Programming for Individual Needs

Teaching Students with Autism Spectrum Disorders

Department of Education

Division of Student Support Services

2003

inside

Developmental Milestones

Classroom Strategies

Managing Behaviour

Asperger’s Syndrome

Transition Planning

Evaluation and Assessment

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Introduction

Teaching Students with Autism Spectrum Disorders is intended to support teachers and others working with students with Autism Spectrum Disorders (ASD) to plan and implement effective education programs. It is not possible to include in this one document all the relevant materials and research which currently exist. The document attempts to cover the key issues. Those who wish, may use the resource section and the references within the text to find more information on research and instructional techniques.

The document is divided into the following sections:

What is Autism? - the nature of the disorder and how it is diagnosed.

Child Development - comments on typical child development and its relevance to ASD.

Characteristics of ASD - the effects of ASD and general educational implications.

Teaching Students with ASD - more detailed suggestions for instructional approaches and strategies for classroom management, communication development, and social skills.

Managing Challenging Behaviours - suggestions for developing a behaviour plan and strategies for supporting behaviour change.

Teaching Students with Asperger’s Syndrome - educational implications and suggested teaching strategies.

Transition Planning - suggestions for planning transitions into the school system; between classes, programs, or schools; between activities; and into adult life.

Assessment and Evaluation - a review of these processes for individuals with ASD.

Planning Support for Students with ASD - a review of the ISSP process and the role of members of the ISSP team.
The final section of the document lists resources, including books, videos, internet sites, articles, organizations, and support services.

Throughout the document symbols are used to indicate the relevant reference material.

The  refers to magazine articles, book references, etc.

The  refers to quotes, and resources which are not directly referenced in the document.
Chapter One

What Is Autism?

The *Diagnostic and Statistical Manual of Mental Disorders (DSM-IV)* classifies PDD as an umbrella term for disorders that involve impairments in reciprocal social interaction skills, communication skills, and the presence of stereotypical behaviours, interests, and activities. The conditions classified as PDD in the *DSM-IV* are:

- Autistic Disorder
- Childhood Disintegrative Disorder (CDD)
- Rett’s Syndrome
- Asperger’s Syndrome (AS)
- Pervasive Developmental Disorder - Not Otherwise Specified (PDD-NOS)

Some diagnostic terms appear to be used interchangeably within the literature and by practitioners. The term *Autism Spectrum Disorders (ASD)* is sometimes used to refer to the conditions included within the PDD classification. Some professionals argue that ASD refers to only Autistic Disorder, Asperger’s Syndrome, and PDD-NOS. PDD is sometimes used to refer to all conditions within the category of PDD, and at other times it has been erroneously used to refer to PDD-NOS; if an individual has a diagnosis of PDD, the actual diagnosis may be PDD-NOS. This confusion of terminology can be a problem when people from different disciplines are working together to support students. In this document, the term ASD is used to refer to all of the five conditions unless a specific diagnosis is referenced.

Symptoms of ASD can be present in a variety of combinations and may accompany other disabilities. Some people with the disorder have normal levels of intelligence, while most have some degree of intellectual disability, ranging from mild to severe. A range of difficulties may be found in expressive and receptive language and communication. It is estimated that up to 50% of people with Autistic Disorder do not develop functional speech. For those who do, the speech may have unusual qualities and have limited communicative functions.

People in all categories of ASD have difficulties with social interaction and behaviour, but the extent and type of difficulty varies. Some individuals may be withdrawn, while others are overly active and approach people in peculiar ways. They may have problems with attention and transition or change. They often respond to sensory stimuli in an atypical manner and may exhibit odd behaviours such as hand flapping, spinning, or rocking. Some individuals with ASD demonstrate unusual uses of objects and attachments to objects.
Although people with ASD share some common features, no two individuals are the same. The pattern and extent of difficulties may change with development. Knowledge of the common characteristics, combined with knowledge of the specific interests, abilities, and personality of each individual, helps us to understand general needs associated with ASD.

Prevalence of Autism Spectrum Disorders

The generally accepted prevalence rate for Autistic Disorder, per se, has increased from 4-5/10,000 to 10 in every 10,000 births. However, some recent estimates suggest a rate of about 20 in 10,000 births or more, when the broader Autism Spectrum is included. Prevalence is higher among males. The ratio varies depending on the definition, but studies reveal a male-to-female ratio of between 3:1 and 4:1.

Causes of Autism Spectrum Disorders

While the cause or combination of causes of ASD is not fully known, there is growing evidence that ASD is a genetic condition, and that several different genes are likely involved. The mode of genetic transmission appears complex. Scientists are focusing their work on finding which genes may be involved and how these genes are affected. To date, it appears that for at least a significant subgroup of persons with ASD, a genetic susceptibility exists which differs across families (that is, different genes may be responsible in different families).

Evidence suggests that there may be a higher prevalence of problems very early in the mother’s pregnancy, at birth, or even after birth among children with ASD than among children who do not have ASD. Early life events and environmental factors may interact significantly with genetic susceptibility in the child.

Recently, various types of investigations, including imaging studies, electro-encephalographic studies, tissue studies on autopsy materials, and neuro-chemical studies, have provided further evidence of a biological basis for ASD. The brains of individuals with ASD appear to have some structural and functional differences from the brains of other people. Anomalies have been found in the brain stem and cranial nerves.

A controversial argument of a causal relationship between childhood immunizations and ASD persists. Currently, no definitive empirical evidence of a relationship exists. Ongoing research may one day pinpoint the exact genes and other conditions that combine to cause ASD.
Diagnosis of Autism Spectrum Disorders

Assessment and diagnosis of ASD ideally should involve a multidisciplinary team that includes a psychologist, a speech-language pathologist, and a pediatrician or psychiatrist, who have expertise in the area of ASD. The psychologist often assesses to gather information about the developmental level and behaviour. The speech-language pathologist assesses speech, language, and communicative behaviours. A medical assessment is conducted to rule out other possible causes for the symptoms, as many characteristics associated with ASD are present in other disorders. A medical and developmental history is taken through discussion with the family. All information is considered to provide the overall picture and to rule out other contributing factors. An occupational therapist may provide assessment and/or intervention regarding issues of sensory integration and motor skills.

Parents who are seeking additional information regarding assessment and diagnosis should contact health professionals (i.e., family physician or community health nurse) in their community. Diagnoses in this province are generally made through the Child Development and Learning Rehabilitation Division, Janeway Children’s Health and Rehabilitation Centre, St. John’s. In many cases, a working diagnosis is made by local health professionals pending formal diagnosis at the Janeway Children’s Health and Rehabilitation Centre. ASD is diagnosed by the presence or absence of certain behaviours, characteristic symptoms, and developmental delays.

Autistic Disorder

The diagnosis of Autistic Disorder is characterized in the *DSM-IV* by:

- impairments in communication and social interaction, and
- restricted, repetitive, and stereotypic patterns of behaviour, interests, and activities.
The International Statistical Classification of Diseases and Related Health Problems: Tenth Revision of the World Health Organization (ICD-10) adds that Autistic Disorder is characterized by an impairment in imagination.

Criteria for Autistic Disorder in the DSM-IV (299.00)

A. Total of at least six items from (1), (2), and (3), with at least two from (1), and one from (2) and (3):

(1) qualitative impairment in social interaction, as manifested by at least two of the following:

(a) marked impairment in the use of multiple non-verbal behaviours such as eye-to-eye gaze, facial expression, body postures, and gestures to regulate social interaction
(b) failure to develop peer relationships appropriate to developmental level
(c) lack of spontaneous seeking to share enjoyment, interests, or achievements with other people (e.g., by a lack of showing, bringing, or pointing out objects of interest)
(d) lack of social or emotional reciprocity

(2) qualitative impairment in communication as manifested by at least one of the following:

(a) delay in, or total lack of, the development of spoken language (not accompanied by an attempt to compensate through alternative modes of communication such as gestures or mime)
(b) in individuals with adequate speech, marked impairment in the ability to initiate or sustain a conversation with others
(c) stereotyped and repetitive use of language or idiosyncratic language
(d) lack of varied, spontaneous make-believe play or social imitative play appropriate to developmental level
What is Autism? 

Chapter One

Autism is characterized by:

(3) restricted, repetitive and stereotyped patterns of behaviour, interests, and activities, as manifested by at least one of the following:

(a) encompassing preoccupation with one or more stereotyped and restricted patterns of interest that is abnormal either in intensity or focus
(b) apparently inflexible adherence to specific nonfunctional routines or rituals
(c) stereotyped and repetitive motor mannerisms (e.g., hand or finger flapping or twisting, or complex whole-body movements)
(d) persistent preoccupation with parts of objects

B. Delays or abnormal functioning in at least one of the following areas, with onset prior to age three years: (1) social interaction, (2) language as used in social communication, or (3) symbolic or imaginative play.

C. Not better accounted for by Rett’s Disorder or Childhood Disintegrative Disorder.

Other Autism Spectrum Disorders

All disorders within the PDD/ASD classification have some common features, so children with these disorders may benefit from similar instructional strategies. Some differences exist such as the number of symptoms, age of onset, and developmental pattern.

Asperger’s Syndrome (AS)

Asperger’s Syndrome shares many of the features of Autistic Disorder. People with Asperger’s Syndrome have disabilities in social interaction and have stereotypical behaviour patterns. Chapter 6 of this guide contains specific information about the characteristics of students with Asperger’s Syndrome and suggestions for classroom strategies.

The main differences between children with Autistic Disorder and those with Asperger’s Syndrome is that children with AS do not have clinically significant delays in early language development or in cognitive development. Children with AS may acquire speech and oral language at the expected time, but have a significant delay in social language skills. They usually do not have the same degree of difficulty in the development of age-appropriate self-help skills, adaptive behaviour, and curiosity about the environment as those with Autistic Disorder.
The DSM-IV uses the term *Asperger’s Disorder*. This guide uses the term Asperger’s Syndrome, which is consistent with current literature in the area.

Diagnostic criteria for *Asperger’s Disorder* (299.80):

A. Qualitative impairment in social interaction, as manifested by at least two of the following:

   1. marked impairment in the use of multiple nonverbal behaviours such as eye-to-eye gaze, facial expression, body postures, and gestures to regulate social interaction
   2. failure to develop peer relationships appropriate to developmental level
   3. a lack of spontaneous seeking to share enjoyment, interests, or achievements with other people (e.g., by a lack of showing, bringing, or pointing out objects of interest to other people)
   4. lack of social or emotional reciprocity

B. Restricted repetitive and stereotyped patterns of behaviour, interests, and activities, as manifested by at least one of the following:

   1. encompassing preoccupation with one or more stereotyped and restricted patterns of interest that is abnormal either in intensity or focus
   2. apparently inflexible adherence to specific, nonfunctional routines or rituals
   3. stereotyped and repetitive motor mannerisms (e.g., hand or finger flapping or twisting, or complex whole-body movements)
   4. persistent preoccupation with parts of objects.

C. The disturbance causes clinically significant impairment in social, occupational, or other important areas of functioning.

D. There is no clinically significant general delay in language (e.g., single words used by age 2 years, communicative phrases used by age 3 years).

E. There is no clinically significant delay in cognitive development or in the development of age-appropriate self-help skills, adaptive behaviour (other than in social interaction), and curiosity about the environment in childhood.
F. Criteria are not met for another specific Pervasive Developmental Disorder or Schizophrenia.

See Chapter 6, *Teaching Students with Asperger’s Syndrome*, for more information.

**Rett’s Disorder**

Rett’s Disorder causes profound mental and physical handicap. The disorder, observed only in girls, is characterized by autistic behaviour and dementia, apraxia of gait, loss of facial expression, and stereotyped use of hands.

**Diagnostic Criteria for Rett’s Disorder (299.80)**

A. All of the following:

1. apparently normal prenatal and perinatal development
2. apparently normal psychomotor development through the first 5 months after birth
3. normal head circumference at birth

B. Onset of all of the following after the period of normal development:

1. deceleration of head growth between ages 5 and 48 months
2. loss of previously acquired purposeful hand skills between ages 5 and 30 months with the subsequent development of stereotyped hand movements (e.g., hand-wringing or hand washing)
3. loss of social engagement early in the course (although often social interaction develops later)
4. appearance of poorly coordinated gait or trunk movements
5. severely impaired expressive and receptive language development with severe psychomotor retardation

**Childhood Disintegrative Disorder (CDD)**

The essential feature of this disorder is a marked regression in multiple areas of functioning following a period of at least two years of apparently normal development. After two years of age (but before 10 years of age) the child has a clinically significant loss of previously acquired skills in at least two of the following areas: expressive or receptive language, social skills or adaptive behaviour, bowel or bladder control, play, or motor skills. The disorder is very rare.
Diagnostic Criteria for **Childhood Disintegrative Disorder (299.10)**.

A. Apparently normal development for at least the first 2 years after birth as manifested by the presence of age-appropriate verbal and non-verbal communication, social relationships, play, and adaptive behaviour.

B. Clinically significant loss of previously acquired skills (before age 10 years) in at least two of the following areas:

   1. expressive or receptive language
   2. social skills or adaptive behaviour bowel or bladder control
   3. play
   4. motor skills

C. Abnormalities of functioning in at least two of the following areas:

   1. qualitative impairment in social interaction (e.g., impairment in nonverbal behaviours, failure to develop peer relationships, lack of social or emotional reciprocity)
   2. qualitative impairments in communication (e.g., delay or lack of spoken language, inability to initiate or sustain a conversation, stereotyped and repetitive use of language, lack of varied make-believe play)
   3. restricted, repetitive, and stereotyped patterns of behaviour, interests, and activities, including motor stereotypes and mannerisms

D. The disturbance is not better accounted for by another specific Pervasive Developmental Disorder or by Schizophrenia.

**Pervasive Developmental Disorder - Not Otherwise Specified (PDD-NOS)**

The diagnosis of PDD-NOS is used when there is a severe and pervasive impairment in the development of reciprocal social interaction associated with impairment in either verbal or non-verbal communication skills or with the presence of stereotyped behaviours, interests, and activities, but the criterion are not met for a specific Pervasive Developmental Disorder.
Chapter Two

Child Development


This Chapter is included with the permission of Brooke’s Publishing Co.

This section is based largely upon Kathleen Quill’s book Do-Watch-Listen-Say: Social and Communication Intervention for Children with Autism. Dr. Quill is also the editor of Teaching Children with Autism: Strategies to Enhance Communication and Socialization. Both of these resources are valuable to educators working with individuals with ASD.

In order to understand how ASD affects the lives of children, it must be viewed not as a collection of isolated skill impairments but rather as a collection of skills in cognition, language, socialization, communication, and emotional development. It must be viewed within the context of typical child development. Whenever observing or evaluating a child with ASD, the adult should compare the child with the range of typicality. This chapter examines typical child development and the relevance in various areas to the development of the individual with ASD.

Reciprocal Communication

Children initiate social contact before they develop language. They observe others and maintain reciprocal interaction through vocal and object play. They establish joint attention, turn-taking and imitation of simple actions or vocalizations and they use a variety of means to get attention or to direct another person’s attention. By age one year, most children use and respond to eye gaze, gestures, and facial expressions. They develop nonverbal social-communicative skills to imitate social interactions. They engage in reciprocal turn-taking, make basic requests, share interests with others, and respond to the social initiations, requests and comments of others.

In children with ASD, the communicative reciprocity is less spontaneous and flexible. In order to maintain a limited style of interaction, children often insist on specific routinized interaction patterns. They find it easier to respond to interactions rather than to initiate them. They have impaired social reciprocity in their nonverbal social-communicative skills. Specifically, they have difficulty with joint attention, social turn-taking, and regulating their non-verbal Behaviour.
**Imitation**

Imitation is an important factor in the development of cognitive and social skills. Some theorists and researchers argue that imitation is the basic requirement of learning. The motivation to interact sustains imitation. Within the first year of life, the typical child progresses from imitating motor and vocal actions to imitating novel actions. By one year of age, typical children imitate social actions such as waving ‘bye-bye’ and object use such as drinking from a cup. By two years of age, they can imitate a sequence of novel actions and they can engage in deferred imitation, which is repeating actions observed in others at an earlier time.

In children with ASD, the ability to imitate verbal and motor action may be impaired relative to other cognitive tasks. This is why the curriculum for many early intervention programs for children with ASD will begin with imitation, which is where learning begins in child development. There is a distinction between the ability to copy acts and the ability to understand the meaning of those actions. Programs must address this distinction by generalizing learned skills.

**Self Help**

By the age of five years most children are able to care for their own toileting needs, use a table knife for spreading, perform most self grooming tasks, and do some dressing such as putting on shoes, completing zipper tasks, and fastening buttons.

In children with ASD, development of self help skills is often impaired. Programming must target these skills.

**Solitary Play**

Most children develop solitary play by first exploring and manipulating objects in their environment. They develop interest in cause and effect from simple repetitive acts to organized actions. By the time children are toddlers, they combine toys and objects in multiple ways, and by the age of two years they develop symbolic play.

Children with ASD have an impaired development of imaginary play. Their play is often ritualized and perseverative and will often involve self-stimulating activities. Their play may include a ritualized manipulating of one or more objects. Flexibility and imagination are missing. If symbolic play does develop, it is generally limited to object substitution.
Social Play

Initially, children watch others play. Then they develop parallel play in which they play next to but not with others. From there, children work on joint projects with others but with limited social interaction. Finally, coordination of play activity and social behaviour occurs.

Children with ASD have unusual eye gaze, difficulty shifting attention, weak imitation skills and ritualized object use. Some will avoid their peers altogether and resist overtures from their peers. There is a variation among those with ASD regarding their desire for and initiation of social play.

Social Function of Communication

Before language develops children use multiple means of nonverbal communication to express basic needs, interests and feelings. They use eye gaze, physical proximity, facial expression and pointing. With language, they use verbal and nonverbal means to express a full range of communicative functions.

Children with ASD will not develop social language in a typical way. At the pre-linguistic stage, they are more likely to use eye gaze or gestures for the purpose of requesting rather than sharing. They may point to request an object out of reach but not to point out an object of interest. They may display eye contact to request but not to establish joint attention. At the pre-linguistic and linguistic stages, children with ASD initiates most communication efforts for the purpose of requesting. They rarely comment on something, express feelings or use pro-social statements like ‘thank you’. They may understand and use communication that has a clear and immediate effect on the environment rather than to engage others. They have difficulty generating information without cues.

Conversational Discourse

The dimensions of conversation are learned throughout childhood. Children also learn to use nonverbal features to support their participation in conversation. The refinement of the meshing of these skills continues throughout life. Conversation requires turn-taking, identifying and maintaining the topic, and perspective-taking. There are also multiple nonverbal features such as proximity, affect and body language. Most children will develop these skills quickly. By the time they enter elementary school, typical children will have refined verbal and nonverbal communication skills with peers.
For children with ASD, the style of conversation is stereotypic and routinized. The language is usually situation-specific. There may be repetitive and perseverative questions and/or a preoccupation with a narrow range of topics. There is usually impaired attention, processing and social cognition, which all contribute to the discourse difficulties. The inability to initiate novel messages results in them sticking with repetitive patterns of discourse. The impaired ability in perspective-taking results in limited awareness of listener/speaker roles. There is a significant variation amongst those with ASD in the degree to which these skills are impaired.

**Behaviour**

Behaviour challenges occur at different stages of development. Parents know about the “terrible twos”, eating challenges and sleep problems. Children develop responsibility, social skills, self-control, decision making, independence, and academic skills. They develop these skills at different rates and with different challenges; they develop these skills within a range of typicality.

For children with ASD, there may be the same developmental challenges; however, there may be major differences in their timetables of learning. That is, their speed of learning may be different. We must keep in mind the range of normalcy in development. Some children with ASD are within that range. Some of the developmental stages may match their mental age more than their chronological age and the opposite is also true. We might observe missing skills or skills developed out of sequence.

Children with ASD may never master some skills because of their specific cognitive or learning problems, and may have more to learn than their typical peers because they have more obstacles to overcome.

**Summary**

This section has reviewed many of the social, communication, and behavioural skills which develop in childhood. It has described typical child development in comparison to development in the child with ASD. When evaluating children with special needs, it is important to consider both typical development and the range of skills rather than focusing on specific skill impairment. For example, if a child’s language acquisition is delayed, all other skills should be evaluated before arriving at a conclusion of an overall delay or disorder. Those working/living with children with ASD need to always reflect upon the range of typicality when evaluating children and developing programs for them.
Although every person with Autism Spectrum Disorder is unique, some characteristics are considered particularly important in the diagnosis. They fall into four major categories:

- communication
- social interaction
- behaviour
- learning

Other characteristics of behaviour and learning of individuals with ASD can be categorized as:

- unusual patterns of attention
- unusual responses to sensory stimuli
- anxiety

This chapter addresses these seven categories and outlines instructional implications for each. Later chapters offer more detailed suggestions for teaching students with ASD.

**Communication**

All people with ASD experience language and communication difficulties, although there are considerable differences in language ability among individuals. Some individuals are non-verbal, while others have extensive language with deficits only in the area of pragmatics (the social use of language). People with ASD may seem caught up in a private world in which communication is unimportant. Such preoccupation is not intentional, but rather an inability to communicate.

Language difficulties may include:

A. difficulties with understanding/using non-verbal communication:

- facial expressions
- gestures
- eye contact
- body postures
- mutual or shared focus of attention
“The student may be using echolalic utterances to rehearse what is heard in order to process the information, or as a strategy for self-regulation.”


