Quality Educational Practices for Students

with

Asperger

syndrome

A report of the
Ministerial Advisory Committee:
Students with Disabilities (MAC:SWD)
South Australia
September 2006

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Preface:

To the Minister for
Education and
Children's Services

To: the Minister for Education and Children's Services
The Hon Jane Lomax-Smith MP

This report of the Ministerial Advisory Committee: Students with Disabilities (MAC:SWD) describes quality educational practices for students with Asperger syndrome, as observed in South Australian schools. It is also a useful resource for educators, as they assist students with Asperger syndrome and their families.

Included is information about Asperger syndrome, its prevalence, the emotional and intellectual characteristics of students with Asperger syndrome, examples of quality educational practices and profiles of the nine schools involved. Previous South Australian reports related to this topic are discussed where relevant and background information is provided to place the purpose of this study in a broader context.

Asperger syndrome is a developmental disability on the autism spectrum. It is characterised mainly by difficulties with social interaction, communication and some cognitive processing difficulties, which include executive function, sensory perception and the ability to comprehend the perspective of others. The presence of idiosyncratic interests is also a characteristic of Asperger syndrome. Approximately 1 in 125 individuals in the general population are affected by this disability (J. Martin [Autism SA] 2006, pers. comm., January 2006).

The current average age for diagnosis of Asperger syndrome is 7–8 years. Most children with Asperger syndrome will begin school without a formal diagnosis. This has implications for teachers and special education consultants who monitor children's development, liaise with families and refer to specialist practitioners for assessment and therapy when needed.

In 1999, MAC: SWD investigated the circumstances for secondary-aged students with autism spectrum disorders in South Australian schools. The final report to the Minister for Education and Children's Services outlined initiatives in school management and teaching practices that supported students with autism spectrum disorders to engage in learning at their schools. The findings identified that the most successful practices adopted a situation-specific and flexible approach, which acknowledged the varied support needs of students with autism spectrum disorders, including those with Asperger syndrome (Ministerial Advisory Committee: Students with Disabilities, 2000).

This previous study also found that students with Asperger syndrome increasingly presented significant support and service challenges, as evidenced by a high number of suspensions and exclusions. There also appeared to be a high number of students with Asperger syndrome experiencing mental health problems, for which they required additional services.

However, in more recent years there had been evidence that some students with Asperger syndrome had adjusted to school life successfully, were receiving support in areas of need and were achieving in their educational pursuits. Therefore the committee proposed to visit those schools where quality educational practices and successful outcomes occurred to investigate and record their practices. The findings constitute Part 1 of this report. Other supporting documentation is presented in the appendices as Part 2.

In April 2005, the committee set up a group to guide this project (see appendix 2.4 for membership). After establishing the terms of reference and investigation methods (see appendix 2.5), families, past and present students and school staff were invited to share their experiences concerning school life for students with Asperger syndrome. Structured questions were presented to these project participants and various methods were used to collect their responses. Some provided their responses in writing, some participated in focus group meetings and others had an individual interview. Verbal responses were recorded on audiotape for later reference (see appendix 2.3 for questions). Many of the quality practices presented in Part 1 of this report have been taken from the anecdotal accounts of successful practices presented by the study participants, and in literature on the topic.

Participants were drawn from nine schools across the three education sectors. Initially, education sector representatives nominated a number of schools where quality educational practices had been demonstrated. These nominations were then confirmed by the project group members, families, Autism SA staff and other experts in the field. A range of additional factors was also considered in the selection process because it was not possible to visit all nominated schools. The discerning criteria for selection included the numbers of students with Asperger syndrome enrolled at the school, country or metropolitan location, and school level. Those that agreed to participate in the study are listed below. For a more detailed profile of these schools see appendix 2.2.

Name of School	Education Sector
Aberfoyle Park High School	State
Kensington Centre	State
Open Access College	State
Paralowie R–6 Junior School	State
Quorn Area School	State
St John's Grammar School	Independent
St Paul's College	Catholic
Tatachilla Lutheran College	Independent
Tenison Woods College, Mount Gambier	Catholic

In addition to school-based consultations, two groups of young adults with Asperger syndrome, who had already completed their secondary education, were interviewed about their experiences at school. Representatives from the health and education sectors were also consulted regarding the services available to students and their families. The interface between health and education was a topic for discussion, specifically in relation to the additional support required for students with Asperger syndrome and mental health problems.

Approximately 190 people were consulted. Outcomes are recorded in this written report and were presented at a seminar on quality educational practice for students with Asperger syndrome, which was held during Autism Awareness Week, 14 to 20 May, 2006. The purpose of the seminar was to share information on quality educational practices to support students with Asperger syndrome at school. Representatives from each of the schools involved in the project were invited to present aspects of their quality educational practices. The committee jointly sponsored this seminar with Autism SA.

The majority of students with Asperger syndrome in South Australia are enrolled in local schools. Alternative schools specifically for this cohort are not available in South Australia. These types of specialist schools are available in Victoria and New South Wales, and Satellite[1] classes are available in New South Wales. Internationally, schools for students with autism spectrum disorder and Asperger syndrome are available in some countries, including the United Kingdom, the United States of America and Singapore.

Three alternative settings for students with Asperger syndrome are available in South Australia. These include one specialist class for up to 8 students at Kensington Centre (a state special school), Open Access College enrolment and home schooling. Only a very small number of students with Asperger syndrome who have had significant difficulties in their local school access these alternatives (see appendix 2.2 for school profiles).

In August 2005, a snapshot of students with Asperger syndrome registered with Autism SA indicated that approximately 640 students were currently receiving school-based services for their additional needs across State, Catholic and Independent schools. Statistically, there are 10 males for each female diagnosed with Asperger syndrome[2] (Autism Association of South Australia [now known as Autism SA], 2002).

Therefore, it can be assumed that of the total number of students diagnosed with Asperger syndrome registered with Autism SA and receiving school-based services, approximately 582 were males and 58 females. However, not all families with children with Asperger syndrome choose to register with Autism SA or access services.

It is difficult to estimate confidently the number of people with Asperger syndrome in a given population. The international body of literature concerning prevalence statistics for Asperger syndrome suggests inconsistencies in methods due to variations in sampling and methods of data collection. Therefore, a range of findings across countries has been published. Recent international research (Fombonne, 2005; Fombonne & Chakrabarti, 2005) suggests that the best estimate for the prevalence of all autism spectrum disorders is 6 per 1000 people. For Asperger syndrome alone, the research data is unclear with estimates ranging from 3.5 in 1000 to 7 in 1000 (Ehlers & Gillberg, 1993). Autism SA suggests the prevalence of Asperger syndrome to be approximately 1:125 persons from the general population.

Dr John Wray, developmental paediatrician with the State Child Development Centre of Western Australia, has been coordinating a national study on the prevalence of Asperger syndrome in Australia during 2005 and 2006. Data were collected through government agencies across most Australian states/territories. Preliminary discussions with Dr Wray on the findings of his study suggest that inconsistencies in data availability and type across the states/territories make it difficult to assess the prevalence of the disorder (J. Wray 2006, pers. comm., January). The full report on this study is expected to be available later in 2006.

In August 2005, approximately 252 730 students were enrolled across the three education sectors in South Australia (M. Wilde [Department of Education and Children's Services] 2006; pers. comm., January; S. Francis [Non-Government Schools Secretariat] 2006, pers. comm., January). Based on calculations using Autism SA's prevalence figures of 1:125 and the known population of 640 students with Asperger syndrome, it would appear that in 2005 less than half the number of students who are likely to have Asperger syndrome in South Australian schools were identified, diagnosed and receiving support.

1   Satellite classes are for students with autism spectrum disorder specifically, and are located in local schools and staffed by Autism Spectrum Australia (Aspect) employees. This model allows students to participate in their local school while being supported by staff who have expertise in autism. The students are enrolled in an Aspect-based school until they transition out of the satellite class. There are six Aspect schools in New South Wales (see Roberts, 2004 for a review of this model).

2   For comparison, there are 4 males with autism for each female diagnosed.

These low identification figures appear consistent with those reported by the Department of Human Services (now known as the Department for Families and Communities) in 2002. The then Disability Services Office (now known as the Office for Disability and Client Services) reported that in South Australia approximately 1350 individuals were identified with autism spectrum disorders, and they expected the total number of people identified with the disorders to increase, based on prevalence estimates (Watkins & Farinola, 2003).

At that time, 68 per cent of diagnosed cases were school-age children. Fewer people over the age of 25 years had a diagnosis (13 per cent) and even fewer under the age of 5 (4 per cent), although the statistical trend for younger children appeared to be increasing because of a growing body of knowledge and earlier detection. This trend remains the same. It was suggested by the authors of this report that, "Children between the ages of five and eight years [were] particularly disadvantaged in regard to available service" (ibid, 2003, p. 46). Recommendations of their report included suggestions for changes to funding and administrative arrangements for diagnostic services. Long waiting times for diagnosis were a problem. In 2005, the South Australian government provided Autism SA with a grant of $180 000 to increase diagnostic services for autism spectrum disorders.

The Disability Services Office report also recommended that the education and health sectors jointly develop a collaborative model of service delivery for school-aged children in consultation with other relevant agencies (ibid, 2003). Advice from the Office of Disability and Client Services indicates that some progress has been made towards these recommendations.

It is probable that the demand on available diagnostic and educational services for students with Asperger syndrome will increase because there remains in schools a large number of students with Asperger syndrome who are yet to be diagnosed. Many students with Asperger syndrome are participating at their local school successfully, with or without a diagnosis. Some receive minimal support (e.g. they may have extra assistance with organisation, curriculum or social skills development). Others receive more intensive support for areas of identified need, such as communication and language disorder, attention deficit hyperactivity disorder (ADHD), behavioural support and mental health problems.

There is a growing concern for the mental health of students with Asperger syndrome, particularly during adolescence. Research indicates that depression is the most frequently experienced co-morbid condition for people with Asperger syndrome, and prevalence rates may be higher for this cohort than the general community (Davies, 2005). However, it is unclear as to whether co-morbid psychiatric conditions, such as major depression, are independently occurring disorders or whether they result directly or indirectly from the pathogenic processes causing autism (Lainhart, 1999, cited in Davies, 2005).

In South Australia, the Division of Mental Health, Women's and Children's Hospital offers state-wide tertiary health care services for young people aged 12–18 years who have significant and severe mental health issues, often accompanied by challenging behaviour. Referrals for these services come through the Department of Education and Children's Services (DECS) Student Inclusion and Wellbeing Coordinators, Child and Adolescent Mental Health Service (CAMHS) or medical practitioners. The service is accessed by students from all education sectors. Every 6 months, 20 young people are enrolled in the program, of which on average 3 (15 per cent) are students with Asperger syndrome. It has been noted by the program manager that the main issues resulting in mental health breakdown for these young people relate to poor peer relations caused by an inability to interpret emotions, and minimal or no empathy in social situations. Their challenging behaviour often results from frustration, and they come to the program with a significant history of school exclusion.

Research suggests that higher functioning people with autism spectrum disorders, such as those with Asperger syndrome, are more aware of their disability and, because of their susceptibility to lower self-esteem, may be more predisposed to depression (Butzer & Konstantareas, 2003; Ghaziudden et al., 2002).

Safran (2002) discusses those people with Asperger syndrome who are often creative, highly intelligent and technologically, mathematically or scientifically astute as having the potential for momentous contributions to our society. Yet, it is their depression, often associated with their isolation, which interferes with their functioning and contributes to a higher than average incidence of suicide. It has been suggested that, "early intervention to promote the resilience of people with Asperger syndrome may tilt the balance between risk and protective factors just enough to lessen the severity of any depressive episode, improve the quality of life for the affected individual and substantially ease the burden of care" (Davies, 2005, p.14).

Further information on Asperger syndrome and quality educational practices is provided in Part 1 of this report. In summary, the body of literature available on students with Asperger syndrome, information relevant to South Australia and the data collected through the project, indicate that quality educational practice for students with Asperger syndrome requires flexibility to accommodate the individual and fluctuating needs of students with this disability. Working in partnership with consultants, service providers, educators and families is essential to plan for successful educational experiences and outcomes for students with Asperger syndrome.

