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# When Public Meets Private: The Need for a Collaborative Interdisciplinary Approach to Teaching Children with Pervasive Developmental Disorders and Autism

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**I**t is in the interest of schools to embrace a collaborative interdisciplinary approach to educating children with autism, the most severe of the pervasive developmental disorders (PDD). The preferred teaching method for children with autism is an individually tailored education plan, targeting emotional regulation, behavioural self-control, and cognitive inhibition, inflexibility, and rigidity. A consulting developmental psychologist well versed in autistic spectrum disorders, who is trained in applied behaviour analysis (ABA) and discrete trial training (DTT), is able to provide insight into how a school environment can support the acquisition, maintenance, and generalisation of socially appropriate behaviours and provide guidelines for developing an appropriate curriculum for the child. When the school ecology provides for such a collaborative approach, there is much to gain: reduced stress on individual teachers, continuity of service across learning contexts, and, ultimately, the best possible learning outcomes for the child.

## Increased prevalence of autism

Autism is a pervasive developmental disorder (PDD) marked by a triad of symptoms. First, there are abnormalities in reciprocal social interaction, including poor eye contact; a lack of joint attention such as looking where someone else is pointing (Carpenter, Pennington, & Rogers, 2002); poor understanding of reciprocity in communication; an absence of symbolic play; and impaired empathic ability to understand the feelings, beliefs, and viewpoint of others (Baron-Cohen, 1989; Gillberg, 1998; Wing, 1993). Second, there is impaired communication ranging from being nonverbal to a delay in the acquisition of the spoken language, to echolalic speech, and to abnormal pitch, intonation, rhythm, and rate (American Psychological Association, APA, 1994; Wing & Gould, 1979). Third, there are restricted, repetitive, or stereotyped patterns of behaviour, such as narrow range of interests; inflexible adherence to routines or rituals; and abnormal body movements, such as abnormal posturing, hand flapping, rocking, or toe walking (APA, 1994).

Over the past two decades, there have been rapid increases in the number of children diagnosed with a category of pervasive developmental disorders known as autistic spectrum disorders (ASD), which includes autism, Asperger's syndrome, Rett's syndrome, and pervasive developmental disorder-not otherwise specified (PDD-NOS)

that is also known as atypical autism (Yeargin-Allsopp et al., 2003; Wing, 1993; Wing & Gould, 1979). Prevalence rates for ASD have dramatically increased during this period from 3.3 cases per 10,000 children in the 1980s (Kadesjo, Gillberg, & Hagberg, 1999; Ritvo et al., 1989) to 67 cases per 10,000 more recently (Bertrand et al., 2001; Yeargin-Allsopp et al., 2003; Wing, 1993). Recent studies suggest that rates for autism are currently 57–60 per 10,000 or approximately 1 per 200 children (Scott, Baron-Cohen, Bolton, & Brayne, 2002; Wing & Potter, 2002), while rates for Asperger's syndrome and PDD-NOS are estimated to currently be 27 per 10,000 or slightly less than 1 per 400 children (Bertrand et al., 2001). Taken together these figures suggest autistic spectrum disorders are not as uncommon as once believed (i.e., 1% of the population may be affected). Although there is no single explanation for the apparent rise in cases and, hence, in children entering the state educational system who require special services, advances in early diagnosis and intervention are arguably the most likely reason (Wing & Potter, 2002).

Epidemiological studies of autism have suggested a genetic aetiology, in which neurological defects probably occur early in embryonic development (DeStefano & Chen, 2001). Autism is not confined to any particular ethnic or socioeconomic group, but it is three to four times more common in boys than in girls. The ratio for those children with autism being educated in mainstream schools in the United Kingdom was recently found to be as high as 8 males to 1 female (Scott et al., 2002). One quarter to one third of children with autism will develop seizures at some point in their life (APA, 1994; Baron-Cohen, 1989; Gillberg, 1998; Wing, 1993). Most children with autism will experience moderate to severe intellectual impairment (i.e., full scale IQ in the range 35–50). Those with full scale IQ greater than 65 (approximately 11%–34% of all children with ASD) will generally be classified as high functioning autistic, or, where language development and intellectual functioning are within normal range, diagnosed with Asperger's syndrome.