B. significant differences in oral language, for those who develop language:

- odd pitch or intonation
- faster or slower rate than normal
- unusual rhythm, or stress
- monotone or lilting voice quality

C. repetitive and idiosyncratic speech patterns

D. echolalic speech; that is, immediate or delayed literal repetition of the speech of others:

- appears to be non-meaningful, but may indicate an attempt to communicate
- indicates the ability to produce speech and to imitate
- may serve a communicative or cognitive purpose

E. restricted vocabulary:

- dominated by nouns
- often confined to requests or rejections, to regulate one’s physical environment
- limited in social functions

F. tendency to perseverate on a topic; that is, to continually discuss one topic and have difficulty changing topics

G. difficulty with pragmatics of conversation:

- problems initiating the communication
- difficulty using nonverbal rules
- inability to maintain conversation on a topic
- inappropriate interrupting
- inflexibility in style of conversation, stereotypic style of speaking

H. difficulty with language comprehension:

- comprehending verbal information
- following verbal instructions
- remembering a sequence of instructions
- comprehending abstract information
The extent of difficulty varies among individuals, but even those of average intelligence may have difficulty with communication.

**Implications for instruction**

Effective programs for students with ASD include comprehensive communication assessment and intervention. This typically involves evaluation by a Speech-Language Pathologist as well as informal observation and classroom-based evaluation. The evaluation helps to identify the goals, objectives, and strategies that facilitate development of receptive and expressive language skills, as well as pragmatic skills. Instruction should emphasize paying attention, imitating, comprehending, and using language in play and social interaction. Communication goals should emphasize the functional use of language and communication in various settings.

For more information on teaching communication skills, see *Strategies for Communication Development* in Chapter 4.

**Social Interaction**

Students with ASD demonstrate qualitative differences in social interaction and often have difficulty establishing relationships. They may have limited social interactions or a rigid way of interacting with others. Their difficulties with social communication should not be seen as lack of interest or unwillingness to interact with others. This lack of effective social communication may result from an inability to distill social information from the social interaction and use appropriate communication skills to respond.

Understanding social situations typically requires language processing and non-verbal communication, which are areas of deficit for people with ASD. They may not notice important social cues, and may miss necessary information. People with ASD typically experience difficulty in the use of non-verbal behaviours and gestures to regulate social interaction, and in reading the non-verbal behaviour of others.

People with ASD have significant difficulty with any interaction that requires knowledge of other people and what they think or know. It has been theorized that they have a social cognitive deficit in this area, which Baron-Cohen describes as the “theory of mind”: *People with ASD may not be able to understand the perspective of others, or even understand that other people have a perspective that could be different from their own*. They may have difficulty understanding their own, and particularly other people’s beliefs,

“One must separate the variables of social interaction problems from emotions. People with ASD desire emotional contact with other people but they are stymied by complex social interaction.”


desires, intentions, knowledge, and perceptions, and often have problems understanding the connection between mental states and actions. For example, they may not be able to understand that another child is sad, even if that child is crying, because they are not themselves sad. Students with ASD may not grasp the fact that other people have their own perceptions and viewpoints.

Students with ASD demonstrate such difficulties in a variety of observable ways. For example, they have tendencies to play with toys and objects in unusual and stereotypical ways. Some may engage in excessive or inappropriate laughing or giggling. Play that does occur often lacks the imaginative qualities of social play. Some children with ASD may play near others, but do not share and take turns, while others may withdraw entirely from social situations.

The quality and quantity of social interaction occurs on a continuum. Social interaction can be classified into three subtypes along this continuum:

- **aloof**----those who show no observable interest or concern in interacting with other people except for those needed to satisfy basic personal needs; they may become agitated when in close proximity to others and may reject unsolicited physical or social contact
- **passive**----those who do not initiate social approaches, but will accept initiations from others
- **active but odd**----those who will approach for social interaction but do so in an unusual and often inappropriate fashion

People with ASD may exhibit behaviours across the continuum.

**Implications for instruction**

Social skill development is essential for students with ASD. Plans for managing challenging behaviours must include specific instruction in appropriate behaviours. Students with ASD do not learn social skills incidentally by observation and participation. Teachers must target specific skills for explicit instruction and to provide support for using the skills in social situations.

Additional information is provided in the section *Strategies for Teaching Social Skills*, in Chapter 4.
Behaviour

People with ASD often demonstrate unusual and distinctive behaviours, including:

- a restricted range of interests, and/or a preoccupation with one specific interest or object
- inflexible adherence to a non-functional routine
- stereotypic and repetitive motor mannerisms, such as hand flapping, finger-flicking, rocking, spinning, walking on tiptoes, spinning objects
- preoccupation with parts of objects
- fascination with movement, such as the spinning of a fan, or turning wheels on toys
- insistence on sameness and resistance to change
- unusual responses to sensory stimuli.

Implications for instruction

Many of the odd and stereotypical behaviours associated with ASD may be caused by factors such as hyper-sensitivity or hypo-sensitivity to sensory stimulation, difficulties in understanding social situations and difficulties with changes in routine, all of which may cause anxiety. The instructional plan needs to incorporate strategies that address sensory issues, teach social skills, prepare for planned changes and expand on interests.

When planning instruction, teachers need to consider the problematic behaviour and its function for that particular student. For example, the function may be to gain attention or to avoid something. While it may not be possible to eliminate all challenging behaviours, successful teaching strategies for supporting students with ASD often focus on helping the student learn another more appropriate behaviour that will serve the same function.

Additional information is provided in Chapter 5, Managing Challenging Behaviours.

Learning

People with ASD have a psycho-educational profile that is different from typically developing individuals. Studies show that there may be deficits in many cognitive functions, yet not all functions are affected. In addition, there may be deficits in complex abilities, yet the simpler abilities in the same area may be intact.
Current research identifies the following cognitive features associated with ASD:

- deficits in paying attention to relevant cues and information, and in attending to multiple cues
- receptive and expressive language impairments, particularly in the use of language to express abstract concepts
- deficits in concept formation and abstract reasoning
- impairment in social cognition, including deficits in the capacity to share attention and emotion with others, and to understand the feelings of others
- inability to plan, to organize, and to solve problems

Some students with ASD have stronger abilities in the areas of rote memory and visual-spatial tasks than in other areas. They may excel at visual-spatial tasks, such as putting puzzles together, and perform well at spatial, perceptual, and matching tasks. They may be able to recall simple information, but have difficulty recalling more complex information.

Strengths in visual-spatial skills have been described in personal accounts of individuals with ASD. Grandin (1995) suggests that some people with ASD can more easily learn and remember information that is presented in a visual format, and they may have problems learning about things that cannot be thought about in pictures. She explains that she has a visual image for everything she hears and reads, and that she “thinks in pictures.”

Students with ASD may have difficulty comprehending oral and written information, such as, following directions or understanding what they read. Yet some higher-functioning individuals may be capable of identifying words, applying phonetic skills, and knowing word meanings.

Some students may demonstrate strength in certain aspects of speech and language, such as sound production (phonology), vocabulary, and simple grammatical structures (syntax), yet have significant difficulty carrying on a conversation and using speech for social and interactive purposes (pragmatics). A student who is higher-functioning may perform numerical computations easily, but be unable to solve application problems.

**Implications for instruction**

These cognitive variations result in unique patterns of strengths and needs in a student’s academic performance, social interaction,
and behaviour. Development of cognitive skills is usually uneven. Programming for the student should therefore be based on the specific combination of strengths and needs of that individual, which are identified through the Individual Support Services Planning (ISSP) process (more on this in Chapter 9).

The professional literature on ASD documents deficits in attention and language development, problems in concept formation, and difficulties with memory for complex information. These characteristics, considered in combination with personal accounts of how individuals with ASD are more visually oriented, suggest that visual material should be incorporated into instruction when teaching students with ASD.

Suggestions for instructional strategies are provided in Chapter 4, *Teaching Students with Autism Spectrum Disorders*.

### Unusual Patterns of Attention

People with ASD often demonstrate unusual patterns of attention. Students may have a range of difficulties in this area, with major implications for effective communication, social development, and attainment of academic skills.

Students with ASD often have difficulty paying attention to relevant cues or information in their environment and may focus their attention only on a restricted part of the environment, to the exclusion of what is relevant. For example, a student may look at the ball but not at the person to whom the ball is to be thrown. Or a child may notice the insignificant details such as the staple in the corner of a paper, but not the information on the paper. This characteristic is referred to as *stimulus over-selectivity*. Another feature of ASD is an impairment in the capacity to share attention between two things or people, which is referred to as *joint attention*.

Students with ASD may have difficulty disengaging and shifting attention from one stimulus to the next, which may contribute to the characteristic rigidity and resistance to change. They may also demonstrate a short attention span.

### Implications for instruction

Difficulties with attending may significantly influence the student’s ability to develop effective social behaviour and language. For example, students with ASD may respond to irrelevant social cues that have caught their attention, or they may attend to limited portions of a conversation and not understand the intent of what
is being communicated. They may not attend to multiple cues in speech and language and so miss the important subtleties of the message.

Information and instructional activities presented to students with ASD should be provided in a format that is clear, focuses their attention, and emphasizes the most relevant information. Individualized strategies for focusing the student’s attention can be developed as part of the ISSP. (See Chapter 4 Teaching Students with Autism Spectrum Disorders, for suggestions.) Parents can provide valuable information when they share methods of helping their child focus on things they need to learn. Ideally, the ISSP will include programming to help students learn to eventually manage these strategies themselves. (See Chapter 9 for information on ISSP.)

Unusual Responses to Sensory Stimuli

Students with ASD usually differ from their peers in their sensory experiences. Responses to sensory stimulation may range from hypo-sensitivity to hyper-sensitivity. In some cases, one or more of the person’s senses is either under-reactive (hypo-reactive) or over-reactive (hyper-reactive). According to personal accounts of individuals with ASD, environmental stimuli may be disturbing or even painful. This reaction may apply to any or all types of sensory input.

Other characteristics associated with ASD may be caused, in part, by a disorder in sensory processing. The extent to which sensory problems may contribute is not certain. There is sufficient information to suggest that consideration be given to both the type and amount of sensory stimulation in the environment, and the individual’s reaction to it.

Tactile system

The tactile system includes the skin and the brain. Information can be gathered by the skin through touch, temperature, and pressure. This information is interpreted by the person as pain, neutral information, or pleasure. The tactile system allows us to perceive our environment and have the appropriate reaction for survival. We pull away from something that is too hot and might harm us. We respond with pleasure to the warmth and pressure of a hug.
When students with ASD are affected in the tactile system, they may withdraw when touched. This is called *tactile defensive*. They may overreact to the texture of objects, clothing, or food. The inappropriate response is the result of the person’s tactile misperception, which can lead to behavioural problems, irritability, or withdrawal and isolation. Although some sources of stimulation may cause avoidance, other types and/or amounts of stimulation may have a calming effect.

**Auditory system**

Students with ASD may be hypo-sensitive or hyper-sensitive to sounds. Parents and teachers report that seemingly innocuous sounds can cause extreme responses in some children with ASD. This reaction can be particularly problematic in a school setting, which normally includes so many different sounds. The scraping of a chair, bells between classes, intercom announcements, and sounds of machinery fill a normal school day. People with ASD report that such sounds seem excruciatingly intense to them.

**Visual and olfactory systems**

Different responses to sensory stimuli may be apparent in a student’s reaction to visual information and smells. Some students may react to odours such as perfumes and deodorants. Others may use smell to seek out information about the surroundings in ways that we do not ordinarily expect.

Some students with ASD cover their eyes to avoid the effect of certain lighting, or in response to reflections or shiny objects, while others seek out shiny things and look at them for extended periods of time.

**Vestibular and proprioceptive systems**

The inner ear contains structures that detect movement and changes in position allowing people to sense that their heads are upright, even with closed eyes. Students with ASD may have differences in this orienting system which may result in fear of movement and trouble orienting on stairs or ramps. They may seem strangely fearful or clumsy. The opposite is also true. Students may actively seek intense movement that upsets the vestibular system, such as whirling, spinning, or other movements that others cannot tolerate. Through information derived from muscles and other body parts, people automatically know how to move or adjust
positions efficiently and smoothly. Students who have problems integrating the body’s information have odd posture and may appear clumsy or sloppy.

**Implications for instruction**

These unpleasant or aversive sensory experiences may contribute to some of the inappropriate behaviours displayed by individuals with ASD. For example, people with severe sensory processing problems may entirely shut down to avoid aversive stimuli or over-stimulation. Tantrums may be related to the desire to escape situations that are over-stimulating. Self-stimulating behaviours may help the individual calm down when stimuli become overwhelming, by generating a self-controlled, repetitive stimulus. Sensory integration is how we process and organize information received through our senses so that we feel comfortable and secure and are able to respond appropriately to particular situations and environmental demands.

Awareness of differing experiences of sensory stimulation and integration is an important part of understanding behaviours of students with ASD and planning programs for them. Teachers and families can work with Audiologists and Occupational Therapists who can assess sensory responses and assist in implementing strategies to address this area of need. A checklist is provided in Chapter 4 (p. 40) to aid in determining the nature of difficulties with sensory systems.

**Anxiety**

Anxiety is not identified in the *DSM-IV* criteria for a diagnosis of ASD. However, many people with ASD, as well as their parents and teachers, identify anxiety as an associated characteristic. This anxiety may be related to a variety of sources, including:

- inability to express oneself
- difficulties with processing sensory information
- fearing some sources of sensory stimulation
- high need for predictability, and difficulty with change
- difficulty understanding social expectations
- fearing situations because they are not understood
Implications for instruction

Programs for students with ASD often need to address anxiety, and what contributes to it. Changes and adaptations can be made within the environment to reduce anxiety-arousing situations, and a variety of strategies can be used to help the individual manage anxiety and cope with difficult situations. (See Chapters 4, 5, and 6 for suggestions.)
Chapter Four

Teaching Students with Autism Spectrum Disorders

No single method for teaching students with Autism Spectrum Disorders is successful for all students. Also, students’ strengths and needs change over time, making it necessary for teachers to try different approaches. This chapter contains information about areas of instruction and instructional approaches that have proved successful for teachers working with students with ASD.

The chapter is divided into six sections:

- instructional approaches
- strategies for classroom management
- strategies for communication development
- strategies for teaching social skills
- strategies for teaching self-monitoring/managing skills
- strategies for teaching functional skills

Instructional Approaches

Visual approaches

The most strongly recommended approach for teaching students with ASD is to use visual aids. Students often demonstrate relative strengths in concrete thinking, rote memory, and understanding of visual-spatial relationships, but have difficulties in abstract thinking, social cognition, communication, and attention. Pictographic and written cues can often help the student to learn, communicate, and develop self-control.

An advantage of visual aids is that students can use them for as long as they need to process the information. In contrast, oral information is transient: once said, the message is no longer available. Oral information may pose problems for students who have difficulty or require extra time to process language. In addition, it may be difficult for the student with ASD to attend to relevant information and to block out background stimulation. Using visual supports better enables the individual to focus on the message.

Visual aids and symbols range in complexity from simple and concrete to abstract. The continuum moves from real object or situation, to colour photograph, colour picture, black and white picture, line drawing, and finally to graphic symbol and written language. Objects are the most simple, concrete form of visual aid. Graphic symbols, although far along the continuum in terms of complexity and abstraction, have been widely successful with students with ASD.
Software packages that provide quick access to graphic symbols and the ability to create customized symbols are available (eg. Boardmaker).

Visual supports can be used in the classroom in a variety of ways. To be successful, they must fit the student’s level of comprehension by being at the appropriate point on the continuum of complexity mentioned in the preceding paragraph. Using a line drawing to support learning when the student needs colour photographs in order to comprehend will only frustrate everyone.

Taking this caution into account, visual supports are useful and can be employed to:

• organize the student’s activity: daily schedules, minischedules, activity checklists, calendars, choice boards
• provide directions or instructions for students: visual display of classroom assignments, file cards with directions for specific tasks and activities, pictographs and written instructions for learning new information
• assist the student in understanding the organization of the environment: labeling of objects, containers, signs, lists, charts, and messages
• support appropriate behaviour: posted rules and representations to signal steps of routines
• teach social skills: pictorial representations of social stories depicting a social situation with the social cues and appropriate responses, developed for a specific situation for the individual student (for further information on social stories, see the section in this chapter on strategies for teaching social skills, p. 44)
• teach self-control: using pictographs, which provide a cue for behaviour expectations
• teach functional self-help skills: cooking, safety, shopping, community access

The key question when planning an activity or giving an instruction is, “How can this information be presented in a simple visual format?” Choose visual aids on the basis of an understanding of the student’s abilities and responses.
**Task analysis**

Teachers and parents may need to break complex tasks down into sub-tasks and reinforce in small, teachable steps. For each step of a complex task, the student needs to have pre-requisite skills. These sub-skills may need to be taught and reinforced in sequence. For example, when teaching a self-help skill such as brushing teeth, the task may need to be broken down into sub-skills: getting the toothbrush and toothpaste, turning on the water, wetting the toothbrush, unscrewing the lid of the toothpaste, putting the toothpaste on the toothbrush, etc. Life skills, social skills, and academic skills can all be analysed and approached as tasks and sub-tasks, with each step taught and then linked to the next in a chain of sub-tasks. See Appendix A for an example of an instruction plan using task analysis.

**Discrete trial methods**

Discrete trial training involves teaching skills in small units called trials. Each trial consists of an instruction, a prompt (if needed), a response from the student, and a consequence or feedback. The instruction is given in simple, clear language that the student can understand.

Behaviour objective: identifying numbers, given an oral direction. Jackie will touch the card representing the correct number when presented with cards with the numbers 1, 2, 3, 4, and 5 on them.

<table>
<thead>
<tr>
<th>STIMULUS</th>
<th>INSTRUCTOR PROMPT</th>
<th>STUDENT RESPONSE</th>
</tr>
</thead>
<tbody>
<tr>
<td>Instructor says, “Touch 5”</td>
<td>Instructor taps the card with # 5 on it.</td>
<td>Student touches the card with # 5 on it.</td>
</tr>
<tr>
<td>Instructor says, “Touch 5”</td>
<td>Instructor points at card with # 5 on it.</td>
<td>Student touches card with # 3 on it</td>
</tr>
<tr>
<td>Instructor says, “Touch 5”</td>
<td>Instructor taps the card with # 5 on it.</td>
<td>Student flaps hands</td>
</tr>
<tr>
<td>Instructor says, “Touch 5”</td>
<td>Instructor points at card with # 5 on it.</td>
<td>Student touches the card with # 5 on it.</td>
</tr>
</tbody>
</table>

Prompts can range from intrusive to subtle. Feedback is given immediately following the student’s response and is specific to the response. Feedback is meant to be informative for the student. For example, if the student responds correctly with good attention, positive reinforcement is given (“Great paying attention!”) with or without a tangible reinforcer. If the student makes an attempt but is incorrect, specific feedback is given (“Good try, but....”). If there is no response, feedback is still given to let the student know that more attention is necessary (“Uh-oh, you need to pay attention”). Approximately
3-5 seconds are allowed following the instruction to give the student time to process the direction. A few seconds are allowed between trials in order to separate each trial.

Using prompts to help students learn is an important element of instruction for some students with ASD. Prompts may be physical, gestural, positional, or verbal. They should be used only as long as they are needed, since students can become dependent on them. The prompt is given following the direction when the student seems to need a cue to perform correctly or when learning a new skill. The prompt is often designed to model the desired behaviour or assist the student in performing it. The instructor decides what level of prompt to use based on the student’s need (see Appendix B). The least intrusive level of prompting should be used with the goal to fade all prompting as soon as possible as trials progress. Prompted trials should be followed by an unprompted trial to see if the student has learned from the prompt. The best reinforcement or consequence is given to the student for a correct unprompted trial.

**Precise, positive praise while the student is learning**

Give students precise information about what they do right or well, such as, “great colouring,” or “good finishing that math problem.” Generalized praise such as “good job” may result in unintended learning that is hard to reverse. Students with ASD may learn on one trial, so directing the praise to the very specific behaviour is important: “Sal, you are doing very well at multiplying these numbers.” Inappropriate learning can occur if students mistakenly connect something they are doing with the praise. Saying “Sal, you are doing very well” when Sal is also swinging his feet while he does the math assignment might connect the feet swinging with the general praise.

**Meaningful reinforcements**

Reinforcers can be anything from praise to tangible objects that increases the behaviour the student is to learn. Students with ASD may not be motivated by common reinforcers that work with other students. They may prefer some time spent alone, time to talk to a preferred staff member, a trip to the cafeteria, an exercise routine (such as going for a walk), time to play with a desired object, music, playing in water, getting to perform a favourite routine, items that provide specific sensory stimulation, or sitting at the window.
Knowing what works as reinforcement for each student is important. A preference profile identifying the student’s preferred activities or other reinforcers can be helpful. This “likes and dislikes” list can be developed with the help of the family, and can be shared with all service providers. See Appendix C for a Likes and Dislikes chart that can be used to record a student’s preferences. For assistance in completing this chart, refer to Appendix D for Reinforcer Assessment.

**Tasks at an appropriate level of difficulty**

Students with ASD may be particularly vulnerable to anxiety and intolerant of feelings of frustration if they cannot perform the tasks assigned. Increasing the level of difficulty gradually and scaffolding or supporting learning, particularly with visual information rather than solely oral explanations, assists in minimizing the student’s frustration.

**Age-appropriate materials**

The choice of appropriate instructional materials honours the dignity of students with ASD. Even if the instruction must be modified, the learning materials should be appropriate to the age of the student.

**Opportunities for choice**

Because students with ASD may be frustrated by their inability to make themselves understood, they need instruction and practice in making good choices for themselves. Their lives may necessarily be highly structured and controlled by adults. Sometimes students continue to choose one activity or object because they do not know how to choose another.

Acceptable methods of providing choice for students who have limited ability to communicate are developed on an individual basis. Direct teaching of making choices may be helpful. A choice-board may be beneficial for the student. Choice should be limited to one or two preferred activities until the student grasps the concept of choice. Open-ended choices will not enhance the student’s skill at making choices, and may frustrate him.
Oral instructions into small steps

When providing instruction to students with ASD, teachers should avoid long strings of verbal information and complex or vague instruction. For example, when instructing a student to “get ready for the bus”, numerous short instructions may be necessary (ie: “get your book bag”, “go to your locker”, “get your coat”, etc). As discussed above, supporting oral instruction with visual cues and representations helps students to understand and leads to more independent performance of skills.

