from pre to post intervention. This was not unexpected as Liam had the shortest period of intervention of the three case studies. Liam's standard score for the communication domain is significantly different from the average for all of the other domains. This large a difference was very rarely seen in the normative sample. Such a difference indicates that communication is a weakness for Liam relative to his skills in the other areas. Activities that target the development of communication skills may therefore be useful. Although his overall adaptive behaviour level was adequate, attention to increasing his communication skills may raise the level even higher. Liam's standard score for socialisation domain is significantly different from the average for all of the domains. This difference indicates that his social skills are a strength that he can use to enhance his skills in other areas. This could be an advantage in the mainstream where he could use this strength to participate in various peer activities in the classroom.

Liam's mainstream class reported high percentages on questions relating to liking being in a class with different types of people, liking having more than one adult in the class, liking to be in a class like this next year, and feeling that all types of students learning in the same class is a good idea. This indicates a comfort level with the inclusion environment where all students are educated together. Items on understanding how people are the same and different received a yes for over one-half of the class. This is a first class and most students are 6 or 7 years old. This was an unexpected outcome in light of findings from previous research where peer mediated

response training was found in previous studies to work best with older peers (Honan et al., 2003).

Liam's mainstream teacher responded neither strongly agree nor strongly disagree on any of the survey items. She agreed somewhat on items which reflect inclusion is working well, receiving the necessary support, having the skills to promote social interactions, skills to individualise instruction and benefiting professionally, and personally from working in a collaborative team. She responded to items about her class with agree somewhat, for accepting of differences, they have grown socially and emotionally, they have received the training to be successful, and they have the social skills needed to interact and they feel positive about the class. This teacher responded disagree somewhat in relation to training to implement inclusion, time to implement inclusion, having the resources to implement inclusion, and being involved in the inclusion process at the school and I would like to teach in an inclusion class next year. Common elements which have been identified by mainstream teachers as impacting inclusion are having the proper training and resources to properly implement inclusion successfully (Avramidis & Norwich, 2002; Scruggs & Mastropieri, 1996). One possible explanation for the teacher's responses with regard to training, time and resources is that Liam's team did not have designated school time to meet each week. Some of the meetings took place during the day with last minute coverage for the teachers and others took place after-school. As Tim and Liam were both at the same school, were the same resources available for the second student (Liam) involved in the programme as the first (Tim)? It does not appear that this was equitable. Included in their policy at the end of the year was to ask the Board of Management to find additional ways to fund the resources needed to

implement the programme successfully. Avramidis & Norwich (2002) proposed that with increased resources and support, teachers' attitudes would improve as well.

Liam's family responded positively with strongly agree to items regarding satisfaction with general education services, communication, and explaining the inclusion programme. These items outline a positive home-school collaboration which is needed when developing an inclusion plan (DES, 2001; Simpson et al., 2003). They responded disagree somewhat to the statement that their child has been treated well by his classmates. The theme was identified in stakeholder meeting notes. One parent had observed children at Liam's religion class bully him. The peers were not in his inclusion class but in another first class in the school. This was reported more than once. The mainstream teacher and special education teacher reported that they had not observed this happening at school but would be observant. The typical peers in Liam's inclusion class were trained during ability awareness in peer mediated pivotal response training. This helps students understand how all students have things in common and others that make them different. There are specific ways they can learn to be a great friend. This would be helpful for all students to participate within the school as their ethos is inclusion and there are two special needs classrooms within the school.

Programme goals and purpose showed an increase overall for the mainstream teacher and principal. The rating was still in the mediocre stage which the quality of inclusive experiences measure indicates that improvement is needed. Post-intervention the mainstream teacher feels that the programme's philosophy occasionally guides everyday work related to inclusion. Post intervention items about the policy note that it is not widely known in the community or a central component of the school's ethos.

Policy for the school can be seen in the previous section with regard to Tim.

Both students attended the first school and the policy was developed in collaboration with both stakeholder teams. Liam's teacher did report disagree somewhat with regard to the item that "I have been sufficiently involved in the inclusion process at my school." Tim and Liam's teams reported on what they felt were important to have in the policy. All staff was welcome to be part of the inclusion policy team. Following a draft report it was discussed at a staff meeting before presentation to the board of management. It would have been revealing to follow-up this item on the survey to find out how the teacher would have felt more part of the process.

Robby

Robby's time spent in the mainstream did not initially increase for November. December saw a slight increase and then January dipped back to baseline. The successful inclusion programme emphasizes not to include for too much time at first and that it is better to take things slowly at first. There were reverse mainstream activities going on in the assisted learning classroom (ALC) at this time. Observation notes of these reverse mainstream activities reveal that Robby interacts socially with peers and they utilise strategies taught in ability awareness to include Robby in conversation. The activities were social in nature such as playing board games for approximately 20 to 30 minutes a week. Initial inclusion into the mainstream was for academic sessions which are a relative strength for Robby. February through May there is a consistent amount of time spent in the mainstream. June is much higher than the other months due to several field trips Robby participated in with his mainstream peers. A special needs assistant accompanied him and observation notes from those days reveal that Robby enjoyed himself and interacted with his typical peers. One difficulty noted at School 2 was the lack of resources. The special needs teacher

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wanted to accompany Robby to some sessions in the mainstream but was unable to due to lack of coverage in her own classroom. The DES (2001) identified provision of additional support by schools in order to achieve successful inclusion.

Participation was 100 % for the time spent in the mainstream. Engagement was good for most months with May receiving an improvement needed. Examining field notes from the observation reveals that the 1 hundred minutes took place over 2 different days. The first day Robby was included for a spelling lesson. He was engaged for most of the lesson and then the special needs assistant left the room for 15 minutes to go get his snack which was to take place immediately following spelling. Robby was distracted during this time and the teacher was busy helping other students. The second part of the hundred minutes Robby did not attend the inclusion classroom with the special needs assistant usually designated. She was out and the team decided not to cancel the inclusion but instead to send a student teacher. The student teacher was new to the school. Upon arriving in the classroom his usual seat was taken and he was told to sit across the room. He was engaged for the first 10 minutes and then he became agitated. The student teacher did not intervene at all. The mainstream teacher tried to talk to Robby but he escalated, getting louder.

Approximately 10 minutes later the student teacher utilises a timer to get Robby back on track, and does not interact with him further. When the timer went off Robby felt he was done but the teacher did not hear the student teacher explain to Robby about the timer. This was the first time a timer was used during observed time. The teacher did get Robby to engage back in the final minutes of the activity. This shows the importance of trained staff to facilitate inclusion. The question arose at the stakeholder meeting inquiring that maybe it would have been better to cancel that day. He was engaged but clearly not as well as other sessions. At the meeting the

mainstream teacher recognised that this session did not go as well as others and they discussed the need to have all special needs assistants at the school trained so that they could use others for coverage. This is in agreement with findings in prior research which identify trained personnel as an important factor in successful inclusion of students with ASD (Myles et al., 1993). Another factor significant in predicting success which has been identified in the research literature is predictable routines (Dawson & Osterling, 1997; Rogers, 1999). One of the field notes revealed that essentially Robby's routine was interrupted when he had to change seats without warning and this may have caused him to act the way he did. However, engagement has been cited in the literature as a good predictor of positive student outcomes (Rogers, 1999). While Robby's engagement was good most months it could have been better and one month it was classified as 'needs improvement'. This is a consideration regarding the planning and accommodations for him in the mainstream so that he can reach his full potential.

Teacher surveys on the Vineland revealed that Robby showed improvement with regard to his overall communication domain and sub-domains from socialisation, interpersonal relationships, and play and leisure time increase to moderately low. The parent-caregiver survey form of the Vineland disclosed his sub-domain expressive communication increase from pre to post intervention to below average. The sub-domain of the socialisation, and interpersonal relationships showed an increase from low to below average. Stakeholder meeting notes show that his mom noticed that Robby seemed more interested in social activities and had been interacting more at family gatherings with his cousins.

Surveys of Robby's mainstream peers revealed that over 80% of students understood more about people's difference. While many also understood how they

are the same 72.7 %. This directly relates to themes taught as part of the ability awareness, *How to be a great friend*. They felt it was easy to make friends with classmates who are different. This supports a finding of Kamps et al. (1998) in which the typical peers were found accepting of students with autism and excited about social activities with them. The mainstream teacher, who is also the teaching principal, reported positively about how well inclusion is working in her class, her involvement in the inclusion process, and benefiting professionally and personally from working in a collaborative team. She reported that she strongly agrees that her students have the necessary training to be successful in an inclusion class and they have the social skills to interact with others. She felt strongly that it is difficult to address the behavioural challenges of students with disabilities. Salend (1999) reported from a study on the impact of inclusion on students with and without disabilities and their educators and found that teacher reactions to inclusion programmes change over time. Perhaps with continued collaboration the teacher would become more comfortable. This was discussed at a stakeholder meeting following Robby's May observation when he was supported by an untrained student teacher from the assisted learning classroom. The teacher noted that she was surprised when Robby talked back. She had not realised some of the accommodations the special needs assistant makes automatically to facilitate inclusion. She was glad the session happened as it did because they learned from it.

The family survey shows very few responses to either strongly agree or strongly disagree. Instead they reported somewhat agree: (a) with regard to satisfaction of general and special education services, (b) satisfaction of school's communication, (c) inclusion class positive for their child, (d) that families are involved in the inclusion process, (e) inclusion is working well at the school, and (f)

the school did a good job of explaining the inclusion programme. This is surprising in the light of findings of prior research which reveal that home-school collaboration garners positive outcomes (Simpson et al., 2003). Robby's parents could not attend many stakeholder meetings and therefore the assisted learning classroom teacher communicated progress, questions, and concerns. Perhaps these issues would have been perceived more positively if parents had been able to be more a part of the process and planning by attending the IIP meetings.

Programme goals and purpose are rated as good for pre and post intervention. There was little improvement from pre to post. It needs to be taken in consideration that the mainstream teacher is the principal of the school. Due to this fact answers were the same for many of the items. There can be little discussion of support of administration when there is no separate staff for that purpose.

The inclusion policy for the second case study school includes a rationale, aims, and guidelines for including students from the assisted learning classroom into the mainstream. These guidelines are the procedure steps utilised from the successful inclusion programme. Roles and responsibilities for school staff and parents were included from the successful inclusion programme. Additional responsibilities added were that the board of management needs to continue to lobby the department of education and the special education needs organisers for adequate resources to ensure ongoing success of inclusion within this school. Additional support included lobbying the department of education and science and the HSE for the provision of clinical services to support inclusion of children with autism spectrum disorder. A multi-component psychological service was added with the responsibility to increase availability of clinical supports in order to promote inclusion within the school.

Cross-case Discussion

Although the three cases in this study were individual, there are cross-case generalisations to be made. All three cases served to increase engaged time a student with autism spectrum disorder spends in the mainstream. Full inclusion was never the goal but rather to include the student on a continuum based upon individual needs.

Jordan (2005) discussed how a continuum of inclusion can assist students:

Move towards more inclusive environments as they progress in their capacity to benefit from those environments. The more 'autism-friendly' mainstream environments become, the earlier inclusion will be possible. (p. 108)

Reverse mainstreaming activities were identified as important to the overall transition process for teachers and students. Mainstream teachers wanted to observe the special needs or assisted learning classroom teacher to notice strategies, prompts, or specific language with the student with autism spectrum disorder. Ainscow (2007) identified this as a crucial opportunity to observe other professionals in order to develop practice. The mainstream teachers and students demonstrate positive responses to inclusion with their understanding of facilitating the social interactions of students and those students understanding better how peers are the same and different. Ainscow discussed how the process of inclusion is "how to live with difference and learning how to learn from difference" (p. 118).

Each case proceeded to include students at their own pace with collaborative planning at each step. Lipman (1997) suggested that increasing collaboration without attention to individual change may only serve to reinforce existing practices (Ainscow, 2007). The successful inclusion programme was a catalyst in developing collaboration with a specific purpose.

There is an identified theme of need for continued professional development or training for all staff involved in the process. Resources and support are needed in

the form of smaller class sizes and adequately trained staff to properly support inclusion. The findings are supported by the national disability authority (NDA, 2006) report which found large class sizes were noted as a considerable obstacle to effective teaching and learning. Both schools involved in this investigator's research found it difficult to support increased inclusion within the current special needs assistant allocation. In Tim's case the team felt he could be included more if there were more staff, and at the second school a second student, Colin, could not be included in the mainstream due to lack of special needs assistant coverage. The national disability authority report identified the current resource allocation process as a systemic failure. With regard to inclusion policies both school sites now have policies which reflect the steps and procedures from the structured inclusion programme. This gives a structure to future individual inclusion plans at the school level.

This research served to highlight the benefits and problems of implementing an inclusion programme within the current Irish context. The model utilised in the SIP has been researched (Simpson et al., 2003) but not with the specific resources and school systems currently in place in Ireland today. The DES (2001) has been encouraging schools to develop whole school plans to support this type of inclusion programme utilised in this research. For example, an individualised programme which incorporates collaboration and support services (DES, 2001). This action research in the Irish context examined the experience of three children with ASD in two different schools, and the effects on parents, teachers and peers. Positive outcomes were the increased engaged time for all three students as well as inclusion policies for those schools. Issues identified as areas of need were additional time for collaboration, additional resources such as SNAs and outside agencies, and more training for staff.

Limitations

There were only three students to participate in the dual-site case study; therefore, generalisation is extremely limited. The two school sites are both educate together schools with a basic ethos of inclusion. The sample was from the same geographical area as well as having a limited sample size of only three cases. This makes for a practical place to begin a structured inclusion programme but again it makes generalisation to other primary schools more difficult. The AB design of time spent in the mainstream is not as rigorous as other experimental designs. While it cannot be ruled out that those children would have been included without the intervention, it was observed that the change coincided with the intervention. So there is some confidence that the change corresponded to the intervention. In this particular research it did not seem ethical to return to baseline levels (Kazdin, 1982). If the intention of this study had been to withdraw the intervention it is doubtful that schools would have wanted to cooperate

Conclusion

The cases serve as a starting point with which to continue the process of developing inclusive practices for students with autism spectrum disorder. In order to further develop procedures for inclusion at the department and school levels additional research will need to take what has been done here and extend that understanding. It is clear that to develop more inclusive practices in Ireland to match the current EPSEN act there needs to be support of resources to facilitate that inclusion. The national disability authority report (NDA, 2006) on special education provision states that “structured systemic support on an ongoing basis will be required for the development of whole school approaches linked to appropriate training for specialist and classroom teachers and support personnel” (p. 33). There is a real desire

to further the inclusive process for schools as seen by the overwhelming response to a training based upon the study presented at Trinity College during the summer of 2007. Administrators, teachers, special needs assistants, and psychologists participated in the seminar with an overwhelming positive rating on usefulness of the training.

Chapter 5: General Discussion

There is an increasing amount of research on effective practices to teach students with autism spectrum disorder. There are theories on the prevalence and cause of the disability. New policies and laws to help advance the inclusion of students with disabilities are present. Regardless of the reasons why there are increasing numbers of students with autism spectrum disorder, they are here and need to be educated. Just as students with autism spectrum disorder need to be considered with regard to their education on an individual basis. This is true for classrooms, schools, and countries. The key is to use what we know as best practice and modify for the individual context. Bronfenbrenner (1979) cited Walter Fenno Dearborn, as saying, “If you want to understand something, try to change it” (p. 37). This is a good description of what is currently taking place in the Irish educational system today. They are moving towards more inclusive provision for students with a disability and therefore are changing the structures and procedures that were previously in place. The purpose of the thesis is to further inclusive practices for students with autism spectrum disorder in mainstream Irish primary schools by changing some of the current practices and procedures in order to understand better the needs for next steps.

The reality that students with autism spectrum disorders are present and need to be educated in the least restrictive environment is the rationale for furthering inclusive practices. There are many students either unidentified or identified but present in mainstream classrooms with out any accommodations. Teachers need information, programmes, and procedures to help them navigate the best practices in teaching and including students with autism spectrum disorder.

Summary of Thesis Findings

Chapter 2. This chapter designs an informational booklet as a place to start for some educators and a place to continue their work for others was a practical resource based on the survey and literature review. The national survey revealed some interesting aspects on the status of inclusion in Irish primary schools. There is a lack of any type of structured programme to facilitate the inclusion of students with disabilities. There was very little mention of collaboration with special educators instead more responses listed the resource or learning support as a strategy or accommodation. This appears to be a more hands off approach and not one of collaboration. Responses to different accommodations for use with students with autism spectrum disorder often reflected a more negative approach such as a time-out or removal from the situation which is causing an outburst. This shows a need for practices that are more positive and accommodations that teachers feel comfortable using in their classroom. Although response rates were low and this can only be considered a pilot, it did highlight areas of interest for future research, namely peer strategies and formal inclusion programmes.

