

## A Framework for Teaching Social Skills to Students with Asperger Syndrome in the General Education Classroom

### Abstract

*Asperger syndrome (AS) is a developmental disability that impacts the development of effective social skills. As the number of students with AS increases, likewise, the number served in inclusive settings increases. Due to the nature of the disability, social-skills instruction is necessary to enhance the quality of life for this group of students. It is important for general educators to infuse academic instruction with social-skills instruction, collaborate with Individual Education Plan team members, facilitate the development of social skills within their classrooms, and model pro-social interaction skills.*

An increasing number of children with Asperger syndrome (AS) are being placed in general education classes to receive both academic and social instruction (United States Department of Education (USDE), 2008). Within these inclusive settings, appropriate behaviour can be modelled and reinforced as a means for social development (Bandura, 1977; Fisher & Meyer, 2002). Children with autism spectrum disorders including AS, however, may not attend to their peers without specific training. Likewise, typically developing peers are more likely to interact with typically developing peers instead of children with autism spectrum disorders including AS (DiSalvo & Oswald, 2002). Thus, social learning may not occur unless the models are attended to and the social interactions are perceived correctly (DiSalvo & Oswald). The characteristics of AS (e.g., social interaction and social communication deficits) reduce the opportunity for social learning experiences; therefore, appropriate social interactions between students with AS and their peers must be taught directly.

Social interaction and social communication are core areas of impairment for students with AS (American Psychological Association (APA), 2004). Students with AS may be proficient in academic and work tasks, but often fail in school or jobs because of the social demands. Frequently, students with AS can have high verbal ability that suggests they should be able to understand the social demands they face. Failure to meet these demands is sometimes misinterpreted as intentional noncompliance or childish behaviour. Thus, high verbal ability may have the unintended consequence of setting up a student for failure, especially when social expectations are set too high (Farrugia & Hudson, 2006). Compounded with a lack of inherent social skills expertise, students with AS also may not acquire increasingly sophisticated social skills with age as do their typical peers. As a result, students with AS may find themselves in more conflict as they progress through adolescence and adulthood because they are expected

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to have matured socially (Church, Alisanski, & Amanullah, 2000; Myles & Simpson, 2001). While students with AS desire social relationships, they report feelings of loneliness, along with an awareness of their social deficits (Church et al., 2000). The results may lead to the onset of a comorbid condition of depression and/or anxiety (Barnhill, 2001; Farrugia & Hudson, 2006).

The authors of this article all have had extensive experience teaching children with AS in the classroom and community social skills groups. The purpose of this article is to draw upon their collective expertise as well as the research literature and provide a framework that teachers can use to promote social learning for students with AS within inclusive settings. By addressing each area on the framework, the likelihood for success in social learning for student's with AS is increased. Social skills cannot be taught in isolation. The framework not only allows teachers to provide instruction in social skills, but sets the student up for generalization through collaboration with others and using pro-social modelling in different contexts. The three components of the framework include: collaboration among Individualized Education Program (IEP) team members to support the social development of students with AS, the facilitation of social skill development in the general education classroom, and the importance of pro-social modelling.

## Collaboration and Roles for IEP Team Members

The foundation for collaboration involves a willingness to listen, the recognition that trust is vital to cooperation, the acknowledgement and acceptance of others' values, and the willingness to facilitate a relationship between partners (e.g., general and special education teachers) (Simpson & Fiedler, 1989). Developing systems for collaboration among the general educator, special educator and parents prior to instruction, can increase the likelihood of satisfaction for the entire IEP team. Additionally, specific roles for team members should be well-defined (i.e., service delivery, curricular modification, goals, etc) while still maintaining flexibility and room for growth. *The Autism Spectrum Disorder Inclusion Collaboration Model* (Simpson, de Boer-Ott, & Myles, 2003), *Designing Comprehensive Interventions for Individuals with High-Functioning Autism and Asperger Syndrome: The Ziggurat Model* (Aspy & Grossman, 2007), and *The Comprehensive Autism Planning System*

(CAPS) for Individuals with Asperger Syndrome, Autism, and Related Disabilities (Henry & Myles, 2007) are tools designed for collaborative planning in order to meet students needs, including social skill instruction. For social skill instruction to be successful in the inclusive setting, it must be a collaborative effort in program development, implementation, and evaluation by all members of the IEP team. This includes, but is not limited to, the general education teacher, the special education teacher, and the family.