Most students with Asperger syndrome further benefit from a consistent and predictable approach without rigidity because they have a need to be familiar with their environment and other people's actions. In general, changes cause anxiety for students with Asperger syndrome; they may respond poorly to spontaneous change, and it may take them longer than other students to adjust to changes.

Friendships, social relationships, bullying and harassment represent some of the most difficult aspects of school life for students with Asperger syndrome. It is widely recognised that social and relational learning for students with Asperger syndrome is equally as important as academic attainment.

Specific strategies designed to improve learning opportunities for students with Asperger syndrome should be negotiated with staff, families and students, to meet individual student needs (e.g. visual prompts, tutorial support and designing the curriculum around students' specific interests). Mentoring has been used successfully to increase engagement and learning.

In addition to these school based strategies, it is recommended that a coordinated system for collecting specific information regarding the number of students with Asperger syndrome enrolled at schools, their retention and post school pathways be developed further. This information is currently not available from all education sectors.

I am pleased to forward this report,
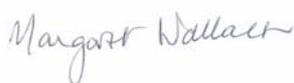
Margaret Wallace
Chairperson
Ministerial Advisory Committee: Students with Disabilities

Part 1:

Quality Educational Practices
for Students with Asperger syndrome
in School Communities

1.1 What is Asperger syndrome?

Asperger syndrome is a pervasive developmental disorder on the autism spectrum, characterised by social, communication and cognitive difficulties, and the presence of idiosyncratic interests (Autism Association of South Australia [now known as Autism SA], 2002; Gilberg, 2002; Safran, 2002; Henderson, 2001).

impairment triad

Generally, Asperger syndrome is characterised by an impairment triad, which affects the ability for social interaction, communication and creativity or imagination (Wing, 1991).

In 1981, Lorna Wing first used the term *Asperger syndrome*, to describe children who had classic autistic features yet had normal patterns of language development and a desire to socialise with others (Wing, 1981). Hans Asperger had described such children previously in his 1944 thesis (Frith, 1991), hence the adoption of his name for the syndrome.

More recent research into the disability, now known as Asperger syndrome or Asperger disorder, began with Wing in the early 1980s, but the term was not widely used until the late 1980s (Autism Association of South Australia [now known as Autism SA], 2002; Gillberg, 2002). Only as recently as 1994 was Asperger syndrome recognised as a form of autism by the American Psychiatric Association, with its own diagnostic criteria (American Psychiatric Association, 1994, 2000).

Since 1994, Asperger syndrome has been recognised as one of five disorders that make up the autism spectrum. The autism spectrum is an inclusive term used to encompass a range of neurologically-based pervasive developmental disorders including: autism, Asperger syndrome, pervasive developmental disorder not otherwise specified (PDD-NOS, also known as atypical autism), Rett syndrome and childhood disintegrative disorder (Autism Association of South Australia [now known as Autism SA], 2002).

variability

In describing Asperger syndrome, it must be remembered that there is a great degree of variability amongst individuals.

A diagnosis requires that four of five criteria for Asperger syndrome listed in *Diagnostic and Statistical Manual of Mental Disorders Fourth Edition—Text Revision* (DSM IV—T R, 2000) be present, including at least two indicators of a qualitative disability in social interaction and at least one in the category of restricted interest and stereotyped behaviours or rituals (Safran, 2002).

A diagnosis of Asperger syndrome does not preclude being diagnosed with other difficulties, such as speech-language disorder, learning difficulties or attention deficit hyperactivity disorder (ADHD). It does preclude a diagnosis of intellectual disability, another specific pervasive developmental disorder and schizophrenia. (Dahle & Gargiulo, 2004; Stein et al., 2004).

It is less likely for individuals with Asperger syndrome to have impairment in cognitive development, language acquisition or self-help skills (American Psychiatric Association, 2000), but language peculiarities and difficulties with organisation may be noticeable (Safran, 2002).

Some individuals with Asperger syndrome perceive normal sensory stimuli as being unbearably intense (Attwood, 2003; Safran, 2002). Sudden or sharp noises, busy environments and the close proximity of large numbers of people may be threatening for a person with Asperger syndrome. Physiological anomalies such as an unusual gait when walking or compulsive finger, hand and arm movements may be present for some individuals. Difficulties with executive functioning may result in poor impulse control, reduced planning ability, problems with organisation and difficulty with adapting behaviour appropriately for a given context (Myles & Adreon, 2001).

The behaviour of students with Asperger syndrome at school may range from being quiet and withdrawn to exhibiting challenging behaviour. Academic achievements vary. Some students with Asperger syndrome experience difficulties in specific learning areas, such as writing, mathematics, science or physical education, while others are very competent in these areas.

individuality

They are known as spectrum disorders because the symptoms of each can appear in different combinations and in varying degrees of severity: two children with the same diagnosis, though they may share certain patterns of behaviour, can exhibit a wide range of skills and abilities (Meduri, 2004).

▶ *Theory of Mind and its effect on social interaction*

After Wing stimulated interest to investigate Asperger syndrome, research on the topic gained momentum. In 1996, Baron-Cohen hypothesised that impairment in the cognitive process now widely known as *Theory of Mind*, may be the major cause for social difficulties associated with autism and Asperger syndrome. Theory of Mind is a psychological phenomenon that affects human interaction and relationships. Baron-Cohen referred to an impairment in this area as "mindblindness" (ibid, 1996).

Theory of Mind is about understanding that a person can know something when another person does not. Without a Theory of Mind it is not possible for a person to infer the thought patterns of other people, so their behaviour would be interpreted strictly on behavioural terms (Gillberg, 2002).

Theory of Mind relates to the human capacity for interpreting social rules, communication (literal or inferred), and the emotional awareness of others. A person who has developed Theory of Mind fully takes for granted an instinctual intuition to infer another's behaviour or thoughts, whereas individuals with Asperger syndrome may find their social interactions continuously challenged because delay in Theory of Mind development affects their abilities in this area.

Theory of Mind

Theory of Mind is the ability to recognise and understand the thoughts, beliefs, desires and intentions of other people—to be able to make sense of their behaviour and predict what they will do next (Attwood, 2005).

There are three different stages in developing Theory of Mind. The first stage begins at ten to twelve months of age, when children engage in pretend play, for example using a banana as a telephone. The second stage is usually present at two years of age, when children become aware of their own visual perspective and knowledge (Attwood, 2005). Attwood explains this stage through the game hide-and-seek with an object; children understand that although they cannot see the object, it is still there. Generally, by three years of age children understand that other people may not know what they are thinking (Shaffer, 1996). However, children at this stage think what they believe is reality, and everyone else's thinking is the same (ibid, 1996).

By four to five years of age, children usually develop the third stage of Theory of Mind (Attwood, 2005). This is the ability to understand another person's thoughts, desires and emotions, which help to explain their behaviour and intentions (Attwood, 2005). At this stage, children begin to understand that people hold false beliefs. This is explained through the "Sally-Anne task": Sally puts her ball in a red cupboard before leaving the room; Anne then comes in and moves the ball to the blue cupboard. The child is then asked, "When Sally returns, which cupboard will she look in?". Individuals with an under-developed Theory of Mind will say the blue cupboard, because they do not comprehend that Sally did not receive the same information, and therefore her perspective or state of mind differs from theirs (Myers, 2001).

Generally, children with Asperger syndrome acquire the first level of Theory of Mind at around four to six years of age (Gillberg, 2002). By age ten, children with Asperger syndrome are generally able to achieve level two. However, they may always struggle to reach the third stage of Theory of Mind development (ibid, 2002).

1.2 What teachers should know about students with Asperger syndrome?

▶ *Cognitive functioning, executive functioning and intelligence*

One significant feature of Asperger syndrome is the typical development of cognitive functioning and language acquisition. However, this may be accompanied by impairment to executive functioning (American Psychiatric Association, 2000).

Cognitive functioning is a broad term used to describe the brain processes associated with thinking, learning, memory and language. Executive functioning relates to other cognitive processes such as planning, organisation, time management, cognitive flexibility, abstract thinking, concentration, rule acquisition and the ability to inhibit inappropriate actions and irrelevant sensory information (Wikipedia, 2006).

While cognitive functioning may develop typically for people with Asperger syndrome, many experience impairments in executive functioning (Dahle & Gargiulo, 2004; Safran, 2002; Attwood, 1998). Students with Asperger syndrome may not be able to organise their learning tasks, may interrupt inappropriately and often think in concrete and inflexible ways rather than laterally.

get to know the individual

Time is required to get to know individuals for them to express their strengths and areas of challenge, for their disability to be understood, and for their support to be individualised.

These difficulties affect their work output, their social relations, the development of broad-base problem-solving skills and their ability for abstract thinking—skills often required for classroom participation and the completion of educational tasks (Attwood, 1998).

There is also considerable debate concerning the intellectual abilities of people with Asperger syndrome (Abele & Grenier, 2005; Gillberg, 2002; Safran, 2002; Myles & Andreon, 2001; Attwood, 1998). Variation in assessment results (i.e. I.Q. scores) amongst individuals is thought to be inconsistent because strengths in one area and impairment in another distort the overall score (Attwood, 1998). For this reason it is recommended to look at the patterns of their responses, not the actual score of a test (ibid, 1998).

▶ *Language development*

People with Asperger syndrome develop speech and language at age appropriate levels (Abele & Grenier, 2005; Whiteley, 2004; American Psychiatric Association, 2000). However, they can show significant differences to typically developing people in receptive and expressive language, pragmatics, and the understanding of prosody (the melody of speech) (Gillberg, 2002; Attwood, 1998).

Academic competencies in language are mostly reported in the areas of reading, writing and spelling (Attwood, 1998). Some people with Asperger syndrome present with hyperlexia, which is characterised by an above average ability to read, coupled with a below average ability to understand the meaning of language. However, their competent expressive language gives the false impression that they understand what they are talking about, when in reality they may be parroting what they have read or heard elsewhere (Gillberg, 2002).

Pragmatic language is the appropriate use and interpretation of language in relation to the context in which it occurs. Students with Asperger syndrome have difficulty with pragmatic language. They may interrupt conversations, utter irrelevant comments midway through conversation or talk constantly about their preferred topics (Abele & Grenier, 2005; Attwood, 1998). Some do not understand that the intonation of a word can change the meaning of a sentence. Others may talk at inappropriate volume levels for the situation (Attwood, 1998).

understand their view

A teacher's ability to recognise students with Asperger syndrome's perspectives, understand their difficulties and adjust to their needs will affect the students' potential to achieve educationally.

Literal interpretation is also a characteristic of Asperger syndrome. For example, understanding phrases such as "Has the cat got your tongue?" or "I am over the moon" is difficult for individuals with Asperger syndrome because of their logical and concrete thinking pattern (Attwood, 1998). A person with Asperger syndrome would argue that is impossible to be "*over the moon*" and "no, the cat has not got *my* tongue", because it is not logical (ibid, 1998).

Tensions in social situations are common when students with Asperger syndrome respond to comments with a literal interpretation. Others think they are being rude, smart or sarcastic, and do not understand why they cannot just laugh at the joke. In addition, students with Asperger syndrome have difficulties with understanding facial expressions and interpreting a speaker's tone of voice. These are skills which enable a listener to go beyond literal interpretation. Understanding teasing or sarcasm can be difficult without them (Klienman et al., 2001).

▶ *Social interaction*

Knowing when to listen, how to start a conversation, and how to end one appears to be challenging for students with Asperger syndrome. Enjoying a reciprocal conversation is also difficult. Some students talk at people rather than engage in conversation (Attwood, 1998). They may speak about their passions and interests regardless of the other person's level of interest, and are not likely to recognise non-verbal cues, which provide the indicators to cease conversation (ibid, 1998). While these social interaction skills may be under-developed in students with Asperger syndrome, they represent areas of development that can be taught explicitly.