Chapter 3. The peer mediated pivotal response training in the home served to increase interactive play and conversation which are the skills generalised to untrained peers in the school setting. The rationale for conducting a study in the home was that this was a natural setting to involve peers in social activities. A typical activity for peers is to have a play date and meet at a friend's house to socialize and play. Training of typical peers took place in a group setting within the school. This was good experience in taking the training and developing it as a whole class-teaching unit in the next study. Generalisation occurred for untrained peers in the school setting. There was an increase in initiations of conversation for Anthony with a very

shy peer who often just shook her head or smiled. This lends support for the need to train and prepare all mainstream peers in awareness of disability in students with autism spectrum disorder. If this untrained peer had received training, there may have been more sustained conversation. Wentzel, Barry, and Caldwell (2004) conducted a study on the influence of not only having a friend but also being a friend on social adjustment. They found that having a friend with more prosocial behaviour affects their own prosocial characteristics. Amado (2004) discussed the need for not just inclusion of students with disabilities physically into the mainstream environment but that real social integration is still missing. Amado described one way to promote these friendships is to shift from activities to relationships. When friends talk to one another about things they enjoy they are sharing. There were some sessions concerning the didactic relationship of Liam and John that were left out of the results because the television was left on and this interferes with interactive play. They did talk about the show they were watching and anecdotal notes show that they enjoyed themselves. The goal cannot always be to increase some targeted behaviour but instead increase an individual's quality of life such as making a friend. Although there were methodological limitations to the design, the action research study did possess ecological validity by replicating earlier studies in a natural setting the home. Parents were collaboratively involved in data collection. Successful inclusion requires collaboration from many stakeholders, thus parents being one of them.

Chapter 4. The dual-site case studies yielded positive results for all three cases. A collaborative group of stakeholders which included key staff as well as parents developed individualised inclusion plans. Identified as a key component of a successful inclusion programme is collaboration (Simpson et al., 2003; Soto, Muller, Hunt, and Goetz, 2001). The collaborative teams developed plans on an individual

basis to best suit the needs of the specific student. Mittler (2005) described the difference between an I.E.P. and an individualised inclusion plan. The I.E.P. looks at specific developmental and educational goals while the individualised inclusion plan goes beyond traditional needs and describes the environmental changes that are needed for the individual child needs in the mainstream classroom (Mittler, 2005). Engaged time increased for time spent in the mainstream. Katz and Mirenda (2002) reviewed successful inclusion studies and found that engaged time of a student with a disability was an effective predictor of academic success. Most case study students showed some increase in Vineland scores. In each case the student with autism spectrum disorder was included in academic activities which were a relative strength at first. The goal was geared more to social outcomes versus academic ones at first. The study takes into account the individual needs of the child as well as the best interests of mainstream peers. The case study surveys of mainstream peers showed that they felt mostly positive about the student with autism spectrum disorder and the classroom. Specific aspects taught in the ability awareness such as how we are the same and different were noted with high percentages of understanding. The policies and procedures developed were based upon collaborative meetings and the structured programme from the United States which had been based upon best practice and adapted for the Irish educational context.

Cumulative findings

Bronfenbrenner (1979) proposed a theory based upon an ecological systems framework. The systems are microsystem, mesosystem, exosystem, and macrosystem. The systems are utilised as a conceptual framework to discuss the cumulative findings of the thesis. For example, a microsystem relates to events in a specific setting which

affect a child's behaviour and development (Odom & Diamond, 1998). In relation to the thesis the setting would be the inclusion classroom.

It was revealed that the types of resources and supports schools relied upon were usually school support in the form of a resource, learning support teacher, or special needs assistant. The findings suggested a lack of any formal inclusion programmes to facilitate the inclusion of a student with autism spectrum disorder in Irish primary schools. Often specific practices were not revealed that were more helpful for students with autism spectrum disorder.

The mesosystem relates to the collaborative interactions that take place among professionals (Odom & Diamond, 1998). These are factors which happen in other settings for which the child or another key participant in the microsystem might participate (Bronfenbrenner, 1979). For example, peer mediated pivotal response training took place in the home but generalized back to the school. Liam participated in this study and then later the case study. His increase in maintenance of play as well as conversation generalised back to the school with untrained peers. The following year he participated in the case study where the entire mainstream classroom was trained in the peer mediated pivotal response training as part of ability awareness, a procedure in de Boer's programme. Bronfenbrenner (1979) identified the isolation which children can feel due to the destruction of various segments of a child's life, i.e. family, school, peer group, neighborhood. The peer mediated pivotal response training facilitated the child's connection to peers not only at their school but their neighborhood as well. It is important for the mainstream peers to understand the student with autism spectrum disorder. This reduces stress and helps them work as a peer model. Social deficits are one of the critical impairments inflicting students with autism spectrum disorder. The peer mediated pivotal response training was utilised to

help students build friendships and participate in a typical activity of mainstream peers, namely the play date. Parents were welcome members of the stakeholder teams in developing the individualised inclusion plans for their child to eradicate the isolation that sometimes appears between school and home.

This follow-up data further added to the knowledge base and confidence in the pivotal response training procedures implemented. The children with autism spectrum disorder maintained their increased rates of interactive play and conversation with their mainstream peers following a 3-month break indicating they had incorporated the skills learned last year into their permanent repertoire. They were able to use these skills when placed in a situation with mainstream children in school who did not receive our training package. There was demonstration of impressive levels of maintenance and generalisation. This suggests that if schools provide simple but specific training to a small number of mainstream peers that will subsequently engage with the children with autism spectrum disorder, eventually the affected children will begin to respond and interact more appropriately and then be able to use these new skills with the other children with whom they come into contact.

The exosystem connects to social policy developed outside the microsystem (Odom & Diamond, 1998). In relation to the thesis this can refer to the Education for Persons with Special Educational Needs Act (ESPEN) (ESPEN, 2004) which promotes inclusion. This act is having an affect on the classroom by schools trying to be more inclusive. Often schools feel that there is not enough support or resources to implement inclusion successfully. The national disability authority (NDA, 2006) report contends that the department of education and science declares that many of the department's previous difficulties in supplying co-ordination of services and continuity of support was due to a lack of structure in place. The report questions

whether the challenges regarding the creation of an inclusive education system can be achieved. Legislation change does not always equal process change (Freire & Cesar, 2003) and so schools need to spearhead the inclusion process by beginning to identify needs such as resources and support for their school. The schools who participated in the case study found they needed more resources as in assistance from psychological services such as Beechpark or national educational psychological service. Support in relation to additional special needs assistants to cover more students attending mainstream as well as support for collaborative planning and observations. These needs should be conveyed to the special education needs organisers in identifying ways they can help promote the inclusion process at the individual school level.

Comparison between different countries with regard to a national perspective on issues to do with education cannot be accomplished without taking into account local contexts and meanings (Kuglemass & Ainscow, 2004). Ainscow (2005) stated that “deeply held beliefs within a school may prevent the experimentation that is necessary in order to foster the development of more inclusive ways of working” (p. 115). These beliefs are different for individual cases. For example, the second school had the reality of a teaching principal, which made scheduling of reverse observations difficult. The assisted learning classroom teacher was not released at any time to observe the student in the mainstream. No creative approaches were attempted to try and make those observations a reality. The principal and teacher felt they were important but could not be organized.

The programme to facilitate inclusion of students with autism spectrum disorder takes into consideration the Irish educational context. The pilot study revealed a need for reverse mainstream activities. This theme continued into the study for a multitude of reasons for different stakeholders. Accommodations and changes

that needed to be made were to structure stakeholder meetings to focus on progress, how things are going, and what is needed to continue the process.

Additional limitations

While there are many methodological and design strengths to this mixed-method approach to furthering inclusive practices in mainstream classrooms there are limitations. Although discussion of many of these limitations takes place in previous chapters, the following will be consideration regarding the limitations of the research design. For example, for the national survey it was not possible to conduct a follow-up survey as the amount of schools and the cost precluded this step. A survey which is designed with a follow-up component would usually have a better response rate. The information gained served to guide the next two studies of the thesis.

The peer mediated pivotal response training would have been a stronger design had it been a multiple-baseline instead of an AB design. Ethically it did not seem appropriate to continue organising play dates without training for the typical peers as the peer in one dyad was becoming distressed by Liam's indifference. The purpose of a play date is to enjoy yourself and without training it was more difficult for the typical peers to understand their friend or the student with autism spectrum disorder to connect.

The dual-site case studies took place in educate together schools where inclusion is part of their ethos. These schools are multi-denominational i.e. all children have equal rights of access to the school and the social, cultural and religious background of each child is to be equally respected. While this does not specifically pertain to students with special needs the general approach to inclusion may have extended to those students with ASD in separate classrooms. One could argue that these are not typical primary schools in Ireland. Generalisation from these case

studies may be limiting. This seemed an ideal place to begin research on developing inclusive procedures and policies and a place that has an inclusive ethos as part of there school's mission statement. Inclusion is not a school or a classroom but rather the services and accommodations given to a student so that they might participate in the least restrictive environment. There are an increasing number of educate together schools opening in Ireland today.

Implications of Thesis Findings

Advocates of full inclusion note the benefits of high expectations of teachers, adaptive behaviour modeling by typically developing peers, reduced isolation, and typical peers with more accepting attitudes (Mesibov & Shea, 1996). Inclusion is not a place, but a delivery of services which allow students with disability to access curriculum and learning alongside his or her typically developing peers. This does not mean that all students need to participate in full inclusion. There are advantages for children with autism spectrum disorder when they are properly supported and when decisions are made based on the individual's needs (Myles et al., 1993). Some stakeholders report that they cannot begin the inclusion process until they have enough resources. The adoption of the described practices and procedures can help instigate the inclusion process at this time.

The findings of the thesis purport to identify the current needs in practice for students with autism spectrum disorder to be included in mainstream environments such as a structured programme to facilitate inclusion. A peer-mediated practice has been identified with which to promote not only interactive play and conversation but hopefully the beginning of friendships. The dual-site case studies revealed that a modified programme, which has been based upon best practice, could facilitate the engaged time a student with autism spectrum disorder spends in an inclusion

classroom. The implications are based upon practical evidence. There is now a resource book outlining some best practices to include students with disabilities as well as resources such as accommodations and website information. There is an ability awareness training for typical peers based upon peer mediated pivotal response training. There is a set of procedures and policies with which schools can utilise to include students on the spectrum. The implications of the thesis are that there is now a place to begin to continue the inclusion of students with autism spectrum disorder in the Irish primary classroom.

Recommendations for Policy and Practice

1. Develop professional development on accommodations and instructional adaptations for students with autism spectrum disorder in the mainstream classroom.
2. Conduct more training on the current programme to facilitate inclusion of a student with autism spectrum disorder into the mainstream environment.
3. Identify at the school and department level the person who can facilitate the inclusion process which may vary on a school-by-school basis.
4. For schools to begin the inclusion process and document what resources and supports are lacking for the individual school.

Implications for Future Research

1. Conduct specific research on the effectiveness of the whole class teaching unit such as peer mediated pivotal response training, as part of ability awareness training.
2. Perform additional case study research to explore the current programme in different schools with students of varying needs.
3. Examine the interactions while the student with autism spectrum disorder is included in the mainstream such as student-peer and student-adult interactions.

4. Research how collaborative teams work on a continued basis to not only begin the inclusion process but also maintain the plans of other students.

5. Conduct case study research on inclusion of students who require more differentiated or parallel instruction.

Concluding Comments

Some of the aims of the Education for Persons with Special Educational Needs Act (EPSEN) (ESPEN, 2004) were to provide greater involvement of parents and establish a national council for special education which would include special educational needs organisers. The future of inclusion in the Irish educational system is going to need this assistance to facilitate inclusion. Anecdotal evidence from the dual-site case studies revealed that staff both schools were wondering how inclusion would work once the research study was finished. They felt the policies with their procedures are a good place to start but are looking for someone to organize what is happening in the schools. Although the act promotes inclusion, it needs to support this with resources and support.

For example, training held at Trinity College in the summer of 2007 for principals, teachers, special needs assistants, and psychologists on the peer mediated pivotal response training as well as the adapted version of de Boer's programme yielded positive feedback. Evaluation forms from the 2-day training revealed that participants felt the information presented was relevant and useful to their work. Participants felt that the workshop met stated objectives of presenting training procedures to improve social and learning behaviours of children on the spectrum as well as developing individual and school-wide plans for an inclusive and structured approach.

Schools need to start somewhere to begin including students in less restrictive environments. The policies developed at the school level give some structure as to next steps. Findings revealed that some students were being included for as much time as possible without further support and resources. Whole school approaches need to be cultivated so that professional development and training is a priority for all staff. The role of the principal is crucial in planning for inclusion. The principal on an as needed basis coordinated much of the creative coverage at the first school for team members to meet and plan. Without support from the department level some students will reach a ceiling with regard to the amount of time they can be included because of lack of resources.

The social model of disability focuses on changing the environment to meet the needs of students with disabilities. Mainstream education needs to provide for a diversity of learners. When classrooms make accommodations for students with needs those changes often help other children as well. For example, having a visual schedule available in the classroom for a student with autism spectrum disorder helps them with transitions. Other students in the class may be visual learners and find the schedule helpful to them as well.

Baker, Wang, and Walberg (1994/1995) stated with regard to the challenges schools face in educating diverse population of students that:

The concern is not whether to provide inclusive education, but how to implement inclusive education in ways that are both feasible and effective in ensuring school success for all children, especially those with special needs.
(p. 34)

The thesis had a very practical goal of trying to further inclusive practices by offering strategies, programmes, and procedures to help make that inclusion a reality. It is

important to remember that inclusion is not a place. Mittler (2005) defined inclusion

as a:

Long process, a road to travel rather than a destination, but much can be done at every level to work to develop more inclusive practice at every level. Clearly, the classroom of the regular school is the starting point and the end point for such a journey. (p. 13)

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Appendix A

Department of Psychology
Ethics Committee

October 25, 2001

Dear Rita Honan and Ian Grey,

The Department of Psychology Ethics Committee met recently to consider your application for approval. I am pleased to tell you that the Committee have decided to approve your application.

Yours sincerely,

Fiona Newell
Chairperson, Department of Psychology Ethics Committee

Appendix B

Trinity College Dublin & Special Needs Section, DES
Survey on Existing Inclusion Practices in Irish Primary Schools
June 2004

Researcher: Jennifer McCann, M.Ed., jemccann@tcd.ie

Supervisor: Rita Honan, M.Ed., Ph.D., honanr@tcd.ie, (01) 608-1489

Location of School: Urban _____ Rural _____

Health Board Area:

1. How many students with intellectual disabilities, Autism and Asperger Syndrome (aka high functioning autism) do you have in your school?
- Intellectual (learning) disability: _____
- Autistic Disorder: _____
- Asperger Syndrome: _____
2. Please describe how often these students, on the average, are included ("mainstreamed") with mainstream peers?
- Not integrated at all as yet _____
- Less than 25% of the time _____
- 26%-50% of the time _____
- 51%-75% of the time _____
- More than 75% of the time _____
3. What type of environment would these students generally be included in? (Check all that apply)
- Outside play time _____
- Physical Education _____
- Assemblies/School Functions _____
- Academic Instruction _____
- Other (please specify) _____

Autism Spectrum Disorder

4. Please list or describe and comment on all the various ways you include students at your school. (Strategies, accommodations, resources, supports.) Use additional sheet(s) if necessary.
5. To what degree are you satisfied that including students with Intellectual Disabilities or Autism/Asperger is progressing in your school?
- | | | | |
|----------------|-----------|---------------|-------------------|
| 4 | 3 | 2 | 1 |
| very satisfied | satisfied | not satisfied | very dissatisfied |
6. Please describe and comment on anything else you do at your school to foster inclusion of students with a disability, including any creative approaches. (Use additional sheet(s) if necessary.)
7. Are any of the above accommodations or strategies different for students with Autism or Asperger Syndrome vs. students with intellectual disabilities? (If yes, please describe. Use additional sheet(s) if necessary.)

Thank you very much for completing this survey.

Appendix C

June 23, 2004

Dear Principal:

My name is Jennifer McCann and I am a post-graduate student at Trinity College, University of Dublin. I am currently researching "Furthering inclusive practices for students with an Autistic Spectrum Disorder in mainstream Irish classrooms".

During this initial stage of my research I am gathering information about the state of inclusion for students with an ASD and other developmental disabilities in Irish junior and primary level schools. A brief form has been developed to learn what is already happening "on the ground". I would greatly appreciate your school staff contributing to the knowledge base by completing the enclosed questionnaire. The information gathered will be organized into a booklet for distribution in the Autumn to all schools, for their reference in further developing their own inclusive practices. The results will also help to inform the DES, who is funding this stage of the project, and to plan further related investigations.