## General Education Teacher

When teaching social skills in the general education setting, the general educator is the primary social skills instructor. This may pose problems as general education teachers may not believe that individualized social skills instruction is within their realm of responsibilities nor feel they have received the education to teach these skills effectively. However, the general education teacher's participation is vital for success. The general educator works with the team to determine goals, interventions, environmental, and curricular modifications and is involved in the decision making process for IEP development (Simpson, de Boer-Ott, & Myles, 2003). Individual accommodations and implementation of behaviour strategies are common practices to meet the social emotional goals on the IEP. It is the responsibility of the IEP team to determine how and where direct instruction in social skills will be provided. The IEP meeting is a great opportunity for the general educator to ask questions and learn how to support the social needs of a student with AS in their classroom. It is also an opportunity to discuss the contextual fit of the intervention in the general education setting. Making adaptations to an intervention prior to implementation, based upon team member input, increases buy-in and the likelihood that the intervention will be implemented with fidelity. Fidelity of implementation in turn increases the likelihood of student success.

## Parents and Families

Parents and families play a vital role in the education and maintenance of social skills (Bellini, Peters, Benner, & Hopf, 2007). Families often have been involved in the therapeutic process since early childhood and have worked with community professionals to develop appropriate support and interventions for their chil-

dren (Simpson et al., 2003). Whenever possible, the same interventions for social skills used at home should be used in the school environment (Goldstein & McGinnis, 1997; Simpson, 2005), thus, promoting faster acquisition and generalization of new skills. Because students with AS are sensitive to changes in routine (Barnhill, 2001), parents and the general educator will need to work together to prepare the student for changes that occur in the daily routine and prepare the teacher for any home issues which may affect performance at school. During the IEP process, an effective communication system should be developed. This can be accomplished through a daily or weekly communication log or within a student's daily planner. A plan for emergency communication should be set up through email or telephone contact, whichever is most efficient for both parent and teacher.

### Special Educator

When teaching children with AS social skills within an inclusive model, the role of the special educator shifts. Traditionally, the special educator has been the primary educator. The special educator partners with the general educator to ensure social skills goals are being met. To do this, the special educator helps the general educator in developing opportunities for the social skill to be practiced in context and by providing strategies to assure that the student receives social reinforcement when they use the skill in context. First, the special educator may need to assist the general educator in setting up peer-mediated instruction. Peer mediated instruction can take the form of cooperative learning groups or peer assisted learning. Both have shown to increase academics with a side benefit of increasing social skills (Fuchs, Fuchs, Mathes, & Martinez, 2002). Second, the special educator can assist the general educator with identifying the target behaviours and set up an appropriate data collection system. The use of the data collection system can also serve as a prompt for the general educator to provide social reinforcement if the behaviour is not socially reinforced by the peers. The data collection system should be kept simple. For example, the teacher could collect frequency of the target behaviour during a peer-mediated activity that is part of a daily routine. The data collection system could also track whether or not the behaviour was socially reinforced by the typical peers or the teacher. These data would allow the IEP team members

to determine if the targeted skills are increasing, if typical peers are responding to the student, or if the typical peers need further training on the expectations.

## Facilitating Social Skills Development

Given that social interaction and social communication are two core deficits in AS (APA, 2004), direct social skill instruction is warranted. In addition to receiving direct instruction in social skill use, students with AS benefit from having the newly learned skills reinforced in appropriate and natural contexts. Opportunities for social interactions within the classroom also are beneficial. Facilitating social skill development in the general education setting benefits all students.

### Direct Instruction

Direct instruction can be accomplished several ways depending upon the needs of the student as determined by the IEP team. The student may receive direct instruction in the general education classroom or in a home base setting. First, the IEP team must determine where and under what conditions social skills instruction can be provided to meet the student's needs. Students with AS who do not need one-to-one instruction or small group instruction may receive social skill instruction within the general education classroom. Regular education teachers frequently provide social skills instruction to all students in the classroom. This type of direct instruction involves the provision of social skill instruction using a specific curriculum (Simpson, et al., 2003) and then reinforcement of the social skill being taught throughout the day to increase generalization (Goldstein & McGinnis, 1997; Williams & Reisberg, 2003). For example, providing direct step-by-step instruction of a specific skill and then highlighting the skill throughout the day by pointing out examples, praising positive efforts, or other reinforcement. Actively noting the presence of the skill throughout the will reinforce the behaviour across multiple settings. Social skills can be broken down into observable steps, presented to the students verbally and in print, and then opportunities to practice the skills should be provided. Students might engage in role plays, question and answer games, and video modeling activities to practice the skills as well.