Explicitly teaching social skills appears successful for most students with Asperger syndrome. However, some have difficulty transferring these skills to other contexts (Attwood, 1998). For example, one young student learned to close conversations with his friend by saying "Bye, see you tomorrow". He was taught to say this to his friend to end their conversation at the bag rack at the end of the school day, but did not completely grasp the social context. Unfortunately, the student began to say "Bye, see you tomorrow" to anyone near the bag rack no matter what time of day. This type of out of context behaviour became a source of amusement for those around, and increased this student's exposure to teasing (Abele & Grenier, 2005).

understand their behaviour

The frustration experienced by students with Asperger syndrome is sometimes expressed through challenging behaviour— either aggressively or through withdrawal.

Many students with Asperger syndrome are victims of teasing and bullying (Heinrichs, 2003). They don't enjoy being teased and find it hard to ignore. They may exhibit a keen sense of justice and argue for fairness. In addition, because students with Asperger syndrome have difficulty reading social cues, they may not have the ability to differentiate between appropriate and inappropriate social responses. Some learn to be argumentative and aggressive, or to bully and harass if confronted or led this way. Heinrichs (2003) describes these young people as *perfect targets*, who can be both subjects and perpetrators of bullying behaviour. Families, students, staff and researchers regularly report that teasing, bullying and a lack of friendships for students with Asperger syndrome are major social issues.

▶ *Mental health*

It would appear that bullying and harassment for students with Asperger syndrome becomes more prevalent in the secondary school environment, (Konza, 2005; Hay & Winn, 2005). Constantly being faced with these issues can lead to mental health problems, including anxiety and depression, for students with Asperger syndrome. Their behavioural response may be withdrawal or aggression. Compulsive disorders also represent a major mental health issue for some students with Asperger syndrome.

Adolescence is recognised as a time of acute vulnerability during which people with Asperger syndrome become more prone to develop depression and are at increased risk of suicide (Davies, 2005; Konza, 2005). Some families have reported their children becoming quite ill due to anxiety concerning school and social issues. In some cases, students have been unable to get out of bed in the morning or sleep at night. Gillberg (2002) has found that bullying and a feeling of not being able to cope from around the time of puberty onwards appear to be the most common triggers of suicide attempts for adolescents with Asperger syndrome. Early intervention to promote resilience and improve students' quality of life is recommended (Davies, 2005).

▶ *Sensory needs*

The sensory system is made up of seven senses: taste, touch, smell, vision, hearing, proprioception (body awareness), and vestibular sense (which is the sense of balance) (Myles et al., 2000). The sensory system integrates all these senses allowing a person to interpret, understand and participate in the world. Regulating sensory information can be difficult for students with Asperger syndrome, who have atypical sensory system responses. Interventions for addressing behavioural issues related to sensory deficits should involve looking at the reasons for the behaviour, not only the behaviour itself. Behaviour to block sensory overload is likely to increase as students become more anxious and overwhelmed (Angeli & Whitehorn, 2004; Dunn et al., 2002).

Some people with Asperger syndrome are hypersensitive to touch, taste, loud noises or harsh lighting (Angeli & Whitehorn, 2004; Safran, 2002). This hypersensitivity can result in behaviour to lessen the impact of sensory overload (e.g. masking the face with hair or clothing, covering the ears, hand flapping or finger twirling to block visual stimuli, finding refuge in a dark cupboard or intensely focusing on one object to exclude others).

quiet place

Creating a quiet place for students to retreat to when their senses are overwhelmed is recommended (Safran, 2005).

When a student with Asperger syndrome shows overreactions to visual stimuli, providing an area with minimal displays in which to work can assist with concentration on tasks (Myles et al., 2000). For individuals with tactile sensitivity it may be necessary to reduce group participation. Allowing students with Asperger syndrome to leave a few minutes before the after-school rush of students in the corridor helps these students to avoid being overcome by the noises, smells and touches of this large group (ibid, 2000).

Conversely, some students with Asperger syndrome can be under-sensitive to noise or touch, which may mean they seek sensory stimulus and are able to tolerate unusually high levels of sensory stimulation (Angeli & Whitehorn, 2004). Students with Asperger syndrome with this type of sensory system have been known to experience broken limbs without complaining and alerting anybody because of their high tolerance of pain.

Motor clumsiness may be an indicator of students' additional sensory needs. The proprioceptive system allows the brain to process feedback from one's body parts in relation to the rest of the body, thus identifying body position in space (Angeli & Whitehorn, 2004). The proprioceptive system draws a mental map and works in collaboration with the vestibular and visual senses to allow a person to engage in physical activity (Gilman, 2005).

Students with Asperger syndrome who have sensory deficits in this area may appear awkward when walking or show poor handwriting skills (Safran, 2002; Williams, 2001; Myles et al., 2000; Attwood, 1998). They may hesitate or refuse to participate in physical education. Incorporating physical education into a health and fitness curriculum rather than a traditional sport class may be one way to engage these students in learning and alleviate their anxiety over their physical performance (Safran, 2002; Williams, 2001; Adreon & Stella, 2001).

1.3 What teachers can do

equip
yourself
with
knowledge
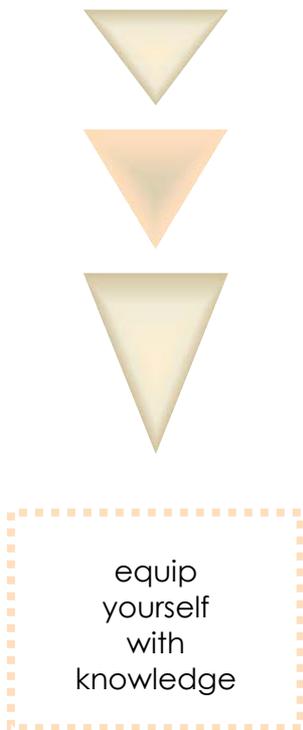
Understand that Asperger syndrome is a highly individualised disability with some common traits.

Get to know students with Asperger syndrome as individuals—their interests, family dynamics, areas of additional need and their triggers for anxiety.

Speak with colleagues who have taught students with Asperger syndrome previously to gain an understanding of which strategies work well and may be possible to use in your class.

Go to training and development activities and access resources from support organisations.

▶ *Structure, routines and organisation*

Classroom structure

In general, students with Asperger syndrome like predictability. Spontaneous change can cause distress. Structuring the classroom with routines and displaying schedules provide the predictability, order and consistency they seek (Dahle & Gargiulo, 2004; Williams, 2001). A number of teachers spoke of making sure the class's daily schedule was visible—posting it on the classroom wall, on the student's desk or in the student's diary. Similarly, posting functional structures such as the school rules and class routines was important as a reference point for students with Asperger syndrome. Rewards should also be predictable and, where possible, prearranged with students. Using the computer for a set period of time once students have finished their work is one example. It is advisable to use a timer to ensure the time is kept accurately, thereby reducing the possibility for debate and conflict.

Lists and schedules

Lists and schedules help students with Asperger syndrome to stay on task and to organise their daily routines. Such lists and schedules may include, for example, small pictures alongside the text outlining what to do in the morning before school, the schedule for the school day and how students would make their way home again (Adreon & Stella, 2001; Faherty, 2000; Attwood, 1998).

One example of this type of practice is a card, the size of a business card, which displays in brief words or pictures the routine, behaviour or social situation necessary to be carried out. By adapting this concept, a student could have several cards, perhaps colour coded for different circumstances (e.g. when the school bell is sounded to indicate the end of playtime, the corresponding blue card may show a picture of the class lining up near the classroom door to wait for the teacher; similarly, a different yellow card may show the routine for arriving at school—placing the diary in the teacher's basket, taking down the chair off the desk etc.).

This type of visual aid to help students with their organisation would be developed on the basis of individual student need and idiosyncrasies. These aids also need to be replaceable because they can be left behind easily, lost or destroyed. It is advised to keep spare copies both at school and at home.

classroom management
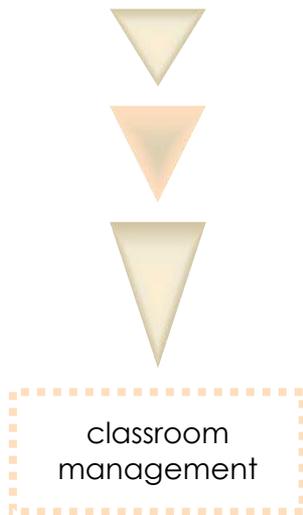
Have clear structures, routines and procedures in the classroom, and ensure all students in your class know these.

Modify the environment. Structure the class to engage students with Asperger syndrome in learning. Have strategies in place to minimise distractions and alleviate anxieties.

Create space for withdrawal when needed.

Encourage positive relationships with normally developing peers.

Permit students with Asperger syndrome to leave classes earlier than other students at change of lesson times and/or at home time to avoid the rush and bustle of students' movement.

Forewarn students with Asperger syndrome of any changes to the normal routine, and plan for these changes with your students.

Plan to provide alternative arrangements for students with Asperger syndrome when the regular teacher is absent. Students may go to another teacher's class who is familiar, rather than remain with a relief teacher who is unknown.

Establish non-verbal methods of communication for students with Asperger syndrome so they can convey their needs without verbal communication when distressed.

Predictability and consistency

Predictability and consistency in the environment and in the behaviour of others represents security for students with Asperger syndrome. Small changes can affect students negatively (e.g. changing the furniture in a room or the colour of subject folders). Change from the expected routine, particularly without prior warning, can cause agitation and conflict. One mother explained that if she approached the school in the car from a different direction to collect her son, he would get angry. Students with Asperger syndrome also can find it difficult to adjust to the behavioural shifts of others.

When change is necessary, preparing a student with Asperger syndrome privately in advance is important. It may be necessary to change a structure or routine slowly over some time or to make alternative arrangements altogether (e.g. when a relieving teacher is required, it may be better to arrange for students with Asperger syndrome to spend their time in another class with a teacher and peers who are familiar).

These practices reduce students' anxieties about the unknown and any associated challenging behaviour, which may arise from a state of anxiety in situations of change (Safran, 2002; Williams, 2001; Adreon & Stella, 2001). Having confidential information sheets in the classroom to explain students' particular needs as well as strategies on how teachers may respond to these needs can be useful when relieving staff are present.

► *Communication*

Students with Asperger syndrome are sometimes described as having adult-like and pedantic speech (Williams, 2001; Asperger, 1991; Attwood, 1998). Many appear extremely competent in communication because of their sophisticated expressive language, although there may be a marked difference between their expressive and receptive language abilities (Faherty, 2000; Attwood, 1998). Although students with Asperger syndrome may have a wide vocabulary, they can misinterpret instructions because of their delayed receptive language ability (Faherty, 2000).

Explanations and instructions

Ensure tasks are broken down and given to students with Asperger syndrome one at a time, because they may not be able to remember or organise several instructions at once. The use of visual cues to support oral instructions is recommended where possible (see section on visual prompts).

teaching students with Asperger syndrome

Recognise underlying cognitive and sensory issues.

Work in partnership with families.

Provide academic and social support either one-to-one or in small groups.

Work with students' interests and know how to channel these interests so they do not become a hindrance because of obsessional tendencies.

Build on students' strengths.

Use students' interests and abilities to teach across curriculum areas.

Adjust expectations for work output, break down tasks into smaller units and provide extra time to complete tasks if needed.

Allow the use of a computer rather than pen or pencil for school work.

Engage your students' families in discussions about homework. Be prepared to allow no or minimal homework.

Reward, reinforce and be positive. Have prearranged reward activities that provide an outlet from the intensity of school work.

Say students' names first when giving instructions or they may not realise you are speaking to them.

It is important to say the students' name first, and then give the instruction or the students with Asperger syndrome may not realise that the instruction is intended for them.

Students with Asperger syndrome have a tendency to interpret language literally. Therefore, students with Asperger syndrome may not understand a joke or when their teacher is using analogy, metaphor or sarcasm to make a point. They may argue their case persistently using a logical rationale and can become pedantic about facts. Sometimes this can be misinterpreted as being cheeky or rude.