Autism Spectrum Disorder

Your responses to this survey will be confidential. No individual person or school identifying data is requested, other than general geographical region, thus confidentiality is insured on any written document that results from this survey. However, if you wish to be given credit for your work on including students, please enter the related information on the form and I would be happy to include this in the booklet.

Your response is very important to the success of this project. Therefore, I would appreciate your completing and returning the questionnaire at the end of this school year (sorry for the rush!) to my research supervisor by post at:

Dr. Rita Honan
Psychology Department
Trinity College
Dublin 2

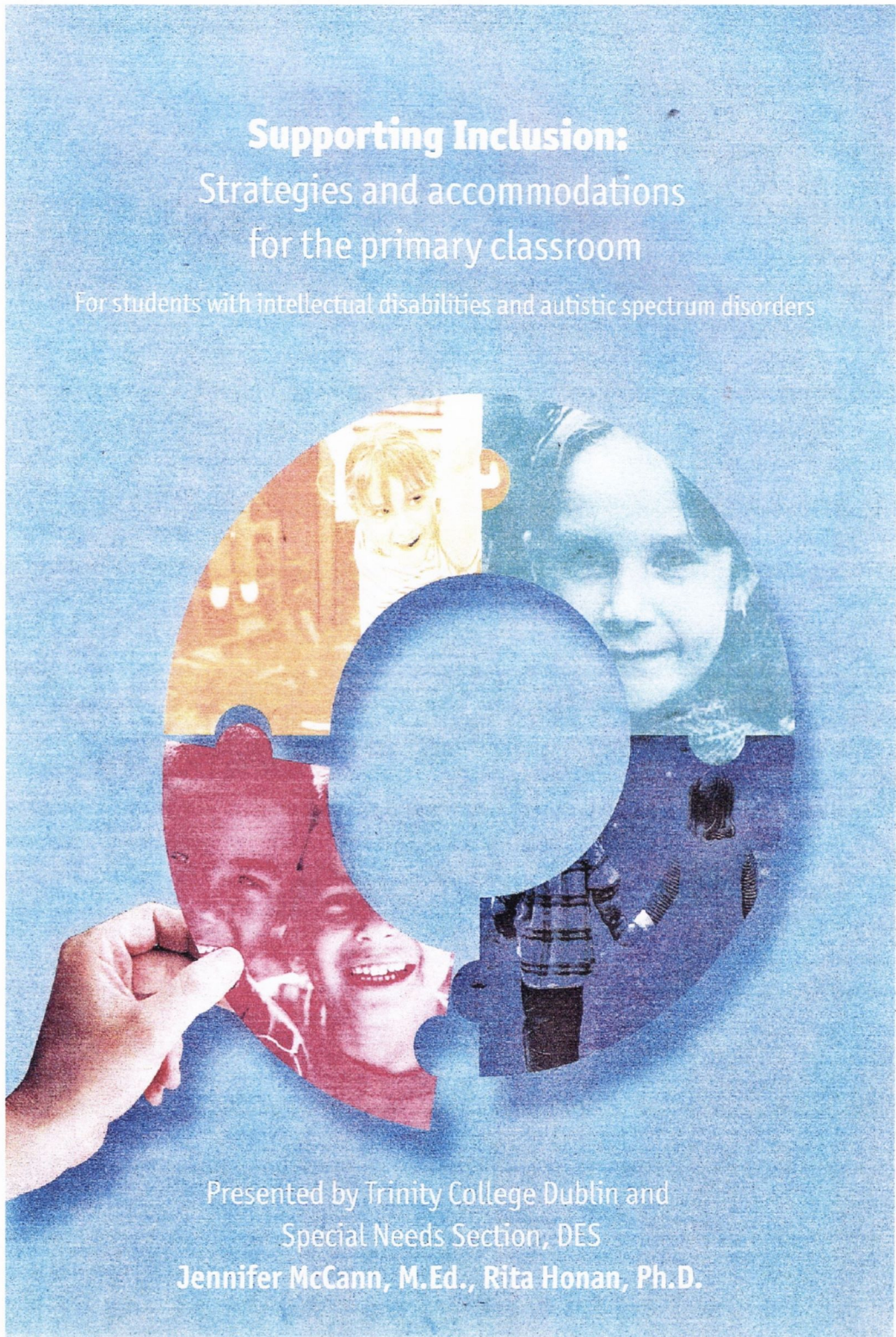
or by return e-mail to me at: jemccann@tcd.ie

Sincerely yours,

Jennifer McCann

Jennifer McCann, M.Ed.

Appendix D



The information contained in this booklet was compiled from a review of published literature and a survey of Irish primary schools.

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What is inclusion? How can I begin to implement best practices in my classroom?

Inclusion is not a place; it is a delivery of services, which allows a student with a disability to access curriculum and learning alongside his/her typically developing peers.

As an educator myself, I feel that two of the most important things you need to foster inclusion are a willingness to try different approaches and flexibility. Including students with disabilities in the mainstream takes planning. If inclusion is new to your school or classroom you could begin with a few of the suggestions in this booklet. You may take a suggestion that helps you plan for a particular student, a classroom or your school. For those who have already begun the process of including students, you may find something new to compliment your programme. If you do not fully understand but are interested in a topic herein, please use the Internet or references listed in this booklet to learn more. Of course you cannot fit everything you need to know about inclusion in this one booklet but it's a place to start or continue the great work you've already begun!

I would appreciate any feedback you would like to give on this informational booklet. You can reach me at jemccann@tcd.ie or by post at the Psychology Department of Trinity College, Dublin 2.

A special thank you to the staff at Lucan Educate Together School for reviewing earlier drafts of this booklet. Your input was invaluable!



Jen

Jen McCann, March 2005

Successful inclusion incorporates many of the following support systems: attitudes and beliefs, services and physical accommodations, school support, collaboration, and instructional methods (Vogel, 1993). Thank you to Irish primary schools across the country for completing a survey on inclusion. The bullets below are examples of your own current best practices.

Attitudes and Beliefs:

- Inclusive ethos
- Acceptance of individual differences
- Stress every child is unique and important
- Disability awareness
- High expectations

Services and Physical Accommodations:

- Speech and Occupational Therapies
- Adapt classroom environment and materials

School Support:

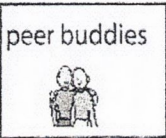
- Special Needs Assistants, Resource Teachers, Learning Support Teachers
- Staff development/education about disabilities

Collaboration:

- Collaboration of mainstream teacher and resource teacher
- Co-teaching or team teaching

Instructional Methods:

- Curriculum modifications according to individual needs
- Peer tutoring/Peer Buddies
- Cross-grade groupings



Also suggested in the Literature (Vogel, 1993):

- Active parental involvement
- Technical support for school staff and families
- Individually designed integration plan which matches children’s interests and learning styles to the curriculum of daily activities with typical peers
- Creative management of challenging behaviours

Successfully including a student with a disability is more likely if you use more than one approach or programme. What is needed is a “bag of tricks”. You need to utilise bits and pieces that fit the needs of the individual student(s), your classroom, and your teaching style. Remember that you are not in this alone. Use your colleagues in problem solving and as resources. You might try co-teaching a class with a resource or special class teacher. You will also find that, many of the adaptations and modifications you make will be useful for all learners.

Additional considerations for students who present with an Autistic Spectrum Disorder (ASD) (Iovannone, Dunlap, Huber, & Kincaid, 2003):

■ Individualized Supports and Services

- For some the general education curriculum with minimal or moderate modifications/adaptations will be appropriate, while others may need major adaptations (flexibility of approach).

For example: You may have a student who is working slightly below grade level in math. He presents with a learning disability, which requires some minimal accommodations such as concrete materials, shortened assignments as well as extra time to complete them. Another child with significant cognitive delays may require a lesson in math, which is modified by having the student work on the same concept with much smaller numbers. For example, the concept is addition but you could use numbers to 20 instead of 100. Then the student may use manipulatives and draw their answer.

- Consider family preferences when devising methods and instructional goals.
- Include the child's preferences and interests into the programme.
- Focus on the child's strengths and weaknesses to establish the most

appropriate intensity and level of instruction to meet the goals.

■ Systematic Instruction

- WHAT meaningful skills should be taught?
- Decide WHEN and HOW to teach, taking into consideration the unique characteristics of the student.
- Decide how to collect data in order to determine both student progress and the effectiveness of instruction.
- Strategies based on applied behaviour analysis (ABA) principles incorporate intense structured approaches (e.g., discrete trial training), naturalistic approaches (e.g., incidental teaching, pivotal response training), and self-management strategies.

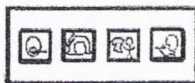
■ Comprehensible/Structured Environments

- A programme is considered structured when activities, schedules and environments are clear (i.e., comprehensible) to both the student and teacher. Does the student know what he/she is supposed to be doing?
- These conditions present students with an ASD a way to make sense of what is happening in their environment, enhance instruction of their targeted skills, and build their independence and communication. Depending on the specific characteristics of individual students, environmental supports can range from minimal (e.g., written schedules, review of homework at the end of the day) to

substantial (e.g. labels, independent work stations and group areas defined, visual schedules).

For example: Giving a student a 5-minute warning notice before an activity is to end. Another prompt is given to begin cleaning up the activity and then again when it is time to change activities or settings.

picture schedule



Picture schedules can help students

keep organized. A simple two column activity schedule can be organized where he/she move the picture from the "to do" side to "done" when the task is completed. In this way, he/she can also see when preferred activities are coming up in their day.

Specialized Curriculum Content

- Emphasis should be on curriculum content that targets communication and social interaction skills, which are the core deficits in students with an ASD.
- Communication can be improved by using augmentative/assistive technology strategies (e.g. picture exchange, switches, voice output devices).

For example: A Senior Infant class may be practising a poem or song.

A student with limited expressive language can participate by depressing an output switch that has a recorded line of the poem/song. A repetitive line works best as the student will have multiple opportunities to join in with his/her class.

- Procedures which address social interaction, include incidental teaching, pivotal response training of mainstream peers, social stories, visual supports and peer-mediated practices.

A Functional Approach to Problem Behaviours

1. First you investigate WHY the child is acting as s/he is – consider everything!
 2. Then design Interventions, which focus on preventative strategies and/or replacing the problem behaviour with more adaptive behaviour(s).
- The appropriate alternative or functional behaviour should result in the same or similar consequence for the child.

For example: A child may engage in inappropriate behaviours (i.e., hitting or inappropriate language) in order to gain the attention of the teacher. It is determined that the behaviour is initiated when the child is frustrated with a task. The child is taught to hold up a picture

with the word help on it when he/she becomes frustrated with his work. Thus, the problem behaviour is replaced with one that has the same effect, i.e., gain the attention of the teacher.

over time, and (d) reinforce her or his behaviour when pre-specified criteria are met.

Family involvement

- Families are essential partners in educational planning and delivery of supports and services. Education practices and strategies have an improved chance of being successful if they are implemented across all settings, including the home and community.

family involvement



For example, have a daily/weekly/ or as needed two-way communication book to facilitate family involvement. This can ensure that strategies worked on at school are reinforced in the home and can be refined with input from families.

- Determine the best level of participation based on family characteristics, stressors affecting the family, and the needs of the individual child.

Self-Management Strategies

(Harrower & Dunlap, 2001)

- Teaching the student to (a) discriminate between appropriate and inappropriate behaviours, (b) evaluate her or his own behaviour, (c) monitor her or his behaviour

For Example: A student may receive a progress report on certain behaviours on a daily basis. Higher functioning students can be taught to evaluate themselves critically by giving reasons why they should receive a particular mark/remark on their report. It can also be used to plan for a "better" day tomorrow...a goal to reach for!

Peer-Mediated Interventions

- Peer tutoring happens when two students work together on an instructional strategy with one student providing instruction, assistance and feedback to the other. (DuPaul & Eckert, 1998 as cited in Harrower & Dunlap, 2001)
- Cooperative Learning is utilized as an instructional activity for increasing academic success and social interactions. (Putnam, 1993 as cited in Harrower & Dunlap, 2001)

Key Concepts of Cooperative Learning (Harrower & Dunlap, 2001)

- Academic lessons are presented by the teacher to a small group of students (e.g. 4 mainstream students and one student with a disability).



- Children are taught cooperative learning principles/social skills at the outset of each

lesson. The five skills are (1) working together, (2) sharing things, (3) helping each other, (4) talking politely to each other, and (5) checking that others understood and checking that others agreed.

More on cooperative learning...

(Murphy, Grey & Honan, 2004)

Effective groups should include

- Careful selection of typically developing peers
- Instruction on cooperative learning social skills to all members of the group
- Supervising group performance during group work but not getting overly involved

More on Behaviour...

(WHY? WHEN? WHERE? WITH whom?)

Behaviour often becomes a predictor as to whether or not students are perceived to be successfully included



in the mainstream. Paula Kluth gives some considerations for rethinking behaviour in her book.

These are some of her suggestions for designing a behaviour plan. These ideas are to help students with special needs to become more successful in their classrooms and schools.

Ten Positive Ways to Support Students and Adaptive Behaviours

1 If possible, ask the student about the behaviour.

Certain behaviours may be exhibited as a way of

providing security or trying to communicate the need to be left alone.

2 Talk to the student's family.

They can tell us so much about their child.

3 Make the most of the school community.

All members of the school community should be utilised for information and support. This includes school secretaries, SNAs, etc.

4 Focus on connection and relationships.

Convey caring and listen, not only to their words but body language and behaviours.

5 Be gentle in a crisis.

It may be a reassuring touch on the hand or arm, singing a favourite song or asking how the child wants to be helped.

6 Consider perception and language.

A student who may be described as "hyper" could also be seen as active. A student described as unable to stay on task for 10 minutes could also be seen as a child able to remain engaged for 8 consecutive minutes.

7 Teach new skills.

Sometimes it is more useful to address the student's needs by teaching a new skill instead of trying to prevent a behaviour. (If s/he can do "this", s/he may no longer need to do "that".)

8 Be willing to adapt.

Look at adaptations and supports as a way to minimize undesirable behaviours.

9 Do something else.

This could include consulting with someone else, observing before you intervene, using humour.

10 Take care of yourself.

Relieve stress by confiding in others. Don't just

focus on what is going wrong but rather look at the progress and/or things going right.

Note. From *You're Going to Love This Kid!: Teaching Students with Autism in the Inclusive Classroom* (pp.157-173), by Paula Kluth, 2003, Baltimore: Paul H. Brookes Publishing Co. Copyright 2003 by Paul H. Brookes Publishing Co., Inc. Adapted with permission of the author.

This book is available for purchase from Eurospan at www.eurospanonline.com.

Definitions of Related Terms:

Accommodations: Supports or services provided to help a student access the general curriculum and validly demonstrate learning.

Adaptations: Any procedure intended to meet an educational situation with respect to individual differences in ability or purpose, e.g. adapting curriculum materials or teacher instruction.

Assistive Technology: Any of a wide range of technology applications intended to help students with disabilities learn, communicate, and otherwise work more independently by bypassing their disability.

Augmentative Communication: Substitute systems of communication, often using pictures, symbols, and/or words accessed through computer or other technology.

Cooperative Learning: Student-centred instructional method in which students work in small, mixed-ability groups with a shared learning goal.

Graphic Organizer: Visual format that helps students to organize their comprehension of information being presented or read and the associations between different parts of the information.

Inclusion: Term to describe a professional principle that students with disabilities should be integrated into general education classrooms whether or not they can meet conventional curricular standards and should be full members of those classrooms.

Integration: The physical, social, and instructional assimilation of students with disabilities in general education settings in part(s) vs. whole.

Mainstreaming: Term for placing students with disabilities in general education settings when they can meet traditional academic expectations with minimal support and few, if any accommodations, or when those expectations are not applicable.

Modifications: Changes made to the content and performance expectations for students.

Multisensory Approach: Instructional method that highlights the use of more than one modality for teaching and learning. For example, having a student read their name, spell it out loud, write it in sand with

their finger, and then write it on paper is a multisensory approach to teaching a student to spell their name.



Peer Tutoring: Student-centred instructional method in which pairs of students help one another and learn by teaching.