Within this social skills instructional model, whole school character education social skills instruction is a daily inclusive classroom routine for both typical peers and those with without disabilities. For many students with AS, large group character education will not be individualized enough to adequately meet the needs of the student. When this is the case, an IEP team should consider a home base instructional setting.

Home base is defined as any place in a home, school, or community environment where a child feels secure (Coffin & Bassity, 2007). The home base can be incorporated into a child's daily schedule. Home base should be well organized with the necessary equipment for the child to start his or her day. Care should be made to have adequate lighting, technology as needed, and as few visual distractions as possible. A visual schedule for the day can be posted and reviewed in the morning as the child prepares for the day. The child goes to the home base at the beginning of the day, end of the day or possibly both. The time a child spends in home base is set up to be a proactive measure to prevent potential problems during the school day. Home base activities focus on preparing for the days' events, changes in routines, transition from home to school activities, and/or priming specific skills. The home base, if established within the school, can serve as a safe place for a child to go if he or she needs a break from a stressful event, time to regain emotional control, or recover from losing emotional control (Coffin & Bassity, 2007). The home base can also be the setting in which small group or individual instruction in social skills takes place.

When providing social skills instruction, the teacher should use a research-based curriculum designed specifically for students with AS. This will insure that the instruction is targeting the core deficit areas for the disorder. The curriculum should have an assessment built into the program to assist the teacher with individualization. There are several commercially available social skills curricula for students with AS. These include: *The Hidden Curriculum: Practical Solutions for Understanding Unstated Rules in Social Situations* (Myles, Trautman, & Schelvan, 2004), *Think Social!* (Winner, 2008) and *The Five Umbrellas: A Strength-Based Framework for Asperger's, High Functioning Autism, & Non-Verbal Learning Disorder* (Ortiz, 2011) amongst

others. Teachers are encouraged to investigate the research base behind the curriculum before making any purchases. Furthermore, Chung et al. (2007) suggest there are four factors based in the research literature that should be considered when selecting an effective program. Teachers can use these factors to identify appropriate social skills curriculum. The four factors to consider are: 1) individual characteristics of the student such as age, cognitive level, behaviour, and social skill level; 2) systems of reinforcement to promote independence and increase the likelihood of generalization; 3) use of multiple trainers including peers; and, 4) multiple teaching modalities such as visual supports, social stories, and video modelling (Chung et al., 2007). Table 1 provides examples of social skill curricula that could be used in each setting.

### Contextualizing Social Skill Practice

While direct instruction is a must, it is not enough. The effects of social skill groups for students with AS have proved to be limited to isolated skill development with little impact in the natural setting (Barry et al., 2003). One way to address this lack of generalization is to pair direct instruction with contextualized social skill practice in a natural setting (Rogers, 2000).

It is not uncommon for students with AS to identify social deficits in others, but when placed in a natural setting, they may not be able to identify inappropriate social interactions in themselves or within the context of the activity. In order of social skills to generalize to different settings and different people, there must be ample practice opportunities in the classroom. Fortunately, there are evidenced-based strategies that involve the use of peers that have been shown to increase academic achievement, decrease social-skill deficits, increase in social standing, and promote generalization of social skills to situations that extend beyond the setting in which the skills were taught (Fuchs et al., 2002; Rogers, 2000). There are two basic types of these peer-mediated strategies: cooperative learning and peer tutoring and both have been used successfully in general education settings (Dugan et. al., 1995; Fuchs et al., 2003).