Visual prompts

Many students with Asperger syndrome have a preference for visual rather than aural stimuli. Visual supports have been used successfully as an assistive tool to complement oral instructions from the teacher. Research has demonstrated that visual supports reduce the time between students being given instructions and the time they begin the next activity (Dettmer et al., 2000).

One of the junior primary teachers interviewed for this study reported using photographs of the student with Asperger syndrome in her class as cues for giving him directions, rather than using only verbal instructions. For example, she photographed this student with his finger to his lips as a visual instruction to stop talking and continue his work.

Similarly, the teacher photographed the student sitting on the floor surrounded by his class peers. She used this image as a prompt for the student to cease working and join the class on the floor. Using photographs containing images of the students themselves, rather than using generic photographs or symbols is helpful, particularly in the earlier years of childhood, because of the tendency of students with Asperger syndrome for literal interpretation.

Expressive and receptive language

To help students with Asperger syndrome develop their expressive and receptive language skills, teachers can point out privately when a joke is made or clarify that a particular comment was a figure of speech (Attwood, 1998). Keeping instructions simple and not assuming the instructions have been understood has also been shown to be supportive of students with Asperger syndrome (Faherty, 2000). Dictionaries are available to assist in understanding figures of speech, double meanings, sarcasm and metaphors (Stuart-Hamilton, 2004). Another helpful practice is for students to construct their own dictionary by keeping a record of local figures of speech or metaphors (Jackson, 2002).

Individualised resources for non-verbal communication

There may be times when students with Asperger syndrome need to communicate their needs without verbalising (e.g. they may be too shy or scared to explain they have permission to go to the library out of the ordinary times when they need a calm environment). In such instances, students with Asperger syndrome may carry pass cards explaining their privileges to show staff. Examples from Aberfoyle Park High School are provided below.

COOL DOWN CARD
xxxxx student name
xxxx class

xxxx is to report to xxxxx in Learning Support or Time Out Room, or xxxxx in the Counsellors' Office when he or she needs time to cool down out of a lesson.

This card is to be shown to the subject teacher before leaving the classroom.

Published with the permission of Aberfoyle Park High School.

LIBRARY PASS

This card gives xxxxx (student's name) permission to enter the library via the public entrance and report to the front desk when the library is not full. This has been negotiated with xxxxx, Library Manager.

Some students with Asperger syndrome may have an *Access Card*, which describes their additional learning needs. This card can be shown to teachers to inform them of how to cater for students' additional learning needs in class (e.g. being able to use the word processor for written work instead of manually writing with paper and pen, or allowing extra time to complete tests).

A version of the *Access Card* is available at the: Special Education Resource Unit website— <http://web.seru.sa.edu.au/Nep/contents/add/accesscard.doc>.
An example from St Paul's College is provided below.

(Side 1)

This card is to be carried in your diary and shown to class teachers at the beginning of term.

It is also to be shown to teachers if you feel that they need to be reminded of your individual needs and/or circumstance

(Side 2)

ST PAUL'S COLLEGE   DATE:
ACCESS CARD

This is to certify that
----------(student's name)----------
needs the following considerations:-

(tick those applicable)

☐ open book during tests
☐ tests read to him [her]
☐ extra time during tests
☐ use of word processor during tests
☐ verbal clarification of tasks
☐ tasks modified and/or enlarged
☐ spell checker and/or dictionary
   during tests
☐ calculator during tests
☐ notes photocopied
☐ special seating arrangements
☐ assignments scribed or taped or
   oral or video
☐ specialised equipment
☐ other

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working with families of students with Asperger syndrome
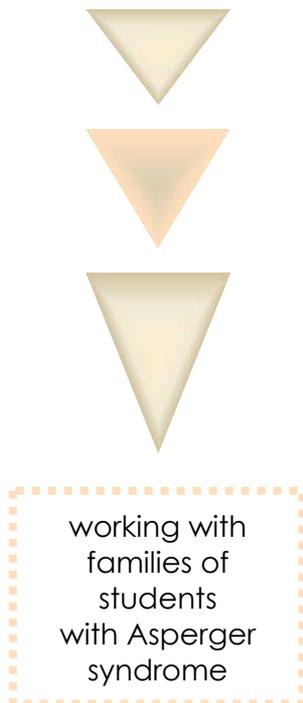
Ask families to provide as much information about their child with Asperger syndrome as possible—such as their interests, obsessions and areas of difficulty, behavioural traits and methods for coping.

Involve families in planning meetings.

Develop an agreement for managing challenging behaviour, which is supportive of the whole school community as well as families.

Communicate with families through regular diary notes or phone calls.

Plan with families for times when a student needs a break from the intensity of school or when an alternative school activity is planned, such as excursions and camps. Find solutions that meet both the student's and their family's needs.

Some students with Asperger syndrome can find the idea of trying something new so intense that they become incapable of action. They may lose the capacity to communicate their needs verbally. Their behaviour could be interpreted as non-compliant and wilful or as being deliberately difficult. Having something written to provide to staff when students are growing anxious helps them as well as teachers to manage this type of situation calmly and effectively. School staff need to ensure they have information on these types of structures and routines as well as their implementation, and for whom they are intended. If students experience anxiety and are unable to use their communication cards, teachers are then prepared to respond in a way which decreases anxiety and provides support.

▶ *Teaching subject areas*

Students with Asperger syndrome often need academic modifications for successful learning. The education sectors have each developed a process for negotiating curriculum for students with additional needs. The type and degree of modifications and additional support required depends on the individual student. The process of negotiation usually involves meeting with special education consultants, teaching staff, families and in some cases the students themselves. Taking time to establish relationships with students to gain a clear assessment and knowledge of their strengths, as well as areas of difficulty, is important to inform this negotiated curriculum planning process and subsequent teaching and learning practices (Barnhill, 2001a; Attwood, 1998).

Specific interests

Many students with Asperger syndrome become obsessed with a particular topic of interest and can surpass their peers in a specific area of academic learning (e.g. history, mathematics, music). Yet the same student may become frustrated by the challenges of another subject area and may refuse to engage in this area of learning (e.g. science, physical education, languages).

Teachers can use students' areas of strength and interest for more in-depth learning (Myles & Simpson, 2001a) and as a conduit to engage students in learning across curriculum areas. Acceleration in an area of strength has proven successful in some cases, while at the same time students may require extra support and tuition for an area of additional need.

In some cases there may be a need to negotiate the curriculum. It may be beneficial to allow students with Asperger syndrome exemption from topics that are particularly challenging. This negotiated *offline* time can be used to access additional support in other subject areas or to receive assistance with organisation and assignment completion from teaching assistants (Safran, 2002; Adreon & Stella, 2001).

Class work, assignments and homework

Families and students frequently explained that assignments were one of the greatest challenges for students with Asperger syndrome. Some students left all the work until the last hours before the assignment was due, therefore failing to complete the tasks successfully because their timeframe was no longer realistic. Others would complete the assignment all at once on the first day, without comprehension that the overall task could be divided into smaller components and completed over a longer period of time.

To assist these students, teachers or teaching assistants could negotiate to break the assignment into smaller units of work and apportion these on a regular basis over the time period set for completion. Pre-teaching a new assignment or sending it home in advance for families to review were other strategies that helped students with Asperger syndrome. Modifying assignments by increasing the time or reducing the size of the task has been recommended in the literature on the topic (Safran, 2002). Students with Asperger syndrome often need assistance with assignments and homework to organise their workload, reduce confusion and appease anxiety.

Sometimes, seemingly minor alterations or assistance can help a student with Asperger syndrome immensely to achieve educational tasks (e.g. providing written notes for those who have difficulty with oral interpretation (Safran, 2002), presenting text on yellow paper to reduce glare (Falk-Ross et al., 2004) or colour coding books according to subject areas (Adreon & Stella, 2001; Gagnon & Robbins, 2001). Providing support to the students before they are in crisis, as well as liaising with their families and other teachers to share knowledge and to work in partnership, increases the likelihood of success for students with Asperger syndrome and reduces the incidence of challenging behaviour at school and at home.

▶ *Sensory needs*

Some students with Asperger syndrome are likely to need stress relievers while at school because of intense sensory overload. Ways to relieve stress include use of stress balls while working or going to a quiet place with a beanbag and books of interest. Some students with Asperger syndrome who are oversensitive to touch find that removing tags from clothing or using a pen instead of a pencil to minimise vibrations when writing reduces stress. Others, who are under-sensitive to touch, may find deep pressure applied to certain points on the body to be effective for relieving stress.

Students sensitive to noise may benefit from using earplugs while working. Some students may refuse to go into a noisy place, such as the canteen or assembly hall. Allowing students to enter these school environments when they are quieter avoids anxiety for the student with Asperger syndrome and reduces the likelihood of negative associations and resistive behaviour. Those sensitive to bright fluorescent lighting have found that yellow globes reduce the glare in classrooms and make it an easier environment to work in.

managing challenging behaviour
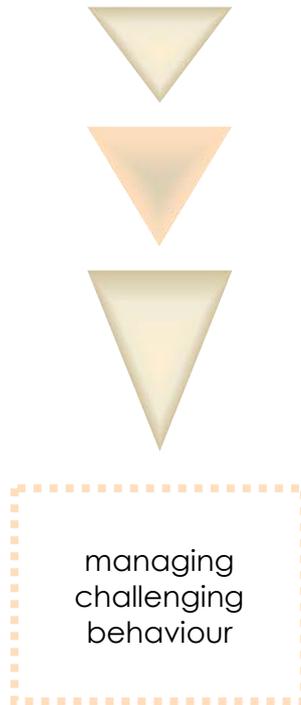
A whole school approach to managing challenging behaviour is most effective when staff know individual students' behaviour, their triggers for challenging behaviour and how best to respond.

Have clear behavioural guidelines and procedures that are negotiable. Discuss individualised behavioural expectations and support requirements to accommodate students with Asperger syndrome with special education consultants, staff and families.

Be aware of the function of the behaviour for the individual student.

Be flexible, consistent and non-confrontational. Develop strategies that allow students with Asperger syndrome to calm down in situations of conflict. Direct confrontation does not work with students with Asperger syndrome. It is likely that they may not be able to see anyone else's perspective but their own.

Students with Asperger syndrome need to develop a relationship with at least one staff member whom they trust and who is accessible when the student is overwhelmed and needs support at school.

Know what extreme stress and anxiety looks like for your student with Asperger syndrome (commonly termed a 'meltdown') and how best to respond for everyone's safety and wellbeing.

Be aware of the impact on behaviour of excessive sensory stimulation, including excessive noise, light or smells. Discuss with families the particular needs of their child.

Self-stimulating behaviour, such as flapping arms, rocking or constantly moving or fidgeting when sitting, is common for students with Asperger syndrome. This self-stimulation improves the nerve impulse connections in the brain. Where possible alternative acceptable practices, which are not disruptive to others should be encouraged (e.g. providing the student with elastic to stretch or beads to twirl). Computer and other electronic games are often a source of relaxation for students with Asperger syndrome.

▶ *Social skills development*

There are many reported quality practices to assist students with Asperger syndrome in the development of social skills, communication and language. However, because the needs of students with Asperger syndrome are highly varied, recommended interventions can be determined only by evaluating what works successfully for the individual (Attwood, 1998; Safran, 2005).

Social stories and comic strip conversations

One of the most documented strategies for increasing social knowledge is the use of *social stories* and *comic strip conversations* developed by Carol Gray (2000, 1994). A social story or comic strip conversation is a short story that describes a situation, concept or a social skill, using a format that is meaningful to the individual (see adjacent example). Social stories are often used in response to a troubling situation in an effort to provide individuals with the social information they may be missing (Gray, 2000). Examples include how to initiate a conversation, how to know when it is their turn to speak in a conversation or how to understand another person's perspective which is different from theirs (Gray, 2000). Social stories may also be used to highlight when a student behaved correctly in a given situation. In addition, social stories can also be used to inform students of a planned event, e.g. sports day, and the likely events for that day.