Here you will find an extensive but, not exhaustive list of accommodations to be used in the classroom: (You'll see many you are already using and some new ones you may want to try!) Compiled by teachers at the Patrick O'Hearn Elementary School, Boston, MA USA

Environmental Accommodations

Adjusting length of time for completing task

Checking students' understanding of subject matter and directions

Working in small groups

Providing individual work area

Reducing extraneous noise

Allowing movement to increase physical comfort

Preferential seating

Eye cues

Praise

Preparation cues for transition

Books on tape

Equipment Accommodations

Tape recorder

Calculator

Study carrels

Computer

Slant board

Pencil grips

Assorted lined paper

Postural cushion

Enlarged print

Enlarged computer screen/keyboard

Alternative computer access tools (e.g.: switches, trackball)

Noise buffers

Highlight

Visual schedule

Variety of computer software (word prediction, software that spell checks, grammar checks or recognizes speech)

Mini-blackboard/whiteboard

Tactile letters

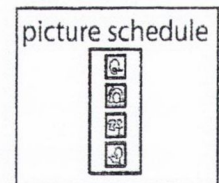
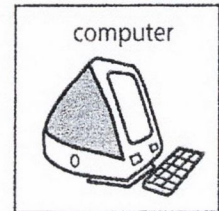
Writing in sand

Varied writing implements

Magnification equipment for visually impaired

Magnetic letters, tiles

Voice output devices



Accommodations for Student Responses to Instruction

- Provide a scribe for written responses
- Give credit for oral participation
- Allow to tape/record responses
- Graphic organizers
- Pre-teach vocabulary
- Study guides
- Uncluttered assignments
- Word wall/personal charts
- Personal dictionaries
- Thesaurus

Accommodations for Organization

- Daily or weekly progress reports/notes
- Use of checklist to keep student organized (mini-schedule)
- Homework notebook – do/done checklist
- Organized folders
- Use of checklists
- Periodic desk checks
- Predictable structure and routine
- Prepare for transitions
- Positive reinforcement
- Frequent breaks
- Frequent feedback
- Preferential seating
- Immediate feedback

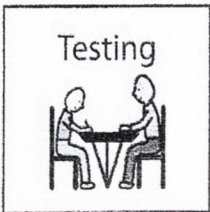
Consistent expectations/consequences

Accommodations for Access to Curriculum Materials

- Simplify complex directions
- Demonstrations/examples
- Provide same content at lower reading level
- Reduced homework assignments
- Reduce the number of items in the assignment
- Math curriculum related to real life experiences
- Hands on materials
- Adapted worksheets
- Manipulatives
- Computational aids (counters, manipulatives, beads, abacus, cubes, number line)
- Math matrix (number fact sheets, hundreds place value, charts and tables, formulas, large print, Braille)
- Flashcards

Accommodations for Test Taking

- Administer in short periods/frequent breaks
- Administer in small group setting
- Administer at a time that is considerate of the student’s medical or behavioural needs
- Administer individually
- Administer in a room separate from the class
- Administer with student seated in front



Administer with student wearing noise buffers

Allow movement to increase physical comfort

Reduce the number of items in the test

Test in a carrel

Use of place marker

Answers recorded using a template

Large print

Use of tape recorder

Assistance to student in tracking test items

Check-ins

Answers dictated to a scribe

Read the test to student

Allow extra time

Open book test

Oral exam

Accommodations to Behaviour

Focus on preventative strategies

Reward system

Natural consequences for behaviour

Reinforce appropriate behaviour

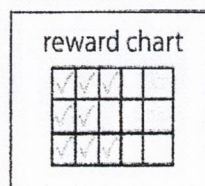
Break choices between assignments

Allow movement to increase physical comfort

Limit choices (reduce overwhelming student)

Time-out opportunities

Behavioural contracts



Role modelling

Peer support

Cooperative learning

Prepare for transitions

Additional copies

Additional copies of this booklet can be requested through email from the National Institute for the Study of Learning Difficulties, Trinity College at nisld@tcd.ie.

Soon it will be available for download from their website: <http://www.nisld.ie>.

Helpful websites:

Resource material on Inclusion, workshops and training events: <http://www.inclusion.com>



Florida Inclusion Network (Inclusion....Yours, Mine, Ours) Suggestions for classroom teachers, special education teachers, thoughts for parents and strategies for challenging behaviours: <http://www.rushservices.com/Inclusion/homepage.htm>

Circle of Inclusion – early childhood service (birth through age eight) <http://www.circleofinclusion.org/>

Companion website for the book *Including Students with Special Needs: A Practical Guide for Classroom Teachers* (Barsuck, W.D., & Friend, M., 2002).

<http://www.ablongman.com/friend3e>

Inclusive Education Web Page

Teaching strategies and inclusion resources

<http://www.uni.edu/coe/inclusion/>

The Gray Center for Social Learning and Understanding

Tips for teachers working with children with an ASD

http://www.thegraycenter.org/tips_for_teachers.htm

Educational and communication approaches for students with an Autistic Spectrum Disorder

<http://www.teacch.com/>

A link to many other autism websites

<http://www.autism.org/links.html>

17, 2004, from the Psychology and Behavioral Sciences Collection database. <http://search.epnet.com/login.aspx?direct=true&AuthType=cookie,ip,url,uid&db=pbh&an=10697547>

Kluth, P. (2003). *"You're going to love this kid!": Teaching students with autism in the inclusive classroom*. Baltimore: Brookes Publishing Co.

Murphy, E., Grey, I., Honan, R., Implementation of a cooperative learning program with a child with an autistic spectrum disorder. *REACH Journal of Special Needs Education in Ireland*, 18(1), 39-49.

Vogel, Lynn. (1993). Including students with disabilities In general education classrooms. *ERIC Clearinghouse on Disabilities and Gifted Education*. Retrieved August 9, 2004, from <http://www.ericfacility.net/ericdigests/ed358677.html>

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- Iovannone, R., Dunlap, G., Huber, H., & Kincaid, D. (2003). Effective educational practices for students with autism [Electronic version]. *Focus on Autism & Other Developmental Disabilities*, 18, 150-166. Retrieved February

Appendix E



School of Psychology

University of Dublin, Trinity College

Dublin 2, Ireland

Tel: +353 1 896 1886
Fax: +353 1 671 2006

F.A.O. Jennifer McCann

School of Psychology Research Ethics Committee

11 October, 2004

Dear Jennifer,

The School of Psychology Research Ethics Committee has reviewed your application entitled,

Buddy Study: Increasing the social functioning of children with an ASD through peer mediated training

and I am pleased to inform you that it was approved.

Yours sincerely,

A handwritten signature in cursive script, appearing to read 'K. Tierney'.

Dr Kevin Tierney
Chair,
School of Psychology Research Ethics Committee

SCHOOL OF PSYCHOLOGY
Aras an Phairsaigh
Trinity College

Appendix F

21 October 2004
Information Sheet
***Name of School* & TRINITY COLLEGE DUBLIN**
BUDDY PROGRAMME
A Pilot Research Study

Dear Parents,

Jennifer McCann, a doctoral student at Trinity College Dublin and Aileen Minihan, a final year undergraduate student, under the supervision of Dr. Rita Honan, are hoping to conduct a "Buddy Study" with children with an Autistic Spectrum Disorder (ASD) and mainstream children from XXXXXX School. Children with an ASD show difficulties in social behaviour and social competence; however, recent research has found that when peers understand the difficulties associated with ASDs and learn skills to interact with these children, both groups of students benefit. Previous research was conducted at XXXXXX School and proved to be successful. We hope to build on that important piece of research.

In the past, research has focused primarily on school-based interventions. We hope to develop a home-based programme in which a child with an ASD will be paired with a typically developing peer and they will have regular play dates in one of the children's homes. The programme will focus on children aged 7 and older. It will progress as follows:

1. Teachers from XXXX will propose mainstream peers for this study. Although parents of the students with an ASD may also nominate peers from the school or their neighbourhood.
2. An informational meeting will be held for parents to explain the study, and the input that would be required.
3. Mainstream children will be trained in various skills that are optimal for interacting with children with an ASD, including how to hold their attention, how to praise the child and how to maintain interactions. Training will take place over two days for approximately one hour each day, during after school hours.
4. Play dates will then be scheduled preferably twice a week during which time the mainstream child will play with the child with an ASD.
5. The researchers and parents will sit in during the middle 10 minutes of some of the play sessions and fill out observation sheets noting specific behaviours of the child with an ASD, for example 'initiates play' or 'initiates conversation'.

6. A follow-up study will be conducted. It will entail the same play sessions as described above, however it will last for only 3-4 weeks.
7. This study also aims to see if any improvements seen in social interactions of the child with an ASD are generalised to other settings, e.g. school and with other, untrained peers. Play sessions with a 'generalisation peer' will also take place. One session will take place at the start of the study and others as the study progresses. All generalisation play sessions will take place in a classroom in XXXXX School.

Before the mainstream students begin training sessions, we also hope to ask them some questions to learn their thoughts about and understanding of the students with an ASD. This same interview would be repeated near the end of the study to determine if any change in understanding and/or attitude came about as a result of their participation in this project.

This study will be written up as a final year undergraduate project by Aileen Minihan. In addition, Jennifer McCann will be including this work as part of her doctoral thesis. If the study is published in any form, no identifiable information will be used. If you agree to allow your child to participate in this study, all information we receive is confidential. Data will be stored on a personal computer that is password protected. For additional safety, each child will be allocated a number known only by the researchers and data will be stored with reference to this number. Paper work will be transferred to the computer on a bi-weekly basis and then shredded. Therefore, no personal details will be on file. Should you allow your child to participate and they are selected to do so, they will be informed that they are free to withdraw at anytime, without any impact on the services you or your child receives. You are also free to withdraw your consent at any time without consequence.

If you have any questions or concerns prior to the information meeting, please contact any of the researchers listed below.

Jennifer McCann, M.Ed.
Ph.D.
Post Graduate
jemccann@tcd.ie
608-2970

Aileen Minihan

Final Year Undergraduate
minihana@tcd.ie

Rita Honan,

Supervisor
honanr@tcd.ie
608-1489

Thank you for considering this project!

Appendix G

CONSENT FORM
LUCAN EDUCATE TOGETHER SCHOOL &
TRINITY COLLEGE DUBLIN
BUDDY PROGRAMME
A Pilot Research Study

Student:

Date of Birth:

I have read the information sheet dated 8 October 2004, and I know that this project involves the implementation of a one to one buddy programme between a typically developing student and a child with an Autistic Spectrum Disorder.

I understand that my child is not obliged to take part in this study, and that either my child or I may withdraw at any time.

I consent for my child to take part in this study.

Signed: _____
Parent(s)

Date: _____

Tel. Number : _____

Please keep a copy of this form for your records.

Appendix H

Date of Session: _____
Child's Name: _____
Peer's Name: _____

Interval One (first 60 seconds)	Interval Two (second 60 seconds)	Interval Three (third 60 seconds)	Interval Four (fourth 60 seconds)	Interval Five (fifth 60 seconds)
Maintaining Play	Maintaining Play	Maintaining Play	Maintaining Play	Maintaining Play
Maintaining Conversation	Maintaining Conversation	Maintaining Conversation	Maintaining Conversation	Maintaining Conversation
Initiating Play	Initiating Play	Initiating Play	Initiating Play	Initiating Play
Initiating Conversation	Initiating Conversation	Initiating Conversation	Initiating Conversation	Initiating Conversation

Interval Six (sixth 60 seconds)	Interval Seven (seventh 60 seconds)	Interval Eight (eigh 60 seconds)	Interval Nine (ninth 60 seconds)	Interval Ten (tenth 60 seconds)
Maintaining Play	Maintaining Play	Maintaining Play	Maintaining Play	Maintaining Play
Maintaining Conversation	Maintaining Conversation	Maintaining Conversation	Maintaining Conversation	Maintaining Conversation
Initiating Play	Initiating Play	Initiating Play	Initiating Play	Initiating Play
Initiating Conversation	Initiating Conversation	Initiating Conversation	Initiating Conversation	Initiating Conversation

Additional Notes: (toys played with, location, etc.)

Appendix I

Adapted from the manual “Kids Helping Kids: Teaching Typical Children to Enhance the Play and Social Skills of their Friends with Pervasive Developmental Disorders” by Karen Pierce, Ph.D. & Laura Schreibman, Ph.D.

(Adapted by McCann, Minihan & Honan, 2005)

Introduction

Teaching social interaction skills to children with autism is perhaps the most critical, and often most difficult, aspect of treatment programming. Pivotal Response Training (PRT) is a series of behavioural teaching strategies designed to increase the **motivation** of the child with autism to want to engage in a particular task while at the same time giving **attention** to their surrounding environment. In the context of social interaction, motivation can be described as a child's desire to want to interact or play with another child. Researchers have found that using typically developing children as 'peer trainers' is a highly effective treatment method. They are readily available in the home and at school and they provide developmentally appropriate examples of play and social behaviour. The following sections will explain the various strategies to teach typically developing peers and the method for training them in these strategies. The enclosed picture manual 'How to be a Great Friend' is a visual guide that should be given to peers during their training.

Getting Started

Who should I train?

Decide who your peer trainers will be; there are several important factors to consider when choosing a peer trainer including age, availability and consistency.

Age: The skill of a peer trainer increases with age, in that an eight- year-old child will generally be a better trainer than a five year old child. It is important, however, that the peer trainer and the child with autism be of similar age to increase the chance of developing friendships and to provide age-appropriate examples of play.

Availability/Consistency: Children with autism thrive under conditions of consistency, so it is important to choose peer trainers that are available on a regular basis.

Where will training take place?

Training should take place in a location free of distractions. This may mean a room in the house with no television or other such things that will compete for the peer trainer's attention. The flexibility of this training allows the techniques such as orienting attention, praise for appropriate behaviour or encouraging conversation to be implemented in any setting; during outdoor or indoor play, family outings or even at the dinner table. So, once peer training is complete, they should be encouraged to use these strategies with the child with autism in any setting they feel comfortable.

What toys should I use?

It is important to use toys that will enhance interaction such as board games, interactive computer games or a ball. Toys that are difficult to share, such as a book, or those that may be an obsession for the child with autism, such as trains, should be avoided.

Overall Guidelines for Training Peers

If you are training more than one peer it is best to train them all at the same time. This gives them the sense that they are doing similar things to other children their age and also gives them the chance to practice the strategies they have learned on each other. Researchers have found that most typical peers can learn the basics of this training method in 1 or 2 one-hour sessions. You will be teaching 4 strategies and so you may choose to teach all four in one two hour session or spread it out over a number of sessions. At the beginning of training explain to the child/children that they will be helping a child with autism to learn how to play and make friends. Next, give each peer trainer a manual and tell them that they will be learning many different strategies for helping the target child. The teaching of each strategy should follow the same procedure:

1. Explanation: Explain each strategy verbally and have each child follow along in their manual. After you have explained each strategy, ask questions to each peer to see if they understand the concepts.
2. Role Playing: With another adult, role play each strategy, using toys that will be available to the peers. Give both a *good* and *poor* example of implementing each strategy and ask the peer to comment after each. This will give the peer trainers examples of what they should, as well as should not, be doing. Ask lots of questions after role playing each strategy as this will help them understand the important elements of each strategy.

Poor example of 'Orient Attention'

Adult 1 (acting as target child): Looks up at lights on the ceiling as he is repetitively moving an object.

Adult 2 (acting as peer trainer): Sits next to adult 1 and says 'do you want to play ball?'

Questions to ask peer trainers: Was that a good or bad example of getting your friend's attention? Why or why not? What other things could you have done to get attention?

In the above example, Adult 2 did not attempt to orient the target child's attention to any meaningful object and did not position his/her body in such a way as to elicit a response from the target child.

Good example of 'Orient Attention'

Adult 1 (acting as target child): Looks up at lights on the ceiling as he is repetitively moving an object.

Adult 2 (acting as peer trainer): Sits in front of target child and places a ball in front of the moving car. Once the target child either makes eye contact with adult 2, or looks at the new object (i.e. the ball), adult 2 then asks 'do you want to play ball, or car?'

In this example, adult 2 gets the attention of the target child by moving to the front of the child and placing an object which blocks the target child's current focus of attention (the car). Once sure that the attention of the target child is either on the adult or the new object, adult 2 delivers the prompt "do you want to play ball or car?"

3. **Adult-trainer Role Playing:** Instruct the peer(s) to show you how to implement each of the strategies. As the teacher, you pretend to be the target child, and ask the peer trainer to show you how to implement each strategy (for example, "show me how you would orient attention"), giving good and poor examples of each. Usually, the peer trainers will simply repeat the examples given to them in the previous role-play section. Initially, this is acceptable, however, after the peer trainer has repeated things shown to them; ask them to give an original example.
4. **Trainer-trainer Role Playing:** If you are training multiple peers, it is a good idea to have the peers role play together and provide feedback to each other. Finish up by going through any unanswered questions.

It is vital that the peer must be able to implement each strategy accurately before continuing with the sessions. This means they must reach at least 75% accuracy during role playing and question answering periods for each strategy.

This can be assessed by using a simple question/answer sheet at the end of training.

PRT Strategies

As described earlier, PRT focuses on two pivotal mechanisms: motivation and attention. Two strategies will be taught to enhance the motivation of the target child, Turn-taking and Praise; and two will target attention, Orient Attention and Encouraging Conversation.