Processing and pacing issues

Students with ASD may need more time to respond to directions or questions than other students. This difficulty may be linked to cognitive and/or motor difficulties. Students with ASD may need to process each discrete piece of the message or request, and therefore need extra time to respond. Providing extra time, and allowing for ample time between giving instructions and student response are both important tactics for supporting students with ASD.

Concrete examples and hands-on activities

Teach abstract ideas and conceptual thinking using specific examples. Vary the examples so that the concept is not accidentally learned as applying in only one way. For example, when teaching ‘emotions’, use pictures of a number of different faces for a particular emotion in a number of different scenarios.

Introduce unfamiliar tasks in a familiar environment

New concepts should be introduced in the student’s class, home, or some other environment in which the student is comfortable. When it is not possible to introduce unfamiliar tasks in a familiar environment, prepare the individual for the new task and environment using aids such as pictures, videotapes, and/or social stories. (See p. 44 for more information regarding social stories.)

Highlight what is important

Use organization aids and visual supports to:

- help the student attend to pertinent information, and
- teach new tasks.
For example, remove extraneous materials from the desk or table before attempting to teach a skill. Present only the text you want read rather than the whole book. Highlight the key words, such as character names in the text, so they are noticed.

**Encourage independent effort and incorporate proactive measures to reduce the likelihood of becoming dependent on prompts/adults**

When students with ASD are constantly supported, they may never develop the capacity to act independently. Since independence is a desired goal for all students, instruction should include strategies to decrease the need for adult prompting.

Strategies include:

- using visual aids to decrease reliance on physical and verbal prompts (for example, a sheet of paper indicating by word and picture the material necessary for a class, requires the student to circle the needed items
- planning ways to fade prompts
- ensuring that the adult is not always positioned close to the student and that the same adults are not always present, as positioning the adult away from the student may help to avoid dependency
- providing instruction to increase the student’s awareness of environmental cues
- teaching in the environments containing the cues and reinforcement that prompt and maintain the behaviour

**Direct and broaden fixation into useful activities**

If the student is fixated on an object or a topic, such as a colour or shape, use it to teach a concept. A whole week’s learning activities in writing and math can be centered on one topic. This approach is creative theme-based learning activities taken to the extreme.

**Know the individual, and maintain a list of strengths and interests**

Family members can provide valuable information for teachers about what students know and do at home or in the community. These interests and skills can be built upon both for instruction and for reinforcing successful learning and behaviour. A home to school journal can be used to exchange such information. (See Appendix E for a sample journal.)
Talent and interest areas

If the student demonstrates a particular interest and strength in a specific area (e.g., music, drama, art, graphics, computer), provide opportunities to develop further expertise in that area. This may not only provide enjoyment and success, but may also lead to the development of skills for future employment. Dr. T. Grandin writes extensively about the importance of exploiting talents into careers.

Strategies for Classroom Management

Provide a structured, predictable classroom environment

A structured, predictable environment is not to be confused with an authoritarian approach. The environment should be structured in order to provide consistency and clarity, so that students know where things belong, what is expected of them in a specific situation, and can anticipate what comes next.

Provide a customized visual daily schedule

The individualized schedule for a student with ASD should fit comfortably into the overall classroom schedule. Vary tasks to prevent boredom, and alternate activities to reduce anxiety and possibly prevent some inappropriate behaviours. For example, alternate familiar, successful experiences with less preferred activities. Large group activities may be alternated with opportunities for calming down in a quiet environment. Incorporating physical activity and exercise throughout the day is helpful. Planned activities can be charted in a visual form and posted at or near the desks of students with ASD so that they can understand changes in activities and know what to expect. The student can be helped to learn to use the schedule independently. Staff can direct the student to the schedule when it is time to change activities, which should smooth the transition times.

Note aspects of the tasks and activities that create frustration

Examine the instructional plan and non-instructional activities for problem areas that may result in sensory overload or frustration for the student. Accompany sensory experiences that are calming for the student with potentially frustrating tasks. Adapt tasks and
materials to promote successful participation. Decrease environmental distractors and reduce activities that confuse, disorient, or upset the student and interfere with learning.

**Provide relaxation opportunities and areas**

A calm, quiet, designated area where the student can go to relax can be helpful. Relaxing for some students with ASD may mean engaging in repetitive behaviours that have a calming effect on them. In some cases, students who crave certain repetitive movement, such as rocking or other self-stimulating movements, can be provided with a time and space where this movement is permitted. This could be included as an activity in the student’s schedule. Other relaxation techniques to help students may include counting to 10, taking deep breaths, as well as tensing and relaxing muscles.

**Provide opportunities for meaningful contact with peers who have appropriate social behaviour**

Students with ASD must be taught appropriate social behaviour and provided with situation-specific expectations for behaviour. More information on the development of social skills is provided in the Strategies for teaching social skills section (p. 43) later in this chapter.

Opportunities for contact with peers may include:

- involving the student in shared learning arrangements
- pairing the student with buddies for walking down the hall, on the playground playing games, and during other unstructured time
- varying peer buddies across time and activities, to prevent dependence on one student
- involving peers in providing individualized instruction
- arranging cross-age peer supports/buddies by assigning an older student to assist the student with ASD
- pairing students while attending special school events such as assemblies and clubs
- facilitating involvement in after-school or extracurricular activities

If your school has an arrangement in which a class of older students is paired with a younger class, ensure that the older student with ASD is also paired, and provide the necessary supports for success.
Plan for transitions and prepare the student for change

Students with ASD often find changes in activity, setting, or planned routine stressful. Visual schedules can be used to help them understand and co-operate with necessary changes. Social stories with illustrations can also be used to prepare the student for new situations.

For more information on transitions, see Chapter 7, Transition Planning.

Consider the impact of sensory factors

An inventory of possible sensory factors can help minimize the negative effect that sensory information may have on students with ASD. Parents and others who have experience with the student are valuable sources of information about sensory difficulties. Here are some questions to ask and points to consider when developing an inventory:

**Auditory:**

- Are there fans, loudspeakers, fire alarms, several people talking at once, air conditioners, bells, dogs barking, or scraping?
- What is the general sound level and the predictability and repetitiveness of sounds?
- What can be done to minimize the negative effect these stimuli may have on the student with ASD in the class?
- What is the individual’s comprehension of verbal information?
- What is the time typically required by the student to process auditory information and/or to shift attention between auditory stimuli?

**Visual:**

- Are there distractors, such as light, movement, reflection or background patterns, that affect the student’s ability to attend to the learning activity?
- What is the eye level of the student, the position of the teacher in relation to the student, and the distractors that may interfere with attention?
- How much time is required to shift visual attention?
- What effort is given to reducing the effects of aversive visual stimuli, so that the management of the student’s behaviour is facilitated, and his ability to learn is enhanced?
**Tactile:**

- Are there textures that seem to be abrasive?
- Are temperatures appropriate to minimize negative effect on the student?
- Does the student demonstrate a need to explore through touch, and yet avoid being touched?
- What is the level of ability or defensiveness in the use of certain objects intended to support instruction?

**Vestibular:**

- How is the student’s need to move and exercise accommodated?
- What are the individual’s reactions to movement?
- How can the student’s program incorporate needed movement without unduly jeopardizing the attention and learning of other students in the class?

**Gustatory and olfactory:**

- What are the student’s preferences in taste and smell with foods and other materials?
- How are the student’s responses to the smell of materials incorporated into decisions made about activities?
- What is the appropriate behaviour, as affected by these smell preferences, suitable to teach for snack or mealtimes?

A number of resources outline multi-sensory activities to target tactile, vestibular and proprioceptive development. Strategies based on sensory integration theory can accommodate sensory needs and help prevent some inappropriate behaviours. Input from an audiologist and/or an occupational therapist may be helpful. Refer to the **Resource** section for recommended resources in this area.
<table>
<thead>
<tr>
<th>COMMON DIFFICULTIES WITH SENSORY SYSTEMS: OBSERVABLE BEHAVIOURS</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>HYPER-REACTIVE BEHAVIOUR INDICATORS</strong></td>
</tr>
<tr>
<td>□ easily distracted by background sounds</td>
</tr>
<tr>
<td>□ over-reacts to sounds</td>
</tr>
<tr>
<td>□ unpredictable reactions to sounds</td>
</tr>
<tr>
<td>□ holds hands over ears to block noise</td>
</tr>
<tr>
<td>□ screams or cries at sounds in the environment</td>
</tr>
<tr>
<td>□ responds physically as if sound is a threat</td>
</tr>
<tr>
<td><strong>HYPO-REACTIVE BEHAVIOUR INDICATORS</strong></td>
</tr>
<tr>
<td>□ does not respond to name being spoken</td>
</tr>
<tr>
<td>□ seems oblivious to sounds of surrounding activities</td>
</tr>
<tr>
<td>□ creates constant sounds as if to stimulate self</td>
</tr>
<tr>
<td>□ unsafe because does not react to sounds indicating potential danger</td>
</tr>
<tr>
<td>□ does not respond to any kind of sound</td>
</tr>
</tbody>
</table>

| **AUDITORY SYSTEM**                                           |
| □ disturbed by bright lighting                                |
| □ avoids sunlight                                             |
| □ follows any movement in the room with eyes                  |
| □ blocks field of vision with eyes                            |
| □ covers part of visual field–puts hands over part of the page in a book |
| □ responds physically to appearance of certain objects or colours |

| **VISUAL SYSTEM**                                             |
| □ touch defensive–does not like to be touched                 |
| □ avoids tasks with strong tactile element (clay, water play, paint, food preparation) |
| □ complains about discomfort of clothing                      |
| □ refuses to wear certain items–tugs at clothes               |
| □ responds negatively to textures in foods, toys, furniture   |
| □ unaware of the presence of other people                     |
| □ unable to locate desired objects, people                    |
| □ loses sight of people or objects when they move             |
| □ cannot distinguish figure-ground relationships              |

| **TACTILE SYSTEM**                                            |
| □ over-reacts to movement activities                          |
| □ has difficulties navigating on different surfaces (carpets, grass, etc.) |
| □ walks close to wall, clings to supports such as bannisters  |
| □ seems to be fearful when movement is expected, muscles seem tense |
| □ rigid about positioning of body, keeps head in same rigid angle |
| □ seems to become physically disoriented easily                |
| □ does not seem to grasp concept of personal space            |
| □ does not seem to notice touch of others                     |
| □ frequently puts things into mouth                           |
| □ does not adjust clothing, which would seem to be an irritant |
| □ high pain threshold, unaware of danger because of low response to pain |

| **VESTIBULAR SYSTEM**                                         |
| □ eats a limited variety of foods                             |
| □ gags, refuses foods                                         |
| □ difficulties with oral hygiene                              |
| □ spits out foods, medications                                |
| □ over-reacts to smells in environment                        |
| □ smell-defensive–will avoid places or people with strong odours |
| □ seems to need constant movement                             |
| □ rocks, travels in circles                                   |
| □ seems to tire easily when engaged in movement activities    |
| □ generally slow to move, lethargic in movement               |
| □ takes long time to respond to directions to move            |

| **GUSTATORY AND OLFACTORY SYSTEMS**                           |
| □ seems to be constantly wanting food                         |
| □ licks objects in the environment                            |
| □ chews on objects inappropriately                            |
| □ high threshold for bad tastes–dangerous substances are not avoided |
| □ sniffs objects and people in unusual ways                   |
| □ does not seem to notice smells others notice                 |
Strategies for Communication Development

Expanding the communication skills of students with ASD is one of the greatest challenges for teachers and families. Most people are unaware of the complexity of normal communication because children develop these skills automatically, usually by the age of three or four. Many students with ASD have not developed the skills they need for spontaneous communication, and must therefore be taught these. Helping students with ASD develop communication skills—so that they can express their wants and needs, interact socially, share information, express emotions, and protest or escape aversive situations, is a priority.

Programs to facilitate the development of communication may begin in structured settings. However, promoting generalization and facility in using language requires that interventions take place in natural settings. Functional language skills are best taught in the social context where they will be used and where they have real meaning. The classroom and school environments provide a wealth of opportunities for developing functional communication within social contexts, and promoting generalization. However, opportunity alone will not address the communication needs of the student with ASD. The specific skills requiring instruction and strategies for developing the targeted skills must be identified.

The school team, parents, and specialized professionals collaborate to identify communication goals and outcomes for the student with ASD. The planned interventions are based on the strengths and needs of the student. The speech-language pathologist can assist in assessment of communication skills and suggest strategies tailored to the unique needs and characteristics of the student.

Some general suggestions to assist with communication are:

- focus on developing interaction and communication in the environments in which the child participates (e.g., classroom, playground, gym)
- keep in mind that you are modelling speech as well as trying to communicate with the student
- use vocabulary appropriate to the student’s comprehension capability
- For new students with more severe communication disability, choose familiar, specific, and concrete words, and repeat as necessary
• use language that is clear, simple, and concise, remembering that figures of speech, irony, or sarcasm confuse the student with communication difficulties
• allow time for the student to process the information.

If a teacher doesn’t allow the student adequate time to process a message and repeats the message, even using the same words, the student may then be confused by trying to process what is perceived as two different messages. A good rule of thumb is to allow five seconds for a message to be processed. It may be necessary to talk more slowly or to pause between words. The pace of speech depends on the ability of the individual student.

**Learn to listen**

Students with ASD need structured lessons on how to listen. Reinforcing listening efforts may be necessary rather than assuming that listening is an expected and automatic behaviour. Breaking listening down into components for the student and reinforcing each component may be helpful. For example, teach the student to face the speaker, look at one spot (which does not mean they must make eye contact), and place hands in a planned position. Praise, or otherwise reward, each step.

Some teachers use visual supports along with structured lessons when teaching children to listen. For example, teachers may use social stories with pictures or picture symbols (see p. 44). These are also reinforced with a printed list of steps, placed on the desk.

**Develop oral language comprehension**

Use visual input to aid comprehension of oral speech. Visual aids may help obtain and maintain the student’s attention. Accompanying spoken language with relevant objects, pictures, and other visual supports can help with comprehension. Experienced teachers of students with ASD suggest the use of photographs to support understanding of the content of oral language communication. Interestingly, many students with ASD use reading to support oral comprehension rather than the expected reverse of using oral language to support reading, making reading instruction even more significant for these students.

When working with students who are higher functioning, it is easy to assume that they understand information, particularly if they are able to repeat it. Even though there may be good recall, the student may not grasp the intended meaning. Checking for comprehension is important.
A common statement made by adults living and working with individuals with ASD is “He understands everything I say.” Possibly, the individual appears to comprehend because of the routine language, gestures, communication supports, learned routines and/or environmental cues.

**Develop oral language expression**

Students with ASD may not develop traditional oral language, but most do develop some form of communication. People involved with the student need a thorough knowledge of the student’s form of expression and may need to adjust their expectations for communication. For students with limited oral expression, teachers and families should accept limited verbal attempts and non-verbal behaviour as communicative. A customized communication dictionary is a very useful tool in which staff and parents can document what the student says and what is meant, along with planned adult responses to language attempts. See Appendix F for a form that can be used to create a Communication Dictionary.

Students with ASD who have oral language may not easily add to their working oral vocabularies. Teachers and parents will need to teach new vocabulary in a variety of contexts using a visually-based approach.

Students need to be taught that:

- everything in our world has a name
- there are different ways of saying the same thing
- words can be meaningful in a variety of contexts
- learning to use words will help communicate needs and desires

Students who rely on pictorial representations to communicate need to learn that a drawing or representation has a name and that it can give direction, or tell us what to do. Understanding this concept is essential if visual systems are to provide meaningful communication.

The student’s ISSP (see Chapter 9) should address situations that encourage different types of expression, such as:

- requests (e.g., for food, toys, or help)
- negation (e.g., refusing food or a toy, protesting when asked to do something, or indicating when the student wants to stop)
• commenting (e.g., labelling pictures in books or objects from a box, greetings or play activities)

Develop social language and conversation skills

Virtually all people with ASD have difficulty with the pragmatics, the interpretation and use of language in social situations. Individuals, who have a good vocabulary and appear to have a command of the language, may have a restricted understanding of social and conversational interactions.

People with ASD have difficulty understanding subtle social messages and rules, and have problems interpreting the non-verbal communication of others.

For some students, it may be necessary to provide structured teaching to develop the oral language needed for social and communicative play.

Structured teaching could target the following areas of social language by:

• starting a conversation
• staying on topic
• interrupting a conversation
• exiting a conversation
• taking turns at appropriate time in conversation
• using body language
• matching voice to the person and situation
• utilizing personal space
• understanding and using figurative language (e.g., idioms)
• expressing feelings
• asking and answering questions
• using appropriate greetings

Social language skills can be taught by:

• modelling
• commenting
• providing environmental cues
• utilizing visual strategies
• conversing via Comic strip
• using social stories
• providing concrete rules
• presenting in a visual format, by writing rules down or incorporating them into a social story or comic strip conversation
• practicing in one-on-one situations, then in small groups and then in larger groups
• analyzing videotapes
• using role play  
• using numerous commercially available materials (e.g., board games, cards workbooks, software)

**Echolalia**

Some students with ASD demonstrate echolalia, the literal repetition of words or phrases from language of other people. Young children use echolalia as part of normal language development. In ASD, some learners seem to stop developing at this level of language growth. Echolalia can be either immediate and/or delayed. The student may repeat what was just heard or may repeat it later, sometimes many months or years later.

Immediate echolalia can be used as a teaching tool. The echolalic speech phrase can be shaped by using speech rules and by using the echolalic skill to model more appropriate language. For example, when a student echoes back questions, the teacher can shape the response by modeling the appropriate response and reinforcing the use of the appropriate response when the student echoes it. This type of strategy is highly individualized, and it may be appropriate to consult with the speech-language pathologist for specific suggestions for the individual student.

Delayed echolalic utterances may have no obvious meaning for the listener. Students with ASD frequently repeat television commercials word for word. To understand the function of language behaviour, it is helpful to think of it as a chunk of language that has been stored without regard for meaning. A situation or emotion may trigger the use of the speech, even if it seems to have no connection to the situation. It is important not to assume that the student understands the content of the echolalic speech being used. When possible, try to determine the situation that has elicited the speech and prompt the appropriate language to use for that situation. In one example, when a student echoed the script from a TV cola advertisement, this meant that the student was thirsty. The teacher tested this possibility by verbally prompting with a statement such as “You feel thirsty and want a drink.” Sometimes families and teachers never figure out a logical connection for delayed echolalic utterances.

**Use alternative or augmentative communication systems**

Many students benefit from the use of an augmentative communication system. An augmentative communication system is any approach that supports, enhances, or adds to the way a person tells you something. It may be used with non-verbal students and also for students who have verbal expression, but who appear unable to use speech in a functional way to express wants and needs. Augmentative communication systems can range from low-tech (those not requiring any power source) to high-tech (those systems that require power).
Alternative communication may include:

- directing the movement of a person or object to communicate (e.g., pulling a teacher to the door when the student wants to go outside)
- using gestures or body actions to convey meaning (e.g., shaking the head to express negativity)
- using real objects to convey messages (e.g., bringing a jacket to ask to go home)
- using picture representations (e.g., the Picture Exchange System, PECS)
- using the voice without conventional words (e.g., saying “Ah-ah-ah” to indicate need for the toilet)
- using written messages by pointing at already written ones, or by writing (e.g., using a word processor to communicate);
- using sign language gestures from a conventional, non-verbal, formal language (e.g., American Sign Language or Signed English)
- using a voice output communication aid (VOCA) (e.g., Alphatalker)

Deciding to implement an alternative or augmentative communication system, and selecting the type of system, are decisions that should be made carefully based on an assessment of the learner’s cognitive ability, skills, interests, and motor abilities.

The spectrum of choices for augmentative communication systems can be illustrated as a continuum:

<table>
<thead>
<tr>
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<th>signing</th>
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<tbody>
<tr>
<td></td>
<td>written sentences</td>
</tr>
<tr>
<td></td>
<td>written phrases</td>
</tr>
<tr>
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<td>drawings</td>
</tr>
<tr>
<td></td>
<td>photographs</td>
</tr>
<tr>
<td></td>
<td>gestures</td>
</tr>
<tr>
<td></td>
<td>miniature objects</td>
</tr>
<tr>
<td>concrete</td>
<td>full-sized objects</td>
</tr>
</tbody>
</table>

Parents are key players in such decisions, as the communication system must be used both at school and at home to be effective. The speech-language pathologist or another professional with expertise in augmentative communication systems may be important sources of expertise to help with the decision. The teacher’s role is often to implement the communication system and to support the student in learning to use technology that will either supplement or be a substitute for verbal language.

Ongoing research is showing promising results using computer technology as a means for communication and computer-assisted learning as a strategy for teaching communication skills.
Strategies for Teaching Social Skills

Most students with ASD would like to be part of the social world around them. They have a need to interact socially and be involved with others. However, one of the defining characteristics of ASD is impairment in social interactions and social skills. Students with ASD have not automatically learned the rules of interaction with others and they are unable to follow these unwritten rules of social behaviour.

Many people with ASD are operating on false perceptions that are rigid or literal. Recognizing these false perceptions can be very helpful in understanding the behaviour and needs of these students in social situations.

The common false perceptions include the notion that:

- rules apply in only a single situation
- everything someone says must be true
- when you do not know what to do, do nothing

Imagine how literal misconceptions could seriously limit social interaction. Mistakenly, we sometimes assume that students with ASD understand any situation or a social expectation. They may be using an ineffective method of interacting because they do not know another more appropriate one, or they may be unable to distinguish between situations in order to select an appropriate behaviour.

Social skill development is an essential curricular area for students with ASD, and a crucial component of any intervention plan for changing problem behaviours. In order to help students, it is necessary to carefully assess their social competencies to determine which social skills must be directly taught.