The format of social stories consists of generally simple sentences with or without picture supports. Gray (2000, 1994) explains that it is important to avoid lecturing to the student for the social story to be adopted effectively.

Pragmatic group sessions

Pragmatic group sessions (Abele & Grenier, 2005) are used as another intervention to improve social communication through practice. These sessions use an ideal group size of four and help students with Asperger syndrome to put theory into practice. Each session is dependent on the previous session.

Social Story

Listening

People tell me things because they want me to hear about something.

I need to face the person who is talking to me and listen to the words.

The other kids at my school listen when someone talks to them.

I should listen too.

I should stop what I am doing when someone asks me to stop and listen.

People feel angry when people don't listen.

People will like me when I listen to them.

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They are tailored to the individuals in the group and may include conversation starters, eye-contact maintenance or listening skills as topics for learning. Each session addresses impairments group members have in common, and uses a matter-of-fact atmosphere that is concrete and specific. Encouraging individuals to work with others is thought not only to assist in developing social skills but also to encourage peer relationships among students (Abele & Grenier, 2005; Attwood, 1998).

Peer support and mentoring

Peer support and mentoring have been used as successful strategies to provide assistance for students with Asperger syndrome while at school. This involves assigning a volunteer peer buddy or buddies and/or an adult staff member to support a student in an area of additional need. Their role may be to assist at recess and lunch times, during sport or in the classroom.

A staff mentor may support and extend the student's learning in an area of common interest (e.g. ancient history, mathematics, technology). People who take on this role need to ensure they are available when the student is not coping well at school, needs time out and some counselling. Arranging seating in the classroom so students with Asperger syndrome can sit next to their buddies, with the consent of the students, can help classroom management (Safran, 2002; Adreon & Stella, 2001).

Friendship and bullying

Students with Asperger syndrome often find it difficult to develop friendships. They behave differently in social situations and their skills for social interaction are often under-developed. One way to learn social behaviour is to model behaviour on those around you. It may be helpful to offer structured sessions for explicit teaching of relationship skills with the help of peer mentors because both positive and negative social behaviour can be learned from others when the learning is informal and without explanation.

Generally, students with Asperger syndrome have difficulty reading social cues and may not necessarily have the ability to differentiate between appropriate and inappropriate social behaviour. Students with Asperger syndrome more often than not are the victims of bullying. Some learn to be argumentative and aggressive or to bully and harass if confronted or led this way. This becomes intensified when students with Asperger syndrome exhibit their keen sense of justice and argue for fairness.

Providing students with alternative structured activities during break times as an alternative to free play in the schoolyard has relieved the tensions of playground bullying and harassment in some schools. A safe place within the school for playing games like cards or chess can provide students with Asperger syndrome opportunities for appropriate social interaction and the development of friendships.

Examples of such places are the learning support room and library, and supervision can be on a rostered basis. It has been demonstrated by schools that students' exposure to bullying and harassment is reduced and, consequently, the number of aggressive responses resulting from this type of negative interaction also reduced. With these structures in place, teachers are able to encourage students to walk away from situations of harassment, to find an alternative activity or to find a peer mentor for support. These programs help students throughout the day because less stress at break times results in less anxiety during the school day as a whole.

managing transition
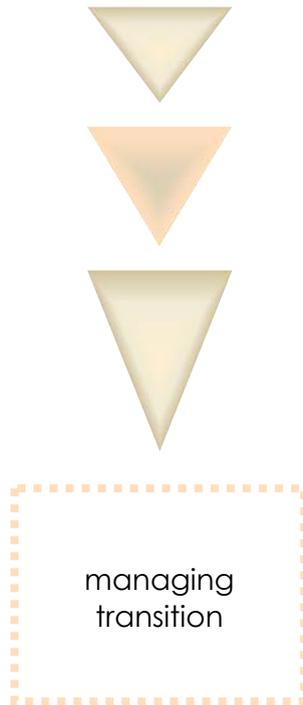
Well before the end of a school year, where possible, introduce students with Asperger syndrome to their teacher(s) for the following year.

Provide opportunities to these students to visit the classrooms they will be part of to familiarise them with the physical environment.

Take photographs of new environments and put together a booklet for each student to review as frequently as needed.

Send this booklet home for families to use during the holiday break with their children to prepare them for the new setting.

If the teacher is not known by the end of the school year, arrange for the student to visit on the last day of school holidays when staff are setting up their classrooms. The student can then meet the teacher prior to the new school year, which can help considerably with first day anxieties.

Begin secondary school visits earlier than for other students, for example during term 3, and continue these visits frequently until the end of the year. Visit both with and without other students present.

1.4 The role of the whole school community

The difficulties associated with Asperger syndrome, such as social interaction, executive functioning, motor clumsiness and receptive language, can become more apparent after a child has started school. All school staff should be informed of the type of behaviour that can be associated with Asperger syndrome and should be prepared that some students may require referral and support for formal assessment during their school years.

As students with Asperger syndrome grow older and their personal awareness increases, many become concerned about their perceived differences to their peers and their lack of friendships. Maintaining a school culture where members accept individual differences and reassure students with Asperger syndrome that they are accepted as members of their school community represents quality educational practice. Safran (2002) proposes that one of the most effective deterrents to mental health breakdown for a student with Asperger syndrome is "an environment that promotes acceptance of even the most vexing child" (p. 66).

All members of the school community should be aware of the importance of structures and predictability to reduce anxiety for students with Asperger syndrome. In contrast, however, there may be times when flexible arrangements and adjustments to standard practice are also required for this group of students.

With the permission of the students with Asperger syndrome and their families, raising awareness about Asperger syndrome with students, staff and other families through school assemblies, the school newsletter or a more personal letter to individual families has proved helpful in some schools. Autism SA consultants are also available upon request to come to the school to provide information sessions for staff and families.

whole school support for students with Asperger syndrome and their families

Allow opportunities for social behaviour to be taught explicitly, and provide structured and unstructured opportunities for social interaction.

Provide structured, supervised alternatives to free play at recess and lunch time, such as library access, chess club, board games or cards.

Allow students with Asperger syndrome to invite a friend to play at recess or lunch time in the place where they feel least anxious and where supervision is available if needed (e.g. the learning support room or another place where activities have been organised).

Provide volunteer companions for those students with Asperger syndrome whose natural friendships are not forming easily. These may be fellow students, staff or other members of the school community who act as mentors, tutors and friends.

Provide opportunities for families of students with Asperger syndrome to meet and support each other.

With consent from your students with Asperger syndrome and their families, inform the families of other students in the school about Asperger syndrome and its associated behaviour in general terms. This may be through a personal letter to families or through the school's newsletter, without necessarily identifying any particular student.

With the permission of students with Asperger syndrome and their families, engage consultants from Autism SA to provide information about Asperger syndrome to the school community; that is, how these students can best be included and supported.

1.5 Where to get support

▶ *Education sector consultancy*
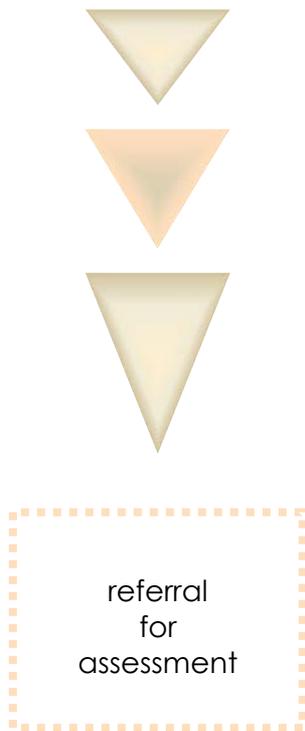
The three education sectors in South Australia (State, Catholic and Independent) continue to develop their capacity to support students with Asperger syndrome and work collaboratively with Autism SA. Consultancy services are provided through Department of Education and Children's Services (DECS) district offices, Catholic Education SA (CESA) and the office of the Association of Independent Schools of South Australia (AISSA) respectively. The following information describes how the education sectors work with schools and families to provide for students with Asperger syndrome.

referral
for
assessment

Referral for assessment and diagnosis

Referral to a paediatrician may be the starting point for a family concerned about their child's general development. Families specifically seeking a diagnosis of Asperger syndrome are provided with information regarding diagnostic services which include services from Autism SA, the Child Development Unit at the Women's and Children's Hospital, Lyell McEwin Hospital, Flinders Medical Centre Child Assessment Team and private practitioners listed with Autism SA. Autism SA can also take referrals directly from schools and families.

The average age at which a diagnosis of Asperger syndrome is made ranges from 7 to 8 years of age. Most children with Asperger syndrome will enter school without a diagnosis.

DECS staff, with families' approval, may refer students who are experiencing difficulties at school to their District Support Services for an assessment by a guidance officer and/or speech pathologist. Families are provided with an information brochure named *Informed Consent*, which outlines the role of DECS' officers as well as explains the consent process. Practitioners to whom students have been referred may review previous assessments, if available, conduct observations, interview staff and families, and formally assess the student's abilities using standardised tests.

Be familiar with the characteristics of Asperger syndrome and monitor children's development.

Their reports contain information about the student's current learning abilities and recommendations for future action. They may suggest further assessment in relation to Asperger syndrome if warranted, in which case all of the information they have provided in the reports can be used by another practitioner when making a diagnosis. The Independent and Catholic sectors provide funds for a limited number of assessments each year through a private practitioner.

Refer to special education teachers or consultants when assessment is required.

When families provide schools with a student's diagnosis of Asperger syndrome, the student and family are referred to sector-based special education support staff (i.e. DECS District Support Services, CESA Special Education Consultants and AISSA Special Education Advisers). Processes for determining eligibility for additional support and allocation of resources vary across the three education sectors according to need and demand.

Allocation of additional support

For students in DECS schools, information gathered by DECS' guidance officers and/or speech pathologists is matched against a set of eligibility criteria from the DECS Students with Disabilities Targeted Support Program. Using the Negotiated Education Planning (NEP) process, the District Disability Coordinator works with the school to determine appropriate levels of support based on the needs of students. Following this, resources are allocated to the school and staff can use these flexibly to provide a variety of supports, structures and other resources. A *learning plan* is also developed for students, which records the *targeted outcomes* and details how these will be achieved.

For students in Catholic schools, resources are available through the Special Education Program and again are allocated on a needs basis. Once a diagnosis has been confirmed, the Special Education Consultant supporting the student's school meets with the teacher and family to discuss the student's needs and records the accommodations required so that access to the curriculum and successful educational outcomes can be achieved.

The CESA Special Education Consultant submits a request for resources to a central allocating body. If resources are approved, these are allocated directly to the school. These can be used flexibly to provide curriculum support, speech pathology, counselling, equipment, additional agency support, post school transition support and Vocational Education and Training (VET) options. In addition schools can apply to CESA Special Education Capital Grants Program for items of equipment that improve a student's access to the curriculum.

Independent schools are eligible to apply for funding from the Australian and State governments and through the AISSA Targeted Programs for students who have Asperger syndrome and an associated educational need. The Special Education Advisers at the AISSA office verify eligibility of all students with a disability for government funding purposes. School staff can use funds flexibly to provide additional curriculum support, therapy services, counselling, equipment, additional agency support, post school options and other accommodations. In addition, schools can apply to AISSA's Targeted Programs Special Education Capital Grants Program for items of equipment that improve a student's access to the curriculum.

▶ *External consultancy through Autism SA*

The Ministerial Advisory Committee: Students with Disabilities allocates Australian Government Non-Government Centre Support funding to Autism SA to provide an external consultancy across the three education sectors. This supports students with autism spectrum disorders, including Asperger syndrome. Consultancy support for families can be provided if the services relate to helping students access the school and the curriculum.

The consultancy services provided by Autism SA may include support for behaviour management, sensory difficulties, social skills development, communication programming, classroom management and curriculum issues. With families' consent and at the request of the schools, teacher consultants from Autism SA work with teachers and teaching assistants in planning and review meetings, or provide professional development sessions for all school staff. Schools can also access short-term intensive support from developmental educators from Autism SA.