The main obstacles to learning within a school environment for children with autism are global deficits in sociocognitive functioning. Children with autism do not adapt to their environment as well as do other children with similar intellectual abilities (Carpentieri & Morgan, 1996; Liss et al., 2001). In comparison with typically developing children, children with autism spend less time either in proximity to peers or engaged in social interaction with their peers. Furthermore, the quality of their interactions is noticeably poorer than in children with other intellectual disabilities, such as Down's syndrome. There is an inverse relationship between the number of self-stimulatory behaviours and subsequent level of social inclusion. It has been suggested that children with autism engage in nonfunctional behaviours to avoid social interaction, which is a nonpreferred activity. When children with autism are included in mainstream classrooms, they have been noted to make and receive fewer social initiations than do typically developing peers (McConnell, 2002). Alternatively, increased levels of socially inattentive behaviours, in general, may hinder social inclusion. For children with autism, as with typically developing children, the quality of the relationship with the classroom teacher can positively affect subsequent peer-relationships (Robertson, Chamberlain, & Kasari, 2003).

### **Research and policy context for local practice**

In Australia and in the USA, children with autistic spectrum disorders are entitled to receive government funded special education and related services. American children are formally protected under the 1997 amendment to the Individuals with Disabilities Education Act (IDEA, 1997). The U.S. Department of Education (1997) regulates federal antidiscriminatory statutes (Americans with Disabilities Act, ADA; Section 504, 1996; IDEA, 1997). IDEA 1997 makes explicit the rights and responsibilities of parents and educators, and there have been some systemic state-wide efforts to implement "pupil-specific, classroom-level, and school-wide efforts to facilitate positive academic and nonacademic outcomes for all students" (Gable, Butler, Walker-Bolton, Tonelson, Quinn, & Fox, 2002, p. 74). In Australia, there is currently no comparable statute. The American provisions do not mean that there are no barriers to education of children with autism in that system but that those responsible for the education and care of this group of children are made aware of their specific socioemotional needs in addition to their cognitive needs.

Rules and regulations require American state educational agencies and local education agencies to assess and ensure the effectiveness of educational services provided to all children with disabilities. IDEA 1997 recommends a least restrictive environment for delivery of educational services, provides discipline standards and procedures for dealing with behavioural issues, recommends functional behavioural assessment and positive behavioural intervention, encourages parental input in the child's individual education plan (IEP), and encourages schools to include the child in transition planning. Transition services are provided to assist the child in the acquisition of daily living skills and in the move from school-based services to the community and employment. Section 504 and IDEA make provisions for specific accommodations to the school environment such as provision of wheelchair ramps and availability of a sign-language interpreter for a child with hearing impairment (Turnball, Wilcox, & Stowe, 2002).

In the specific case of autism, reasonable accommodations include related services such as functional behavioural analysis (FBA) and positive behavioural support (PBS). In the USA, these services are provided specifically to children with autism because these methods of evaluation have been empirically validated on this population and meet the requirements of the aforementioned statutes. If a child's inappropriate, nonfunctional, or self-stimulatory behaviour is having a negative effect on upon learning (for either child or class peers), then the IEP team is required by law to determine appropriate strategies to address the behaviour. The intervention of choice is PBS. Although families may request other programmes, IDEA 1997 specifically states that alternate strategies will only be considered in comparison to PBS. The criterion for provision of alternate interventions, such as Lovaas-based intensive behavioural intervention, is whether or not the current service is adequate for the needs of the child (Turnball et al., 2002).