To develop social skills, students need to have the opportunity to participate and interact in a variety of natural environments where appropriate models, natural cues and stimuli, and functional reinforcers are available. Placement within integrated environments provides this access to peer models and social opportunities.

Access to models and opportunities to develop social skills is not usually enough. People with ASD need explicit teaching to develop social skills and understanding of social situations. A variety of promising practices support students with ASD in developing social skills.
Use social stories

One of the most helpful methods for teaching social skills is the use of social stories, a strategy developed by Carol Gray. A social story is a description of a social situation that includes the social cues and appropriate responses, and is written for a specific situation for the individual student.

The story can be used for a variety of purposes, including:

- facilitating the inclusion of students in regular education classes
- introducing changes and new routines
- explaining reasons for the behaviour of others
- teaching situation-specific social skills
- assisting in teaching new academic skills

Social stories can be created by parents, teachers, and other service providers. They are useful with students who have a level of cognitive functioning that allows them to understand the story. Non-readers can listen to social stories on cassette tapes. To be effective, a social story should:

- describe a situation from the perspective of the student
- direct the student to do the appropriate behaviour
- be in the voice of the student (i.e., from the “I” perspective)

The process begins with identifying the student’s needs through observation and assessment. Once a difficult situation is identified, the person chosen to write the story observes the situation and tries to understand the perspective of the student in terms of what is seen, heard, and felt. The story is then written at an appropriate comprehension level, from the perspective of the student, and includes descriptive, directive, perspective and affirmative statements as follows:

- descriptive sentences provide information on the setting, activity, and people involved
- directive sentences are positive statements about the desired response for a given situation
- perspective sentences provide a description of the possible reactions of others
  A. affirmative sentences stress important points
The following formula provides a good rule of thumb for the content of a social story:

\[
\text{2-5 descriptive-perspective sentences} \\
\text{1 directive sentences} \\
= \text{basic social story}
\]

**Example:** My Turn on the Computer:

- If I wait for my turn on the computer, the other kids like me better. (Perspective)
- Everyone likes to have a turn on the computer. (Descriptive)
- When other kids are using the computer, I will try to be quiet and wait. (Directive)
- When I am finished on the computer, other kids can use it. That is okay, because I know I can use it the next day. (Descriptive/Affirmative)
- When I wait for my turn on the computer, everyone will be happy. (Perspective)

The three basic approaches for implementing a social story are:

- For a student who reads independently, the story is read twice by an adult, followed by the student reading it back. Then the student reads it daily.
- If the student does not read, the story may be recorded on a cassette tape with a signal (e.g., bell) to turn the pages. The student is taught to “read” the story, and reads it daily. Symbols, drawings, or photographs can be included in the story to support meaning for the student.
- To incorporate modelling, the story can be videotaped. The story is read aloud on a videotape, with one page on the screen at a time.

Once students become familiar with social stories, a more advanced tool is the Split-Section Social Story. There are many situations involving choices or differing activities. For example, a child may have a choice between staying inside for recess or going to the playground. Or a child may need some knowledge that while he is in school, his mother is at work and will return for him/her at the end of the school day. The split section story begins with the situation but then subsequent pages are split into sections (i.e., two sections for two choices/scenarios; three sections for three choices/scenarios). The sections give the child information about what happens in each situation. The story ends with a concluding positively-stated comment in the same manner as the basic social story.
Teach key social rules

Developing and understanding the basic rules associated with a given situation will help the student to adapt to the social context, and may prevent increased anxiety and reduce the reliance on inappropriate coping behaviours.

Critical social skills for which students with ASD will likely need some type of direct instruction include:

- waiting: visual cues such as objects, pictures, and written words can provide concrete information to make waiting less abstract and more specific to the situation

- taking turns: this can be taught through the use of social stories as well as a picture or pictograph to cue the child. It may also be necessary to provide some instruction and rehearsal in turn-taking activities

- transitions: using social stories and providing warnings with visual cues, such as symbols that are understood by the student, can help the student make the transition from one activity to another. Transitions can be particularly difficult if the student has not completed the activity; the student may need to be prepared for the possibility of having to finish later

- finishing: it may help to teach students to use environmental cues, such as observing and following the behaviour of other children. It may also be necessary to use a timer (e.g., Time Timer®), and a method for checking their own work

- initiating: social stories combined with photographs or pictures can be particularly useful for teaching a student how to approach others, ask for something, get into a game, say hello, and leave a situation if upset

- being flexible: visual systems can be used to explain changes in a concrete way. If sequenced schedules or picture routines are used, a specific picture or symbol can be removed or crossed out, and another put in its place

- being quiet: visual supports may be helpful in teaching the specific behaviours for being quiet, and teaching rules for specific situations.
Use cognitive picture rehearsal

An instructional strategy that presents information in a visual format is Cognitive Picture Rehearsal. This method involves presenting a sequence of behaviours in the form of pictures or pictographs with an accompanying script. The student is guided through repeated practice of the sequence of behaviours. (See p. 63 for further information regarding cognitive picture rehearsal.)

Use peer support

Peers can assist students with ASD in developing social skills, if they are educated, so that they better understand the behaviour of the autistic student. For example, the teacher may need to interpret the non-verbal communication, or explain that a specific activity is difficult for the student, and identify what peers can do to help. Such explanations can be done informally or in a more structured manner. Young children can be shown how to use specific prompts to initiate and maintain interaction with a classmate with ASD. They may also need help communicating with the student. Peers should be reinforced for their role, just as the student with ASD is reinforced for social interactions.

Peers can be helped to develop strategies to enhance the social competence of the student with ASD. Pivotal Response Training (PRT), is one technique that has been used during recess breaks and has been successful in increasing interactions, initiation, varied toy play, and language use.

PRT involves teaching peers to use strategies to:

- gain attention
- give choices to maintain motivation
- vary toys
- model social behaviour
- reinforce attempts
- encourage conversation
- extend conversation
- take turns, and
- narrate play

Students can be provided with information on ASD and tips for interacting with students with ASD. Parents are key players in the decision to discuss ASD with their child’s peers. They may wish to preview any materials or may want to be involved in the presentation.
Use social skills training groups

Students with ASD may benefit from social instruction within a small-group structured format. A variety of social skills training programs and resources available.

Lessons follow a similar format in each of the social skills curricula:

- identifying the skill components, and when they are used
- modeling the skill
- introducing role play
- providing opportunities to practice
- providing strategies for generalization

Although these curricula are not developed specifically for students with ASD, they can be used in combination with appropriate adaptations and supports. In addition, there may need to be a particular emphasis on the strategies for facilitating generalizations of targeted skills may be needed.

Use integrated play groups

Integrated play groups can provide opportunities for younger students with ASD to interact with their age peers, and to create a natural environment for incidental teaching of social skills. Play groups provide natural situations in which students with ASD use language to express wants, practice being near other students, and imitate social interactions between other peers.

Supporting the development of friendships

Teachers and parents may facilitate further social interaction through:

- encouraging a friend to play with the student at home (e.g., play dates)
- helping the student join school clubs with support as needed
- teaching the student to observe other students and follow what to do
- encouraging co-operative games
- modeling how to relate to the student
- educating other students in the class
- encouraging prospective friendships
- providing enjoyment at break times
• doing projects and activities that illustrate the qualities of a good friend
• helping the student to understand emotions through direct teaching of how to read people’s faces and body language
• respond to cues that indicate different emotions.

See Chapter 5, Managing Challenging Behaviour, for further suggestions on developing appropriate social behaviour.

**Strategies for Teaching Self-Monitoring/Managing Skills**

The ultimate goal for all students, including those with ASD, is to increase independent participation with effective social skills in a variety of environments. To increase independence in higher-functioning students with ASD, teach self-management procedures in which students monitor their own behaviour in order to earn positive reinforcement. Studies have shown that in the process of the student collecting his own self-monitoring data, the desired behaviour increases. The accuracy of the self-monitoring may not be as important as the process and the awareness it builds in the student.

The process for teaching self-management is as follows:

• define the target behaviour that the student will self-monitor
• identify reinforcers that function successfully for the individual
• create a self-monitoring method for the student to collect data (e.g., a chart, stickers, or some kind of low-tech counter device)
• teach the student the target behaviour and how to use the self-monitoring method to record the performance of the behaviour
• increase the student’s independence by gradually reducing adult intervention and having the student self-manage behaviour

**Strategies for Teaching Functional Skills**

A fundamental goal of schooling is that students acquire the skills they need to function as independently as possible in the world. This goal may be even more important for students with disabilities such as ASD because they have significant difficulties in acquiring independent functioning skills. Educators have developed a variety of models for teaching the domains of functional skills.
Although these models differ in some ways, they include five skill areas:

- domestic, or self-care
- functional academics
- vocational, or job skills
- social, including leisure skills
- community life skills, including travel and using services

Schools and families should co-ordinate the planning of instruction for functional skills, so that instruction at both home and school is consistent and efficient. Some of these skills involve the most personal areas of an individual’s life, so sensitivity and care are required in planning with parents or other caregivers.

**Teaching self-care**

The same kinds of instructional strategies used to teach communication or social skills can be applied to instruction in the areas of self-care (i.e., visual strategies, social stories, etc.). Students with ASD, particularly those who also have intellectual disabilities, may need direct instruction in personal hygiene, grooming, and dressing. Toileting can be an area requiring significant planning and instruction. Planning meals, food preparation, and even eating may be an appropriate part of a student’s program. Household skills required for living independently (e.g., doing laundry, caring for clothing, and cleaning) may be taught or reinforced in the school program. Handling money and budgeting are essential skills for older students. These skills can be taught through alternate programming.

**Teaching functional academics**

Applying the basic academic skills of reading, writing, and mathematics to real-life situations is an important area of functional skill development for many students with ASD. Students need to learn how to:

- communicate personal information such as their name, birthdate, address, and telephone number
- recognize important signs and instructions in writing, such as labels and street signs
- use measurement for weight, volume, distance, and size
- count, use calendars, tell time

Teaching vocational skills

Students with ASD may require instruction in basic skills needed for the world of work. These skills are broad and overlap with all other areas of development.

Independent adults need to have skills such as:

- being punctual and reliable in attendance at the work site
- following a job routine, and completing duties as assigned
- understanding task completion
- following safety procedures
- responding appropriately to persons in authority
- completing a cleanup routine
- dressing in appropriate work attire and using appropriate grooming
- using job site leisure time appropriately (lunch, breaks)

Teaching leisure skills

Education programs for students with ASD often include a recreational component, in recognition of the fact that they need help in developing positive uses for spare time. For some individuals whose disabilities preclude future employment, leisure activities make up an even more significant part of their daily routines as adults.

Participation in leisure activities can vary from full participation to partial participation, depending on the needs of the individual. Finding ways to plan for meaningful partial participation is a challenge facing families and schools.

Leisure activities include:

- team sports (e.g., soccer, Special Olympics)
- individual sports (e.g., bowling)
- arts activities (e.g., music)
- attending performances (e.g., theatre, movies)
- nature activities (e.g., camping, hiking)
- participating in organized groups (e.g., Scouts)
- attending social events (e.g., dances)

Developing activities that can be enjoyed at home is important. Students may need support in finding and learning activities such as:
• using a television, stereo, and VCR/DVD
• caring for pets playing games such as card games
• sewing, knitting, or doing other crafts
• using a computer
• playing video games

**Teaching community skills**

Safety is a major concern for many students with ASD. Consider safety issues in planning for them as they develop independence in the community. Social skills are, of course, closely connected to community skills.

Possible areas for consideration in planning community skills instruction include:

• using public transportation
• finding community services such as pools, recreation centres, banks, drugstores, and grocery stores
• managing pedestrian rules and understanding traffic
• using public facilities such as washrooms
• using restaurant skills such as choosing and ordering food
• using postal services
• attending church
• attending community functions
### SUMMARY

#### of Suggestions for Teaching Students with ASD

<table>
<thead>
<tr>
<th>INSTRUCTIONAL APPROACHES</th>
<th></th>
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</table>
| Use visual methods of teaching | • post daily schedules  
  • create individualized mini-schedules  
  • provide activity checklists  
  • create choice boards  
  • label objects and containers  
  • post classroom rules, with illustrations or symbols  
  • create visual representations of steps in personal or class routines  
  • provide visual cues to support oral information or teacher directions |
| Additional teaching approaches | • break tasks into component parts and teach each component  
  • carefully word praise so that it is behaviour-specific  
  • provide reinforcers that produce desired student response  
  • use discrete trial strategies  
  • use behaviour-shaping strategies  
  • plan tasks at appropriate level of difficulty  
  • use age-appropriate materials  
  • provide opportunities for choice  
  • use simple oral instructions supported by visual information  
  • pace tasks at student’s level  
  • allow adequate time for processing information  
  • wait with patience for student response  
  • employ student interests to motivate and teach new skills  
  • highlight important information |

<table>
<thead>
<tr>
<th>STRATEGIES FOR CLASSROOM MANAGEMENT</th>
<th></th>
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</table>
| • provide a structured, predictable classroom environment  
  • customize a schedule and locate it at student’s desk  
  • adapt the classroom environment to eliminate, as much as possible, stimuli that elicit problem behaviour  
  • devise strategies to minimize the effect of stimuli that cannot be eliminated  
  • adapt tasks and materials to avoid student frustration  
  • provide a relaxation area  
  • provide opportunities for student to be in contact with peers who model class routines  
  • plan carefully for transitions between activities and locations |

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<thead>
<tr>
<th>STRATEGIES FOR COMMUNICATION DEVELOPMENT</th>
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</table>
| Learn to listen | • provide structured lessons in listening  
  • break down listening into behaviour components and reinforce each component. |
| Develop oral comprehension | • use visual aids (photographs, pictures, objects, etc)  
  • use gestures with oral communication  
  • pair written language with oral communication |
| Develop oral expression | • reinforce attempts to communicate  
  • provide structured instruction of new vocabulary supported with visual aids  
  • help student understand that everything in the environment has a name  
  • use desired objects or activities to encourage expression  
  • provide classroom situations in which comments are elicited  
  • use alternative/augmentative communication systems for expression when needed. |
### SUMMARY of Suggestions for Teaching Students with ASD

**Develop social language and conversation**
- model appropriate skills, and have other students model desired skill
- provide opportunities for structured play interactions
- use discussions of routines to practice skills
- teach students the correspondence between behaviours and thoughts
- encourage and reinforce informal conversation
- use prepared scripts to teach social conversations
- teach rules for social discourse
- target conversation by breaking down skills to include:
  - initiating a conversation
  - interrupting a conversation
  - exiting a conversation
  - staying on topic
  - turn-taking
  - body language

### STRATEGIES FOR SOCIAL SKILLS DEVELOPMENT
- use social stories
- teach components of key social skills
- provide planned practice and reinforcement for skills
- provide practice of skills using picture cue-cognitive picture rehearsal
- use peer support
- use social skills training groups
- support the development of friendships

NEXT SECTION
Students with ASD may demonstrate some unusual and challenging behaviours, and do not always respond to the usual methods of discipline. To implement effective instructional activities, it may be necessary to first focus on managing the student’s behaviour. Behaviour problems are often the primary concern of teachers and parents, because they disrupt the learning of both the student and other students in the class, and the harmony in the family. A systematic plan is necessary for changing behaviour.

Any behaviour intervention plan should be based on an understanding of the characteristics of ASD, as well as knowledge of the strengths and needs of the individual student as determined through the ISSP process. Understanding that all behaviour has a communicative function is essential in developing a successful intervention plan.

A behaviour intervention plan is developed through a collaborative problem-solving process involving the significant people in the student’s life, including parents, classroom teachers, special educators, and student assistants, and it may include others, such as principals, behaviour management specialists, speech-language pathologists, and psychologists. A good starting point is to understand the situation as a problem to be solved and to analyse the deficits in learning that may be causing the problem behaviour. When teachers and other educational workers can access appropriate information and training, they are better equipped to deal with challenging behaviour.

The major steps of the problem-solving process are:

- identifying the problem behaviour
- identifying the function of the behaviour and contributing factors
- identifying an alternative behaviour
- developing strategies for changing behaviour
- developing the behaviour intervention plan
- evaluating the behaviour intervention plan

Identifying the Problem Behaviour

Identify and describe the behaviour in observable terms, including where and when it occurs, what usually happens before the behaviour, and the typical reactions of other people. Determine whether or not the behaviour actually poses a problem and consider whether or not the behaviour:
• is potentially harmful to the student or others  
• interferes with the student’s learning or the learning of others, and/or  
• results in negative reactions and/or avoidance by peers and adults.

The student may display more than one challenging behaviour. Expecting to change all behaviours may not be reasonable, and priorities for intervention will need to be established.

**Identifying the Function of the Behaviour and Contributing Factors**

The function or purpose of a behaviour is not always obvious. Collect information about the student, behaviour, environment, and consequences to determine what purpose the behaviour serves and what factors are maintaining the behaviour.

To determine the underlying contributing factors, conduct a thorough assessment of the behaviour and the context in which it occurs, and consider:

• when and where the behaviour occurs  
• what is going on in the setting when the behaviour occurs, and/or  
• who else is involved or near the student.

The assessment process should include gathering significant information about the student, such as:

• likes and dislikes  
• fears and frustrations  
• communication skills  
• strengths and needs  
• social interactions  
• typical responses to sensory stimuli

A careful analysis of the student’s responses to stimuli may reveal unexpected connections to seemingly small things in the environment. For example, a student who is hypersensitive to sound may be bothered by the humming of fluorescent lights. Keep track of such information and ensure that it is passed along to other people who work with the student, especially during important transitions to new classes or programs, or when there are staff changes.

Frequent communication with the student’s family or caregivers provides valuable information. School staff and families often develop a communication system such as a daily communication log or book that travels to and from school with the student. For an example of a home-school communication log, see Appendix E.

Problem behaviours may be a result of other characteristics associated with ASD, such as attending difficulties, problems with interpreting verbal information, limited verbal expression, impairment in social skills, and different responses to sensory stimulation. For example, what appears to be a lack of co-operation may be the result of not understanding expectations or not knowing what is going to happen.

Functional assessment of behaviour is the process of identifying the function or functions that a specific behaviour serves for the individual, and is based on the premise that all behaviour serves some purpose. Because students with ASD have difficulties with language, look at all behaviour from the perspective of its communication function.

The purpose of the behaviour may be to:

- communicate a need or want
- gain attention
- gain a tangible consequence
- escape from an unpleasant situation
- gain a sensory consequence
- self-regulate
- make a comment or declaration
- release tension

The behaviour may be habitual.

Information for a functional behaviour assessment can be found through:

- a review of the student’s records
- interviews with people who are most knowledgeable about the student in the situation, such as a family member, teacher, or student assistant
- observation and recording of behavioural data
- observing the student to acquire insight into behaviour (observe the settings where the problem behaviour occurs or does not occur)
The process of collecting the information for a functional assessment involves:

- identifying antecedents (what happened just before the behaviour, where the behaviour occurred, and with whom the behaviour occurred)
- describing the behaviour
- identifying consequences (what happened after, and as a result of, the behaviour)

When describing the student’s behaviour:

- include the frequency, intensity, and duration of the behaviour (for example, when describing a tantrum, include how many times a day a student has tantrums and how long the tantrums last)
- be specific (for example, screaming can vary in intensity and duration, and may or may not be a behaviour to target if the intensity is mild)
- clearly identify the situation where the behaviour does and does not occur (for example, a behaviour may only occur in the school cafeteria or on the bus)

Analyze the information to identify patterns, possible reinforcers, and anything that may be triggering the behaviour. Ensure that the assessment includes an analysis of the relationship between the problem behaviour and the environmental conditions in which the behaviour occurs.

Many useful formats and forms have been developed for use when conducting a functional assessment. See Appendix G for an example of a behaviour observation and data collection chart for determining the functions of behaviour.

**Identifying an Alternative Behaviour**

A functional behaviour assessment provides a foundation for developing a behaviour plan. The success of the behaviour plan depends more on instructional and proactive strategies than on reactive strategies.

Once the purpose of a behaviour has been determined or hypothesized, it is possible to identify an alternative, more appropriate behaviour that can serve the same function. For example, if a student pushes materials on the floor to avoid a task that is too difficult, the student may need to be taught another more acceptable way to get
away from doing an activity that is connected with feelings of failure, or better yet, be taught how to ask for assistance in an appropriate way. These alternative behaviours may not be in the student’s repertoire. The focus of the behaviour intervention is instruction rather than discipline. The goal is to increase the student’s use of an alternative, more appropriate means of achieving the same purpose. The alternative behaviour is usually a more effective way to communicate or interact with other people, and may be a more appropriate means of seeking sensory stimulation, or an appropriate method for reducing anxiety (e.g., relaxation exercises, visual imagery, going to a quiet place). For example, a student who bangs on the desk as a way of dealing with anxiety caused by uncomfortable proximity to other students can be taught to go to a prearranged quiet spot in the class as an alternative behaviour. The alternative behaviour may also involve using anger management and self control techniques.

Do not assume that the student has the skills necessary to engage in the alternative behaviour. Systematic instruction and reinforcement are usually necessary. In most situations, teaching of the alternate behaviour will need to be combined with other positive programming strategies.

**Developing Strategies for Changing Behaviour**

**Environmental adaptations**

Problem behaviours can often be reduced or eliminated by making changes in the environment. The assessment and analysis of the behaviour may indicate that it occurs within specific areas, or during specific times, such as transitions. Sometimes the likelihood of the behaviour occurring can be minimized by making environmental accommodations. This suggestion does not mean that the entire classroom has to be changed for one student, but adjustments can be made depending on the student’s individual needs.