Consultation visits are provided every term to schools in the metropolitan area and every second term in country areas. Service agreements between Autism SA and the three education sectors describe the services offered by Autism SA, and the roles and responsibilities of school and agency staff. Other services provided to schools by Autism SA include awareness raising about the effects of the disability, training and development in educational practice and therapy assessments.

▶ *Special Education Resource Unit (SERU)*

SERU provides a state-wide service for educators, allied professionals and families who support students with disabilities and learning difficulties, including students with Asperger syndrome. SERU promotes curriculum participation and success through the provision of quality services and resources.

The SERU website has an informative link for teachers of students with Asperger syndrome in secondary schools, available through the dropdown menu entitled *Accessibility*. This site has information on Asperger syndrome and associated characteristics, developing social skills, accommodating learning styles, tips for delivering the curriculum, managing challenging behaviour and frequently asked questions. It also contains tips for teachers by subject area and a list of useful resources and links. This information is available at:
<http://web.seru.sa.edu.au/Asperger_Syndrome_Website/index_v3.htm >.

▶ *Professional development in South Australia*

DECS, CESA and AISSA promote opportunities for staff to undertake professional development and training in autism spectrum disorders, which include Asperger syndrome. Training workshops specifically on Asperger syndrome are available from time to time through the education sectors or through the Australian Association of Special Education (AASE). Educators are also able to participate in other relevant professional development (e.g. behaviour support strategies, which include non-aversive behaviour management strategies).

Autism SA provides training courses for educators bi-annually. Details of their courses are available on their website at <http://www.autismsa.org.au/html/training/training_intro.html>. Autism SA host conferences, seminars and workshops periodically with national or international speakers, and a national Autism Spectrum Disorders conference is held biennially. Staff from Autism SA are also available to visit schools on request to provide information on Asperger syndrome and conduct training sessions for staff and families.

DECS Organisation and Professional Development Services together with Learning Improvement and Support Services have developed and delivered accredited training for school services officers (teaching assistants). Based on the Public Services Training Package, this course is entitled *Certificate III in Government (School Support Services), Disability Stream*. Within the course is a unit entitled *Support Students with a Special Need*, which has a focus on autism spectrum disorders.

Flinders University is planning to offer educators the opportunity to participate in a *Graduate Certificate in Disability Studies—Asperger Disorder* in 2006 and 2007.

Autism SA and TAFE SA established the state accredited *Course in Autism Spectrum Disorders Support Work in 2006*.

professional
development
and
training
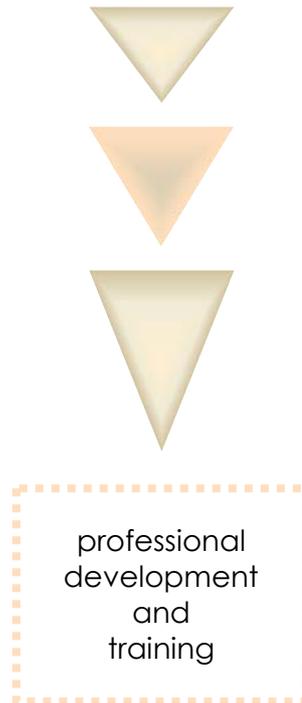
Education sectors' specialist staff are available for consultative support to staff, families and students.

Arrange for all teachers and teaching assistants to participate in in-service training on Asperger syndrome to gain a theoretical understanding of the disability.

Autism SA training is available each semester. Upon request, Autism SA staff will also visit schools to provide information during staff meeting times or at other times suitable for the school community. Autism SA training can be viewed at <http://www.autismsa.org.au/>.

Arrange for a consultant from Autism SA to visit the school and discuss with teaching staff strategies for individual students.

Autism SA host conferences, seminars and workshops periodically with national or international speakers.

A national Autism Spectrum Disorders conference is held biennially.

Autism SA and TAFE SA established the state accredited Course in Autism Spectrum Disorders Support Work in 2006.

DECS provides professional development and training opportunities to schools, which are advertised in the DECS publication Xpress.

DECS district support teams have access to details of professional development activities through the Satewide Verification and Professional Support Team.

CESA promotes information on professional development activities to schools via circulars and on their website at <http://online.cesanet.adl.catholic.edu.au/docushare/dsweb/HomePage>.

AISSA provides information on professional development activities at <http://www.ais.sa.edu.au/html/tp_spec_ed.asp>.

SERU provides information for teachers at <http://web.seru.sa.edu.au/Asperger_syndrome_website/index_v3.htm>.

Part 2:

Appendices

Appendix 1

South Australian contacts

Autism SA

3 Fisher Street
MYRTLE BANK SA 5064

Tel: (08) 8379 6976
Fax: (08) 8338 1216
E-mail: admin@autismsa.org.au
Web: www.autismsa.org.au
Info Line: 1300 288 476

Association of Independent Schools of SA

301 Unley Road
MALVERN SA 5061

Tel: (08) 8179 1400 (Special Learning Needs Coordinator)
Web: www.ais.sa.edu.au

Catholic Education SA

116 George Street
THEBARTON SA 5031

Tel: (08) 8301 6600 (Special Education Team)
Web: web.ceo.adl.catholic.edu.au

Department of Education and Children's Services

31 Flinders Street
ADELAIDE SA 5000
Tel: (08) 8226 1000
Web: www.decs.sa.gov.au

Ministerial Advisory Committee: Students with Disabilities

4th Floor, Lifeplan Building
111 Gawler Place
ADELAIDE SA 5000
Tel: (08) 8226 3632
Web: www.macswd.sa.gov.au

Appendix 2

Profiles of the study schools with some case study examples

The following information was provided by staff from participating schools in early 2006, with permission to publish. Some case study examples have been included to illustrate how educational practices have improved educational outcomes for students with Asperger syndrome.

Where alternatives to the mainstream curriculum are provided for students with Asperger syndrome, these are negotiated using the education sectors' additional needs planning processes. Meetings are held in consultation with special education consultants, staff, families and students to plan for the student's curriculum.

Aberfoyle Park High School (State)

Aberfoyle Park High School is a mainstream co-educational state high school, enrolling students from years 8 to 12. The total student population is approximately 1200, with 49 home group classes of approximately 25 across all year levels. The school employs 81 teachers and 16 school services officers. In addition, the school employs specialist teaching staff in the areas of special education, music and information technology.

The school provides a number of specialised programs to cater for students with additional needs including the IGNITE program for gifted students and the ACTIVE 8 Premier's Youth Challenge Future Leaders program for students at risk and students with disabilities. The Learning Support Program provides support for students with disabilities or specific learning difficulties and students at risk, across all areas of study. Through this program, students can learn to participate in school activities with greater confidence, develop work organisational skills and receive intensive individualised assistance when needed. The support studies classes provide core curriculum as well as individual skills building. In addition, the Literacy in Focus Teaching Program provides one-to-one or small group tutoring.

Nine students enrolled at the school are diagnosed with Asperger syndrome. A transition process is initiated at enrolment and students are acclimatised to the school environment and its routines through a number of visits before they officially start at the school. The focus is on reducing students' anxiety about school, supporting their regular attendance, then working through the curriculum. Staff receive comprehensive information packs about the specific needs of students and strategies for addressing these needs, as well as training and development.

The students with Asperger syndrome are fully included into mainstream classes with specialist educational support through the Learning Support Program. Students withdraw to the learning support unit to work individually with a staff member or as part of a small group for five lessons per week. Students also access staff and resources on a needs basis. Support studies classes are vertically grouped, which ensures students are able to develop acquaintances across year levels. Students are offered additional support from school services officers during practical sessions in specific subject areas, to maximise their participation in class activities and ensure their safety. In some instances, students develop social skills and friendships through specialised programs and extra-curricular activities. Through negotiated education planning, alternative activities are offered to students with Asperger syndrome (e.g. Active 8 Future Leaders, SACE Ski and Snow Program, opportunities for community service and games clubs).

Aberfoyle Park High School case study

Tim is an 18 year old student with Asperger syndrome completing year 12 over two years in his local high school. School staff have received in-service training on Asperger syndrome through Autism SA to enable them to support all students with Asperger syndrome enrolled at the school. As part of the school's normal practice, at the beginning of the school year Tim's subject teachers received a pack with detailed information about Tim's behavioural triggers with strategies that work to support him. A photograph of Tim was also supplied, so he was easily identified.

In addition to Asperger syndrome Tim is an insulin dependent diabetic. He suffers from anxiety and can experiences panic attacks when something does not go right, or when he is under stress (e.g. if he loses a book, has a test coming up or is being harassed). He can become extremely agitated in these situations and may yell, make loud noises, pace or throw himself about bodily. He needs assistance to calm down or this behaviour escalates.

Over Tim's school life, regular meetings have been held with his parents, the special education coordinator, the school counsellor, the district disability coordinator, Autism SA representatives and Tim himself to plan successfully for his schooling. Support strategies have been implemented to help Tim achieve at school. These have included up to five lessons per week in the learning support unit to assist with his school work and behaviour. Tim regarded this environment as positive and supportive, and he would often go to the unit when he had a free lesson, needed extra help or needed to access the computer. He knew he was welcome at any time if he had a problem.

Tim was provided with a pass for the library. He could use this part of the school as a safe, quiet environment at break times. He was able to access the computers to word process and had access to the internet when required. Tim carried in his diary an 'access card' which listed strategies to support him during lessons. Maths and science tutoring during lunch or after school was helpful when needed, and Tim also received additional support from school services officers for his practical subjects.

Special exam provisions were arranged for Tim's year 12 exams. He was able to have his own space to complete his exams, in a known environment and with an invigilator who was known to him. He was provided with extra time for exam completion and was able to have the questions read to him when needed.

These strategies have meant that Tim's attendance at school has been excellent, and his behaviour has been positive and content. There have been a few difficulties faced, but with support he succeeded in overcoming these. Staff have worked closely with his parents to provide the best possible educational outcomes.

Attendance at the 2004 SACE Ski and Snow Trip with First Aid and Fitness Training was a turning point for Tim and many of his peers. The course ran for two terms culminating with an eight-day trip to Falls Creek snowfields in Victoria.

quality educational practices for students with asperger syndrome

Aberfoyle Park High School case study (continued)

Before the trip there were weekly morning fitness sessions and lunch time lessons during which students were instructed about a range of topics including safety, hypothermia, environmental skiing and gaining ski fitness. This was the first time many of the year 10,11 and12 students had seen how Tim related to a range of teachers and how the special education staff worked directly with him. The fact that he would have the occasional tantrum, loud vocalisations and not be able to relate easily to peers made other students wary of him initially. As time progressed, it was wonderful to see how confident the staff and students became working alongside Tim.

Tim shone in his ability to quickly provide answers to questions on first aid, while everyone else was pondering. Students discussed openly how they valued the contributions he made to the course. He was often mentioned in journals and feedback. There was a subtle shift in attitude from students accepting Tim's presence to appreciating his insight and sense of fun. When time came for the ski trip, the staff and students were dealing confidently with any issues that upset Tim and responded positively.

Tim's hidden talent with playing cards was revealed on the trip and has seen many a competitive game since played in the year 12 common room. There has been strong support for Tim from those students who also went on the ski trip and who were able to interact with him confidently. They look out for him in class and in the schoolyard.

As a student with Asperger syndrome and diabetes, Tim has surpassed all expectations and overcome many obstacles to excel at school and grow into a valued member of his school community. Tim has received his 'P' plate driver's licence well before many of his peers and can be seen driving to school each day. He confidently self-manages his diabetes at school, on camps and on excursions. He faces new challenges with fortitude and has participated fully in many different aspects of school life.

Tim has touched the lives of many in the school community. Friendship, enthusiasm and compassion were shown to him when his peers organised a surprise eighteenth birthday party. At the school's valedictory service, Tim was one of twelve individual award recipients to acknowledge the courage, hard work and respect he had earned for his achievements. In 2005, Tim satisfactorily completed some of his chosen year 12 subjects, and continues to complete his year 12 SACE in 2006. He is looking forward to further study and part-time work.