Strategy 1: Orient Attention

Children with autism commonly have attention difficulties and so teaching the peer trainer to correctly orient the attention of their playmate is usually the first, and perhaps the most important, strategy taught.

Think of a typical child sitting in front of the television watching his favourite program. If the child is asked a question from across the room, the probability is high that he will not answer you. However, if you walk across the room, and stand in front of the television, the child will more than likely answer you. You have, in essence, oriented the child's attention by blocking their current focus of attention. This is the concept that is addressed in this strategy.

Peer DO's

1. Orient body position so that they are directly in front of, and at eye level with target child.
2. Hold preferred toy near eyes, this will orient the target child's attention to the peer trainer's face.
3. Tap lightly on the shoulder, this will alert the target child
4. Say the name of the child, this will alert the target child
5. If reasonable, holding a hand over the toy the child with autism is currently engaged with will also serve to orient attention.

Peer Don't's :

1. Try to get attention from behind the target child. Always address the child from the front.
2. Ask a question or deliver a prompt from far away.
3. Raise voice to excessive levels in an effort to get attention (although slight elevation may be necessary at times).

Strategy 2: Turn-Taking

Taking turns is an important play milestone that every child must learn. Both typical children and children with autism will more than likely have difficulty with this skill at some point early in development. Given the importance of this skill,

peer trainers are taught to emphasise turn-taking during play. Turn-taking is also beneficial because it provides the peer trainer an opportunity to model appropriate play. Finally, it is a key component in enhancing the motivation of the target child to continue interactions: if the child is motivated for a particular toy, he/she will want his turn back and will usually observe the peer trainer in an effort to get it. In doing so, they learn excellent examples of appropriate play and social skills shown by the peer trainer.

Important points for peer trainers to learn:

1. Taking turns is important because it gives them a chance to show the child with autism how to play, talk etc.
2. It is also important to teach sharing.
3. It is important because it gives the target child an opportunity to talk for his/her turn back.

Peer Don'ts

1. Allow the target child to play with a toy exclusively by themselves without allowing the peer trainer to have a turn.

Strategy 3: Praising Appropriate Social Behaviour

This strategy was designed not only to encourage the peer trainer to verbally reinforce the target child for a job well done, but also to maintain a positive atmosphere during the training. Quite often peer trainers are so preoccupied with doing a good job that they forget to have fun themselves. This strategy was designed to ensure enjoyment for *both* participants.

When teaching peer trainers this strategy, simply remind them to have fun, use lots of positive language and remember to laugh! Further, whenever they see the target child having fun or engaging in appropriate social behaviour, they should tell their friend that they are doing an excellent job.

Strategy 4: Encouraging Conversation

This strategy should be utilised when working with target children that have some speech approximations. An important part of any social interaction is encouraging conversation. Tell the peer trainer that it is important that they try to facilitate speech. While playing, the peer trainer can use simple questions or statements to illicit more conversation.

Is that all?

Did anything else happen?

Tell me more.

Peer DO's

1. Encourage conversation as frequently as possible. Usually a good time to ask your friend to talk is during a turn taking activity. When the peer

trainer has finished his/her turn, he/she can ask the target child for the toy back so that they may take their turn. Therefore, it is important that the peer encourage language after every turn is taken.

2. Expect that the target child will emit a verbalization when offered a choice. For example, if the peer trainer asks “do you want to play Snakes and Ladders or Legos?”, he/she should expect the target child to emit some verbal response before giving him/her the toy or game.
3. Always follow-up conversation by using the simple questions or statements above, e.g. if the peer trainer asks if the target child “what did you do in school today?”, and the child answers “maths” the peer trainer can prompt “tell me more”.

Peer Don'ts

1. If the target child appears frustrated with frequent requests for verbalizations, the peer trainer should decrease his/her prompts. Once the target child is more successful and is not emitting signs of frustration, then the number of requests for language can be increased.
2. Accidentally reinforce poor or no language by giving the target child a preferred activity after the target child has behaved inappropriately or ignored the peer's request. For example, if a peer trainer had just asked Johnny, a child with autism, “do you want to play with Play-doh or cars?”, and Johnny does not answer but simply tries to grab the car, the peer trainer should not relinquish the car to Johnny without his attempt at appropriate communication.
3. Try not to ask the target child one question after another. Try to build on previous statements or comments made by him/her.

Peer Mediated Pivotal Response Training (PRT) – Pacing Guide/Activity Planner

This is part of ability awareness training prior to the inclusion of a student with autism into the mainstream classroom.

Day One:	Day Two:	Day Three:
1. Introduction to how we are the same and different. 2. Hand out the	1. Review the strategies. 2. Have students role play strategies	1. Review the strategies. 2. Have students role play strategies

manual and read the four strategies. 3. Discuss each one in turn and model good/bad examples w/another adult or a student who has already done the training. 4. Review the strategies to see if students can name them. 5. Have students, colour the manual and (depending on age level) write examples of how they can model the strategy with a friend.	w/teacher. 3. Continue colouring and writing about the strategies in the manual. 4. Review.	w/each other. a. You can also have the other students guess which strategy instead of announcing which one the pair will be modeling. b. You can ask the pair of students to role play an unsuccessful example. 3. Complete the books and review. 4. Depending on age use written/drawing assessment tool.
---	--	---

Each session should take approximately 30-40 minutes. Collect manuals after day one and two, to review what children have written. (They can go home after day three)

Assessment:

See the attached forms, ask very young children (Senior Infants - First Class) to draw each strategy. You can rotate through the classroom and have children explain their drawings and give examples of the strategies. For children a little older (First Class - Second Class) you can ask them to draw and write about each strategy. For older children (Second Class and older) ask them to write and give examples of each strategy.

For verbal modeling, have a class list and rotate a few children each day giving examples of the four strategies.

It is suggested to give the written assessment first as you can then assess the students who have a firm grasp of the material and those who may need more practice before modeling the strategies.

On-going support:

Periodically review the strategies with the class. Reminders, during play sessions, will also be helpful as needed.

Additional Activities:

- Keep a class roster and let students practice modeling the strategies for a few minutes as your schedule allows.
- Have students make posters of the strategies for the classroom. (These are good social skills for all children to learn how to be a good friend to one another.)

J. McCann, TCD, 2006
jemccann@tcd.ie or honanr@tcd.ie

Appendix J

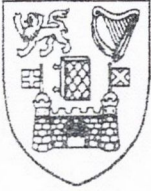
Reminders for Mainstream Students before
Play Sessions:

“How to be a Great Friend”

- Getting your friend's attention
 - Stand in front of your friend
 - Use his/her name
- Get your friend to take turns
 - Say my turn, your turn
 - Make sure to go at least every second go
- Say nice things to your friend
 - Good, Great Job, Nice Try!!!
 - (Remember the praise is for you too!)
- Ask your friend to talk (Encourage Conversation)
 - Give choices when asking what to play
 - Use turn taking
 - Ask follow-up questions or statements when they talk.
 - Is that all?
 - Did anything else happen?
 - Tell me more.

Remember you are a GREAT FRIEND!

Appendix K



School of Psychology

University of Dublin, Trinity College

Dublin 2, Ireland

Tel: +353 1 896 1886
Fax: +353 1 671 2006

F.A.O. Jennifer McCann

School of Psychology Research Ethics Committee

24 October, 2005

Dear Jennifer,

The School of Psychology Research Ethics Committee has reviewed your application entitled,

*Furthering the Inclusion of students
with an ASD.*

and I am pleased to inform you that it was approved.

Yours sincerely,

A handwritten signature in dark ink, appearing to read 'K. Tierney'.

Dr Kevin Tierney
Chair,
School of Psychology Research Ethics Committee

SCHOOL OF PSYCHOLOGY
Aras an Phairsaigh
College

Appendix L

Student: _____
Teacher: _____
Observer: _____

Date: _____
Time: _____

Observation of Student in Special Education Classroom

School: _____ Classroom: _____

Number of students present: _____

Number of Adults present: _____

Activity observed:

Activity (with description): _____

Number of students involved: _____

Activity directed by: _____

Description of student's involvement (include transition to activity,
presence and involvement of SNA and teacher, behaviour –
eager/resistant/passive, etc.)

Number and nature of prompts given:

Verbal Prompts:

Visual Prompts:

Physical Prompts:

Special Vocabulary (what was it and what the context was):

Adapted from Sonja de Boer-Ott's Programme to *Facilitate Inclusion of a Student with an
Autistic Spectrum Disorder* by Jennifer McCann, M.Ed.

Appendix M

Inclusion Team
Progress Meeting Notes

Attending: _____

Agenda:

-
-
-
-
-
-
-

Progress:

(What has been happening? What have been the outcomes?)

Next Steps:

(Looking forward - What should happen next?)

J. McCann, M.Ed., jemccann@tcd.ie (2005)

Appendix N

Consultation Meeting

Present at meeting:

Outreach Teacher _____	Mainstream Teacher _____
Resource Teacher _____	Principal _____
Parent _____	Psychologist _____
Speech _____	O.T. _____
Other _____	

Topics discussed:

Outcomes of meeting:

Follow-up (if any):

Appendix O

INFORMATION SHEET
8 November 2005

(Name of School) & TRINITY COLLEGE DUBLIN

Furthering the Inclusion of Students
with an Autistic Spectrum Disorder

Dear Parents,

Jennifer McCann, a doctoral student at Trinity College Dublin, under the supervision of Dr. Rita Honan, is hoping to conduct an individual case study on how best to include a student with an Autistic Spectrum Disorder into a mainstream classroom at your child's School. Hopefully, this process will help to further define some policies and procedures that can be put into place for future inclusion of other students.

In the past, research has focused primarily on intervention programmes used in the United States. The purpose of this study is to see what adaptations need to be made for the particular needs of a student included with typically developing peers in your child's School.

The study will include ability awareness training of typically developing peers. As part of the training students will be shown an age appropriate three minute video on autism and Asperger syndrome highlighting how we are all similar and in some ways, different. Students will be taught simple ways that will help them work with a student with autism. For example, making eye contact with the other student, praising them, taking turns and encouraging conversation would be strategies we would teach. These strategies would be taught in the mainstream classroom over the course of a few days during thirty minute sessions. Then, a student in the school with an Autism Spectrum Disorder will begin to be progressively included in your child's class. Children from the mainstream class may join the student with an ASD in their classroom for some activities at first. Then, the child will be included in some activities in the mainstream class. In addition, there will be video observations made of 'inclusive activities' with the children who participate in this project. This will allow Jennifer and 1-2 other researchers to view the tape and ensure that their observations are accurate. Videos will not be used for any other reason unless you consent to their use in future training sessions with parents and/or professionals. A survey of student perceptions about their class would take place at the end of the study. It would include statements similar to "I like

helping other students", where the student would respond with yes, maybe or no.

In addition, parents of the student with an ASD will complete a survey form at the beginning and end of the study, to assess adaptive behavior in the areas of Communication, Daily Living Skills, and Socialization. Parents of the student with an ASD will also be part of a team to facilitate the inclusion of their child. Included in the team are the Principal, Specialist Teacher, Mainstream Teacher and Parent. The team will meet approximately once a week to plan for and discuss progress of the individual child's inclusion plan and to insure the programme is not unfavorably affecting any of the students in the mainstream.

Jennifer McCann will be including this work as part of her doctoral thesis. If the study is published in any form, no identifiable information about your child will be used. If you agree to allow your child to participate in this study, all information we receive is confidential unless you agree to his/her image and/or first name being used. Should you allow your child to participate, you are free to withdraw your consent at any time without consequence. Your child will also have the right to express any reservation around participating, and this will be respected.

We would like permission for your child to take part in this project. If you have any questions or concerns, please contact either of the researchers listed below.

Jennifer McCann, M.Ed.
Post Graduate
School of Psychology
jemccann@tcd.ie
608-3912

Rita Honan, Ph.D.
Senior Lecturer
Research Supervisor
honanr@tcd.ie
608-3906

Please keep this letter for your records.

Appendix P

Consent Form

SCHOOL &
TRINITY COLLEGE DUBLIN
Project to Facilitate Inclusion of Students
with an Autistic Spectrum Disorder

Student:

Date of Birth:

I have read the information sheet dated 8 November 2005, and I know that this project involves the implementation of an inclusion programme.

I understand that my child is not obliged to take part in this study, and that either my child or I may withdraw at any time.

I consent to take part in this study.

Signed: _____ Date: _____

Tel. Number : _____

Please keep a copy of this form for your records.

Appendix Q

INFORMATION SHEET
8 November 2005

(Name of School) & TRINITY COLLEGE DUBLIN
Furthering the Inclusion of Students
with an Autistic Spectrum Disorder

Dear Administrators and Teachers,

Jennifer McCann, a doctoral student at Trinity College Dublin, under the supervision of Dr. Rita Honan, is hoping to conduct an individual case study on how best to include a student with an Autistic Spectrum Disorder into a mainstream classroom at your child's School. Hopefully, this process will help to further define some policies and procedures that can be put into place for future inclusion of other students.

In the past, research has focused primarily on intervention programmes used in the United States. The purpose of this study is to see what adaptations need to be made for the particular needs of a student included with typically developing peers in your child's School.

The study will include ability awareness training of typically developing peers. As part of the training students will be shown an age appropriate three minute video on autism and Asperger syndrome highlighting how we are all similar and in some ways, different. Students will be taught simple ways that will help them work with a student with autism. For example, making eye contact with the other student, praising them, taking turns and encouraging conversation would be strategies we would teach. These strategies would be taught in the mainstream classroom over the course of a few days during thirty minute sessions. Then, a student in the school with an Autism Spectrum Disorder will begin to be progressively included in your child's class. Children from the mainstream class may join the student with an ASD in their classroom for some activities at first. Then, the child will be included in some activities in the mainstream class. In addition, there will be video observations made of 'inclusive activities' with the children who participate in this project. This will allow Jennifer and 1-2 other researchers to view the tape and ensure that their observations are accurate. Videos will not be used for any other reason unless you consent to their use in future training sessions with parents and/or professionals. A survey of student perceptions about their class would take

place at the end of the study. It would include statements similar to "I like helping other students", where the student would respond with yes, maybe or no.

In addition, parents of the student with an ASD will complete a survey form at the beginning and end of the study, to assess adaptive behavior in the areas of Communication, Daily Living Skills, and Socialization. Teachers will be part of a stakeholder team. Included in the team are the Principal, Specialist Teacher, Mainstream Teacher and Parent. The team will meet approximately once a week to plan for and discuss progress of the individual child's inclusion plan and to insure the programme is not unfavorably affecting any of the students in the mainstream.

Administrators and teachers will also be asked to participate in a short interview and to complete a questionnaire at the beginning and end of the study. The purpose of these instruments is to examine the programme goals and purpose. Additionally, a survey on inclusion classrooms will be given at the end of the school year.

Jennifer McCann will be including this work as part of her doctoral thesis. If the study is published in any form, no identifiable information about your child will be used. If you agree to allow your child to participate in this study, all information we receive is confidential unless you agree to his/her image and/or first name being used. Should you allow your child to participate, you are free to withdraw your consent at any time without consequence. Your child will also have the right to express any reservation around participating, and this will be respected.

We would like permission for you to take part in this project. If you have any questions or concerns, please contact either of the researchers listed below.

Jennifer McCann, M.Ed.
Post Graduate
School of Psychology
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608-3913

Rita Honan, Ph.D.
Senior Lecturer
Research Supervisor
honanr@tcd.ie
608-3906

Please keep this letter for your records.

Appendix R

Consent Form

SCHOOL &

TRINITY COLLEGE DUBLIN

Project to Facilitate Inclusion of Students
with an Autistic Spectrum Disorder

Name: _____

:

I have read the information sheet dated 8 November 2005, and I know that this project involves the implementation of an inclusion programme.

I understand that I am not obliged to take part in this study, and that I may withdraw at any time.

I consent to take part in this study.

Signed: _____

Date: _____

Tel. Number : _____

Please keep a copy of this form for your records.