Possible environmental adaptations include:

- removing distracting stimuli
- decreasing sensory stimuli if feasible (be aware of any hyper-sensitivities to sensory stimuli the student might have, and examine the environment for causes of sensory overload)
- incorporating a sensory diet into the student’s daily routine (i.e., sensory experiences that are calming for him or her)
- making changes in physical arrangements, such as seating
- providing a clear and predictable schedule

• scheduling calming-down times or exercise breaks before difficult situations
• alternating more difficult and demanding tasks with those that are easier and more enjoyable
• providing choices
• providing access to favourite activities and peers
• having a place where the student can go to relax
• providing an object to use as a distraction, or when in transition (e.g., allow child to carry a ball or a picture of a ball to the gym)

Positive programming strategies

Providing a program that emphasizes the development of communication and positive behaviours in a predictable and rewarding environment can help to reduce the frequency and severity of problem behaviours.

Components of a positive program are covered in Chapter 4, Teaching Students with Autism Spectrum Disorders.

In brief, positive programming strategies include:

• teaching communication skills using an appropriate form of communication, depending on the abilities of the student
• teaching social skills that are not readily “picked up” from watching others
• identifying functions of maladaptive behaviours and teaching more appropriate replacement skills or behaviours
• providing visual supports to clarify instructions and teach new concepts and skills
• using social stories to teach behaviour for situations that pose a problem
• providing clear expectations for behaviour using appropriate visual aids to help the student understand what is expected
• providing a clear schedule and using it to prepare the student for transitions between activities and to prepare for any changes that may occur
• teaching the student to make choices and providing opportunities for choice within the schedule
• providing instruction at a level appropriate to the student
• monitoring the student’s response to the environment and adapting it to reduce the likelihood of anxiety responses before they happen
• reinforcing appropriate behaviour with reinforcements that are meaningful to the individual student
• teaching relaxation techniques
• teaching physical exercise activities
• fading prompts to increase independent functioning

Prevention is more effective than reacting to student misbehaviour. Observe students with ASD for signs of increasing anxiety and identify the environmental factors that may be associated with increased anxiety. For example, if social play increases stress, provide the opportunity for isolated play. The program should not forego the goal of increasing interactive play with peers, but, the amount of time spent with others may need to be restricted if the student is very anxious. Over time, contact with other students can be increased in the context of a program that teaches social skills and provides support in interactive situations.

The behaviour of students with ASD is more manageable if the student is provided with opportunities for relaxation throughout the day, consisting of brief (5-10 minute) periods of relaxing activity such as:

• going to a special calm place in the school
• listening to music with headphones
• playing with a favourite object
• sitting quietly and looking out the window
• engaging in a repetitive behaviour
• engaging in a favourite activity; e.g., reading

What is calming for one child may increase anxiety for another. Students can be taught to communicate that they need a break before inappropriate behaviour escalates. Students may need opportunities for rehearsal and desensitization to new places, people, or things. Change is difficult for them, but adapting to and coping with change is a necessary life skill. Introduce new situations slowly so that students have an opportunity to become familiar with different settings, people, and expectations.

Repetitive behaviours are a concern to parents and teachers, but as one parent of a student with an ASD has said, “Pick your battles.” It may not be an appropriate use of instructional time and effort to try to eliminate a particular repetitive behaviour in light of the many other things that the student needs to learn. These behaviours cannot be totally eliminated, but they may be reduced and, in some situations, replaced with more suitable alternatives. Repetitive behaviours such as rocking and spinning may serve an important function for the
student. For example, if the student uses the repetitive behaviour to calm down, it may be appropriate to teach other methods of relaxation that provide the same sensory feedback. For some students, it may be appropriate to find another source of stimulation that may satisfy the sensory need.

Some suggestions to consider for reducing or replacing repetitive behaviours include:

- teaching an alternative behaviour that is related, but more socially acceptable
- providing a variety of sensory experiences during the day
- trying to divert the student’s attention to another activity during the behaviour
- negotiating when and where the repetitive actions are acceptable (controlled access may reduce the desperation to engage in the activity, and should be scheduled rather than being contingent upon good behaviour.)
- reducing gradually the amount of time allotted for the behaviour
- increasing the amount of time between scheduled times for repetitive behaviour
- using the level of repetitive behaviour to assess the student’s level of stress
- allowing the student to engage in the behaviours in an emergency situation to calm down

Instruction may need to focus on the development of anger-management and self-control strategies. Using social stories (see p. 48) to teach self-control in specific situations has proven useful for some students with ASD.

Another visually based approach to teaching self control is Cognitive Picture Rehearsal. This strategy uses visual supports in an individualized program for the student with an ASD. Pictures and scripts for a sequence of behaviours are presented, and the student is given opportunities for repeated practice of the behaviour, with immediate reinforcement.

The general process in developing such a picture strategy involves:

- identifying the behaviour that needs to be reduced (e.g., screaming in response to loud noises)
identifying the antecedents to the undesirable behaviour (e.g., loud play in the gym) and providing the student with an appropriate alternative way to cope with the antecedent condition (e.g., putting on headphones to dull the sound stimuli)

identifying the reinforcers that follow the appropriate behaviour (e.g., a special treat at the end of the gym class)

providing the student with pictorial or photographic representations of this chain of events and giving instruction using these pictures so that she or he is familiar with the sequence of the antecedent, the behaviour, and the reinforcer

rehearsing this sequence before going into the stressful situation (e.g., provide practice going to the gym, experiencing a loud noise, putting on headphones, and returning to class for a special treat), and support with pictures

using the sequence in the situation where there was a problem with self-control and keep the pictures close by so they can be referred to if needed

The individual should identify his own responses to distressing situations. One effective means of doing this is T. Attwood’s use of a pictorial thermometer to identify stressors and responses.

Strategies for promoting independence and self-management are outlined in the “Strategies for social skills training” section in Chapter 4, Teaching Students with Autism Spectrum Disorders.

Reactive or consequence-based interventions

Positive programming strategies that focus on increasing student competence and making the necessary accommodations to physical setting, materials, and instruction are the most successful in facilitating long-term behavioural change. However, designing a planned reaction to a behaviour to maintain order and safety in the classroom is essential.

Everyone involved with the student must be prepared to react to specific behaviours in a consistent way and with the same consequences. Likewise, staff responsible for carrying out the plan need to have the skills and knowledge about behavioural principles to set up and carry out the planned consequences.

In general, there are three major types of reactive techniques:

- ignoring the behaviour
- using redirection, and
- removing the reinforcements.
Ignoring the behaviour may be appropriate for minor behaviours. If gaining attention is the motivation for the behaviour, reacting to it may actually be increasing it rather than decreasing it. The student may need to be directly taught how to gain attention, wait for turns, or other social interaction skills. Ignoring may be difficult to implement in a classroom setting, particularly if the behaviour is disruptive to the learning of the student or the other students. Ensure that the student is not being inadvertently reinforced by other sources, such as peer attention.

Redirection is a vital component of any behaviour intervention plan. If a behaviour is unacceptable, the student needs to know what is expected instead, and the expectations need to be communicated clearly. The use of a visual aid, such as a pictograph, is often helpful. Redirection is used in combination with positive programming strategies. The student will need to be taught the more appropriate alternative behaviour, and provided with opportunities to practice and rehearse this behaviour.

Removal from the reinforcements for the undesired behaviour may involve removal from the situation. If a student is very anxious or upset, it may be necessary for the student to leave the situation to calm down before any redirection or teaching of alternative behaviours can occur. This approach can be combined with positive programming strategies, such as teaching students to recognize when they are becoming anxious, and teaching them to independently remove themselves from the situation before they lose control of their behaviour. Because removal from the learning environment is a serious form of intervention, it should be discussed through the ISSP process, used cautiously and carefully documented.

**Token economy**

A system of reinforcement for desired behaviour can be set up, in which receiving a token is contingent upon the student performing the desired response. Tokens, which can be poker chips, tickets, or points recorded on a form or graph, are earned by the student for completion of tasks or other appropriate behaviour. Earned tokens are then “cashed in” for designated reinforcers known to increase behaviours for that student, such as tangibles (food or other desired objects) or preferred activities (time on the computer, use of a Walkman, or access to a favourite person).

Tokens can provide an immediate pay-off for the student, which is a stronger reinforcer than waiting until the end of a class or day. A token system is more effective than social reinforcers for some students with ASD who do not respond to social reinforcers such
as praise. When using a token system, teachers should still pair the awarding of token with praise so that the tokens can eventually be phased out and replaced by more natural reinforcers in the student’s life. Use of a token system as punishment, by removing tokens is not advisable. A practical application of a token economy is to have a picture of the reinforcer cut into pieces, as in a puzzle. Then the student is given one piece at a time for displaying the target behaviour. When he has all the pieces, the reinforcer is offered.

**Shaping behaviour**

Teaching the new acceptable behaviour may involve shaping the behaviour so that approximations of the desired behaviour are reinforced. Once the student is reinforced for an approximation of the desired behaviour, reinforcement is only provided for closer approximations. For example, if the goal is for a student to stay on task for 15 minutes, the following shaping procedure might be used:

Desired Behaviour = 15 minutes on mathematics tasks.

Student is reinforced for 2 minutes of on-task behaviour.
Student is reinforced for 4 minutes of on-task behaviour.
Student is reinforced for 6 minutes of on-task behaviour.
Student is reinforced for 10 minutes of on-task behaviour.
Student is reinforced for 12 minutes of on-task behaviour.
Student is reinforced for 15 minutes of on-task behaviour.

**Response Protocol**

The best way to deal with a crisis is to plan so well that there never is a crisis. However, some students with ASD can become agitated. In such cases, a planned response protocol that is well understood by all staff working with the student and perhaps the other students in the class can be crucial.

This protocol is one component of a behaviour plan which is developed by the ISSP team to meet the behavioural needs of the student. (See Chapter 9 for information regarding the ISSP.)

The response protocol should identify a planned response to:

- defuse the behaviour. (Interventions focus on preventing future problem behaviours and keeping the student on task.)
- deal with out of control behaviours that pose a risk of injury to the student or others. (Interventions focus on safety.)
support recovery after the behaviour. (Interventions focus on re-establishing routines. This includes a re-entry plan, which may be to a specific activity, the classroom, or school.)

**Developing the Behaviour Plan**

Once the team has identified a student’s problem behaviours and the contributing factors, desired alternative behaviours, and strategies for instruction and management, then specific interventions can be planned. A behaviour plan is developed and attached to the student’s ISSP as the **behavioural component of the ISSP**.

Written behaviour plans should outline the goals for behaviour change, the environmental adaptations, positive program strategies, and all reactive strategies, so that all people involved with the student can maintain consistency between home and school, in environments throughout the school, and for situations in which on-call staff are working with the student. (See **Appendix H** for the components of a behaviour plan.)
### SUMMARY OF SUGGESTIONS FOR MANAGING CHALLENGING BEHAVIOUR

#### CARRYING OUT A FUNCTIONAL ASSESSMENT

- identify the problem behaviour
- gather information to determine the function of the behaviour for the student
- carefully describe the behaviour
- identify antecedents to the occurrence of the behaviour
- identify consequences—what happens in the environment after the behaviour
- measure the frequency and intensity of the behaviour
- identify an alternative acceptable behaviour that could fulfil the same function
- plan and carry out instruction to teach the alternative behaviour
- reinforce successful use of the alternative behaviour

#### STRATEGIES FOR CHANGING BEHAVIOUR

<table>
<thead>
<tr>
<th>Environmental adaptations</th>
<th>Environmental adaptations</th>
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<tbody>
<tr>
<td>• remove distracting or anxiety-producing stimuli</td>
<td>• alter features of the environment that cause sensory overload for the student</td>
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<tr>
<td>• alter features of the environment that cause sensory overload for the student</td>
<td>• arrange classroom to maximize structure and minimize opportunities for undesirable behaviours</td>
</tr>
<tr>
<td>• arrange classroom to maximize structure and minimize opportunities for undesirable behaviours</td>
<td>• provide a place for the student to retreat to for relaxation and calming down</td>
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<table>
<thead>
<tr>
<th>Positive programming interventions</th>
<th>Positive programming interventions</th>
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<tbody>
<tr>
<td>• use proactive, instructional approaches whenever feasible</td>
<td>• directly teach behaviours needed to meet expectations</td>
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<tr>
<td>• directly teach behaviours needed to meet expectations</td>
<td>• use reinforcers to increase appropriate behaviours</td>
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<tr>
<td>• use reinforcers to increase appropriate behaviours</td>
<td>• provide opportunities for retreat and relaxation throughout the day</td>
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<thead>
<tr>
<th>Reactive or consequence-based interventions</th>
<th>Reactive or consequence-based interventions</th>
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<tbody>
<tr>
<td>• ignore behaviours that do not harm the classroom atmosphere</td>
<td>• redirect the student by communicating the desired behaviour</td>
</tr>
<tr>
<td>• redirect the student by communicating the desired behaviour</td>
<td>• remove whatever is reinforcing the behaviour</td>
</tr>
<tr>
<td>• remove whatever is reinforcing the behaviour</td>
<td>• remove the student from a reinforcing situation</td>
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<tr>
<td>• remove the student from a reinforcing situation</td>
<td>• provide reinforcement through token economy</td>
</tr>
<tr>
<td>• provide reinforcement through token economy</td>
<td>• shape behaviour by reinforcing succeeding approximations</td>
</tr>
<tr>
<td>• shape behaviour by reinforcing succeeding approximations</td>
<td>• plan for crisis management, if appropriate</td>
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Chapter Six

Students with Asperger’s Syndrome

According to the *DSM-IV*, the student diagnosed with Asperger’s Syndrome (AS) must meet the criteria for social impairment, repetitive activities, and age of onset, but have normal cognition and early language development. Some argue that language acquisition is normal; however, Wing (1981) noted the presence of deficits in the use of language for communication in some of her case studies. Therefore, language acquisition may be typical but the pragmatic use of language may not be typical. AS involves fewer symptoms than Autistic Disorder and is considered to be a mild to moderate disability, while Autistic Disorder is usually considered to be a severe disability.

We don’t really know the incidence of AS, the male/female ratio, or to what extent there may be genetic links.

Learning and Behavioural Characteristics of Students with Asperger’s Syndrome

*AS is characterized by a qualitative impairment in social interaction.* People with AS may be keen to relate to others, but do not have the skills, and may approach others in peculiar ways. They frequently lack understanding of social customs and may appear socially awkward, have difficulty with empathy, and misinterpret social cues. They often have the same difficulties as individuals with Autistic Disorder in understanding that other people have their own perceptions, thoughts, and feelings. People with AS are poor incidental social learners and need explicit instruction in social skills.

Although students with AS usually speak fluently by the time they enter kindergarten, they often have problems with the complexities of language, including:

- pragmatics (the use of language in social contexts)
- semantics (multiple meanings)
- prosody (the pitch, stress, and rhythm of speech)

A common characteristic of people with AS is that they have trouble carrying on social conversations. They may have an advanced vocabulary and talk incessantly about a favourite subject. The topic may be somewhat narrowly defined and the person may have difficulty switching to another topic.
People with AS may have problems communicating with others because they do not naturally learn the rules of conversation. They may:

- interrupt or talk over the speech of others
- make irrelevant comments
- have difficulty initiating and terminating conversations;
- use speech characterized by a lack of variation in pitch, stress and rhythm
- use overly pedantic or formal speech, particularly as the student reaches adolescence
- stand too close when talking to someone
- stare, use abnormal body posture, or use other strange body language
- fail to understand gestures and facial expressions of others

Rourke’s concept of a Nonverbal Learning Disability overlaps greatly with the concept of AS. Rourke believes that all individuals with AS have a nonverbal learning disability. Students with a nonverbal learning disability demonstrate difficulties with visual-spatial skills, motor skills, and social skills.

Students with AS are of average to above average intelligence and may appear quite capable. Many students with AS are relatively proficient in their knowledge of facts, and may have extensive factual information about a subject that absorbs them. However, they demonstrate relative weaknesses in comprehension and abstract thought, as well as in social cognition.

Consequently, they experience some academic problems, particularly with:

- reading comprehension
- problem solving
- organizational skills
- concept development
- making inferences and judgements

Individuals with AS often have difficulty with cognitive flexibility (i.e., their thinking tends to be rigid) and with adapting to change or failure. They do not readily learn from their mistakes.
**Students with AS often have difficulties with co-ordination.** An estimated 50-90% of people with AS have problems with motor co-ordination. The affected areas may include locomotion, balance, manual dexterity, handwriting, rapid movements, rhythm, and imitation of movements.

**Students with AS may share common characteristics with students who have Autism in terms of responses to sensory stimuli.** They may be hypersensitive to some stimuli and may engage in unusual behaviours or repetitive behaviours to obtain a specific sensory stimulation.

**Students with AS may be inattentive, easily distracted, and anxious.** Many students diagnosed with AS are inattentive and easily distracted and have received a diagnosis of Attention Deficit/Hyperactivity Disorder at some point in their lives. Anxiety is a characteristic associated with this syndrome. The student may have difficulty understanding and adapting to the social demands of school. Appropriate instruction and support can help alleviate some of the stress.

**Strategies for Teaching Students with Asperger’s Syndrome**

Some of the strategies for teaching students with Autistic Disorder may be applicable to students with AS. Consider the unique learning characteristics of the individual student, provide support when needed, and build on the student’s many strengths.

The following chart identifies some specific learning difficulties and suggests possible classroom strategies, adapted from a variety of sources in the literature. Also, refer to **Appendix I** for an article on teaching individuals with ASD who have high-functioning skills.
### SUMMARY OF CLASSROOM STRATEGIES

<table>
<thead>
<tr>
<th>LEARNING DIFFICULTY</th>
<th>CLASSROOM STRATEGIES</th>
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<tbody>
<tr>
<td><strong>Difficulties with language</strong></td>
<td>• use <em>Comic Strip Conversations</em> (Gray, 1994) to teach conversation skills related to specific problems&lt;br&gt;• teach appropriate opening comments&lt;br&gt;• teach student to seek assistance when confused&lt;br&gt;• teach conversational skills in small group settings&lt;br&gt;• teach rules and cues regarding turn-taking in conversation and when to reply, interrupt, or change the topic&lt;br&gt;• use audio-taped and video-taped conversations&lt;br&gt;• explain metaphors and words with double meanings&lt;br&gt;• encourage the student to ask for an instruction to be repeated, simplified, or written down if he does not understand&lt;br&gt;• pause between instructions and check for understanding&lt;br&gt;• limit oral questions to a number the student can manage&lt;br&gt;• watch videos to identify non-verbal expressions and their meanings</td>
</tr>
<tr>
<td>• tendency to make irrelevant comments&lt;br&gt;• tendency to interrupt&lt;br&gt;• tendency to talk on one topic and to talk over the speech of others&lt;br&gt;• difficulty understanding complex language, following directions, and understanding intent of words with multiple meanings</td>
<td></td>
</tr>
<tr>
<td><strong>Insistence on sameness</strong></td>
<td>• prepare the student for potential change, wherever possible&lt;br&gt;• use pictures, schedules, and social stories to indicate impending changes</td>
</tr>
<tr>
<td>• has difficulty understanding the rules of social interaction&lt;br&gt;• may be naive&lt;br&gt;• interprets literally what is said&lt;br&gt;• difficulty reading the emotions of others&lt;br&gt;• lacks tact&lt;br&gt;• has problems with social distance&lt;br&gt;• has difficulty understanding “unwritten rules” and once learned, may apply them rigidly&lt;br&gt;• lacks awareness of personal space</td>
<td></td>
</tr>
<tr>
<td><strong>Impairment in social interaction</strong></td>
<td>• provide clear expectations and rules for behaviour&lt;br&gt;• teach (explicitly) the rules of social conduct&lt;br&gt;• teach the student how to interact through social stories, modelling and role-playing&lt;br&gt;• educate peers about how to respond to the student’s disability in social interaction&lt;br&gt;• use other children as cues to indicate what to do&lt;br&gt;• encourage co-operative games&lt;br&gt;• provide supervision and support for the student at breaks and recess, as required&lt;br&gt;• use a buddy system to assist the student during non-structured times&lt;br&gt;• teach the student how to start, maintain, and end play&lt;br&gt;• teach flexibility, co-operation, and sharing&lt;br&gt;• teach the students how to monitor their own behaviour&lt;br&gt;• structure social skills groups to provide opportunities for direct instruction on specific skills and to practice actual events&lt;br&gt;• teach relaxation techniques and have a quiet place to go to relax&lt;br&gt;• model and practice appropriate personal space</td>
</tr>
<tr>
<td><strong>Restricted range of interests</strong></td>
<td>• limit perseverative discussions and questions&lt;br&gt;• set firm expectations for the classroom, but also provide opportunities for the student to pursue his own interests&lt;br&gt;• incorporate and expand on interest in activities</td>
</tr>
<tr>
<td>• limit perseverative discussions and questions&lt;br&gt;• set firm expectations for the classroom, but also provide opportunities for the student to pursue his own interests&lt;br&gt;• incorporate and expand on interest in activities</td>
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## SUMMARY OF CLASSROOM STRATEGIES

<table>
<thead>
<tr>
<th>Poor concentration</th>
<th>Poor organizational skills</th>
<th>Poor motor co-ordination</th>
<th>Academic difficulties</th>
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</table>
| • is often off task  
• is distractible  
• may be disorganized  
• has difficulty sustaining attention | • use personal schedules and calendars  
• maintain lists of assignments  
• help the student use “to do” lists and checklists  
• place pictures on containers and locker  
• use picture cues in lockers | • involve in fitness activities; student may prefer fitness activities to competitive sports  
• take slower writing speed into account when giving assignments (length often needs to be reduced)  
• provide extra time for tests  
• consider the use of a computer for written assignments, as students may be more skilled at using a keyboard | • usually average to above-average intelligence  
• good recall of factual information  
• areas of difficulty include problem solving, comprehension, and abstract concepts  
• often strong in word recognition and may learn to read very early, but has difficulty with comprehension  
• may do well at math facts, but not problem solving |
| • provide frequent teacher feedback and redirection  
• break down assignments  
• use visual organizers, semantic mapping, and outlining  
• provide timed work sessions  
• reduce homework assignments  
• seat at the front of the classroom  
• use non-verbal cues to get attention | | | • do not assume that the student has understood simply because she or he can re-state the information  
• be as concrete as possible in presenting new concepts and abstract material  
• use activity-based learning where possible  
• use graphic organizers such as semantic maps, webs  
• break tasks down into smaller steps or present in another way  
• provide direct instruction as well as modelling  
• show examples of what is required  
• use outlines to help student take notes, organize and categorize information  
• avoid verbal overload  
• capitalize on strengths (e.g., memory)  
• do not assume that student has understood what he or she has read–check for comprehension, supplement instruction, and use visual supports |
### SUMMARY OF CLASSROOM STRATEGIES

#### Emotional vulnerability
- may have difficulties coping with the social and emotional demands of school
- easily stressed because of inflexibility
- prone to anxiety
- often have low self-esteem
- may have difficulty tolerating making mistakes
- may be prone to depression
- may have rage reactions and temper outbursts

#### Sensory sensitivities
- most common sensitivities involve sound and touch, but may also include taste, light intensity, colours, and aromas
- types of noise that may be perceived as extremely intense are:
  A. sudden, unexpected noises such as a telephone ringing, or fire alarm
  B. high-pitched continuous noise
  C. confusing, complex, or multiple sounds, such as in shopping centres

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<tr>
<td>• provide positive praise and tell the student what she or he does right or well</td>
<td>• be aware that normal levels of auditory and visual input can be perceived by the student as too much or too little</td>
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<tr>
<td>• teach the student to ask for help</td>
<td>• keep the level of stimulation within the student’s ability to cope</td>
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<tr>
<td>• teach techniques for coping with difficult situations and for dealing with stress, such as relaxation strategies</td>
<td>• avoid sounds that are distressing, when possible</td>
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<td>• use rehearsal strategies</td>
<td>• use music to camouflage certain sounds</td>
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<td>• provide experiences in which the person can make choices</td>
<td>• minimize background noise</td>
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<td>• help the student to understand her or his behaviours and reactions of others</td>
<td>• teach and model relaxation strategies and use of diversions to reduce anxiety</td>
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<tr>
<td>• educate other students</td>
<td>• provide opportunities and space for quiet time</td>
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<tr>
<td>• use peer supports such as buddy system and peer support network</td>
<td>• arrange for independent work space that is free of sensory stimuli that bother the student.</td>
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Chapter Seven

Transition Planning

Students with ASD frequently have difficulty with the unknown and may fear the unpredictable, making it difficult for them to take in all of the information presented by a new situation, determine what the expectations are, and then generate appropriate responses. As a result, transitions are often difficult for them and may result in increased anxiety and inappropriate or resistant behaviours. Transitions for students with ASD should be carefully and thoughtfully planned, including transitions into the school system, between activities and settings throughout the day, from one grade to the next, from one school to another, and to adult life.