In Australia, children who have been identified as requiring additional learning support are assisted through state-funded special education services. Children with intellectual impairment, PDD, and ASD may be provided special education services within mainstream educational facilities, dependent upon their level of adaptive functioning and state-based procedures for accessing special services (e.g., ascertainment

status in Education Queensland). Prior to school entry, children with suspected autistic spectrum disorders are automatically classified Level 1 and are entitled to a range of services, including attendance at a special education developmental unit and access to the services of a qualified speech pathologist or occupational therapist. As a preschool year is not yet compulsory in Queensland, typically, the ascertainment process does not begin until the child enters or is about to enter Year 1.

Ascertainment involves five stages: (a) identification of student with additional support requirements for learning and initiation of appraisal or ascertainment procedures, (b) diagnosis, (c) delivery of an ascertainment report, (d) an appeals process, and (e) development of an individualised education plan. The process may take up to 12 months. Education Queensland staff undertakes all ascertainties, although specialist reports are taken into consideration. An analysis of the educational implications arising from ASD is recorded in the ascertainment report (Education Queensland Ascertainment Policy, 2002). Those children who have been diagnosed with intellectual impairment in addition to ASD or PDD-NOS and who have been ascertained at Levels 4, 5, or 6, are entitled to a modified curriculum, individualised education plan (IEP), and specialist teacher support. Placement in a state-funded special school is not compulsory. Families can approach the principal education officer in a district for advice on the most appropriate placement for their child (Education Queensland, personal communication, July 17, 2003).

Children with autistic spectrum disorders can benefit from participation in inclusive classroom environments. Full or partial inclusion alongside normally developing peers is highly desirable to help nurture appropriate social development in these children (Harrower & Dunlap, 2001). Development of social competence involves acquiring reciprocal play skills, understanding another child's point of view, initiating communication, and developing friendships. Joint-attention and shared play-experience involve children being aware of the emotional states and actions of their peers and choosing their own actions on their understanding of those emotional states (Fogel, 1993). Adults with autism, who have not developed social competence, tend to have minimal level of quality in their lives (Howlin & Goode, 2000). In principle, the guidelines for services to children with disabilities in the USA (IDEA, 1997) recommending inclusion in mainstream classrooms appear to be suitable for Australian schools. In practice, implementation of free and appropriate education for children with autism may be much more difficult to achieve.

Whereas many parents of other children with intellectual disability obtain services suited to their child's needs in the state education system, children with autistic spectrum disorders, because of their difficulties in socioemotional regulation, pose particular challenges for general education teachers (Robertson et al., 2003). Children with a diagnosis of autism or PDD-NOS typically do not make significant progress in mainstream or special education facilities. Teaching methods used successfully with other students with intellectual impairment do not work as well for children with autism. Effective interventions for children with autism or PDD-NOS require detailed analysis of the acquisition process and function of competing behaviours and of the relationship of these behaviours to subsequent social interaction. A significant body of research indicates that these children might be best served by an individually tailored education

plan, targeting emotional regulation, inhibition of obsessional thoughts and encouragement of cognitive flexibility, and behavioural self-control (Baron-Cohen, 2000; Baron-Cohen, Leslie, & Frith, 1995; Gillberg, 1998; McConnell, 2002; Wing, 1993). Although ascertainment for autism has recently been included into the Queensland system, educational resources within the regular and special school system are still being reviewed and upgraded to accommodate children with these high support needs. The rapid increase in prevalence has significantly increased demand for specialist services, and educational systems are still in a process of adjustment.

Because ASD is a pervasive disorder that affects the ongoing course of development, the pattern of early onset before school and chronic difficulties throughout the years of childhood and later life requires that interventions make the transition from home to school. Continuity of services to these children and their families during early development and into the school years is recommended practice, but there are significant barriers to continuity of services established in the home (Curruthers, 2001).