Appendix S

Student Name: _____

***Data Sheet for Time and Activities in the Mainstream
or with Mainstream Peers***

	Brief Description of the Activity (Academic or Social)	Duration of Activity (minutes)	Location (Mainstream classroom, special class, playground)	Ratio of above named student with an ASD to MS Peers (1:1, 1:3)	Additional Comments
Date:					
Date:					
Date:					
Date:					

Appendix T
Data Sheet for Measuring Participation and Engagement (QIEM, Abbreviated Version)

Center	Class	Child with disabilities		Date	Observer		
5-min Intervals	Activity or Routine	Same?		If "no," what is child with disabilities doing?	Engagement		
		yes	no		Child w/ disabilities	Peer 1	Peer 2
1							
2							
3							
4							
5							
6							
7							
8							
9							
10							
11							
12							
Subtotal				Subtotal			

Engagement Rating Scale Key

- 1 = Child spends most (i.e., more than 85%) of the time waiting, non-engaged, or doing inappropriate behavior with minimal engagement
 2 = Child frequently is waiting, non-engaged, or inappropriate, but occasional engagement occurs
 3 = Child spends about half of the time engaged and half of the time waiting, non-engaged, or doing inappropriate behaviors
 4 = Child frequently engaged but occasional waiting, non-engagement, or inappropriate behavior
 5 = Child spends most (i.e., more than 85%) of the time engaged with minimal waiting, non-engagement, or inappropriate behavior

Page 2

Center	Class	Child with disabilities		Date	Observer		
5-min Intervals	Activity or Routine	Same?		If no, what is child with disabilities doing?	Engagement		
		yes	no		Child w/ disabilities	Peer 1	Peer 2
13							
14							
15							
16							
17							
18							
19							
20							
Subtotal		_____		Subtotal	_____	_____	_____
Total page 1 & 2		_____		Total page 1 & 2	_____	_____	_____
Percentageyes:		_____		Average	_____	_____	_____

Engagement Rating Scale Key

- 1 = Child spends most (i.e., more than 85%) of the time waiting, non-engaged, or doing inappropriate behavior with minimal engagement
 2 = Child frequently is waiting, non-engaged, or inappropriate, but occasional engagement occurs
 3 = Child spends about half of the time engaged and half of the time waiting, non-engaged, or doing inappropriate behaviors
 4 = Child frequently engaged but occasional waiting, non-engagement, or inappropriate behavior
 5 = child spends most (i.e., more than 85%) of the time engaged with minimal waiting, non-engagement, or inappropriate behavior

Appendix U

Elementary Student Inclusion Survey

Part 1: Please tell us the word (or face) that best describes your feelings about your class.



1
YES



2
MAYBE, SOMETIMES



3
NO

1. I am learning a lot.



YES



MAYBE



NO

2. I feel that other students are learning a lot.



YES



MAYBE



NO

3. I like helping other students.



YES



MAYBE



NO

4. I saw other students in our class making fun of their classmates who act, look, speak, and learn differently.



YES



MAYBE



NO

5. I have improved at helping others.



YES



MAYBE



NO

6. I am more understanding of the behaviors and feelings of others.



YES



MAYBE



NO

7. I made new friends with students I didn't know before.



YES



MAYBE



NO

8. I understand more about people's differences.



YES



MAYBE



NO

9. I learned new things about myself.



YES



MAYBE



NO

10. I like being in a class with different types of students.



YES



MAYBE



NO

11. I understand more about how people are the same.



YES



MAYBE



NO

12. I feel good about myself.



YES



MAYBE



NO

13. I learned how to treat others better.



YES



MAYBE



NO

14. I improved my school work.



YES



MAYBE



NO

15. I am better at making friends.



YES



MAYBE



NO

16. I learned from other students.



YES



MAYBE



NO

17. I make fun of others who are different from me.



YES



MAYBE



NO

18. I feel that I belong in this class.



YES



MAYBE



NO

19. I am afraid of others who learn, act, look, or speak in a different way.



YES



MAYBE



NO

20. I feel more confident.



YES



MAYBE



NO

21. I see how people treat each other.



YES



MAYBE



NO

22. I have a better understanding of the things that are hard for others.



YES



MAYBE



NO

23. I liked receiving help from other students.



YES



MAYBE



NO

24. I feel that it was easy to make friends with my classmates who are different from me.



YES



MAYBE



NO

25. I am better able to deal with things that are hard for me.



YES



MAYBE



NO

26. I feel that I can go to any of my teachers for help.



YES



MAYBE



NO

27. I did most of my school work without help.



YES



MAYBE



NO

28. I liked having more than one adult in the classroom.



YES



MAYBE



NO

29. I enjoyed being in this classroom.



YES



MAYBE



NO

30. I made fun of my classmates who are different.



YES



MAYBE



NO

31. I often saw students who were frustrated.



YES



MAYBE



NO

32. I would like to be in a class like this next year.



YES



MAYBE



NO

33. I feel that all types of students learning in same class is a good idea.



YES



MAYBE



NO

34. I am more comfortable with others who look or act in a different way.



YES



MAYBE



NO

35. I was made fun of by my classmates.



YES



MAYBE



NO

Appendix V

Educator Inclusion Survey

Part 1: Please indicate your feelings about the following statements by using the following scale:

- 1 = Strongly Agree
- 2 = Agree Somewhat
- 3 = Neither Agree/Disagree
- 4 = Disagree Somewhat
- 5 = Strongly Disagree

1. I feel that inclusion will lead to positive changes in the educational system.

Strongly Agree	Agree Somewhat	Neither Agree/Disagree	Disagree Somewhat	Strongly Disagree
1	2	3	4	5

2. I feel that inclusion benefits students without disabilities.

Strongly Agree	Agree Somewhat	Neither Agree/Disagree	Disagree Somewhat	Strongly Disagree
1	2	3	4	5

3. I feel that I have the training to implement inclusion successfully.

Strongly Agree	Agree Somewhat	Neither Agree/Disagree	Disagree Somewhat	Strongly Disagree
1	2	3	4	5

4. I feel that students with disabilities would receive a better education in a special education classroom.

Strongly Agree	Agree Somewhat	Neither Agree/Disagree	Disagree Somewhat	Strongly Disagree
1	2	3	4	5

5. I feel that inclusion helps students with disabilities develop friendships with classmates without disabilities.

Strongly Agree	Agree Somewhat	Neither Agree/Disagree	Disagree Somewhat	Strongly Disagree
1	2	3	4	5

6. I feel that inclusion provides students with disabilities with positive role models.

Strongly Agree	Agree Somewhat	Neither Agree/Disagree	Disagree Somewhat	Strongly Disagree
1	2	3	4	5

7. I feel that I cover less of the curriculum because of inclusion.

Strongly Agree	Agree Somewhat	Neither Agree/Disagree	Disagree Somewhat	Strongly Disagree
1	2	3	4	5

8. I feel that students with disabilities who are in inclusion classrooms will be ridiculed by their classmates.

Strongly Agree	Agree Somewhat	Neither Agree/Disagree	Disagree Somewhat	Strongly Disagree
1	2	3	4	5

9. I feel that inclusion is working well in my class.

Strongly Agree	Agree Somewhat	Neither Agree/Disagree	Disagree Somewhat	Strongly Disagree
1	2	3	4	5

10. I feel that students without disabilities who are in inclusion classrooms will be ridiculed by their classmates.

Strongly Agree	Agree Somewhat	Neither Agree/Disagree	Disagree Somewhat	Strongly Disagree
1	2	3	4	5

11. I feel that I have the time to implement inclusion effectively.

Strongly Agree	Agree Somewhat	Neither Agree/Disagree	Disagree Somewhat	Strongly Disagree
1	2	3	4	5

12. I feel that I have a greater enjoyment of teaching as a result of inclusion.

Strongly Agree	Agree Somewhat	Neither Agree/Disagree	Disagree Somewhat	Strongly Disagree
1	2	3	4	5

13. I feel that it is difficult to address the medical needs of students with disabilities.

Strongly Agree	Agree Somewhat	Neither Agree/Disagree	Disagree Somewhat	Strongly Disagree
1	2	3	4	5

14. I feel that parents of students with disabilities can help me understand the needs of their children.

Strongly Agree	Agree Somewhat	Neither Agree/Disagree	Disagree Somewhat	Strongly Disagree
1	2	3	4	5

15. I feel that I receive the necessary support and assistance from supportive service personnel to implement inclusion successfully.

Strongly Agree	Agree Somewhat	Neither Agree/Disagree	Disagree Somewhat	Strongly Disagree
1	2	3	4	5

16. I feel that it is difficult to modify instruction and my teaching style to meet the needs of students with disabilities.

Strongly Agree	Agree Somewhat	Neither Agree/Disagree	Disagree Somewhat	Strongly Disagree
1	2	3	4	5

17. I feel that it is difficult to meet the needs of students with certain disabilities in the general education classroom.

Strongly Agree	Agree Somewhat	Neither Agree/Disagree	Disagree Somewhat	Strongly Disagree
1	2	3	4	5

18. I feel that inclusion helps students with disabilities improve academically.

Strongly Agree	Agree Somewhat	Neither Agree/Disagree	Disagree Somewhat	Strongly Disagree
1	2	3	4	5

19. I feel that having other adults in the classroom is an asset.

Strongly Agree	Agree Somewhat	Neither Agree/Disagree	Disagree Somewhat	Strongly Disagree
1	2	3	4	5

20. I feel that I have the skills to promote social interactions between students with and without disabilities.

Strongly Agree	Agree Somewhat	Neither Agree/Disagree	Disagree Somewhat	Strongly Disagree
1	2	3	4	5

21. I feel that students with disabilities who are in inclusion classrooms will experience failure and frustration.

Strongly Agree	Agree Somewhat	Neither Agree/Disagree	Disagree Somewhat	Strongly Disagree
1	2	3	4	5

22. I feel that the demands of the curriculum make it difficult to implement inclusion.

Strongly Agree	Agree Somewhat	Neither Agree/Disagree	Disagree Somewhat	Strongly Disagree
1	2	3	4	5

23. I feel that I receive the necessary support and assistance from administrators to implement inclusion successfully.

Strongly Agree	Agree Somewhat	Neither Agree/ Disagree	Disagree Somewhat	Strongly Disagree
1	2	3	4	5

24. I feel that I have less time for students without disabilities.

Strongly Agree	Agree Somewhat	Neither Agree/ Disagree	Disagree Somewhat	Strongly Disagree
1	2	3	4	5

25. I feel that I have the resources to implement inclusion successfully.

Strongly Agree	Agree Somewhat	Neither Agree/ Disagree	Disagree Somewhat	Strongly Disagree
1	2	3	4	5

26. I feel that I have been sufficiently involved in the inclusion process in my school.

Strongly Agree	Agree Somewhat	Neither Agree/ Disagree	Disagree Somewhat	Strongly Disagree
1	2	3	4	5

27. I feel that I receive the necessary support and assistance from other teachers to implement inclusion successfully.

Strongly Agree	Agree Somewhat	Neither Agree/ Disagree	Disagree Somewhat	Strongly Disagree
1	2	3	4	5

29. I feel that other professionals value my input concerning the inclusion process in my school.

Strongly Agree	Agree Somewhat	Neither Agree/ Disagree	Disagree Somewhat	Strongly Disagree
1	2	3	4	5

30. I feel that it is easy to communicate effectively with other professionals.

Strongly Agree	Agree Somewhat	Neither Agree/ Disagree	Disagree Somewhat	Strongly Disagree
1	2	3	4	5

31. I feel intimidated during meetings to discuss students with disabilities such as meetings of the Committee on Special Education.

Strongly Agree	Agree Somewhat	Neither Agree/ Disagree	Disagree Somewhat	Strongly Disagree
1	2	3	4	5

32. I feel disappointed with my role in the inclusion process.

Strongly Agree	Agree Somewhat	Neither Agree/ Disagree	Disagree Somewhat	Strongly Disagree
1	2	3	4	5

33. I feel that I perform a subordinate role as a result of inclusion.

Strongly Agree	Agree Somewhat	Neither Agree/ Disagree	Disagree Somewhat	Strongly Disagree
1	2	3	4	5

34. I feel that students with disabilities lose the specialized services they need as a result of inclusion.

Strongly Agree	Agree Somewhat	Neither Agree/ Disagree	Disagree Somewhat	Strongly Disagree
1	2	3	4	5

35. I feel that inclusion has encouraged me to experiment with new teaching methodologies.

Strongly Agree	Agree Somewhat	Neither Agree/ Disagree	Disagree Somewhat	Strongly Disagree
1	2	3	4	5

36. I feel more a part of the school community as a result of inclusion.

Strongly Agree	Agree Somewhat	Neither Agree/ Disagree	Disagree Somewhat	Strongly Disagree
1	2	3	4	5

37. I feel that it is difficult to address the behavioral challenges of students with disabilities.

Strongly Agree	Agree Somewhat	Neither Agree/ Disagree	Disagree Somewhat	Strongly Disagree
1	2	3	4	5

38. I feel that having other adults in the classroom is a problem.

Strongly Agree	Agree Somewhat	Neither Agree/ Disagree	Disagree Somewhat	Strongly Disagree
1	2	3	4	5

39. I feel that I know more about the general and special educational system as a result of inclusion.

Strongly Agree	Agree Somewhat	Neither Agree/ Disagree	Disagree Somewhat	Strongly Disagree
1	2	3	4	5

40. I feel that I do not have enough time to communicate and collaborate with others.

Strongly Agree	Agree Somewhat	Neither Agree/ Disagree	Disagree Somewhat	Strongly Disagree
1	2	3	4	5

41. I feel that I benefited professionally and personally from working in a collaborative team.

Strongly Agree	Agree Somewhat	Neither Agree/ Disagree	Disagree Somewhat	Strongly Disagree
1	2	3	4	5

42. I feel that I would like to teach in an inclusion class next year.

Strongly Agree	Agree Somewhat	Neither Agree/ Disagree	Disagree Somewhat	Strongly Disagree
1	2	3	4	5

43. I feel that our school is doing a good job of implementing inclusion.

Strongly Agree	Agree Somewhat	Neither Agree/ Disagree	Disagree Somewhat	Strongly Disagree
1	2	3	4	5

44. I feel that our school district is open to my input about inclusion.

Strongly Agree	Agree Somewhat	Neither Agree/ Disagree	Disagree Somewhat	Strongly Disagree
1	2	3	4	5

45. I feel like I need more information about inclusion.

Strongly Agree	Agree Somewhat	Neither Agree/ Disagree	Disagree Somewhat	Strongly Disagree
1	2	3	4	5

46. I feel that inclusion is a good idea.

Strongly Agree	Agree Somewhat	Neither Agree/ Disagree	Disagree Somewhat	Strongly Disagree
1	2	3	4	5

Part 2: Using the same scale, please respond to the following statements based on your experiences with inclusion.

47. My students have learned to feel comfortable interacting with other students.

Strongly Agree	Agree Somewhat	Neither Agree/Disagree	Disagree Somewhat	Strongly Disagree
1	2	3	4	5

48. My students' academic performance has been negatively affected.

Strongly Agree	Agree Somewhat	Neither Agree/Disagree	Disagree Somewhat	Strongly Disagree
1	2	3	4	5

49. My students have become more accepting of individual differences.

Strongly Agree	Agree Somewhat	Neither Agree/Disagree	Disagree Somewhat	Strongly Disagree
1	2	3	4	5

50. My students feel better about themselves.

Strongly Agree	Agree Somewhat	Neither Agree/Disagree	Disagree Somewhat	Strongly Disagree
1	2	3	4	5

51. My students have "picked up" undesirable behaviors from their classmates.

Strongly Agree	Agree Somewhat	Neither Agree/Disagree	Disagree Somewhat	Strongly Disagree
1	2	3	4	5

52. My students receive less teacher attention.

Strongly Agree	Agree Somewhat	Neither Agree/Disagree	Disagree Somewhat	Strongly Disagree
1	2	3	4	5

53. My students have been ridiculed by their classmates.

Strongly Agree	Agree Somewhat	Neither Agree/Disagree	Disagree Somewhat	Strongly Disagree
1	2	3	4	5

54. My students have been threatened by their classmates.

Strongly Agree	Agree Somewhat	Neither Agree/Disagree	Disagree Somewhat	Strongly Disagree
1	2	3	4	5

55. My students have grown socially and emotionally.

Strongly Agree	Agree Somewhat	Neither Agree/Disagree	Disagree Somewhat	Strongly Disagree
1	2	3	4	5

56. My students have received a better education this year.

Strongly Agree	Agree Somewhat	Neither Agree/Disagree	Disagree Somewhat	Strongly Disagree
1	2	3	4	5

57. My students have received the necessary training to be successful in an inclusion classroom.

Strongly Agree	Agree Somewhat	Neither Agree/Disagree	Disagree Somewhat	Strongly Disagree
1	2	3	4	5

58. My students feel that they belong in my class.

Strongly Agree	Agree Somewhat	Neither Agree/Disagree	Disagree Somewhat	Strongly Disagree
1	2	3	4	5

59. My students have the social skills needed to interact with others.

Strongly Agree	Agree Somewhat	Neither Agree/Disagree	Disagree Somewhat	Strongly Disagree
1	2	3	4	5

60. My students ask for assistance when they need it.

Strongly Agree	Agree Somewhat	Neither Agree/Disagree	Disagree Somewhat	Strongly Disagree
1	2	3	4	5

61. My students feel positive about my class.

Strongly Agree	Agree Somewhat	Neither Agree/Disagree	Disagree Somewhat	Strongly Disagree
1	2	3	4	5