As change is a part of life, it is not possible to provide a program and environment that is free from transitions and free from change. The goal is to help the student cope with changes and adapt to a variety of settings. Anxiety can often be decreased and inappropriate behaviours prevented or reduced if the student is prepared for change and transition. The strategies for communication development and the suggestions for instructional approaches in Chapter 4, Teaching Students with Autism Spectrum Disorders, can be used to help them understand and cope with change. School staff members who work with students with ASD need to be prepared as they enter the new environment or situation. Refer to Appendix J for a checklist of ideas for transitions.

Transition into the School System

Schools and parents should plan well in advance for the child’s entry into kindergarten. February of the preceding school year is a good time to begin this process. A range of support services for the child and family may have already been in place before Kindergarten. Often the child has been in a preschool, child care program, home therapy program or receiving child management services.

Pre-school children who have been receiving service should have an Individual Support Services Plan team established before school entry. The relevant school staff then join the ISSP team as plans are made to transition the child into kindergarten. Chapter 9, Planning Support for Students with ASD, contains further information regarding the ISSP process.

Parents often seek reassurance that the child’s supports from the preschool years will continue in the Kindergarten program. They may need assistance in understanding that there will be differences
between previous services and school-based support. The ISSP team meeting allows sharing of strengths and needs and consensus building around goals, and helps the school and district plan resources for the next school year. Available services can be explained to the parents. Parents may wish to visit the classroom and talk to the teacher. Children should also have a visit or several visits to the new setting, so that they can begin to become familiar with the new environment. For some children a gradual introduction to school in the fall may ease this challenging transition. Another strategy is to take pictures of the school including grounds, entry, classroom, bathroom, etc. and to review these with the child frequently, or to visit the school over the summer months.

**Strategies to Help with Transitions Between Activities and Settings**

Some students with ASD experience difficulties in adapting to routine changes between activities and settings. To minimize anxiety about change, give the student ample warning before any transition. Some strategies that can be employed are outlined.

**Schedules**

A schedule is a visual support used to inform the student of the sequence of events and activities to occur in a specified time frame. Review the schedule with the student, giving a description of what to expect (e.g., first _____, then _____, etc.), which can be done at the beginning of the day, as well as at transition times.

Schedules vary in complexity and length, and should be tailored to the ability of the individual student. Print, picture symbols, photographs or objects can be used to depict activities. Implementing a method that indicates the completion of an activity, such as turning over a picture card or crossing out an activity, is helpful.

The TEACCH program from North Carolina has many suggestions for schedules.

**Providing a signal as a warning of a change**

A schedule may not be sufficient to prepare the student for change. Some students require a consistent symbol, or an object that will be used in the next activity or setting, to help them understand what is coming next. For example, as lunchtime approaches, students can be shown their lunch boxes or bags.
When preparing to move from the class to the library, the student can carry a book as a reminder of the purpose of the change. Using a watch, clock, or timer may help the student to understand time periods and when changes will occur.

**Using social stories**

Social stories, especially when accompanied by photographs or pictures, are effective in preparing some students for change, and particularly in preparing students for new situations and unfamiliar activities. Visual cues used in combination with verbal instructions can help the student to understand what is expected. (For more information, see Chapter 4.)

**Transitions Between Grade Levels and Class Transfers**

When preparing for the annual transition between grades in school, prepare both the student and the receiving teachers. Preparation for transition should begin in early spring for the fall. The same kinds of issues need to be addressed when students are moving to a new class in the school or to a new community where they will enter a new class. Preparing for these transitions should be addressed through the ISSP process.

Students can be prepared for the new classroom setting by showing them videotapes or photographs of the new teacher and classroom. Prepare a small scrapbook that the student can refer to over the summer. The student may make visits to the future classroom, facilitated by the current teacher.

The receiving teachers need information about the student’s strengths and needs and the goals of the ISSP, information about ASD, and information about the educational implications of the student’s learning style.

The receiving teacher(s) and student assistant (if involved) may want to visit the student in the current classroom environment in order to observe:

- the student’s behaviour in the current classroom environment
- successful adaptations and modifications to the environment, curriculum, and support systems
- the visual systems used to support the student
• current instructional strategies that are effective for the student
• the student’s level of participation in the activities and social life of the class

An ISSP meeting conducted towards the end of the school year can be used to exchange information about the student as well as to discuss goals, instructional strategies, curricular modifications, methods for maintaining appropriate behaviour, and communication. Preparing a short videotape of the student, with the parent’s permission, and presenting it to the receiving teacher, is a creative strategy for providing information for school staff.

School district personnel may be involved in the ISSP process at transition times to provide consultation on programming, supports and services.

Teachers may need training in:

• characteristics of students with ASD
• sensory and motor issues
• communication issues and strategies
• visual strategies
• functional behaviour analysis
• social skills instruction
• behaviour change strategies
• positive behaviour supports

Current staff can do a great deal to make the transition to the new class work more smoothly, by making sure that the transition is seen in a positive light by pairing the move with preferred things. For example, familiar furniture or objects from the current classroom can be taken along. The current teacher and the receiving teacher can work together to plan preferred activities and privileges that can be made available to the student in the new setting. As with any future events, students with ASD need to know what to expect. Preparing a calendar that clarifies when there will be visits to the new setting and when the student will move to the setting can help with the transition.

**Transitions Between Schools**

The suggestions for easing transitions between classrooms are applicable to planning for transitions between schools. Additional time and preparation may be required to allow the student to adjust to a new building. If the transition is from elementary to secondary
school, the student will need to learn about changes in the way the school operates. For example, the student needs to be prepared for the number of teachers that he or she will have, and the various locations for instruction.

Arrange for the student to visit the school on a number of occasions, if possible. If the student is particularly resistant to change, introduce new aspects slowly and to go through a process of desensitization and rehearsal. For example, the initial visit may be devoted to simply going to the school and going in the front door. On another visit, the student might visit a classroom, then the gymnasium, and later other classrooms.

Providing the student with a videotape of the new school and written information (appropriate to the student’s academic level) may help the student to prepare for the change. Identify key people that the student can talk to or go to for help. Identify ahead of time and enlist the help of peers, who may assist the student in making adjustments to the new school, and who may be able to accompany the student to various locations in the school.

Becoming familiar with the student is important for the receiving school. Information sessions, printed materials, and involvement in the ISSP team increase the receiving school’s knowledge about the student and his diagnosis.

When students move to new settings for part of their educational program, (e.g., work placement), teach students with ASD the skills they need in the new setting.

The skills the student needs to learn to prepare for transition to new settings include:

- independence in regard to getting to the school or job site
- rules in the receiving setting that are different from the current one
- social skills that are needed for the new setting
- strategies for getting around the new setting
- ways to keep possessions organized in the new setting
- where to go for help, if needed

**Transition from Secondary School to Adult Life**

Transition planning from secondary school to adult life should begin as early as possible, certainly by age 15. The student and parents need time to adjust to the move from junior high to high school, so initial planning for transition to adult life often begins by the first year of secondary school.
A collaborative process

Planning the transition requires collaboration through the ISSP process. Although it may seem that there is ample time to postpone transition planning until the last year or two of secondary school, it is important that parents, school personnel, and representatives from community agencies and support services consider long-term planning since future goals and plans help direct programming throughout high school.

Areas that need to be considered include:

- employment options
- post-secondary training/education options
- income support opportunities
- residential options
- transportation needs
- medical needs
- community recreation and leisure options
- maintenance of family/friend relationships
- advocacy/guardianship

The desired post-school outcomes will frame the goals of the ISSP and set the direction for day-to-day activities.

The initial questions to ask are what does the individual want to do in the next few years, in the next 10 years, by the time she/he is 30 years old, and what skills will be required for him/her to achieve these outcomes?

Transition goals and strategies should be developed through a meeting of the ISSP team. There are a variety of tools or processes for conducting such a meeting. One approach is to conduct a MAPS meeting (MAPS refers to the McGill Action Planning System.)

During the MAPS meeting, the participants focus on answering seven key questions:

- What is the story of the person? (history)
- What is the dream for the future?
- What is the nightmare? (situations, outcomes to avoid)
- Who is the person? (process for gathering comprehensive information)
- What are his or her strengths, abilities, gifts and talents?
- What are his or her needs?
- What is the plan of action?
Role of school personnel

The role of the school personnel in helping the student prepare for transition out of the school system is to continue to provide opportunities for the student to develop skills for work and independent living consistent with the student’s strengths and needs.

The range of expectations depends on the student’s ability and needs. For example, some students with ASD may plan to go on to further education or training following secondary school. Consequently, there will be a greater emphasis on academic preparation, in addition to work experience and development of job-related skills and skills for leisure and recreation. For others, the program may focus on work experience, community-based training, and self-care.

In general, the school program can prepare the student for transition by:

- providing a variety of work experiences to help the individual determine preferences
- encouraging participation in extracurricular activities and social events
- encouraging volunteer work
- helping develop a resume
- training in social skills for the job place
- teaching appropriate dress and hygiene
- providing on-the-job preparation, once preferences have been established
- training in the use of the public transportation
- training in self-management
- teaching functional academics, such as banking, time, cooking, etc., appropriate to the ability level of the student
Chapter Eight

Assessment and Evaluation

Assessment refers to the act of collecting data. The term should not be confused with evaluation which refers to the systematic process of not only collecting but also analyzing and interpreting data.

This chapter focuses on the assessment and evaluation for programming purposes of individuals with a diagnosed ASD.

Assessment

The ISSP team considers the student’s overall social, academic, adaptive and communication strengths and needs by using both informal and formal assessment tools. Informal assessment tools, such as checklists and observation, consider the student’s strengths and needs within the demands of the everyday environment. The formal assessment tools consider how the student compares with age mates in the general population on skills related to language, academics, intellectual ability, memory, etc. The assessment should address the concerns of the academic and non-academic environments.

What are the assessment tools used to assess the student with ASD?

A combination of formal and informal assessment tools may be used to assess the student with ASD, depending on the purpose of assessment. For example, if the purpose is to determine programming needs for academic functioning, the assessments might include formal (e.g., intellectual, achievement, memory, language) as well as informal tools (e.g., curriculum based, observation, review of file). If the purpose is to determine programming needs for social functioning, the assessments might include primarily informal tools such as observation and checklists. Formal tests have specific criteria, which are usually stated in the manual, regarding the administration and the administrator’s qualifications.

There are at least three assessment tools which are commonly used to assist in program development for individuals with ASD. The ASD Screening Instrument for Educational Planning (ASIEP-2) is designed for diagnosis and educational planning. The Psycho-Educational Profile and the Adult and Adolescent Psycho-Educational Profile are used to assess adaptive behaviors of individuals with severe impairments to assist in program development. The references for these three tools are in the Resource section of this document.
Another informal assessment of social and communication skills for children is found in Quill’s book *Do-Watch-Listen-Say* (2000). The results of the assessment can be used to develop an intervention plan within the education component of the ISSP.

**Evaluation**

**What is the purpose of the evaluation?**

The purpose of the evaluation is to help determine the student’s strengths and needs for programming purposes, and to monitor progress or changes in the student’s skills.

Components of the evaluation may be completed by different members of the ISSP team. For example, the special education teacher may complete developmental checklists with the student, the classroom teacher may keep anecdotal notes on the student’s performance in the classroom, and the educational psychologist/guidance counselor may administer standardized tests of a psycho-educational nature.

During the evaluation, the ISSP team members will gather information. Parent and teacher reports contain information specific to the student’s performance in the area of concern, about the student’s diagnosis, and/or how the disorder is affecting the student’s development in academic, social skills, or communication.

Formal evaluation may take the form of standardized tests or developmental scales. A **standardized test** allows for specific comparisons to be made between students. The tests have clear administration and scoring criteria with known statistical measurements. **Developmental scales** use interview and/or observation and usually provide age- or grade-equivalent scores. Developmental scales do not provide standard comparison scores needed to make the judgment of degree of need.

Informal evaluations include non-standardized tests and behavioural observation. **Non-standardized tests** (e.g., criterion referenced tests) compare the student’s level of performance to a predetermined criterion. This form of testing would allow the examiner to look at the student’s academic functioning as it relates to where he/she should be in the curriculum. For students with ASD, the most common informal evaluations are observation, interview, behavioral checklists, and curriculum-based assessments. Once the evaluation has been completed, the ISSP team members list strengths and needs based on the information they have gathered. Individuals who work with the student then develop programming for the student based on the information gathered through the evaluation process.
When is the student re-evaluated?

Re-evaluation protocol using standardized tests is dependent on the specific tool. Informal evaluation should be on-going by all individuals involved with the student. This information is especially important each year when the student’s ISSP is being reviewed.
Planning Support for Students with Autism Spectrum Disorders: Pulling it all together

The strategies outlined in this guide have been demonstrated by teachers to be beneficial. The team working with the student needs to identify which strategies and interventions are appropriate. This can be done through the Model for Coordination of Services to Children and Youth.

What is the Model for Coordination of Services to Children and Youth?

Under the Model of Coordination of Services to Children and Youth, five departments of government in Newfoundland and Labrador collaborate to provide coordinated services to children and youth through the Individual Support Services Planning process. Individuals’ roles within the ISSP process are outlined in the ISSP team meeting. The following diagram illustrates the principles of the Model.
What is the ISSP Process?

The Individual Support Services Plan (ISSP) results from a process used to identify the student’s strengths and needs and to prepare an integrated service-delivery approach to meet those needs. It is a collaborative process involving the student, the parent and all other relevant service providers from the Departments of Health and Community Services, Human Resources and Employment, Justice, Education, Youth Services and Post Secondary Education, and other relevant agencies. Members of the ISSP team work together to identify appropriate goals for the student, the services recommended to meet the student’s needs, and the approaches to achieve those goals.

ISSP team formation begins with the first delivery of a service to the student. Most students with ASD have been identified prior to school entry and will already have an ISSP. If this is not the case, an ISSP is developed when the student entering school requires special interventions to meet his needs.

Pre-referral Stage

Some students with characteristics of ASD, particularly those with Asperger’s Syndrome, may not be identified prior to school entry. If the student has difficulty coping in the classroom, interacting with peers, or achieving success with the curriculum, then pre-referral interventions are implemented as part of ongoing assessment of the student’s strengths and needs. Concerns specific to the student can be discussed with the special education teacher, guidance counsellor, educational psychologist, speech-language pathologist, and parents.

Some pre-referral interventions are presented in this chapter. Pre-referral interventions must be recorded, noting whether or not they were beneficial. This information will be important in future efforts to develop programs for the student.

How to help the student with ASD at the pre-referral stage:

ASD is primarily an impairment in social and communication development. The strategies relevant for a student with ASD are similar to those relevant for a student with a language impairment. Therefore, the reader should refer to Pre-Referral Strategies listed in Programming for Individual Needs: Communication Disorders Handbook (2000).

Other strategies include:

- Reduce the length or size of a task.
- Praise appropriate behaviors with the prospect that the appropriate behaviors will replace the less desirable behaviors.
- Avoid reinforcement of ‘insistence on sameness’, expose the student to new situations and activities, even if only for short periods of time.
- Allow the student time to attempt completion of tasks independently. (When necessary, provide only the minimal amount of intervention and reduce prompting over time. If you’re not sure if a student can do something, give him the benefit of the doubt and let him try it).
- Wait five to ten seconds, after giving an instruction, before giving a prompt, unless the student does something clearly off task. Then, if necessary, giving a greater prompt such as a verbal or gestural prompt, remembering that too many or too frequent prompts will lead to ‘learned helplessness’.
- Search for activities and objects which can be used to motivate and reward the student when appropriate behaviors occur; varying the rewards will reduce the likelihood of boredom.
- Exploit the student’s interests so that a wide range of basic concepts and cognitive skills can be taught.
- Teach the student about what is socially appropriate.
- Prepare the student for changes in activities and routines.
- Avoid abstract ideas when possible; using visual cues as an aid when abstract ideas are necessary.
- Consider these factors when setting up a classroom:
  - use a separate small area for working with students
  - when placing furniture, set up patterns so students don’t disturb each other
  - ensure the teacher can see every area of the room
  - use tennis balls on chair legs to have the same effect as carpeting
  - use filtered light, through mini-blinds, curtains, or shades, which has a positive effect on students (i.e., warmth, calm, and coziness)
  - place desks so that when working students are facing away from windows
  - define each area of the classroom according to the purpose for which it’s used
  - keep student’s backs to the main door entrance to reduce distraction
• Allow the student time to become familiar with his surroundings and to reduce anxiety
• Use this time to observe. What does he do? Do you catch the student glancing at you to see if you’re watching? Does he exhibit self-stimulating, self-abusive, hyperactive or hypoactive behaviors? Does he say anything aloud or ‘under his breath’? Take an informal inventory of his skills during this period of observation.

If the intervention strategies and supports developed through the pre-referral stage are student specific, long-term and essential for the student to be successful in meeting curriculum outcomes then the ISSP is developed. If the strategies and supports are not sufficient, then referral for further assessment is indicated. The assessment results are used to assist the ISSP team in planning support and services and developing programs.

**Development of the ISSP**

An ISSP is developed if the teacher, parent, and student decide the student cannot continue to be successful within the prescribed curriculum, given good teaching practices. The educational component of the ISSP is guided by *Pathways to Programming and Graduation*.

**The educational component of the ISSP**

The educational component of the ISSP is developed by relevant school personnel in consultation with the student and parent, and the service providers.

Factors to consider when developing the educational component of the ISSP are:

• ASD affects most, if not all, areas of functioning.
• Skills cannot be taught in isolation and must be generalized throughout the curriculum (Refer to Appendix K.)
• When a student’s strengths and needs are being discussed, one must consider the prerequisite skills which are needed to move from one developmental level to another.

Questions which may be helpful to ask are:

• What does this strength say about the student?
• What skills must he have mastered to get to this point?
• What does this say about his level of functioning, and where is he headed next?
• Which new skills does he need to acquire in order to get there?

In this way, it becomes easier to search for attainable goals. It is unrealistic, for example, for a student with an ASD to achieve reciprocal social interactions if he hasn’t mastered basic expressive language.

• The student must be seen as an individual and the team must remember the difficulties experienced by the student because of his specific disorder:
  • What are some of the specific social skills and techniques which can be learned by the student to allow him to function appropriately in social situations?
  • What are the communication skills which can be learned?
  • How can stereotypical behaviours be addressed?
  • Goals should ultimately lead to as much independence as possible. Programming goals must shift as the student advances and needs change (independent living skills must be addressed, vocational planning carried out, sexuality and interpersonal relationships discussed, etc). Regardless of the student’s plans upon leaving high school, self-help skills are central to personal development and to being viewed as a person separate from the care givers.

What is Pathways to Programming and Graduation?

Pathways to Programming and Graduation (1998) is a framework which provides guidance in educational planning for students.