### **Recommended practice for early intervention**

For children with autism, the best technology for assessment and intervention is applied behavioural analysis (ABA). This scientific approach to behavioural change is based upon the work of B. F. Skinner and the principles of operant conditioning (Skinner, 1971; Sundberg & Michael, 2001). At its fundamental level, ABA follows the principle that behaviour that is rewarded, or reinforced, will reoccur. In practice, ABA consists of the delivery of systematic instructions (i.e., discriminating stimulus, S<sup>d</sup>; or antecedent, A) that elicit responses from the student (i.e., response, R; or behaviour, B) that are followed with consistent reinforcement or correction procedures (i.e., consequence, C). As a discipline, ABA is data-driven, requiring of its practitioners, (a) consistency of approach, (b) continuous and appropriate behavioural prompting, and (c) planned reinforcement schedules for successive approximations of appropriate social behaviour.

A key element in all ABA programmes is that tasks are broken down into their simplest elements, or components, each of which is taught independently using discrete trials. Discrete trial training (DTT) refers to a series of highly structured learning opportunities with a trained therapist assisting the child to successfully complete a predetermined number of trials. Each trial has a definite beginning and end. The child is presented with a discriminating stimulus (e.g., "do this" or "look at me") as a prompt. When inappropriate or incorrect responses occur, they are ignored, and the child is prompted to try again. Correct responses and socially appropriate behaviours are rewarded with lots of positive reinforcement. Reinforcers, pace, and target skills are clearly defined in advance. As the child masters the skill, the criterion for success is elevated, and prompts are faded (Fovel, 2002; Lovaas, 1989, 2003).

Initially, primary reinforcers (e.g., food) are used to reward appropriate behaviours. These rewards are gradually replaced with social reinforcers (e.g., hugs and praise). Generally, repetitions of 10–20 trials form a single activity. The consistent method of presenting each activity provides the child with maximum opportunity to master a new skill. Mastery is defined in terms of specific criteria (generally a ratio of 80% successful responses to 20% prompted or failed responses) across several locations, times, and

therapists. Once simple skills such as sitting at the table, making eye contact, and imitating the therapist are learned in this manner, more complex skills such as imitation of play skills, social interaction, and communication can be taught (Maurice, Green, & Luce, 1996). Because children within the autism spectrum vary enormously in their strengths and weaknesses, individualised lessons are developed to meet the particular needs of the child, resulting in a truly individualised education plan (IEP).

Research has shown that ABA techniques produce consistent results in teaching new skills and behaviours to children with autism (Lovaas, 1989; Lovaas, Koegel, Simmons, & Long, 1973; McEachin, Smith, & Lovaas, 1993). In a landmark study, Dr. Ivar Lovaas, a professor at UCLA, California, reported that children who received early, intensive behavioural treatment of the Lovaas-type (a form of applied behavioral analysis using discrete trial training and reinforcement schedules) improved to the extent that they were indistinguishable from other children of their age. Of the participating children, 47% achieved normal intellectual and educational functioning, 40% were assigned to classes for the language-delayed, and only 10% were placed in classrooms for the retarded. In contrast, of the children who received basic services, only 2% achieved normal educational and intellectual function, 45% were put in language-delayed classes, and 53% were put in classrooms for the retarded (Lovaas, 1987). Follow-up studies when the Lovaas-treated children were 11-to 12-years-old revealed that 44% were indistinguishable from average children on tests of intelligence and adaptive behaviour. Thus, these children were classified as "recovered" from autism (McEachin et al., 1993).

Approximately 50% of children with autism are nonverbal. The preferred method for teaching children with autism is ABA and DTT in conjunction with an augmentative communication system (Bondy & Frost, 2001; Lovaas, 2003; Tender, 2002). The most prevalent system currently in use with this population is the Picture Exchange Communication System (PECS). Bondy & Frost (1993) developed this system for teaching functional communication to children with limited speech. PECS can be used in one of two ways: (a) as a communication system (e.g., exchange of picture to gain desired items), and (b) as a visual cueing system (e.g., to indicate order of activities). As an aid to functional communication, PECS is unique in that it teaches children to initiate communicative interactions within a social framework (Bondy & Frost, 2001).