Kensington Centre (State)

Kensington Centre is a secondary special school providing an educational setting for students with disabilities that, generally, cannot be provided in other secondary schools. The Centre offers specialist programs for students with intellectual disabilities and complex needs, students with Asperger syndrome and students with severe multiple disabilities or severe and multiple disabilities. Each of these programs has enrolment limits.

Student enrolment at the time of this study was 42, with 6 home group classes of approximately 6–8 students in each class. The school has a total capacity for 60–70 students, dependent on their disability.

The curriculum for students under compulsion is delivered in line with the SACSA Framework. For post compulsory students, the school curriculum delivers 16 units, equivalent to Stage 1 of the South Australian Certificate of Education (SACE) as well as the Vocational Education Training (VET) program. Curriculum areas offered to students include literacy and numeracy, technology, physical education (sports unit), drama, visual art, information technology and work education. The Kensington Café provides students with opportunities to acquire skills in the hospitality area and is open to the public during the week. There is an emphasis on independent living skills and explicitly teaching social skills, including anger management. The Transition Coordinator assists students with post school pathways and pursuing options for their adult lives.

In 2000, a pilot program was established to support students with Asperger syndrome at Kensington Centre. The model was successful and the class continued beyond the pilot phase to become one of the specialist programs offered at the school. The program continues within the school's existing resources and has come to be recognised as an example of quality educational practice for students with Asperger syndrome.

The primary focus of the program for students with Asperger syndrome is on students' regular attendance in the first instance, then working through the curriculum, concentrating on explicitly teaching social skills and developing communication. Currently, students from the local zoned area only are able to enrol.

The main areas of strength at Kensington Centre contributing to the success of the program for students with Asperger syndrome include:

- ▶ providing a supportive whole school environment and a "home base" or home group, which helps to create a close support network for students
- ▶ encouraging students to "chat", express feelings, support each other and be positive towards each other
- ▶ providing continuity, stability and security; and maintaining routines and leading to change and acceptance of changes gradually
- ▶ preparing students prior to activities
- ▶ providing clear concise instructions, teaching multiple meanings of words and explaining the meanings of abstract language
- ▶ explicitly teaching social skills and the "hidden curriculum" (e.g. how to dress, how to act, who to speak to and when— the subtleties and nuances of social behaviour)
- ▶ teaching strategies to address behavioural issues in non-confrontational, non-aversive and positive ways. Silver and gold passes and leadership passes are awarded to students, who then have associated privileges. Classroom rewards are quick and easy to achieve
- ▶ incorporating student special interests into the curriculum, community access outings and school life
- ▶ breaking tasks into smaller components and being flexible regarding individual students' needs.

Kensington Centre case study

Samuel's transition to high school in year 7 seemed to have been well planned. He visited his chosen school three times. In hindsight, probably more frequent visits over the last two terms of year 7 would have been better. As time progressed, Samuel became more anxious about the new high school environment. The size of the school (its physical largeness), the number of students, the bright and glary classrooms and the volume of noise bothered Samuel.

Samuel did not like the joking behaviour that the other students enjoyed. He did not understand their jokes and how they communicated with one another. He felt different from the others and was concerned that the other students called him names. Attending classes in many different classrooms and with different teachers was difficult for Samuel. He needed a lot of time to absorb new routines and environments.

Samuel displayed behaviour associated with his Asperger syndrome, which caused him to appear different and sometimes he was misunderstood. He engaged in self-stimulating behaviour and, because of his attention deficit disorder (ADD), found it difficult to sit still unless he was using computer or console games. By the end of first term, Samuel became reluctant to go to school. He felt ill most mornings and did not want to stay at school. Samuel's mother resolved to seek an alternative educational option for him.

Samuel enrolled at Kensington Centre with classmates who also had Asperger syndrome. He liked the narrow corridors and smaller rooms when he first visited the school. The friendly people and being able to play video games when he needed a break from school work were also attractive. He liked the yellow fluorescent lights that reduced glare in the classroom. He understood and appreciated the expertise of the staff, who were available to help with his additional needs. Samuel was relieved that the pressure had been taken off him to do his school work and that he would not have to do homework. Samuel felt more confident at Kensington Centre and was more content to go to school. He was pleased to have the opportunity for friendships with others who had similar interests and experienced similar challenges.

Open Access College (State)

Open Access College is a state school that provides alternative school placement for South Australian students using distance education. The school caters for students who live in remote areas or have become marginalised in their community.

Asperger syndrome is not a category for enrolment at the Open Access College. Nevertheless, many students with Asperger syndrome are enrolled on medical grounds (e.g. high anxiety, paranoia or obsessive-compulsive disorder, which has been diagnosed by a psychologist or psychiatrist). Students may also be enrolled under the category of *alternative placement* or exclusion. Students with Asperger syndrome who are enrolled for reasons other than remote location know that the Open Access College is a temporary placement.

Open Access College enrolment does not suit all students with Asperger syndrome or their families because students are required to have supervision from home. This can sometimes place an additional strain on families, particularly those who need respite from the intensity of caring for their child.

For those it suits, it seems to do so because students can participate in their learning when it suits them. There is more autonomy and greater flexibility. For example, some students who need very little sleep have the option of completing their school work during the night time. This also has the advantage of occupying their time while the rest of the family sleeps. Sometimes, the traditional school day does not suit a student with Asperger syndrome's learning patterns. The flexibility of the Open Access College system means that students can work at different times when they are functioning well, without adversely affecting others.

Groups of six to eight students, with and without Asperger syndrome, receive one lesson per week for each subject. These students, in their group of six to eight, are connected via teleconference facilities for discussion and instruction. Subject teachers and/or school services officers may also provide follow-up telephone calls to help individual students complete their work. The Open Access College teachers ensure contact with students as often as possible. Teachers will, at times, visit students' homes in pairs, and students are encouraged to come into the school or join excursions with peers. A "Come-in" day is hosted every term. These activities allow Open Access College staff to provide a sense of connectedness among students and the broader school community. Some students with Asperger syndrome have made more friends through the Open Access College than they were able to at their local school.

Before students return to their local schools, they are prepared thoroughly. Their confidence and self-esteem is nurtured. Teachers spend a lot of time building relationships and provide some students with mentors for their development.

Open Access College case study

Part-time enrolment at Jack's local school teamed with part-time enrolment at the Open Access College has worked well for him. Jack had regularly become disruptive at his local school and was often suspended.

He was exceptionally gifted in mathematics but was unwilling to write down the process of solving mathematical problems. This led to further difficulties. An arrangement was made whereby Jack attended his local school one day per week, where he was accelerated for mathematics and science; other aspects of the curriculum were taught through the Open Access College.

One of the Open Access College teachers with a particular interest in science and mathematics was linked to Jack as a mentor to provide encouragement and motivate him to engage in learning. Jack was also provided with school services officer time to help him become more organised and to focus on work completion. This type of arrangement required flexibility and continuous communication between Jack's local school and the Open Access College.

Paralowie R-6 Junior School (State)

Paralowie R–6 Junior School is a sub-section of the Paralowie School. Paralowie School is a co-educational state school enrolling students from reception to year 12, with total enrolments of approximately 1100 students. The Junior School is physically separate from the middle and senior schools of Paralowie School. It is led by an appointed Head of School R–6, and has enrolments of approximately 320 students. There are 15 classes with approximately 20 students in junior primary classes. Primary classes accommodate, on average, 27 students. The junior school employs 19 teachers and 5 school services officers (some part-time). In addition, the school employs specialist teaching staff in the areas of special education (0.8 FTE) and a Reading Recovery teacher (0.5 FTE).

At the time of the study, 6 students with Asperger syndrome were enrolled at the Junior School. These students had Negotiated Education Plans (NEPs) and were fully integrated into mainstream classes with educational support through the special education program. Students were withdrawn from class to work individually with a staff member or as part of a small group, but were also supported by a school services officer in their classroom. Additional programs were offered, such as computer software for mathematics, spelling and Indonesian. Liaison with the Open Access College had been utilised when students required an alternative style of educational delivery. The main focus of support for students with Asperger syndrome was on raising teacher awareness and understanding of the disability as well as developing visually presented cues and social stories for these students. Students were taught coping strategies when their anxiety levels were high and alternatives to yard play during break times were being developed.

quality educational practices for students with asperger syndrome

Quorn Area School (State)

Quorn Area School is a co-educational state area school located in the Flinders Education District, approximately 320 kilometres north of the city of Adelaide. The school enrols students from reception to year 12, with enrolments of approximately 245 students. Some students live in the local township, others in nearby townships and on farms in outlying locations. Some students travel up to 25 kilometres by bus to school.

There are 11 classes of approximately 20 students across all year levels. The school employs 23 teachers and several school services officers for administration and classroom-based support. One full-time teacher oversees the area of special education from reception to year 12, and community volunteers support many students through the Learning Assistance Program.

Four students enrolled at school are diagnosed with Asperger syndrome. These students are fully included in mainstream classes with specialist educational support as needed. Students are withdrawn to work individually with a staff member or as part of a small group but are also supported by a school services officer in their classroom.

The focus for students with Asperger syndrome is on supporting their educational, physical, social and emotional needs, within a mainstream classroom structure where possible. Positive student–staff relationships are pivotal for productive educational outcomes for students with Asperger syndrome. Careful matching of students and home group teachers is undertaken at the end of each year in preparation for the coming year. Because the school has a small population and is in a rural location, a "family" atmosphere between students is evident. Most students remain in the same class grouping throughout their schooling and, in general, they are supportive of one another. Staff cater for students with Asperger syndrome in a number of ways to try and keep them connected, involved and successful in their educational pursuits.

St John's Grammar School (Independent)

St John's Grammar School is an Independent co-educational school located in the metropolitan region of Adelaide. The school enrols students from preschool to year 12. The total student population is approaching 1000.

The school is divided into 4 sub-sections: the Early Learning Centre, Junior School, Middle School and Senior School. The Early Learning Centre and Junior School are each located on separate campuses from that of the Middle and Senior Schools, which are co-located. Overall, there are 40 classes of approximately 25 students across all year levels. Eighty teachers and 3 in-class student support assistants are employed at the school. In addition, the school employs specialist teaching staff in the area of special education for both the Junior and Middle/Senior schools as well as a school counsellor.

At the time of the study, 8 students enrolled at school had a diagnosis of Asperger syndrome. These students were fully included in mainstream classes with specialist educational support as needed. In the Junior School, students were withdrawn to work individually with a staff member or as part of a small group, but were also supported by a school assistant in their classroom. In the Middle and Senior Schools, students were fully included in the mainstream with the special education teacher and school assistant giving support. Additional programs such as vocational education training courses and community studies units were offered which, when relevant, catered for individualised programs and post school pathway planning. Games and special interest clubs were also available.

The focus for students with Asperger syndrome was on full inclusion whilst catering for their individual differences, thus allowing these students to reach their potential and to become socially equipped ready to move on to post school life by the end of their schooling.

St Paul's College (Catholic)

St Paul's College, located in the metropolitan area of Adelaide, is a Catholic school for boys with classes from years 5 to 12. The total student population is approximately 610. There are 28 classes of approximately 25 students across all year levels. The school employs 52 teachers and 7 Education Support Officers. In addition, the school employs specialist teaching staff to cater for special education, student welfare, and refugee and international students. The College also employs 2 youth workers who undertake pathways planning and personal counselling. The inclusive nature of the College ensures full participation of all students regardless of ability.

At the time of the study, 18 students enrolled had been diagnosed with Asperger syndrome. This proportion is approximately three times that of the general population. These students are fully included in mainstream classes with specialist educational support as needed.

The school has a Learning Support room where students are withdrawn to work individually with a staff member or as part of a small group. Education Support Officers also support students in their classroom. Additional programs, such as a social skills group, are held once per week. The focus for students is on group work, social skills and a forum to discuss student issues or concerns. Students are also able to have some 'offline subjects'. This means, instead of attending classes for some subject areas, they spend the time in the Learning Support room receiving assistance for learning in subject areas where additional help is needed, or they receive help with organisation.