Five Pathways are outlined:

• **Pathway 1:** Indicates that the student accesses the provincially prescribed curriculum with no additional supports other than possible pre-referral strategies and ‘good teaching practices’. Access is available to a wide range of courses to meet varying needs.
• **Pathway 2:** The student accesses the provincially prescribed curriculum by using various accommodations and adaptations which may include suggestions from the earlier section *How to Help the Child with an Autism Spectrum Disorder.*

• **Pathway 3:** Supports involve modifications to provincially prescribed courses by deleting, changing or enhancing outcomes.

• **Pathway 4:** Supports involve developing alternate courses in areas of need.

Different types of alternate courses are:

• **Enabling:** meeting exceptionality-specific outcomes to successfully access curriculum outcomes (e.g., assistive technology, organizational skills) or development of non-academic skills - anger management, social skills, etc.

• **Pre-requisite:** learning skills not yet acquired, but necessary in order to be successful in meeting prescribed curriculum outcomes.

• **Academic:** meeting student specific outcomes that reflect Essential Graduation Learnings but at a significantly different level than the prescribed curriculum for the student’s grade level.

The following list includes alternate courses which may be required by students with ASD:

• Social skills
• Communication
• Self help
• Developing friendships
• Abstract concepts
• Anxiety reduction
• Sexuality
• Organizational skills
• Problem solving
• Time management
• Job seeking
• Functional skills
• Computers for functional use
• Understanding emotions
• Theory of mind/perspective taking
• Academics
• Social language
This list is not exhaustive

**Pathway 5:** Supports involve programming for students who have been diagnosed with moderate global/severe cognitive delay. Students follow an alternate curriculum in all areas of development as outlined in *Programming for Individual Needs: Using our Strengths*.

**Roles of Individuals Who Support the Student Who Has ASD**

Various individuals provide support to the student with ASD. Some of them are members of the ISSP team, but all may contribute to identification of the student’s strengths and needs.

The following are descriptions of specific roles:

**Student**

The student’s strengths and needs form the basis of the ISSP. He should attend and contribute at the ISSP meeting and be involved in the process unless circumstances warrant otherwise.

Those circumstances would include:

• the student chooses not to participate
• the student’s level of development indicates that he is unable to constructively participate in the process
• the student has demonstrated in prior meeting(s) that he is unable to constructively participate in the process from a behavioural perspective, or
• the information to be shared between the team members and the parent is considered harmful to the well-being of the student or to the family-child relationship.

**Parent**

The family of a student with ASD has knowledge and experience that is helpful in developing effective programming. This knowledge is important in examining which skills are most important to enhance the student’s life presently and in the future.
For example, the family has usually devised a means of communication and behaviour management. When the family program and the school program complement each other, the student benefits from the resulting consistency.

Some aspects of the parent’s role, as it pertains to individuals with ASD are to:

- be an active member of the ISSP team and could be the manager of the team
- sign a consent for assessment form before the student can be assessed
- sign a common consent form granting permission for the sharing of information in the team meeting, release of information as in a report, and to complete the profile as part of the ISSP process
- ask questions if they do not understand what the consent form means
- provide the relevant family and medical history to the appropriate ISSP team members, as well as provide their observations about strengths and needs at the team meeting. This information is vital in providing appropriate programming for their child.

Classroom Teacher

The classroom teacher facilitates the development of the physical, social and intellectual potential of all students in the classroom. She is the expert in subject areas at a given grade level. The teacher facilitates classroom management and group interaction. When a student with ASD needs specialized intervention and programming, teachers collaborate with other ISSP team members to ensure there is a well-planned coordinated approach.

Some aspects of the classroom teacher’s role, as it pertains to students who have ASD are to:

- participate as a member of the ISSP team by contributing to the identification of the strengths and needs of the student, commenting on the pre-referral strategies tried and on other aspects of programming in the school environment
- ensure that the goals of instruction are attainable
- monitor and record the student’s progress in designated areas
- use a variety of stimulating instructional methods
• provide for the student’s participation in classroom activities
• adapt instructional strategies to meet the needs of the student as decided by the team
• consult the appropriate team members concerning specific adaptive techniques to be used with the student with an ASD
• facilitate academic and social development similar to the student’s peers
• maintain a close working relationship with the home and other ISSP team members in order to maximize the effectiveness of all available services

**Educational Psychologist**

The educational psychologist provides a range of services in the education system from consultation and collaboration, planning and evaluation, to psychological and psychoeducational assessments. If the educational psychologist is working with a student with ASD, she is responsible for understanding the student’s impairment and the implications of this impairment on assessment. The educational psychologist is also responsible for making observations about strengths and needs, and for making recommendations for programming.

Some aspects of the role of the educational psychologist, as it pertains to students who have ASD are to:

• provide informal consultation/support to teachers and parents/guardians during the pre-referral stage and more formal consultation throughout the ISSP process
• conduct psychological/psychoeducational assessments as part of the ISSP process, ensuring that assessment information is current
• interpret the results of assessments or provide a written or oral report to team members
• participate in discussion of strategies, curriculum, approaches, services and supports required by the student
• assist in writing any component of the ISSP for which she has been assigned responsibility for implementation
• provide suggestions, resources and/or support to others involved in developing the ISSP
• implement those portions of the ISSP for which she has been designated responsible
• monitor and record the progress of the student as designated
• remain knowledgeable, when conducting assessments, about special considerations for students with ASD, and the implication of these considerations on assessment results

**Guidance Counselor**

The guidance counselor will often have information about the student. She may be involved in comprehensive assessment of a student with ASD. The guidance counselor may be a member of the ISSP team.

Some aspects of the role of the guidance counselor, as it pertains to students who have ASD are to:

• provide the full range of counseling services
• provide informal consultation/support to teachers and parents/guardians during the pre-referral stage and more formal consultation throughout the ISSP process
• conduct individualized assessments, including career/vocational assessment, as part of the ISSP process, ensuring that assessment information is current
• present data and interpret the results of assessments, or provide a written or oral report to team members
• advise the ISSP team on social/emotional/personal or behavioural programming, transitional strategies and supports, and community services which may be accessed by the student
• make referrals as required to the appropriate educational and/or psychological services and/or community agencies
• remain knowledgeable, when conducting assessments, about special considerations for students with ASD, and the impact of these considerations on assessment results
• give suggestions to the ISSP team on strategies, curriculum, approaches, services and supports required by the student
• assist in writing any component of the ISSP for which she has been assigned responsibility for implementation
• implement those portions of the ISSP for which she has been designated responsible
• monitor and record the student’s progress
• as designated, provide suggestions, resources and/or support to others involved in developing the ISSP
Itinerant Teacher for the Blind and Visually Impaired/for the Deaf and Hard of Hearing

These itinerant teachers may be involved with students who have ASD in addition to a visual or auditory impairment.

Special Education Teacher

Some aspects of the special education teacher’s role, as it pertains to students who have ASD are to:

- provide support to the student, family and the other educational personnel
- ensure that a comprehensive assessment process takes place
- when asked, assist the Individual Support Services Manager (ISSM) in bringing together the parents, educational psychologist, speech language pathologist, public health nurse, classroom teachers, or any other individuals pertinent to the ISSP team
- provide assistance in adapting materials
- provide consultation regarding modifications to programming
- work collaboratively with other team members who may be working with the student
- remain knowledgeable, when conducting assessments and evaluations, about special considerations for students with ASD
- make referrals as required to the appropriate educational and/or psychological services and/or community agencies
- give suggestions to the ISSP team on strategies, curriculum, approaches, services and supports required by the student
- assist in developing any component of the ISSP for which she has been assigned responsibility for implementation
- as designated, provide suggestions, resources and/or support to others involved in developing the ISSP
- implement those portions of the ISSP for which she has been designated responsible

Non-categorical special education teachers provide service (either direct service or consultation) to students, who have identified exceptionalities, with mild, moderate or severe needs. Categorical special education teachers provide an intense level of service to students with severe impairments in specific areas of development. Students with ASD, who require a more intense level of special education support, can access categorical special education service
via Criteria G, for those with severe health/neurological related disorders, or Criteria C, for those with moderate global/severe mental handicap.

Categorical special education services are intended to support the non-categorical special education teacher and the classroom teacher in addressing the needs and goals identified in the ISSP. Categorical Special Education services are accessed through an application procedure and are allocated for specific students based upon a formula.

**Speech-Language Pathologist**

Speech-language pathologists (SLPs) are specialists in human communication, its normal development, and its disorders and delays. Since communication difficulties are such a significant problem for students with ASD, SLPs can play a critical role in ISSP development and delivery.

Some aspects of the role of the SLP, as it pertains to students with ASD, are to:

- participate as a member of the ISSP team
- provide assessment and evaluation of the student’s communicative functioning
- provide direct intervention, or consultation targeting the student’s communication needs
- provide consultation and advice to parents, teachers, and other professionals on speech and/or language related issues
- refer to other professionals as necessary
- offer inservice in the areas of articulation, phonology, receptive language, expressive language, pragmatics, and/or alternate/augmentative communication
- work closely with the teachers of students with ASD to coordinate instruction and services

**Student Assistant**

The student with ASD may require support from a student assistant. Some aspects of the role of the student assistant, as it pertains to students who have ASD are to:

- participate as a member of the ISSP team by contributing information regarding the student’s strengths and need
- assist the student in utilizing adaptive equipment
• assist with personal care needs where recommended by the ISSP team
• assist with shaping appropriate behaviours, developing independent living skills, facilitating interactions with others, and/or stimulating communication under the direction of relevant educational personnel

School Administrator

The administrator has an important role in service delivery to students who have ASD. She provides support to students, classroom teachers, parents, student assistants, and others to ensure that team members are working collaboratively and efficiently. The administrator is a key player in monitoring the roles of team members who are implementing the educational component of the ISSP.

Some aspects of the role of the administrator, as it pertains to students who have ASD, are to:

• ensure learning takes place in a safe, caring, committed and respectful environment
• ensure that all students have their programs designed and implemented by the appropriate personnel
• create schedules which optimize availability of special education personnel
• monitor the development and implementation of Pathways to Programming and Graduation
• ensure that students with identified exceptionalities have access to the ISSP process
• provide administrative support to teachers and other educators in their efforts to meet the needs of students
• facilitate the use of in-school facilities to conduct ISSP meetings
• collaborate with the Individual Support Services Manager (ISSM) to ensure that the equipment, materials and human resources committed by education are accessed
• ensure that appropriate forms are signed before comprehensive assessments are completed, or information is shared

Program Specialist for Student Support Services

The program specialist for student support services serves in a leadership and advisory capacity on all aspects of support services
The role of the program specialist, as it pertains to students with ASD, is to:

- provide leadership in the development, implementation and evaluation of the school board policies, procedures and guidelines, as they pertain to students who have ASD, and as guided by provincial policy and standards of practice
- work closely with all student support services personnel to ensure that students with ASD receive quality and effective programming
- ensure that each school in the district has an effective support services planning process that focuses on profiling, comprehensive assessment, programming, transition planning, transportation, facilities and equipment, and parental involvement
- provide leadership, consultation and coordination of services with regard to the professional development needs of personnel working with students who have ASD
- provide leadership at the district level on service coordination and collaboration within schools, and between schools, communities and other agencies
- ensure that school assessment/school improvement processes consider the needs of students with ASD

Consultant, Student Support Services

The Division of Student Support Services has consultants who support the work of educators throughout the province. Each consultant has responsibility for various areas of programming within special education. Professionals who teach students with ASD may contact the consultant responsible for ASD. The consultant may offer support in program development, problem solving, and/or suggestions for resources/strategies. The consultant also offers professional development at the request of the school districts.

Additional Resources

Representatives from other agencies may be members of the ISSP team. The following is a list of professionals and programs from other departments or agencies:
Health and Community Services/Intervention Services:

- **Direct Home Services Program (DHSP)** is a home based early intervention program for preschool children. No diagnosis is required for eligibility. However, children must meet eligibility of a one year delay in any of the five developmental domains (e.g. self-help, physical, academic, communication, or social) or present with a six month delay in either of the two developmental domains. DHSP is a voluntary program and parents must consent to referral and be involved in early intervention goals and program planning in partnership with trained staff. Services are delivered by Child Management Specialists via regional Health & Community Services Boards or integrated health boards. Intensive intervention is provided through weekly home visits for the first six months and bi-weekly thereafter, until service is no longer required.

- **Community Behavioural Services Program (CBSP)** is a home and community based behaviour management program for persons meeting eligibility requirements. Persons must be school-age or above, have a diagnosis of severe mental handicap, not reside in an institutional setting, and present with significant behavioural concerns to be eligible for services. Services are also available to students in receipt of Child, Youth, and Family Services, in which case a diagnosis is not required. CBSP is a voluntary program and parents must consent to referral and be involved in behaviour management strategies and program planning in partnership with trained staff. Services are delivered by Behaviour Management Specialists via regional Health & Community Services Boards or integrated health boards. Frequency of visits is dependant on intensity of behavioural concerns, training needs, and level of programming. Consultation is available to school personnel, at the school’s request, for any student who is on active CBSP caseload.

- **Intensive home-based behavioural intervention** is available to students diagnosed with ASD. Programming is developed by trained regional staff (i.e. Child Management Specialist and Behaviour Management Specialists certified as senior therapists) within Intervention Services. Preschool children who meet diagnostic and age requirements and are referred to Provincial Consultant, Intervention Services and Autism, are eligible for intensive behavioural intervention via a home therapy program. Prior to school entry, diagnosed preschool
children are eligible for up to thirty hours per week of intensive home therapy. For the duration of the kindergarten year, students are eligible for up to fifteen hours per week of home therapy. Beyond the kindergarten year, any financial service recommended by the ISSP team, including home therapy are provided via Special Child Welfare Allowance, pending financial eligibility and availability of funding within regions. For school-age children and adults, access to trained regional staff (i.e. BMS staff certified as senior therapists) is dependant on meeting eligibility requirements for Community Behavioural Services. Consultation is available to school personnel, at the school’s request, for any student who is on active CBSP caseload.

- **Special Child Welfare Allowance (SCWA)** is a program offered via regional Health & Community Services boards or integrated health boards, and is available to parents and families of children with special needs. Through SCWA, financial assistance may be available for families that meet financial eligibility requirements to offset the cost of specialized services (e.g. transportation, respite, specialized equipment, etc.) that their child may need as a result of their disability, special needs, or diagnosis.

**Child Development and Learning Rehabilitation**

The Child Development and Learning Rehabilitation Division is one of ten divisions within the Janeway Children’s Health and Rehabilitation Centre. This division provides development, learning and craniofacial services to the province through it’s interdisciplinary teams.

The Development Team offers assessment, diagnosis, consultation and treatment to children with developmental disabilities and their families. The resources available to children diagnosed with ASD are developmental pediatrics, nursing, occupational therapy (3-6 year-olds), social work, speech language pathology (until school entry) and physiotherapy. Services are provided through clinic and community visits both in St. John’s and in regular traveling clinics throughout the province.

Treatment play groups are conducted periodically by occupational therapists and speech-language pathologists for those children diagnosed with ASD and not yet ready for individual therapy. A limited resource library available to parents and professionals can be accessed with the help of the staff of the division. Information...
packages have been developed for families of children diagnosed with ASD and are available upon request to the development team leader.

**Occupational Therapist**

An occupational therapist (OT) focuses on enabling a person to participate in everyday activities such as learning, performing self-care, working, playing, and living independently. The OT’s role in assessment is to determine underlying postural, motor, sensory integrative and perceptual deficits which interfere with a person’s ability to perform various activities/tasks. The OT provides intervention in the form of remediation or compensation, devises exercises or activities to develop skills, or provides caregivers/teachers suggestions to help improve performance and ability to learn.

OTs look at how individuals with ASD respond to different types of sensations and whether or not they can effectively process and use sensory information. The role of the OT in the area of ASD is increasingly recognized because of the evolving theory and practice of sensory integration, investigations into neurobiology of ASD, and firsthand accounts of adults with ASD who have described their difficulties with sensory processing.

OT services are available on a consultative basis to preschool and school age children with ASD who meet referral criteria for the Child Development Team or Learning/Behaviour Team of the Child Development and Learning Rehabilitation Division, Janeway Children’s Health and Rehabilitation Center. They are also available at some general hospitals across the province. Often a school visit is part of the consultative service offered.

**Public Health Nurse**

The public health nurse conducts developmental screening tests for pre-school children at the child health clinics and pre-school health clinic checkups. If a screening warrants it, the nurse will make a referral for medical assessment.

**Early Childhood Educator**

The early childhood educator (ECE) facilitates the development and implementation of a curriculum which supports the integration of children in early childhood settings. The ECE’s role is to:

- ensure that a child with ASD has the proper intervention and program that allows him to participate in the regular setting
• contribute to the identification of strengths and needs of the child to facilitate the ISSP process
• ensure that the child is being integrated appropriately
• act as a liaison between the setting and the school prior to entry into kindergarten
• be aware of the professionals involved with the child

**Pulling it all Together**

Students with ASD often require services and interventions to address their strengths and needs as identified through the ISSP process. They may require services from one or more of the professionals listed in this chapter. In order for programming to be most effective, these professionals will work jointly through the Model for Coordination of Services to Children and Youth.
Appendices

These appendices contain forms and charts that may be helpful tools for those supporting students with ASD.

A. Task Analysis - an example of a functional skill broken down into steps and a chart for recording instruction sessions

B. Hierarchy of Prompts - a diagram explaining the range of prompts from least intrusive to most intrusive

C. Likes and Dislikes Chart - a form for recording student preferences

D. Reinforcer Assessment - a tool to assist the ISSP team in identifying various potential reinforcers

E. Home-School Communication Book - an example of a communication log used for one student to keep parents and family informed of events affecting the student

F. Communication Dictionary - a sample dictionary and a form for developing an individualized dictionary for communication attempts used by a student

G. Behaviour Observation and Data Collection Chart - a form for recording information for a functional assessment

H. The Components of a Behaviour Plan

I. “Tips for teaching high functioning people with Autism”, by Susan Moreno and Carol O’Neal

J. Checklist for Transition

K. Integrating Student’s ISSP Goals with Regular Class Activities - an example of a chart showing how to fit the goals for the student with ASD into the regular class plans, and a blank chart template
## Task Analysis

**Functional Skills: Brushing Teeth: Record of instruction sessions**

(This is a sample of a task analysis for brushing teeth designed for a 12-year-old boy with autism)

Teaching instructions: Record prompts used for each task:

- PP = physical prompt,
- VP = verbal directive prompt,
- I = independent performance of step

Reinforcement: social praise after each correctly performed step

<table>
<thead>
<tr>
<th>Month: __________ Name: ____________________</th>
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<table>
<thead>
<tr>
<th>TEACHING SESSION</th>
<th>1</th>
<th>2</th>
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<th>4</th>
<th>5</th>
<th>6</th>
<th>7</th>
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<tr>
<td>2. Turn on cold water</td>
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<tr>
<td>3. Pick up and wet toothbrush</td>
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<tr>
<td>7. Brush upper back teeth in up and down motion 5 times</td>
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<td>8. Brush lower back teeth in up and down motion 5 times</td>
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</tr>
<tr>
<td>12. Sip water, do not swallow, swish and spit into sink</td>
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<tr>
<td>17. Screw cap back on toothbrush</td>
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</tr>
</tbody>
</table>

**Correctional:**

Adapted from Functional Skills Curriculum, Provincial Outreach Program for Autism Related Disorders, British Columbia.
### Hierarchy of Prompts

Prompts are often used to support learning and behaviour of students with Autism Spectrum Disorders. Prompts should be faded as soon as possible in order to help the student grow in independence. Prompts range from high to low in intrusiveness. As learning occurs, teachers should move from high to low on the continuum. Ideally, prompts will be faded completely.

<table>
<thead>
<tr>
<th>INTRUSIVENESS</th>
<th>VERBAL</th>
<th>GESTURAL</th>
<th>PHYSICAL</th>
</tr>
</thead>
<tbody>
<tr>
<td>Least intrusive</td>
<td>Use command word to begin or end step</td>
<td>Gesture student to begin step</td>
<td>Touch arm, hand</td>
</tr>
<tr>
<td></td>
<td>Use command word to explain part of step</td>
<td>begin step or end step</td>
<td>Guide arm or hand to the required action</td>
</tr>
<tr>
<td></td>
<td>Use language to explain part of step</td>
<td>Point to item or items</td>
<td>Manipulate arm or hand through beginning of step</td>
</tr>
<tr>
<td>Most intrusive</td>
<td></td>
<td>Gesture full movement of actions required</td>
<td>Manipulate arm, hand, or body through total step</td>
</tr>
</tbody>
</table>

Source: Provincial Outreach Program for Autism and Related Disorders, B.C.
Likes and Dislikes Chart: Student Preferences

When planning reinforcers for instruction and behaviour interventions, teachers and others need to know the preferences of students. This chart can be used by the family and school to record the student’s preferred activities, sensory stimuli, edibles, social reinforcers, etc. Such information changes, and it should be frequently revised to reflect current likes and dislikes of the student.

<table>
<thead>
<tr>
<th>Student name: ____________________</th>
<th>Date revised: _____________________</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>LIKES</strong></td>
<td><strong>DISLIKES</strong></td>
</tr>
<tr>
<td>Activities:</td>
<td>Activities:</td>
</tr>
<tr>
<td>Sensory Stimuli:</td>
<td>Sensory Stimuli:</td>
</tr>
<tr>
<td>Edibles:</td>
<td>Edibles:</td>
</tr>
<tr>
<td>Social Reinforcers:</td>
<td>Social Reinforcers:</td>
</tr>
</tbody>
</table>

Reinforcer Assessment

Name: ________________________________

Date: ________________________________ School: ____________________________________

Use the checklist below to indicate preferred items.