Because children with autism have comparably better visual matching skills than verbal skills, new vocabulary is introduced using 3-dimensional to 2-dimensional matching drills (i.e., real item to picture). This method allows teachers and parents to assess the child's receptive understanding of words and concepts presented in the pictures. Once matching and exchange are mastered, the children are encouraged to construct picture-based sentences and use a variety of attributes in their requests. Few well-controlled investigations have been conducted to test the effectiveness of PECS. At least one empirical study, however, showed that use of PECS for three children with autism facilitated increases in verbal speech and sociocommunicative behaviours and decreases in problem behaviours (Charlop-Christy, Carpenter, LeBlanc, & Keller, 2002). ABA consultants using PECS and DTT methodology are able to build the child's receptive language base relatively quickly, to teach the rules of reciprocal social communication, and provide a verbal model for spoken language.

### Home-based practice

It has been estimated that the cost of raising a child with a severe disability such as autism is three times more than that associated with raising a child without a disability (Jarbink, Fombonne, & Knapp, 2003). In Australia and Canada, intensive home-based behavioural intervention, whether Lovaas-based or ABA-DTT, is generally undertaken independently of school-based education. Parents must obtain the services of a suitably qualified ABA specialist at their own expense. Some financial assistance may be obtained through fund-raising efforts of volunteer agencies supporting families of children with disabilities. Parents must also locate suitably qualified ABA practitioners by their own efforts. Currently, only the USA has board certification for ABA therapists. Therefore, parents in Canada, Australia, and New Zealand often pay for an American "expert" to get their home-based programme started.

Given the heavy financial burden on families, increasing numbers of American families have sought reimbursement for discrete trial training or intensive behavioural therapy carried out in their home. Mandlawitz (2002) reported numerous United States Supreme Court cases involving parents of children with disabilities who have successfully sued for the costs involved in providing specialist services and intensive home-based intervention. These costs include lost income, lost employment, lost leisure, out-of-pocket expenses for training and maintaining a home-based therapy programme, and other informal costs that can dramatically affect family life. However, as a general rule, the US Supreme Court upholds decisions to reimburse families for associated costs only where it can be found that the school district has failed to provide a "free and appropriate individualised education programme" for the child.

In Australia, a developmental psychologist, specialising in autistic spectrum disorders and trained in ABA methodology, will be able to diagnose ASD, develop an appropriate IEP, and monitor the child's progress on a regular basis. A consultant psychologist is also most likely to undertake a detailed functional assessment of behaviour (FBA), highlighting antecedent and consequent factors implicated in the maintenance and generalisation of problematic or socially inappropriate behaviours (e.g., ritualised and obsessional, aggressive, self-stimulatory, or avoidant behaviours).

A consultant ABA specialist generally supervises the ongoing training of ABA therapists (typically either 1st- or 2nd- year university students), and monitors the child's progress in the home-based programme. The specialist usually constructs a behavioural (antecedent-behaviour-consequence) dictionary, which details the most likely antecedents to problem behaviour and current strategies for reducing or eliminating that behaviour. Throughout each therapy session, the ABA therapists working with the child record a large amount of data, which provides an objective means by which to measure the child's progress (Fovel, 2002). This expensively acquired ABA data has the potential for transferability from home to school; when school-based data collection has not been resourced at a comparable level and quality, home-based data and programming can be invaluable.

A child immersed in a full-time home-based intervention could be involved in therapy for up to 40 hours per week. Typically, children undertaking ABA therapy are engaged in 1 to 3 hours of one-to-one intervention in the family home every day: before

school, after school, or both. Intensive behavioural intervention programmes (e.g., ABA) are individually tailored to the child's level of development. Programmes typically cover areas such as emotional regulation, anxiety reduction (Bondy & Frost, 1993), modification of self-stimulatory behaviour or self-mutilation, social skill development (Taylor, 2001; Weiss & Harris, 2001), communication skills (Bondy & Frost, 2001; Sundberg & Partington, 1998), play skills (Smith, 2001), functional self-help skills, gross and fine motor skills, and pre-academic skills (Leaf & McEachin, 1999).