Cooperative learning involves students working together and assuming responsibility for their peers' learning as well as their own (Fuchs & Fuchs, 2003). Cooperative learning increases social interactions and friendship forma-

Table 1. Example Social Skills Curricula Materials for Various Settings

<i>Setting for Social Skills Instruction</i>	<i>Examples of Social Skills Instruction</i>
Direct instruction in general education classroom	Skillstreaming the Adolescent (Goldstein & McGinnis, 1997)
Direct instruction in a home base setting	Think Social! (Winner, 2006) The Five Umbrellas: A Strength-Based Framework for Asperger's, High Functioning Autism, & Non-Verbal Learning Disorder (Ortiz, 2011) The Hidden Curriculum: Practical Solutions for Understanding Unstated Rules in Social Situations. (Myles, Trautman, & Schelvan, 2004),
Linking instruction across settings	Autism Collaborative Inclusion Model (Simpson, de Boer-Ott, & Myles, 2003) Comprehensive Autism Planning System (Henry & Myles, 2007) The Zigguart Model (Aspy & Grossman, 2008)

tions between students with disabilities and their typical peers (Gut & Safran, 2002; Lewis, Trushell, & Woods, 2005; Slavin, 1990). The use of cooperative learning groups with students who have AS has shown substantial increases in social engagement (Dugan et. al., 1995; Grey et. al., 2007; Kamps, Leonard, Potucek, & Harell-Garrison, 1989; Murphy, Grey & Honan, 2005).

In regards to setting up cooperative learning experiences for student's with AS, Murphy, Gray, and Honan, (2005) provided practical guidelines to increase the success for students with ASD, they include: 1) Insuring the student with AS is not seated on the outside of the group; 2) carefully selecting peers for inclusion in the group; and, 3) Designating a central role to the child with AS to promote interaction. Table 2 provides suggestions for including students with AS in cooperative learning groups.

Peer tutoring consists of pairing students in structured learning tasks to promote incidental learning of social skills through natural interactions (DiSalvo & Oswald, 2002). Peer tutoring methods for social interaction have shown promising results for children with high functioning autism or AS (Ayvazo, 2010; Chung et al., 2007; Laushley & Heflin, 2000; Sperry et al., 2010). Peer Assisted Learning Strategies (PALS) provides highly structured reading (Fuchs, Fuchs, Mathes, & Simmons, 1997) and mathematical (Fuchs et al., 1997) strategy instruction

in the format of peer tutoring with a side benefit of increasing social interactions.

PALS is a combination of proven instructional principles and peer mediation. First, teachers identify which children require assistance on specific skills and which children would be the most appropriate mentors. The teacher then pairs the children to complete tasks or schoolwork throughout the day. PALS was developed at Vanderbilt University by Fuchs and Fuchs. Materials are available for purchase on their website (<http://kc.vanderbilt.edu/pals/>). There are also sections for teacher and parent comments, a reference listing, links, and ordering information. See Table 3 for information about implementing PALS with students who have AS. The pairing of students and structure of the activities allow for extended practice and multiple peer interactions. Peer Assisted Learning Strategies are easily implemented in the general education setting and have the potential to become a promising practice for students with AS if consideration is given to the special needs of students with AS.

As PALS is an academic intervention, student pairs are made up of a high-performing student and a low-performing student (Fuchs et al., 2002). Students with AS should be paired with students who have good social skills and are appropriate social role models (Sperry et al., 2010). All materials need to be prepared ahead of time. For stu-

*Table 2. Suggestions for Including Students with AS in Cooperative Learning Groups.*

<i>Cooperative Learning Guidelines (Miller, 2009)</i>	<i>Considerations for Students with AS</i>
Design student groups	Choose caring and compassionate group members (e.g., students who have patience and a willingness to help) (Heinrichs, 2003; Sperry, Neitzel, & Engelhardt-Wells, 2010).
Ensure task goals and individual expectations are clear	Provide role cards for all team members, so the student with AS understands their role and the role of others. Provide a task completion checklist. Role cards and checklists can serve as visual supports for the student with AS (Quill, 1997).
Provide training in interpersonal/social and cooperative skills	Teach students with AS to self-monitor social behaviour (Wilkinson, 2005). Teach peers strategies to increase social interactions with students who have AS (Sperry, Neitzel, & Engelhardt-Wells, 2010).
Monitor group interactions	Provide frequent monitoring of social interactions and provide high levels of social praise. Students with AS may not show stress or anxiety until it is too late. Allow the student to relocate to a quiet area to de-stress and then return to the group (Farrugia & Hudson, 2006).

dents with AS, teachers may need to provide highly structured materials such as visual supports, social scripts, role cards, and/or checklists (Sperry et al., 2010). When training all students to implement PALS, scripted lessons designed to teach the structured program should be used (Fuchs et al., 2002). Ample practice opportunities paired with immediate feedback and reinforcement should be provided. During implementation, students must be monitored carefully. The teacher should monitor the student with AS for anxiety, for bullying, social interaction, and academic engagement. To keep students with AS interested, the teacher can provide reinforcement for active participation or can use the student's restricted interest as the learning topic.