In addition, the school has organised a support group where families meet once per term to discuss specific issues relating to their child's education. The families identify areas of particular need or interest and guest speakers are often engaged to provide the group with information.

St Paul's College has a range of inclusive structures and procedures that support all students, including students with Asperger syndrome. The transition program for all new students is well established and allows students to have an extended transition when required. This transition program is also implemented for students moving from the Middle School to Senior School. This structured program ensures that students entering the Senior School are familiar with the many changes to structures and procedures they may encounter.

Care is taken when students with Asperger syndrome are placed into each class and year level. Teachers' styles, experience and the student cohort are all taken into consideration to ensure student success. Modification to the curriculum is also a priority and, wherever possible, students' interests are used to promote student learning.

All students participate in a range of activities during Disability Awareness Week, which has helped to establish a supportive and understanding school culture. With parent/caregiver and student permission, the special education coordinator speaks with individual classes specifically about Asperger syndrome. This has helped to break down stereotypes and developed support and understanding from students.

Staff have undertaken a range of professional development and training activities related to students with Asperger syndrome. This has helped teachers to plan for and develop better teaching strategies and methods that support students with Asperger syndrome in their classes. Many students with Asperger syndrome are involved in planned transition from school to work. Students are linked with disability employment agencies and training providers who specifically assist young people to make the transition from school to work.

Tatachilla Lutheran College (Independent)

Tatachilla Lutheran College is a Christian co-educational school founded in 1995 and is located at McLaren Vale in the southern outer metropolitan area of Adelaide. The college enrols students from reception to year 12 and is divided into three sub-schools; Primary (reception to year 5), Middle (years 6 to 9) and Senior school (years 10 – 12), all co-located on the one campus. The total student population is approximately 935. The Primary and Middle schools have approximately 22 classes. Senior school students are divided between four House groups. These students meet in their House groups each morning before going to their scheduled classes, according to individual subject choices. Class sizes vary across the college, but there can be up to 30 students in some Primary and Middle school classes.

The college employs a mixture of full and part-time teachers and teaching assistants. A total of approximately 80 staff are employed across a range of year levels and subject areas. Two special education teachers are employed; one to support the Primary school and the other to support the Middle and Senior schools. Four teaching assistants work closely with students with additional needs.

In addition, staff from Student Services liaise with the special education coordinator to further support students with Asperger syndrome and Library Services staff provide support, encouragement and activities in a safe place for students who may need 'time out' while at school. The whole of school focus is to provide educational experiences, which cater for the individual needs of students and support their development into confident young adults.

At the time of this study, five students enrolled at Tatachilla were diagnosed with Asperger syndrome. Previously, the school had enrolled at least two students with Asperger syndrome each year. Consequently, classroom teachers had gained knowledge of Asperger syndrome and developed their ability to adapt the curriculum to cater for the wide variation of these students' requirements. As new staff have joined the college, they have been offered the support of their colleagues' experiences, ideas and expertise in catering for students with Asperger syndrome, always considering the unique skills and interests of individual students.

The contribution of families at enrolment is especially important. This is the time when major planning occurs and options for their child's education are considered. For example, while students are fully included in mainstream classes with specialist educational support as needed, some families may be offered tutorial lessons for their child scheduled throughout the week, usually in lieu of a Language Other Than English class. Students may then work individually with a staff member or as part of a small group to keep up with their classroom work. This prevents an overload of homework to be completed at home. Others use the time to develop an area of interest, which can then be credited as a learning subject area. Other examples of programs offered to students with Asperger syndrome include Social Skills groups, Workplace Learning Programs (through the Association of Independent Schols of SA and Adelaide TAFE), library monitor work and school magazine photography.

In 2005, the concept of a Parent Support Group was an innovative initiative of parents, as a result of this Ministerial Advisory Committee: Students with Disabilities project. Parents of students with Asperger syndrome often feel isolated and have no prior experience in how to parent a child with this disorder, and often receive only minimal support from their community or professional associations. Therefore, having the opportunity to discuss progress, difficulties and possible solutions, and receive the empathy and understanding of other parents in similar circumstances is invaluable.

The flexibility of Community Studies, a South Australian Certificate of Education (SACE) subject, has provided an ideal educational vehicle to develop the gifts and specific interests of students with Asperger syndrome. Participants are required to be involved in 60 hours of research or work in a community-based area. Two examples of how this flexibility has been applied for students with Asperger syndrome at Tatachilla Lutheran College are provided below.

quality educational practices for students with asperger syndrome

Tatachilla Lutheran College case study

Over three years from years 8 to 10, James, a student with Asperger syndrome, undertook a series of major research projects on his topic of interest. These included a study on the language used in the field of mechanics, and the requirements of reconditioning and rebuilding a 10 horse power engine. Each topic of study has earned him a unit towards his South Australian Certificate of Education (SACE).

Another student, Anne, is artistically gifted with the ability to do pencil drawings in exquisite detail. She chose to do a series of illustration studies on her favourite pop group 'Good Charlotte'. Her peers frequently checked her progress, and their genuine, ongoing admiration and positive feedback certainly enhanced her confidence. Her initial work became a formal exhibition of framed drawings, which attracted wide-ranging interest and written accolades from members of the school community. She also proved to be naturally talented with digital photography, creating a series of floral studies for gift cards and a calendar. Anne's knowledge that she was doing a SACE unit whilst in year 10 invigorated her involvement in learning and her work ethic was commendable.

Tenison Woods College (Catholic)

Tenison Woods College is a co-educational Catholic school located in the regional city of Mount Gambier, in the south-eastern region of South Australia, approximately 450 kilometres from the city of Adelaide. The school enrols students from reception to year 12, with enrolments of approximately 1140 students. Some students live in Mount Gambier, others in nearby townships and on farms in outlying locations. Some students travel as far as 65 kilometres by bus to school.

There are 47 classes of approximately 24 students (averaged out across the school) across all year levels. Eighty teachers are employed and 18 Education Support Officers are aligned to special education, many of whom are employed on a part-time basis.

At the time of the study, 15 students enrolled at the school had been diagnosed with Asperger syndrome. These students are fully included in mainstream classes with specialist educational support as needed. The school also has a number of students enrolled with intellectual disability, who participate in mainstream classrooms as well as working as a small group. Additional programs are offered, such as a fine and gross motor skills program, a speech and language group, robotics, social skills programs, relaxation groups, Program Achieve, computer recycling and daily living programs that teach the skills of cooking, shopping, gardening etc.

The focus for students with Asperger syndrome is on supporting them to reach their full potential. Teaching staff look at each student's strengths and interests and cater for their learning needs, thus enabling students to excel in areas of strength and reduce their anxieties.

Appendix 3

Questions

1   What aspects of education work well for students with Asperger syndrome at your school?

Why?

What contributes to this success?

2   What aspects of education present the most difficulty for the students with Asperger syndrome at your school?

3   How do you overcome these difficulties as a school community?

4   What modifications are made to ensure successful educational outcomes for students with Asperger syndrome?

5   How are social relationships for students with Asperger syndrome supported and nurtured within your school community?

6a Based on your experience of working with students with Asperger syndrome, what are the most important considerations to ensure quality educational outcomes for all students, including those with Asperger syndrome?

b   What practices have you found that are not successful for students with Asperger syndrome?

7   What changes have occurred in this school to provide improved support for students with Asperger syndrome?

8   In your opinion, what changes still need to occur?

Questions

Parents/Caregivers—
Total responses: n=37

1 What aspects of education work well for your child(ren) with Asperger syndrome at school?

Why?

What contributes to this success?

2 What aspects of education present the most difficulty for your child(ren) with Asperger syndrome at school?

3 How have school communities attempted to overcome these difficulties?

4 What modifications have been made to ensure successful educational outcomes for your child(ren) with Asperger syndrome?

5 How are social relationships for your child(ren) with Asperger syndrome supported and nurtured within a school community?

6a Based on your experience of parenting a child(ren) with Asperger syndrome, what are the most important considerations to ensure quality educational outcomes for your child(ren)?

b What educational practices have not been successful for your child(ren)?

7 What changes have occurred to provide improved support for your child(ren) with Asperger syndrome at school?

8 In your opinion, what changes still need to occur?

Questions

(continued)

1   What is good about school?

Why?

2   What do you find hardest about being at school?

3   How do people help you at school?

4   What things do you do that are different to the other kids?

5a Tell me a little bit about your friends.

b   When do you spend time with friends?

c   What do you do?

6a What things are really important for you to feel good about being at school?

b   What upsets you?

7   What changes have been made to help you feel good about being at school?

8   What else needs to change?

Questions

(continued)

Peers of Students with Asperger syndrome—
Total responses: n=35

1 What do you think is good about school for your friend [name]?

   Why?

2 What do you think [name] finds hardest about being at school?

3 How do you help [name] at school?

4a When do you spend time together?

   b What do you do?

5a What do you think is really important for [name] to feel good about being at school?

   b What upsets him/her?

6 What activities does [name] do, which are different to the other kids in the class?

7 What changes do you think might help [name] at school?

Questions

Young Adults with Asperger syndrome—
Total responses: n=10

1   What aspects of school life worked well for you?

Why?

2   What were the most difficult things?

3   How did other people help you to overcome these difficulties?

4a   What aspects of your education were modified to ensure you could be successful at school?

  b   Were you involved in any discussions about these modifications beforehand, or were they put into place without first being discussed with you?

5a   How did you relate to the other students socially and develop friendships at school?

  b   When did you spend time with your friends?

  c   What sort of things did you do together?

6a   Based on your experience of school, what things do you think are really important for students with Asperger syndrome to feel good about being at school and to be successful?

  b   What causes distress?

7   What changes were made to help students with Asperger syndrome enjoy their school life and achieve at school when you attended?

8   What else would you have liked to see changed?

Appendix 4

Project group membership

Co-Chairpersons

Georgina Cattley	Ministerial Advisory Committee: Students with Disabilities, Minister's Nominee
Jon Martin	Chief Executive Officer, Autism SA

Members

Vanessa Alexander	Autism SA (subsequently TAFE SA)
Katharine Annear	Young Adult
Deborah Down	Catholic Education SA
Marie Hedley	Parent
Margaret Lynch	Department of Education and Children's Services
Nicole McDowell	Association of Independent Schools of South Australia
Tommy Philavong	Ministerial Advisory Committee: Students with Disabilities
Jo Zeitz	Department of Disability Studies, Flinders University

*Ministerial Advisory Committee:
Students with Disabilities*

Christel Butcher	Executive Officer
Jo Shearer	Project Officer

Appendix 5

Terms of reference and investigation methods

Terms of reference

1. To identify examples and potential indicators of quality educational practice to support children and students with Asperger syndrome, their families and teachers from early childhood to young adulthood, in particular during stages of transition.

2. To gather, record and disseminate information about current quality educational practice for children and students with Asperger syndrome in South Australia, with particular reference to engagement in learning and school retention.

3. To provide gathered information about current quality educational practice for children and students with Asperger syndrome in a practical and accessible format in partnership with relevant organisations, educators and families involved with the three education sectors in South Australia.

Investigation methods

To investigate quality educational practice for children and students with Asperger syndrome and to share this information, the following methods will be employed:

1. Consult with young people with Asperger syndrome across a range of age groupings through focus group meetings and in individual interviews.

2. Consult with parents of children and students with Asperger syndrome through focus group meetings and in individual interviews.

3. Consult with non-Asperger syndrome peers of children and students with Asperger syndrome through focus group meetings and in individual interviews.

4. Consult through interviews with school leaders, teachers and teaching assistants identified by education sector representatives and parents/families as utilising quality educational practice for children and students with Asperger syndrome and observe this practice at a range of educational sites.

5. Consult with experts from the field of education, disability and health on quality educational practice for children and students with Asperger syndrome.

6. Review international and national literature on quality educational practice for children and students with Asperger syndrome.

7. Facilitate a workshop or seminar to showcase quality educational practice for children and students with Asperger syndrome in South Australia.

8. Record and disseminate information gathered on quality educational practice for children and students with Asperger syndrome in various formats.

Appendix 6

Bibliography and sources of further information

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