### **Addition of school-based practice**

Home-based intensive behavioural interventions need not operate in isolation, in parallel with but unconnected to schooling experience. When the child reaches school age and when, therefore, the child requires interventions in both home and school settings, decision-making and accountability can be shared. Collaboration with parents, students, and specialist professionals assists educators to be more effective in their development and delivery of special education services (NSW Government, 1994; Robertson, Chamberlain, & Kasari, 2003; Turnbull et al., 2002). A collaborative interdisciplinary approach to educating children with pervasive developmental disorders such as autism provides the structure for continuity of services from home-based behavioural intervention to the school context and focuses attention on the needs of the child rather than organisational concerns or loyalties (Curruthers, 2001).

Both the PECS augmentative communication system and the behavioural dictionary developed in the home are designed to travel with the child to and from school: Communication between specialist professionals and educators about the home-based programme and its analysis of learning outcomes can assist teachers to provide suitable learning opportunities for the child during school hours. Collaboration can reduce confusion for parents who may otherwise perceive that sources inside and outside the school are giving conflicting or puzzling advice (Curruthers, 2001). Regular communication between parent and teacher can provide opportunities to discuss appropriate strategies that might be employed in either home or school setting.

The consultant developmental psychologist supervising the child's ABA intervention should be readily able to attend IEP meetings at school. Collaboration on the IEP has many benefits. First, the psychologist can provide invaluable information regarding the child's level of adaptive functioning in the home or other contexts. Second, the psychologist can assist in identifying appropriate IEP goals for the child, on the basis of strengths and weaknesses noted during home- or clinic-based therapy. Third, the psychologist, having undertaken an analysis of the function of inappropriate behaviours (i.e., FBA), can identify useful strategies to help minimise difficulties encountered in the classroom environment. When school administration and the school-based team collaborate well with professionals outside the school community, then relations between home and school can be cordial.

Although Education Queensland advises parents that they may take an advocate to the school IEP meeting, in practice, this option may be discouraged. When parents bring their child's psychologist or ABA consultant to the school, this child-advocate can sometimes be perceived as the "enemy" rather than as a professional colleague (Maurice



et al., 2001). Parental experiences have indicated that it is not unusual for schools to actively resist inclusion of their child's ABA therapist (e.g., Maurice et al., 2001). The annual IEP meeting can be a time of significant parent-school conflict.

A consultant developmental psychologist can develop strategies for use in the home environment that are aimed to reduce problematic behaviours and teach new behaviours, with the ultimate aim being to generalise these new behaviours to the school environment. In the classroom, paraprofessionals such as the child's ABA therapist often have an excellent "understanding of the students' needs and behaviours, enabling them to provide more effective assistance to the general education teacher" Robertson et al., 2003, p. 129) than is possible with other classroom helpers. In the UK and USA, parental advocacy for preferred one-to-one behavioural intervention for their autistic children has resulted in increased litigation and increased "willingness" on the part of educators to provide ABA services within the classroom (Jacobson, 2001; Maurice, Mannion, Letso, & Perry, 2001; Turnball et al., 2002).

School-based educators appear to accept that early intervention in the home context is a good idea. Yet parents who request one-to-one interventions for their child within the school can be told that ABA services are neither desirable nor suitable to their child's needs. For example, an educator in a Queensland school recently told one child's parents that they were wasting their money on ABA services as no behavioural change had been observed in the classroom. This exchange took place *after* the child had mastered approximately 50 therapy goals, over a 3-year period, including goals highlighting emotional regulation and reduction in self-stimulatory behaviour.