62. My students show pride in their work.

Strongly Agree	Agree Somewhat	Neither Agree/Disagree	Disagree Somewhat	Strongly Disagree
1	2	3	4	5

Appendix W

Family Inclusion Survey

Part 1: Please indicate your feelings about the following statements by using the following scale:

- 1 = Strongly Agree
- 2 = Agree Somewhat
- 3 = Neither Agree/Disagree
- 4 = Disagree Somewhat
- 5 = Strongly Disagree

1. I feel satisfied with the general education services my child is receiving.

Strongly Agree	Agree Somewhat	Neither Agree/Disagree	Disagree Somewhat	Strongly Disagree
1	2	3	4	5

2. I feel satisfied with the special education and supportive services my child is receiving.

Strongly Agree	Agree Somewhat	Neither Agree/Disagree	Disagree Somewhat	Strongly Disagree
1	2	3	4	5

3. I feel satisfied with the coordination of the services my child is receiving.

Strongly Agree	Agree Somewhat	Neither Agree/Disagree	Disagree Somewhat	Strongly Disagree
1	2	3	4	5

4. I feel satisfied with my child's access to services.

Strongly Agree	Agree Somewhat	Neither Agree/Disagree	Disagree Somewhat	Strongly Disagree
1	2	3	4	5

5. I feel satisfied with the timeliness to which services have been provided to my child.

Strongly Agree	Agree Somewhat	Neither Agree/Disagree	Disagree Somewhat	Strongly Disagree
1	2	3	4	5

6. I feel satisfied with the school's communication with families.

Strongly Agree	Agree Somewhat	Neither Agree/Disagree	Disagree Somewhat	Strongly Disagree
1	2	3	4	5

7. I feel that being in an inclusion class has been positive for my child.

Strongly Agree	Agree Somewhat	Neither Agree/Disagree	Disagree Somewhat	Strongly Disagree
1	2	3	4	5

8. I feel that children with disabilities would receive a better education in a special education classroom.

Strongly Agree	Agree Somewhat	Neither Agree/Disagree	Disagree Somewhat	Strongly Disagree
1	2	3	4	5

9. I feel that children without disabilities benefit from being educated with children with disabilities.

Strongly Agree	Agree Somewhat	Neither Agree/Disagree	Disagree Somewhat	Strongly Disagree
1	2	3	4	5

10. I feel that inclusion helps children with disabilities improve academically.

Strongly Agree	Agree Somewhat	Neither Agree/Disagree	Disagree Somewhat	Strongly Disagree
1	2	3	4	5

11. I feel that inclusion helps children with disabilities develop friendships with classmates without disabilities.

Strongly Agree	Agree Somewhat	Neither Agree/Disagree	Disagree Somewhat	Strongly Disagree
1	2	3	4	5

12. I feel that inclusion provides children with disabilities with positive role models.

Strongly Agree	Agree Somewhat	Neither Agree/Disagree	Disagree Somewhat	Strongly Disagree
1	2	3	4	5

13. I feel that children with disabilities who are in inclusion classrooms will be ridiculed by their classmates.

Strongly Agree	Agree Somewhat	Neither Agree/Disagree	Disagree Somewhat	Strongly Disagree
1	2	3	4	5

14. I feel that children without disabilities who are in inclusion classrooms become more accepting of individual differences.

Strongly Agree	Agree Somewhat	Neither Agree/Disagree	Disagree Somewhat	Strongly Disagree
1	2	3	4	5

15. I feel that children with disabilities who are in inclusion classrooms will experience failure and frustration.

Strongly Agree	Agree Somewhat	Neither Agree/Disagree	Disagree Somewhat	Strongly Disagree
1	2	3	4	5

16. I feel that inclusion interferes with the education of children without disabilities.

Strongly Agree	Agree Somewhat	Neither Agree/Disagree	Disagree Somewhat	Strongly Disagree
1	2	3	4	5

17. I feel that I would like my child in an inclusion class next year.

Strongly Agree	Agree Somewhat	Neither Agree/Disagree	Disagree Somewhat	Strongly Disagree
1	2	3	4	5

18. I feel that families are adequately involved in the inclusion process.

Strongly Agree	Agree Somewhat	Neither Agree/Disagree	Disagree Somewhat	Strongly Disagree
1	2	3	4	5

19. I feel that the school district did a good job of explaining the inclusion program to me.

Strongly Agree	Agree Somewhat	Neither Agree/Disagree	Disagree Somewhat	Strongly Disagree
1	2	3	4	5

20. I feel I need more information about the inclusion program.

Strongly Agree	Agree Somewhat	Neither Agree/Disagree	Disagree Somewhat	Strongly Disagree
1	2	3	4	5

21. I feel that inclusion is working well at my child's school.

Strongly Agree	Agree Somewhat	Neither Agree/Disagree	Disagree Somewhat	Strongly Disagree
1	2	3	4	5

Part 2: Using the same scale, please respond to the following statements based on your observations of your child's experience in an inclusion class.

22. My child learned a lot.

Strongly Agree	Agree Somewhat	Neither Agree/ Disagree	Disagree Somewhat	Strongly Disagree
1	2	3	4	5

23. My child talks positively about school.

Strongly Agree	Agree Somewhat	Neither Agree/ Disagree	Disagree Somewhat	Strongly Disagree
1	2	3	4	5

24. My child tries hard to do well in school.

Strongly Agree	Agree Somewhat	Neither Agree/ Disagree	Disagree Somewhat	Strongly Disagree
1	2	3	4	5

25. My child feels proud of his/her classwork.

Strongly Agree	Agree Somewhat	Neither Agree/ Disagree	Disagree Somewhat	Strongly Disagree
1	2	3	4	5

26. My child has learned to feel comfortable interacting with other students.

Strongly Agree	Agree Somewhat	Neither Agree/ Disagree	Disagree Somewhat	Strongly Disagree
1	2	3	4	5

27. My child has grown socially and emotionally.

Strongly Agree	Agree Somewhat	Neither Agree/ Disagree	Disagree Somewhat	Strongly Disagree
1	2	3	4	5

Part 2: Using the same scale, please respond to the following statements based on your observations of your child's experience in an inclusion class.

22. My child learned a lot.

Strongly Agree	Agree Somewhat	Neither Agree/Disagree	Disagree Somewhat	Strongly Disagree
1	2	3	4	5

23. My child talks positively about school.

Strongly Agree	Agree Somewhat	Neither Agree/Disagree	Disagree Somewhat	Strongly Disagree
1	2	3	4	5

24. My child tries hard to do well in school.

Strongly Agree	Agree Somewhat	Neither Agree/Disagree	Disagree Somewhat	Strongly Disagree
1	2	3	4	5

25. My child feels proud of his/her classwork.

Strongly Agree	Agree Somewhat	Neither Agree/Disagree	Disagree Somewhat	Strongly Disagree
1	2	3	4	5

26. My child has learned to feel comfortable interacting with other students.

Strongly Agree	Agree Somewhat	Neither Agree/Disagree	Disagree Somewhat	Strongly Disagree
1	2	3	4	5

27. My child has grown socially and emotionally.

Strongly Agree	Agree Somewhat	Neither Agree/Disagree	Disagree Somewhat	Strongly Disagree
1	2	3	4	5

34. My child has been treated well by his/her classmates.

Strongly Agree	Agree Somewhat	Neither Agree/ Disagree	Disagree Somewhat	Strongly Disagree
1	2	3	4	5

35. My child feels left out in school.

Strongly Agree	Agree Somewhat	Neither Agree/ Disagree	Disagree Somewhat	Strongly Disagree
1	2	3	4	5

36. My child has become more confident and outgoing.

Strongly Agree	Agree Somewhat	Neither Agree/ Disagree	Disagree Somewhat	Strongly Disagree
1	2	3	4	5

37. My child has become more accepting of individual differences.

Strongly Agree	Agree Somewhat	Neither Agree/ Disagree	Disagree Somewhat	Strongly Disagree
1	2	3	4	5

38. My child has a greater understanding of his/her own limitations.

Strongly Agree	Agree Somewhat	Neither Agree/ Disagree	Disagree Somewhat	Strongly Disagree
1	2	3	4	5

39. My child feels better about himself/herself.

Strongly Agree	Agree Somewhat	Neither Agree/ Disagree	Disagree Somewhat	Strongly Disagree
1	2	3	4	5

40. My child has "picked up" undesirable behavior from his/her classmates.

Strongly Agree	Agree Somewhat	Neither Agree/Disagree	Disagree Somewhat	Strongly Disagree
1	2	3	4	5

41. My child has acted in an immature manner as a result of being in an inclusion classroom.

Strongly Agree	Agree Somewhat	Neither Agree/Disagree	Disagree Somewhat	Strongly Disagree
1	2	3	4	5

42. My child has received less teacher attention as a result of being in an inclusion class.

Strongly Agree	Agree Somewhat	Neither Agree/Disagree	Disagree Somewhat	Strongly Disagree
1	2	3	4	5

43. My child has received a better education as a result of being in an inclusion class.

Strongly Agree	Agree Somewhat	Neither Agree/Disagree	Disagree Somewhat	Strongly Disagree
1	2	3	4	5

44. My child's teachers have displayed positive attitudes toward teaching in an inclusion classroom.

Strongly Agree	Agree Somewhat	Neither Agree/Disagree	Disagree Somewhat	Strongly Disagree
1	2	3	4	5

45. My child has received the necessary training to help him/her be successful in an inclusion classroom.

Strongly Agree	Agree Somewhat	Neither Agree/ Disagree	Disagree Somewhat	Strongly Disagree
1	2	3	4	5

46. My child has been teased by his/her classmates.

Strongly Agree	Agree Somewhat	Neither Agree/ Disagree	Disagree Somewhat	Strongly Disagree
1	2	3	4	5

47. My child has teased his/her classmates.

Strongly Agree	Agree Somewhat	Neither Agree/ Disagree	Disagree Somewhat	Strongly Disagree
1	2	3	4	5

48. My child has been threatened by his/her classmates.

Strongly Agree	Agree Somewhat	Neither Agree/ Disagree	Disagree Somewhat	Strongly Disagree
1	2	3	4	5

49. My child's teacher has communicated with me.

Strongly Agree	Agree Somewhat	Neither Agree/ Disagree	Disagree Somewhat	Strongly Disagree
1	2	3	4	5

50. My child would like to be in an inclusion class next year.

Strongly Agree	Agree Somewhat	Neither Agree/ Disagree	Disagree Somewhat	Strongly Disagree
1	2	3	4	5

Appendix X

School 1
DRAFT POLICY ON INCLUSION
27th April 2006
Draft 2

TITLE:

Inclusion Policy for

RATIONALE:

Our school has an inclusive ethos which accepts all differences and encourages each child to reach their individual potential. In keeping with the Education for Persons with Special Educational Needs Act 2004, which states that the education of people with special educational needs, wherever possible, takes place in an inclusive environment along with those who do not have such needs, our school is writing a policy and procedures for this occurrence. We feel that inclusion is not a place; it is a delivery of services, which allows a student with a disability to access curriculum and learning alongside his/her typically developing peers.

AIMS:

1. To include each child at their own level of participation.
2. To enable pupils to share with their peers as complete an educational experience as possible.
3. To aid the smooth transition for children from Outreach class to mainstream class
4. To clearly outline procedures and practices in relation to the education of children on the autistic spectrum and other specific needs.

GENERAL GUIDELINES:

These steps should be followed in all cases of inclusion:

- (i) Identification of child with specific needs.
 - a. Child for inclusion is identified by the teacher in the outreach class.*
 - b. Child entering school with a stated need will have relevant reports, with attempts to have all necessary supports put in place before child arrives in school. (i.e. S.N.A., ramp, relevant support services)*
 - c. Child is already enrolled in school and whose need becomes apparent during the school year will be identified by the mainstream teacher and she/he will bring concerns to the principal and meet with parents*
- (ii) Mainstream teacher is identified for inclusion. To maximize the potential for success the following should be considered when identifying teacher and class;

- a. *Child will be included with same aged peers (within range of 1-2 years as appropriate)*
- b. *Qualifications of the teacher*
- c. *Other special needs present in classroom*
- d. *Possibility of teacher on maternity or study leave*
- e. *Particular dynamics of a class (e.g., behaviour issues, etc.)*
- (iii) Teacher informs parent of possibility of inclusion
- (iv) Special Education Teacher liaises with mainstream teacher and S.N.A.

GUIDELINES FOR OUTREACH:

(Based upon Successful Inclusion Practices for Children with Autism Spectrum Disorders by Sonja R. de Boer, M.A., B.C.B.A.)

Step One: Assemble a Team

- Review of what inclusion is
 - Attaining the proper placement
- Review the benefits of inclusion for
 - Children with autism
 - Typical peers
 - Mainstream staff
 - Families of child with autism
- Roles and responsibilities of team members3
 - Principal, teachers (mainstream and outreach), parents, S.N.A.

Step Two: Instigating the Inclusion Process

- Plan observation of child to be included by mainstream teacher
 - Note strengths and areas of need (profile)
 - Note behaviours (both appropriate and inappropriate)
- Observe the mainstream classroom
 - Teacher's interaction with children;
 - Look for structure and routines;
 - Physical arrangement;
 - Areas/activities in which the child with autism may fit;
 - Aspects which may need to be addressed and possibly altered before transition
- Plan for reverse mainstreaming activities

Step Three: Meetings and Training

- Meet with parents
 - Discuss the mainstream classroom
 - Discuss profile of strengths and needs as parents see them
 - Discuss who the members of the team are and roles/responsibilities
 - Address questions they may have
- Meet with Team (mainstream teacher, principal, inclusion facilitator/outreach teacher, parent)
 - Discuss information regarding autism and specifics regarding child to be included

- Meet with SNAs and discuss programme and specific training
- Ability awareness training with mainstream peers (see appendix for social skills training as part of this)

Step Four: Inclusion into Mainstream Classroom

- Be conscious of relative time spent in the mainstream classroom. It is better in the early stages to include him for too little time than too much time. The length of time can be built up gradually.
- On-going mainstream classroom observations
 - Specific activities/subjects included
 - Future activities to possibly be included
 - Child's involvement and interaction w/teacher and peers
- Annual Observation of Instructional Strategies

(There are forms for these different types of observations.)

Step Five: On-going Facilitation Issues

- Address aspects of educating the student w/an ASD in a less structured environment
 - Prepare the student for inclusion
 - Generalise the student's acquired skills
 - Teach new skills in the mainstream by using techniques that have proven successful from the Outreach classroom
 - Appropriate curriculum adaptations and modifications

Step Six: Transitioning to the Next Year

- Facilitate transition by assigning the following year teacher as soon as possible in May and June
- Allow new teacher to observe student in all educational environments
- Plan meeting with parents and current teacher to discuss goals

Points to remember:

****Flexibility is important at every stage.***

****Allowances will need to be made (e.g., managing behaviours, etc.).***

****Communication is vital between the staff and parents.***

****This is a team approach-everyone plays an important part.***

****Pressure of time to succeed should not be an overbearing burden-inclusion is an on-going process.***

SUCCESS CRITERIA:

This depends on the individual child's needs. Success will be determined using on-going evaluation tools.

- Teacher observation by both teachers
- SNA feedback
- Parent feedback
- Child's own views/responses

- Mainstream children feedback
- Specific data driven tools (see appendix)

ROLES AND RESPONSIBILITIES:

Role	Responsibility
Principal	To ensure that inclusion occurs with each child where appropriate. Liaise with teachers and parents when difficulties occur in relation to inclusion. To monitor the process on a regular basis and assess its progress.
Mainstream Teacher	Responsibility for assessing success within the mainstream class. Prepare the class for the process of inclusion; planning with special education teacher regarding curriculum, etc.
Special Education Teacher	Identify child and approaching mainstream teachers. Communicate with parents, provide on-going learning support, and coordinate the IEP process.
S.N.A.	Support child and both teachers and participate in the IEP process.
Parents	Support the process through on-going information regarding the child and their responses in both the planning and on-going implementation stages.
B.O.M./Executive Committee	Ensure inclusion policy is practiced in keeping with the ethos of the school. To ensure that adequate resources are in place to guarantee the success of the process. To liaise with clinical services and Education Department should issues arise.
Beech Park Services	Supporting school and families with queries and strategies. Provide adequate clinical support.
Dept. of Education	Ultimate responsibility for the success of this policy.

TIMEFRAME FOR IMPLEMENTATION:

This policy was reviewed at April 27th meeting and feedback will be taken at staff meeting on 15th May 2006. The policy should be fully implemented after ratification.

RATIFICATION AND COMMUNICATION:

The policy will be presented to the Board of Management for ratification in June 2006.

TIMEFRAME FOR REVIEW:

Policy will be reviewed initially after one year and subsequently every two years.