The structured interaction sets the student up for frequent opportunities to respond and immediate feedback from their peers. The use of PALS increases academic engagement and provides multiple opportunities for social interaction, support and encouragement (Fuchs et al., 2002).

While cooperative learning and peer tutoring interventions are effective strategies to increase social skills, great care should be taken when choosing partners or groups (Safran, 2002). Students with AS are frequently bullied and teased (Heinrichs, 2003). When using cooperative learning and peer tutoring, choose

understanding and compassionate partners. An understanding and compassionate partner would be one who likes to help others, is patient, and does not laugh at others' expense. Even with the most understanding and compassionate partners, peer supports should be monitored closely for effectiveness. Teachers may want to identify more than one student who will be trained to serve as the peer tutor as students with AS who are supported by two peers versus one, demonstrate higher levels of peer interaction (Carter et al., 2005).

In order for students to increase use of appropriate social skills, the use of the skill may need to be prompted and must be reinforced. The structured roles and diligent monitoring of interactions during peer mediated strategies increase the likelihood that students will receive social reinforcement from their peers. It is important for the teacher to provide social reinforcement by providing direct descriptive feedback on student behaviours to both the student with AS and the peer mentors. During activities, teachers monitor for non-interaction, prompt students for appropriate interactions, and provide high levels of positive reinforcement for target social interactions. It is also important for teachers to monitor the interaction of students with AS and their peers during non-structured activities to determine if the skills are generalizing.

Table 3. *Suggestions for Including Students with AS in Peer Assisted Learning*

<i>Peer Assisted Learning Guidelines (IRIS Center, 2008)</i>	<i>Considerations for Students with AS</i>
Pair students	Choose a compassionate partner (Sperry et al., 2010). Students with AS are often bullied (Heinrichs, 2003). Teacher may want to choose two students to be paired with the student who has AS. Using more than one peer has been shown to further increase social interactions (Carter, Cushing, Clark, & Kennedy, 2005).
Prepare materials	The student with AS may benefit from highly structured materials that include visual supports and checklists. Prepare the visual supports and checklists for all students, as all students will benefit from the support (Odom et al., 2010).
Train students	Have adequate practice opportunities for the student with AS. During practice, provide explicit instruction and direct feedback. If applicable, teach the hidden curriculum (Myles & Simpson, 2001).
Implement classroom activities using PALS	Monitor the student with AS carefully (Farrugia & Hudson, 2006) to assure active participation, identify anxiety, and to assess social interactions.
Encourage and maintain student interest	Embed interests of the student with AS into the reading material and activity. If external reinforcement is used, make sure the student with AS understands and can demonstrate the target behaviour in context. Make sure the student with AS receives reinforcement (Odom et al., 2010) for demonstrating the target behaviour on a consistent basis.

## Pro-Social Modelling

While direct instruction related to social skills, structured opportunities to practice these skills through the use of cooperative learning, and PALS offer benefits to many students with AS (Ayvazo, 2010; Chung et al., 2007; Dugan et al., 1995; Grey et al., 2007; Kamps et al., 1989; Laushey & Heflin, 2000; Murphy et al., 2005; Sperry et al., 2010, a more systematic peer-training program may be needed for some. If students with AS are not showing adequate social interaction or typical peers become frustrated, the typical peers may need further instruction on how to interact with students with AS (Chung et al., 2007). In such cases, pro-social modelling may be helpful.

The relationship of the teacher to the student sets the tone of how a child will be accepted socially into the classroom culture (Pavri & Hegwer-DiVita, 2006). For a student with AS to be socially accepted into the classroom, the teacher must model pro-social interactions and teach explicit social skills through modelling. Teachers generally report positive relationships

with students who have AS, but as behaviour problems increase, the quality of the relationship decreases (Robertson et al., 2003). Furthermore, the quality of the teacher-student relationship is associated with the child's peer status and social inclusion in the classroom. The relationship that students form with the teacher affects subsequent peer relationships and the child's level of social inclusion. Over time, these associations may become stronger and affect successful inclusion (Robertson et al., 2003). As a result of the association between student-teacher relationship and peer relationship-social inclusion, it is the responsibility of the teacher to foster a positive relationship and model the positive relationship through their actions and words.