In reality, home-school communication about behavioural contingencies seldom occurs. It has been recognised that there are several barriers to effective communication between home and school. One reason is that parents might not realise that they are entitled to attend meetings that review their child's placement and progress (Curruthers, 2001). In addition, typical strategies used in the home setting (e.g., reinforcement scheduling) are seldom employed into the school environment. A teacher may be unfamiliar with the procedures used in home-based ABA programmes; a particular school may not support the specific strategy employed. Whatever the reason for lack of transfer into the school setting, skills learned in the home may not generalise to the school environment readily. Teachers are also often unaware of how strategies employed in the school setting may hinder the child's progress toward therapy goals. For example, a teacher's reactions to behaviour (i.e., consequences) in the classroom may inadvertently reinforce and maintain undesirable behaviour.

An education forum held on the Gold Coast (jointly hosted by South Coast Regional Disability Council, Education Queensland, and Disability Services Queensland, 2003) highlighted ongoing parental concerns that some schools do not want to acknowledge or cooperate with outside professionals. Parents reported that there appears to be a "closed ranks" culture in these schools and that some teachers and principals reject assistance even from advisory visiting teachers from other special schools. Recent American research has also indicated continuing problems in some districts that have resisted applied behaviour analysis in the post-Individual Disabilities Education Act era (IDEA, 1997).

Schools in Queensland frequently overlook the value of consulting a developmental psychologist or ABA specialist until such time as the school-based team have exhausted all available resources coping with a child with an autistic spectrum disorder. A classroom teacher may feel overwhelmed by a child exhibiting difficult behaviours but may not know what to do to change the situation. Nevertheless, a request from a teacher for internal or external assistance does not always equate to actual support in the classroom (South Coast Regional Disability Council et al., 2003). In some schools, teachers lack access to teacher-aides who is suitably trained in autistic spectrum disorders and to the necessary support from the school principal to obtain suitable assistance. Consequently, when the school is in the process of suspending or expelling a child who is exhibiting self-stimulatory, non-functional, or challenging behaviours, it is often the parents who consult a private practicing psychologist to advocate on behalf of their child.

There remain unanswered questions about why collaboration with outside professionals is not routinely happening in our schools. Perhaps some teachers fear the extra paperwork? Perhaps some school principals fear that the school ecology will be criticised? Perhaps the child will simply be expected to fit into existing school practices? For example, a young child with an effective plan for positive behaviour support developed and implemented in a special education development unit was unable to transition into one preschool, which did not accept the plan; another preschool, however, was willing and able to accept and implement this plan (Beamish, Bryer, & Wilson, 2000).

## Conclusion

ABA therapy is considered by many to be the best empirically based educational programme for children with autistic spectrum disorders (Hastings, 2003; Smith, 1999). Yet some schools are reluctant to incorporate ABA in to their curriculum. There may be quasi-philosophical differences of opinion in Australian school-based education (Curruthers, 2001) and in American school-based education (Kimball, 2003). There may be difficulties in staff recruitment and training, access to funding, or perceived disruption of school routines (Johnson & Hastings, 2001).

At the bottom line, however, regular classroom teachers and principals are ill informed about ABA in general. Open lines of communication between home and school can improve the quality of service provided to a child and can alleviate much stress for families and siblings of children with ASD (Hastings, 2003). However, when the school does not have adequate communication with home, teachers can remain totally unaware of the content and educational value of a particular child's home-based intensive intervention programme and therefore, they can miss opportunities to help the child reach his or her full potential.

There are a number of options for Queensland schools. First, Education Queensland could adopt the American model (IDEA, 1997), providing free ABA services in schools for children diagnosed with ASD who have already been shown to learn best with discrete trial training. Second, the state government could legislate to provide funding to families to obtain ABA or DTT services in the private sector, withdrawing children from

state schools for this purpose. Third, Education Queensland could contract private practicing psychologists trained in ABA to consult with educators and principals about the benefits of discrete trial training and applied behavioural methodology. Fourth, Education Queensland could employ ABA consultants to work as teacher aides in the classroom.

In all cases, collaboration between private and public sector should be viewed as best practice: The home and the school need to work together towards their common educative goals for the child. Inclusive schooling requires that regular teachers work collaboratively with the parents and their child's therapist. In the present situation in which the home is often not communicating effectively with the school, the school is often not communicating effectively with the child.

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