RESPONSIBILITY FOR REVIEW:

Principal
Outreach Teachers

Mainstream teachers involved with inclusion
Parents of children involved with inclusion
S.N.A. involved with inclusion
Post holder for special needs
Beech Park Services (when appropriate)

This document is a draft and all comments are welcome. Please write any comments beside relevant area or in space below.

While we aspire to be as inclusive a school as possible, we are conscious of the challenges found in seeking to achieve this (e.g., resources, staffing, time, availability of suitable classes) some of which we addressed in this document.

Appendix Y

**Outreach Inclusion Policy
(Draft 25th May 2006)**

Rationale:

To follow the inclusive ethos of the school and help children with an Autistic Spectrum Disorders (ASD) reach their potential by being in the mainstream to witness and take part as much as is regarded suitable for the individual.

Aims:

- For mainstream children to experience children with special needs so that when they leave school they have a better understanding of the diversity in society.
- For mainstream children to understand the amazing gifts of children with an ASD.
- For children with an ASD to take part in mainstream education, as much as possible, to gain from good peer role models, advance their social skills and language.

GUIDELINES FOR ALC:

(Based upon Successful Inclusion Practices for Children with Autism Spectrum Disorders by Sonja R. de Boer, M.A., B.C.B.A.)

Step One: Assemble a Team

- Review of what inclusion is
 - Attaining the proper placement
- Review the benefits of inclusion for
 - Children with autism
 - Typical peers
 - Mainstream staff
 - Families of child with autism
- Roles and responsibilities of team members
 - Principal, teachers (mainstream and outreach), parents, S.N.A.

Step Two: Instigating the Inclusion Process

- Plan observation of child to be included by mainstream teacher

- Note strengths and areas of need (profile)
 - Note behaviours (both appropriate and inappropriate)
- Observe the mainstream classroom
 - Teacher's interaction with children;
 - Look for structure and routines;
 - Physical arrangement;
 - Areas/activities in which the child with autism may fit;
 - Aspects which may need to be addressed and possibly altered before transition
- Plan for reverse mainstreaming activities

Step Three: Meetings and Training

- Meet with parents
 - Discuss the mainstream classroom
 - Discuss profile of strengths and needs as parents see them
 - Discuss who the members of the team are and roles/responsibilities
 - Address questions they may have
- Meet with Team (mainstream teacher, principal, inclusion facilitator/outreach teacher, parent)
 - Discuss information regarding autism and specifics regarding child to be included
- Meet with SNAs and discuss programme and specific training
- Ability awareness training with mainstream peers (see appendix for social skills training as part of this)

Step Four: Inclusion into Mainstream Classroom

- Be conscious of relative time spent in the mainstream classroom. It is better in the early stages to include him for too little time than too much time. The length of time can be built up gradually.
- On-going mainstream classroom observations
 - Specific activities/subjects included
 - Future activities to possibly be included
 - Child's involvement and interaction w/teacher and peers
- Annual Observation of Instructional Strategies
(*There are forms for these different types of observations.*)

Step Five: On-going Facilitation Issues

- Address aspects of educating the student w/an ASD in a less structured environment
 - Prepare the student for inclusion

- Generalise the student's acquired skills
- Teach new skills in the mainstream by using techniques that have proven successful from the Outreach classroom
- Appropriate curriculum adaptations and modifications

Step Six: Transitioning to the Next Year

- Facilitate transition by assigning the following year teacher as soon as possible in June
- Allow new teacher to observe student in all educational environments
- Plan meeting with parents and current teacher to discuss goals

SUCCESS CRITERIA:

This depends on the individual child's needs. Success will be determined using on-going evaluation tools.

- Teacher observation by both teachers
- SNA feedback
- Parent feedback
- Child's own views/responses
- Mainstream children feedback
- Specific data driven tools

Roles and Responsibilities:

Role	Responsibility
Principal	To ensure that inclusion occurs with each child where appropriate by liaising with teachers and parents. To monitor the process on a regular basis and assess its progress.
Mainstream Teacher	Responsibility for assessing success within the mainstream class. Prepare the class for the process of inclusion(i.e., social skills training); planning with special education teacher regarding curriculum, etc.
Special Education Teacher	Deciding when it is appropriate for the child with an ASD to begin the inclusion process. Facilitate the process by meeting with the principal and mainstream teacher to begin the steps outlined above.
S.N.A.	For all SNAs to be trained to work in the mainstream with students from the Outreach.
Parents	Support the process through on-going information

	regarding the child and their responses in both the planning and on-going implementation stages.
B.O.M./Executive Committee	Ensure inclusion policy is practiced in keeping with the ethos of the school. To ensure that adequate resources are in place to guarantee the success of the process. To liaise with clinical services and Education Department should issues arise.
Beech Park Services	Supporting school and families with queries and strategies. Provide adequate clinical support.
Dept. of Education	Ultimate responsibility for the success of this policy.

TIMEFRAME FOR IMPLEMENTATION:

This policy was reviewed at May 25th meeting and feedback will be taken at staff meeting on 2nd June 2006. The policy should be fully implemented after ratification.

RATIFICATION AND COMMUNICATION:

The policy will be presented to the Board of Management for ratification in June 2006.

Appendix Z

Steps for Developing an Individualised Inclusion Plan
for a Student with Autism Spectrum Disorder

Step One: Assemble a Team

1. Meet with team

- Principal, teachers (mainstream and special educator), parents, S.N.A.

(It may not be possible for the S.N.A. to always meet with the team. It will be the responsibility of the facilitator to convey what was discussed at the meeting.)

2. Discuss the roles and responsibilities of team members

Roles and Responsibilities of Team Members

Role	Responsibilities
Special Education Teacher/ Inclusion Facilitator	• Instigate the inclusion process and supervise the entire ongoing process. • Provide initial and ongoing training, support and evaluation of the Special Needs Assistant (SNA) • Set up regular meeting times with the Inclusion Team regarding progress, changes, etc. • Set up a reliable and consistent form of communication between mainstream education teacher and him/herself; • Set up an emergency plan so that some form of immediate assistance is available if needed within the mainstream classroom; • Perform regular observations and evaluation of the mainstream teacher and classroom along with providing suggestions for additional issues that should be addressed or changes that should be made; • Provide adapted materials for the teacher and/or SNA for the child to use during specific activities occurring within the classroom; • Perform regular ongoing and annual observations and evaluations of mainstream education environment placements; • Provide and implement behaviour plan (if applicable) for child within the classroom; • Provide assistance and plan for peer/social interaction between child and peers; • Provide ongoing training and feedback to the SNA

Autism Spectrum Disorder

Administrator	• Provide the support which can make inclusive education happen. • Ensure that teachers and SNAs have the opportunity to attend workshops and conferences specific to autism so that they can gain knowledge and training for the necessary skills. • Attend as many meetings as possible regarding the inclusion of children.
Mainstream Teacher	• Maintain open communication with the inclusion facilitator; meeting and collaborating regularly. • Collaborate with the SNA on activities and respect his/her input. • Provide regular evaluations on the overall satisfaction of the process and child's involvement. • Treat the child as a typical member of the class (not communicating to child through SNA) and have the same or similar consequences. • If needed, follow and implement a functional behaviour plan for child within the classroom. • Establish instructional control with child and take time each day to work with the child. • Establish oneself as the teacher – primary instructor- and do not use SNA to give or repeat all directions to the child. • Provide ongoing encouragement for the child. • Assist in adaptations and modifications of materials and activities for the child. • Encourage and facilitate peer interaction. • Involve the family of the child in the classroom, classroom activities and events.
SNA	• The primary role of the SNA is to be the facilitator of the education and independence of the child with autism being included into the mainstream classroom environment. • Assist the mainstream teacher in interacting with child with autism and giving instructions to him/her (but not interfere with teacher's instruction). • Assist the mainstream teacher in facilitating social/peer interaction among all students, • Be aware of needs of other students and of how child's behaviour is affecting them. • Assist the child with autism to pay attention to the mainstream teacher and his/her instructions. • Utilise correction procedures which are naturalistic for the mainstream environment. • Assist with adaptations and modifications. • Facilitate interactions between child and peers. • Fade his/her presence from being near the child. • Provide naturalistic/functional reinforcement for child with autism within the general education environment – utilizing peers, and fading any edible reinforcement. • Provide constant feedback to inclusion facilitator and mainstream teacher regarding the child's progress or lack of. • Keeping a daily log of all occurrences and progress or lack of.
Family	• Attend meetings to discuss the possibility and process of inclusion.

	• Ask for or provide information on autism for the team on facilitating the inclusion of the child with autism. • Assist in maintaining open communication among the family, the mainstream teacher, and the inclusion facilitator. • Provide any information regarding the child that may be important for the mainstream teacher to know or that he/she might be interested in knowing. • Ask to be part of and volunteer time in the mainstream class activities or on field trips. • Ask for different activities they can be doing at home to pre-teach and generalize some of the skills the child will be learning or has learned. • Express gratitude to members of the team for their involvement and provide encouragement on a regular basis.
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3. Review what inclusion is

- Attaining the proper placement includes prioritizing the needs of the child – what are the critical skills for them to work on at the present time? What are the strengths of the child? Needs?
- Least Restrictive Environment (LRE): Based upon the needs of the child discuss what type of services and programme can be developed and utilized to most appropriately fit those needs. If possible this should take place in the LRE with the possibility of dividing the child’s day into different classes to address different needs.

4. Review benefits of inclusion for

- Children with Autism

The child will:

- Be provided with the opportunity to learn appropriate social, behaviour, play and communication skills from the models of their typically developing peers,
- Be provided with opportunities for growth in academic learning,

Autism Spectrum Disorder

- Learn to function and work in a typical environment through the realistic life experiences in the general education environment,
- Be provided with increased motivation and natural reinforcers,
- Learn to understand natural consequences for actions (good & bad), and
- Be provided with opportunities to develop friendships with typical peers.

○ Typical Peers

The peers will

- Learn about and become comfortable with children/people with disabilities through gaining a more realistic educational experience received alongside their peers with disabilities,
- Grow up with people with disabilities which may lead them to be accepting employers and employees of people with disabilities, and
- Be able to utilize strengths in assisting a child with autism which may build self esteem and leadership qualities and may lead to career option.

○ Mainstream Staff

The staff will

- Learn to utilize different teaching modalities,
- Gain experience working with children with autism/disabilities,
- Gain additional teaching techniques to use with all children,

- Gain a better understanding about the development of a child.

- Families of Child with Autism

The family will

- Feel less isolated from the rest of their community,
- Allow their child to gain more independence,
- Develop relationships with families of typically developing children who could provide them with meaningful support, and
- Gain a better outlook regarding their child's future.

Step Two: Instigating the Inclusion Process

1. Observation of Child to be Included by Mainstream Teacher

- Note strength's and areas of need (profile)
- Note behaviours (both appropriate and inappropriate)
- Note questions about specific student

2. Observe the Mainstream Classroom by the Inclusion Facilitator

- Note the teacher's interaction with children;
- Look for structure and routines;
- Physical arrangement;
- Areas/activities in which the child with autism may fit;
- Aspects which may need to be addressed and possibly altered before transition

3. Plan for reverse mainstreaming activities

- If possible, bring groups of typical peers to the special education classroom to engage with the child with autism.

4. Select and provide training for Special Needs Assistant (SNA)

5. Provide additional information and resources for appropriate staff

Step Three: Meetings and Training

1. Inclusion Facilitator will meet with parents

- Discuss the mainstream classroom
- Discuss profile of strengths and needs as parents see them
- Address questions they may have

2. Inclusion Facilitator will meet with mainstream teacher

- Provide reading material on autism and any information regarding the inclusion of children with special needs, specifically autism
- Provide training on implementation and method of instruction, current behaviour plan(if needed) and adaptation of curriculum

3. Meet with Team (Mainstream Teacher, Principal, Inclusion

Facilitator/Special needs Teacher, Parents)

- Review the roles/responsibilities of team members
- Discuss information regarding autism and specifics regarding child to be included
- Discuss strengths, areas of need, and behaviours
- Go over student's goals and objectives for mainstream classroom
- Discuss plan for transition
- Discuss forms to be used in observations, communication, etc.
- Discuss emergency plan
 - Include allergies/treatments, other possible emergency situations, and a plan for each emergency

4. Meet with SNA and discuss programme and specific training

- Initial, extensive hands-on training

- Initial training regarding strategies and techniques with theory behind them
- Ongoing training

5. Ability Awareness Training with mainstream/typical peers

- Discuss child's similarities to the typical children, likes and dislikes, current form of communication, behaviours, summary of process of inclusion
- Also see supplementary programme *Peer Mediated Pivotal Response Training for Typical Peers* (see Appendix I for full teaching unit)

6. Training and information regarding autism and the specific child to be included should be provided for mainstream teacher(s), principal and any other relevant staff at site by the special education teacher/inclusion facilitator

Step Four: Inclusion into Mainstream Classroom

1. Meet with appropriate members before the first day of inclusion

2. Be careful not to include the child for too much time the first day. It is better to include him for too little time than too much time.

3. On-going mainstream classroom observations

- Specific activities included
- Future activities to possibly be included
- Child's involvement and interaction w/teacher and peers

4. Annual Observation of Instructional Strategies

Step Five: On-going Facilitation Issues

1. Keep notes on meetings (see team meeting notes form – **Appendix L**)
2. Address aspects of educating the student w/an ASD in a less structured

environment

- Prepare the student for inclusion
- Generalise the student's acquired skills
- Teach new skills in the mainstream by using techniques that have proven successful from the Special Education classroom
- Appropriate curriculum adaptations and modifications
- Attention is paid to the child's involvement and interaction with the teacher and peers throughout the daily activities

Step Six: Transitioning to the Next Year and Miscellaneous Issues

1. Relationship with Principal

- Constant communication should be maintained so that the administrator has full understanding of the inclusion process, difficulties occurring and can offer support and additional suggestions for times of inclusion and follow through of emergency plans.

2. Including a student with an alternative form of communication

- This may make peer /social interactions more difficult, but should not stand in the way of the inclusion process.
- Provide longer ability awareness for the typical children and teacher and teach them some ways of using the same system in order to communicate with and understand what the child with autism is communicating.

3. Understanding Mainstream Teacher's attitude and view points regarding inclusion

- Make him/her feel that he/she is not alone in working with the child and that he/she will have ongoing support.

- Take the whole process slowly.
- If you have a teacher who does not appear to be following through with some important aspects of the child inclusion process, you can rephrase your suggestions to them to “informing” them of what needs to occur, rather than “asking” them if they might implement something. It may also help to provide “choices: of what they can do – all of which you have previously determined to be appropriate choices.

4. Transition Issues

- An initial transition meeting should take place at least 2 months before the end of the year.
- Include many of the same strategies used in *Instigating the inclusion process*
 - Observe and assess new classrooms and environment.
(If you don't know the class placement, begin as soon as possible or observe all possible placements.)
 - Discuss any changes that may need to be implemented.
 - Discuss roles and responsibilities for next year.
 - Provide training for any new team members.
 - Provide prospective teacher with IIP binder on child.
 - Allow receiving teacher to observe and meet child in his current classroom.

Individualised Inclusion Plan Binder (IIP) should include

1. Summary of student's abilities and interests

Autism Spectrum Disorder

- Strengths and areas of need with regards to communication, motor abilities, social skills, behaviour, learning style, academics
 - Special interests and aversions
2. Goals and objectives in the mainstream classroom
 3. Emergency Plan
 4. Team Meeting Notes
 5. Communication book
 6. Observation forms
 7. Behaviour Plan

General Techniques Facilitating the Education of the Child with Autism

1. When talking to child or assisting the child in a task, be at the child's level (either sit in chair or crouch beside him/her).
2. Use specific language when praising or correcting child letting him know exactly what was and was not good.
3. Use an even-toned, natural voice.
4. Use fluid body movements, especially when working with the child.
5. If an inappropriate behaviour (excess talking, movement, self-stimulatory, etc.) is not interfering with delivery or receipt of instruction, ignore it as this is the best form of extinguishment.
6. Redirect the child by talking about or modeling what the child should be doing rather than saying anything about what he/she is doing incorrectly.
7. Always remain calm (no sighing, exasperation in your voice, hands on hips, pointing, or angry words).

8. Do not hover around the child; rather, give him/her space, even if it's just 30 seconds at a time.

9. Utilise statements and give instructions that are firm and not in the form of a question; use "Let's do...", "Now it's time to...", "We need to...".

10. Give the child choices within the parameter of the task or the activity – "Now we're going to do... Would you like to do...or ...?"

11. Allow the child to make mistakes and learn from those mistakes; let his/her work be less than perfect (as long as he/she is exerting an honest effort).

12. Allow the child to do quality work v. quantity of work. If you give the class 20 multiplication problems and you know the child works slowly, give him/her ten problems and see that they put the effort into those 10.