Teachers have the responsibility to model appropriate teacher-student social interactions and assist the student with AS in discriminating the differences between teacher-student interactions and student-student interactions. Students with AS may have difficulty understanding the differences in social interactions from person to person and setting to setting, as well as in different contexts (Myles & Simpson, 2001).

## Conclusion

The general educator as a primary social skills instructor is vital to the success of students with AS in the inclusive setting. Teaching students with AS social skills in the general education setting has several implications for both special and general education teachers. General and special education teachers are a team in which they assume new roles. While the special educator may have more training in social skills instruction (Dobbins et al., 2009), it is imperative for generalization that services are delivered in the natural setting (i.e., the

general education classroom) (Rogers, 2000). A renewed focus on collaboration between general and special educators allows teachers to build social skill programming that provides direct instruction, contextualized practice and social reinforcement. See Table 4 for an example of teaching social skills across the day. There are an increasing number of students with AS being served in the general education classroom. Through collaboration, the facilitation of social skill development, and pro-social modeling, meeting the needs of students with AS in the general education classroom is attainable.

*Table 4. A Typical Day: Putting it All Together*

<i>Activity</i>	<i>Instructions for Teachers for Embedding Social Skills</i>	<i>Activity Suggestions for Teachers</i>
Home base	<ul style="list-style-type: none"> <li>• Provide direct social skill instruction including guided practice</li> <li>• Guide students with AS to self-monitor their social interaction goals</li> </ul>	<ul style="list-style-type: none"> <li>• Use an established curriculum</li> <li>• Promote self advocacy</li> </ul>
Regular education classes	<ul style="list-style-type: none"> <li>• Provide five minutes of whole class character education instruction</li> <li>• Model positive relationships</li> <li>• Incorporate student strengths in all activities to provide socially acceptable supports for weaknesses</li> <li>• Monitor and prompt social interactions (antecedent prompting)</li> <li>• Establish Cooperative Learning Groups (carefully select group partners, assign roles to set up success, and monitor carefully for bullying)</li> <li>• Use peer mentors in less structured activities</li> <li>• Provide feedback to student provided according to the IEP (verbal, review of self-monitoring form, point sheet, etc</li> </ul>	<ul style="list-style-type: none"> <li>• Invite non-disabled peers for peer modelling activities</li> <li>• Follow school-wide character education plan and document on the lesson plan</li> <li>• Implement IEP accommodations</li> <li>• Collect data/document according to the IEP</li> <li>• Provide high levels of reinforcement for all appropriate social skill use.</li> <li>• Provide reinforcement for targeted skill use</li> <li>• Reinforce other students who are interacting and responding appropriately to the student with AS.</li> </ul>
Lunch	<ul style="list-style-type: none"> <li>• Establish the peer buddy system</li> <li>• Arrange lunch buddies based upon common interests</li> </ul>	<ul style="list-style-type: none"> <li>• Train lunch staff to model positive relationships to build social standing</li> <li>• Train lunch staff to monitor social interactions closely</li> </ul>
Return to home base	<ul style="list-style-type: none"> <li>• Review of day</li> <li>• Review of social skill lesson</li> <li>• Problem-solve/guided practice in problem areas</li> </ul>	<ul style="list-style-type: none"> <li>• Document and graph progress</li> </ul>



## Key Messages From This Article

**People with disabilities:** Students with disabilities can learn social skills alongside their peers. Teachers need to work together to meet the needs of all students. Teachers need to provide social skill instruction and show others how to respect a person who has differences.

**Professionals:** Teaching social skills in the inclusive setting can be challenging. By implementing a three-tiered framework that includes social skill instruction, collaboration and a pro-social model, a school team can increase the likelihood of success for a student with AS.

**Policymakers:** Students with AS have the right to be served in the least restrictive environment. Many times, due to high academic functioning, students with AS are served in the general education settings. Meeting the social needs of student's with AS in the general education setting is more challenging. However, recent legal mandates have set precedence for teaching social skills to children with AS. School is much more than academics.

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