<table>
<thead>
<tr>
<th>Sensory and social reinforcers</th>
<th>Tangible Items</th>
</tr>
</thead>
<tbody>
<tr>
<td>□ Rocking</td>
<td>□ Candy</td>
</tr>
<tr>
<td>□ Swinging</td>
<td>□ Cookies</td>
</tr>
<tr>
<td>□ Back Rub</td>
<td>□ Chips</td>
</tr>
<tr>
<td>□ Being Brushed</td>
<td>□ Fruit</td>
</tr>
<tr>
<td>□ Twirling</td>
<td>□ Cereal</td>
</tr>
<tr>
<td>□ Jumping</td>
<td>□ Snacks</td>
</tr>
<tr>
<td>□ Smelling items (e.g., stickers)</td>
<td>□ Drinks</td>
</tr>
<tr>
<td>□ Stim time</td>
<td>□ Stickers</td>
</tr>
<tr>
<td>□ Applause</td>
<td>□ Toys</td>
</tr>
<tr>
<td>□ Attention from specific individuals</td>
<td>□ Games</td>
</tr>
<tr>
<td>□ Verbal praise</td>
<td>□</td>
</tr>
<tr>
<td>□ Smiles</td>
<td>□</td>
</tr>
<tr>
<td>□ Tickles</td>
<td>□</td>
</tr>
<tr>
<td>□ Eye contact</td>
<td>□</td>
</tr>
<tr>
<td>□ Being left alone</td>
<td>□</td>
</tr>
<tr>
<td>□ Hugs</td>
<td>□</td>
</tr>
<tr>
<td>□ High five</td>
<td>□</td>
</tr>
<tr>
<td>□ ______</td>
<td>□</td>
</tr>
<tr>
<td>□ ______</td>
<td>□</td>
</tr>
</tbody>
</table>

**Areas of Interest**

<table>
<thead>
<tr>
<th>Activity Reinforcers</th>
</tr>
</thead>
<tbody>
<tr>
<td>□ Going for a walk</td>
</tr>
<tr>
<td>□ Free time</td>
</tr>
<tr>
<td>□ Playing with toys</td>
</tr>
<tr>
<td>□ Outside activities</td>
</tr>
<tr>
<td>□ Drawing</td>
</tr>
<tr>
<td>□ Painting</td>
</tr>
<tr>
<td>□ Bike riding</td>
</tr>
<tr>
<td>□ Puzzles</td>
</tr>
<tr>
<td>□ Listening to music</td>
</tr>
<tr>
<td>□ Job responsibility (at home / at school)</td>
</tr>
</tbody>
</table>
### Areas of Interest (cont’d)

- Numbers
- Letters
- Computers / computer games
- Shapes
- Science
- List favorite places to go
- List favorite movies
- List favorite songs
- List favourite cartoon characters / celebrities
- ____
- ____

### Activity Reinforcers (cont’d)

- Watching television
- Playing with toys
- Snack time
- Computer
- Reading / being read to
- Making choices
- Social activities
- Leisure activities
- ____
- ____

### Dislikes

**List noises**
- ______________
- ______________
- ______________

**List activities**
- ______________
- ______________
- ______________

**List any known fears**
- ______________
- ______________
- ______________

**List foods**
- ______________
- ______________
- ______________

**List animals**
- ______________
- ______________
- ______________

**Other dislikes**
- ______________
- ______________
- ______________
Home-School Communication Book

Teachers and families may decide that a home-school communication system needs to be implemented. Information recorded by the teacher and family should be valuable information to use in instruction, management of behaviour, or personal care of the student. Teachers and parents can work together to make a brief list of key questions that should be answered, and agree on the frequency that they need to be answered and how the communication will travel back and forth. The form should be designed specifically for the student. The following example is adapted from an individualized communication book for a Grade 3 student:

Daily Comment Log

Date: ________________

From Home: ___________________________ (signed)

Are there any recent developments or upcoming events that the school should be aware of?

Circle Yes / No

Comments or Concerns: ____________________________________________________________

__________________________________________________________

From School: ___________________________ (signed)

<table>
<thead>
<tr>
<th>Activity</th>
<th>Comment</th>
</tr>
</thead>
<tbody>
<tr>
<td>Circle</td>
<td></td>
</tr>
<tr>
<td>Music/Art</td>
<td></td>
</tr>
<tr>
<td>Language Arts</td>
<td></td>
</tr>
<tr>
<td>Math</td>
<td></td>
</tr>
<tr>
<td>P.E.</td>
<td></td>
</tr>
<tr>
<td>Socials/Science</td>
<td></td>
</tr>
<tr>
<td>Other</td>
<td></td>
</tr>
</tbody>
</table>

Source: Adapted from material provided by Autism Society of British Columbia

Concerns: ____________________________________________________________

__________________________________________________________

Teaching Students with Autism Spectrum Disorders
Communication Dictionary

Communication attempts made by students with Autism may be misunderstood or mistakenly ignored. These attempts can be analysed and recorded in an individualized interpretation dictionary that all people interacting with the student can use. People can refer to the dictionary to help them understand and interpret the student’s communication. Planned responses that support language development are assigned to correspond to each attempt, while still acknowledging the attempts. At the same time, caution should be exercised not to reinforce inappropriate behaviours, even if they are effective communication attempts.

<table>
<thead>
<tr>
<th>What the student does</th>
<th>What it might mean</th>
<th>How adults will respond</th>
</tr>
</thead>
<tbody>
<tr>
<td>Reaches for food item</td>
<td>asking for the food item</td>
<td>say “want (food item)” and give the student a small sample of the item</td>
</tr>
<tr>
<td>Says the utterance “Boo-chm”</td>
<td>asking for computer-time</td>
<td>point to picture of computer on pictoboard, and say “computer”, allow access to computer</td>
</tr>
<tr>
<td>Falls prone on the floor</td>
<td>protesting or refusing</td>
<td>do not respond to the protest, assist student to stand up, saying “stand up”, and continue task (Acting on this protest could reinforce this maladaptive behaviour. Teach appropriate protest communication at another time and reinforce.)</td>
</tr>
</tbody>
</table>
Communication Dictionary (cont’d)

’’s Interpretation Dictionary

STUDENT’S NAME

<table>
<thead>
<tr>
<th>What __________ does</th>
<th>What it might mean</th>
<th>How to respond to_______</th>
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</table>
When determining the function of inappropriate target behaviours in order to plan behaviour change interventions for students, schools need to observe the behaviour and collect information. It is important to document the behaviour as factually as possible. Rather than speculating on the function of behaviour in the absence of good data, it is important to gather facts that are observable and measurable:

**Antecedent:** events in the environment that occur immediately prior to the target behaviour  
**Behaviour:** actual behaviour, described in specific terms (including duration and intensity)  
**Consequence:** events in the environment that occur directly after the behaviour

### A - B - C CHART

<table>
<thead>
<tr>
<th>Name of Student:</th>
<th>Date:</th>
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</thead>
<tbody>
<tr>
<td><strong>Target Behaviour:</strong></td>
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</tbody>
</table>

<table>
<thead>
<tr>
<th>Time, setting, social situation</th>
<th>Antecedent event(s)</th>
<th>Behaviour description</th>
<th>Consequence event(s)</th>
</tr>
</thead>
</table>

The Components of a Behaviour Plan include:

- **Identification of the target behaviour (what, where, when, who and why)**
  - Define the problem behaviour(s) in observable, measurable terms. (What is the frequency, intensity and duration of the behaviour?)
  - Describe the environment in which the behaviour usually occurs. (In which room? What is the physical arrangement? Are there sensory factors involved?)
  - Explain when the behaviour usually occurs.
  - State who is usually present when the behaviour occurs.
  - Determine the function(s) of the behaviour.

- **Behavioural outcomes**
  - Describe the desirable/alternative replacement behaviours. (This is the purpose of the plan.)

- **Environmental considerations**
  - Identify any changes that need to be made in the environment in order to prevent the problem behaviour and promote the desired (replacement) behaviour.
  - Specify the extent to which the plan will be implemented in various settings.

- **Identify strategies/techniques that will be used to change behaviours**
  - Specify pro-active strategies/techniques to decrease the problem behaviour(s). (i.e., modifying tasks characteristics, clarifying routines and expectations, revising the activity schedule, providing more opportunities for choice, using visual strategies, developing a communication system, providing a quiet area, etc)
  - Specify strategies/techniques to teach replacement behaviours (i.e., consider the reinforcement schedule (frequency of rewards), magnitude (amount or intensity of rewards), and immediacy. (delay between behaviour and rewards)

- **Identify instructional methods that will be used to achieve behavioural outcomes**
  - Direct Instruction (individual/group)
  - Counselling (individual/group)
  - Applied Behavioural Analysis
  - Cognitive Behavioural Training
  - Social Stories
  - Bibliotherapy
  - Drama Therapy
  - Music Therapy
  - Play Therapy
  - Art Therapy
  - Other
  - Other
The Components of a Behaviour Plan (cont’d)

• Roles and responsibilities
  ▶ Identify the roles and responsibilities of all persons involved in implementing the plan.

• Strategies to transfer skills
  ▶ Identify strategies that will be used to teach students to transfer skills learned to other environments, people, etc.

• Response protocol
  ▶ Identify a planned response to:
    – defuse the behaviour. (Interventions focus on preventing future problem behaviours and keeping the student on task.)
    – deal with out of control behaviours that pose a risk of injury to the student or others. (Interventions focus on safety)
    – support recovery after the behaviour. (Interventions focus on re-establishing routines. This includes a re-entry plan, which may be to a specific activity, the classroom, or school)
  ▶ Identify the persons responsible at each stage of the response protocol.

• Evaluation Plan and Schedule
  ▶ Identify how you will evaluate the plan’s effectiveness.
  ▶ Monitor the intervention and evaluate the outcomes.
  ▶ Determine a schedule for reviewing/modifying the plan. Include dates and criteria for changing/fading the plan.
Tips for Teaching High Functioning People with Autism

Susan Moreno and Carol O’Neal
MAAP Services, Inc. (More Able Autistic Persons)
P.O. Box 524
Crown Point, Indiana 46307
(reprinted with permission of the authors)

1. People with Autism have trouble with organizational skills, regardless of their intelligence and/or age. Even a “straight A” student with Autism who has a photographic memory can be incapable of remembering to bring a pencil to class or of remembering a deadline for an assignment. In such cases, aid should be provided in the least restrictive way possible. Strategies could include having the student put a picture of a pencil on the cover of his notebook or maintaining a list of assignments to be completed at home. Always praise the student when he remembers something he has previously forgotten. Never denigrate or “harp” at him when he fails. A lecture on the subject will not only NOT help, it will often make the problem worse. He may begin to believe he can not remember to do or bring these things. These students seem to have either the neatest or the messiest desks or lockers in the school. The one with the messiest desk will need your help in frequent cleanups of the desk or locker so that he can find things. Simply remember that he is probably not making a conscious choice to be messy. He is most likely incapable of this organizational task without specific training. Attempt to train him in organizational skills using small, specific steps. People with Autism have problems with abstract and conceptual thinking. Some may eventually acquire abstract skills, but others never will. When abstract concepts must be used, use visual cues, such as drawings or written words, to augment the abstract idea. Avoid asking vague questions such as, “Why did you do that?” Instead, say, “I did not like it when you slammed your book down when I said it was time for gym. Next time put the book down gently and tell me you are angry. Were you showing me that you did not want to go to gym, or that you did not want to stop reading?” Avoid asking essay-type questions. Be as concrete as possible in all your interactions with these students.

2. An increase in unusual or difficult behaviors probably indicates an increase in stress. Sometimes stress is caused by feeling a loss of control. Many times the stress will only be alleviated when the student physically removes himself from the stressful event or situation. If this occurs, a program should be set up to assist the student in re-entering and/or staying in the stressful situation. When this occurs, a “safe-place” or “safe-person” may come in handy.

3. Do not take misbehavior personally. The high-functioning person with Autism is not a manipulative, scheming person who is trying to make life difficult. They are seldom, if ever, capable of being manipulative. Usually misbehavior is the result of efforts to survive experiences which may be confusing, disorienting or frightening. People with Autism are, by virtue of their disability, egocentric. Most have extreme difficulty reading the reactions of others.

4. Most high-functioning people with Autism use and interpret speech literally. Until you know the capabilities of the individual, you should avoid:
- idioms (e.g., save your breath, jump the gun, second thoughts)
- double meanings (most jokes have double meanings)
- sarcasm (e.g., saying, “Great!” after he has just spilled a bottle of ketchup on the table)
- nicknames
- “cute” names (e.g., Pal, Buddy, Wise Guy)

5. Remember that facial expressions and other social cues may not work. Most individuals with Autism have difficulty reading facial expressions and interpreting “body language”.

6. If the student does not seem to be learning a task, break it down into smaller steps or present the task in several ways (e.g., visually, verbally, physically).

7. Avoid verbal overload. Be clear. Use shorter sentences if you perceive that the student is not fully understanding you. Although the student probably does not have a hearing problem and may be paying attention, he may have difficulty understanding your main point and identifying important information.

8. Prepare the student for all environmental and/or changes in routine, such as assembly, substitute teacher and rescheduling. Use a written or visual schedule to prepare him for change.

9. Behavior management works, but if incorrectly used, it can encourage robot-like behavior, provide only a short term behavior change or result in some form of aggression. Use positive and chronologically age-appropriate behavior procedures.

10. Consistent treatment and expectations from everyone is vital.

11. Be aware that normal levels of auditory and visual input can be perceived by the student as too much or too little. For example, the hum or florescent lighting is extremely distracting for some people with Autism. Consider environmental changes such as removing “visual clutter” from the room or seating changes if the student seems distracted or upset by his classroom environment.

12. If your high-functioning student with Autism uses repetitive verbal arguments and/or repetitive verbal questions, you need to interrupt what can become a continuing, repetitive litany. Continually responding in a logical manner or arguing back seldom stops this behavior. The subject of the argument or question is not always the subject which has upset him. More often the individual is communicating a feeling of loss of control or uncertainty about someone or something in the environment. Try requesting that he write down the question or argumentative statement. Then write down your reply. This usually begins to calm him down and stops the repetitive activity.
13. If that doesn’t work, write down his repetitive question or argument and ask him to write down a logical reply (perhaps one he thinks you would make). This distracts from the escalating verbal aspect of the situation and may give him a more socially acceptable way of expressing frustration or anxiety. Another alternative is role-playing the repetitive argument or question with you taking his part and having him answer you as he thinks you might.

14. Since these individuals experience various communication difficulties, do not rely on students with Autism to relay important messages to their parents about school events, assignments, school rules, etc., unless you try it on an experimental basis with follow-up or unless you are already certain that the student has mastered this skill. Even sending home a note for his parents may not work. The student may not remember to deliver the note or may lose it before reaching home. Phone calls to parents work best until the skill can be developed. Frequent and accurate communication between the teacher and parent (or primary care-giver) is very important.

15. If your class involves pairing off or choosing partners, either draw numbers or use some other arbitrary means of pairing. Or ask an especially kind student if he or she would agree to choose the individual with Autism as a partner before the pairing takes place. The student with Autism is most often the individual left with no partner. This is unfortunate since these students could benefit most from having a partner.

16. Assume nothing when assessing skills. For example, the individual with Autism may be a “math whiz” in Algebra, but not able to make simple change at a cash register. Or, he may have an incredible memory about books he has read, speeches he has heard or sports statistics, but still may not be able to remember to bring a pencil to class. Uneven skills development is a hallmark of Autism.

BE POSITIVE
BE CREATIVE
BE FLEXIBLE
Autism Spectrum Disorder:
Planning for Next Year
Checklist for Transition

☐ ISSP goal: to transition from pre-school to Kindergarten/from grade to grade/school to school.

☐ Next year’s teacher(s) visit and/or spend time in student’s current placement.

☐ Take photographs/video of next year’s school experience to develop a Social Story Book. Photographs could include:
  • The school building
  • The door(s) the student will be using
  • The hallway
  • The locker
  • Next year’s teacher(s)
  • Student(s) he/she may know
  • Door to his/her classroom
  • New objects of interest in the environment
  • The bathroom

☐ Review periodically over the summer months by the parents.

☐ Have student visit his/her new classroom or school.

☐ Assess the need for a staggered or delayed entry to enable the staff to establish the classroom routines prior to the student’s entry.

☐ Consider plans for recess and lunch coverage if necessary.

☐ Make a photo album.

☐ As quickly as possible make an independent schedule.
Integrating Student’s ISSP Goals with Regular Class Activities

Once the team has developed the Education Component of the ISSP for a student with Autism, including setting individual goals, objectives, and strategies, the next planning challenge is to fit these activities into the regular schedule of the class or classes. Some of the strategies may need to be planned for other settings, but for students who are receiving their programs and services in integrated class placements, the type of format shown below will help teachers plan for implementation of the ISSP.

<table>
<thead>
<tr>
<th>ISSP Goals</th>
<th>Arrival</th>
<th>Journal Writing</th>
<th>Recess</th>
<th>Language Arts</th>
<th>Lunch</th>
<th>Social Studies</th>
<th>Science</th>
<th>Dismissal</th>
</tr>
</thead>
<tbody>
<tr>
<td>Develop Social Skills</td>
<td>Practise greeting people by name</td>
<td>Use communication book with student assistant</td>
<td>Participate in organized games</td>
<td>Take part in co-op reading group</td>
<td>Practise courtesy rules during eating and socializing</td>
<td>Work at centre with peer helper</td>
<td>Work at centre with peer helper</td>
<td>Line up with friends to wait for parent</td>
</tr>
<tr>
<td>Improve Decision Making</td>
<td>Choose place in line</td>
<td>Pick topic from communication book</td>
<td>Pick between two games</td>
<td>Choose book for group to read</td>
<td>Decide order to eat food</td>
<td>Decide between two centres</td>
<td>Decide between two centres</td>
<td>Choose who to stand with in line</td>
</tr>
<tr>
<td>Staying on Task</td>
<td>Complete routine of storing belongings</td>
<td>Stay on-task for 10 minutes</td>
<td>Stay with the game chosen</td>
<td>Remain in groups during activity</td>
<td>Finish lunch and remain seated for 15 minutes</td>
<td>Stay in each centre for at least 10 minutes</td>
<td>Stay in centre for at least 10 minutes</td>
<td>Complete routines of retrieving all belongings and take home work</td>
</tr>
<tr>
<td>Participating in Group Activities</td>
<td>Enter with classmates</td>
<td>N/A</td>
<td>Play with classmates</td>
<td>Answer questions about story, using comm. Book</td>
<td>Help with clean up in groups</td>
<td>Peer pairs</td>
<td>Peer pairs</td>
<td>Exit with classmates</td>
</tr>
</tbody>
</table>

A blank form that can be adapted for individual students is included on the next page.
<table>
<thead>
<tr>
<th>Student's ISSP Goals</th>
<th>Regular Class Activities</th>
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<tbody>
<tr>
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</tr>
<tr>
<td>Goal 1</td>
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<tr>
<td>Goal 2</td>
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<td>Goal 3</td>
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<tr>
<td>Goal 4</td>
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</tbody>
</table>
Resources

Consultative and Support Services

The Student Support Services Division, Department of Education, provides support and professional development opportunities for school districts in Newfoundland and Labrador. School districts are encouraged to contact the Student Support Services Division for support in either program development regarding individual students or professional development regarding ASD.

Department of Education
Division of Student Support Services
P. O. Box 8700
St. John’s, NF
A1B 4J6
729-6450 (ph)
729-2096 (fax)
www.gov.nf.ca/edu/dept/sss.htm

Organizations

Autism Society of Newfoundland and Labrador
P. O. Box 14078, Station A
St. John’s, Newfoundland
A1B 4G8
phone: (709) 722-2803
e-mail: info@autismsociety.nf.net
web: www.autism.nf.net

Families for Effective Autism Treatment
www.feat.org

Geneva Centre for Autism
Suite 200, 250 Davisville Ave
Toronto, Ontario
M4S 1H2
web: www.autism.net

Daybreak Parent Child Centre
3 Barnes Road
St. John’s, Newfoundland
A1C 3X1
(709) 726-8373
**Internet Resources**


Autism Treatment Services of Canada [http://www.autism.ca](http://www.autism.ca)

Asperger’s Syndrome - Fred Volkmar  
[http://med.yale.edu/chldstv/autism/](http://med.yale.edu/chldstv/autism/)

Asperger’s Syndrome - Karen Williams  


Families for Effective Autism Treatment [http://www.feat.org](http://www.feat.org)


Linguisystems. [www.linguisystems.com](http://www.linguisystems.com)

Ontario Rett Syndrome Association [http://www.cgocable.net/~rettsont/](http://www.cgocable.net/~rettsont/)


Social Stories [www.thegraycenter.org](http://www.thegraycenter.org)

TEACCH - Treatment and Education of Autistic and Related Communication Handicapped Children [http://www.teacch.com](http://www.teacch.com)


Tony Attwood [http://www.tonyattwood.com](http://www.tonyattwood.com)


[http://www.do2learn.com](http://www.do2learn.com)

There are thousands of websites related to Autism. The websites listed above are some of the more well known sites. Many contain links to other sites.
Print Resources

The following books are excellent sources of information on Autism and Asperger’s Syndrome. These haven’t necessarily been used as references for this document:

A guide to successful employment for individuals with autism (1994)
by M. D. Smith, R. G. Belcher, & P. D. Juhrs
Baltimore: Brookes

A treasure chest of behavioral strategies for individuals with autism (1997)
by B. Fouse and M. Wheeler
Texas: Future Horizons, Inc.

Activity schedules for children with autism (1999)
by L. E. McClannahan & P. J. Krantz
Bethesda, MD: Woodbine House

Asperger Syndrome (2000)
by A. Klin & F.R. Volkman
New York: Guilford Publications

by B. S. Myles & R. L. Simpson
Austin, TX: Pro-Ed

Asperger syndrome and difficult moments (1999)
by B. S. Myles & J. Southwick

by T. Attwood
London: Jessica Kingsley Publishers

by V. Cumine, J. Leach, & G. Stephenson
London: David Fulton Publishers

Autism and asperger syndrome (1991)
by U. Frith
New York: Cambridge University Press
by Janice I. Adams
Kent Bridge, ON; Adams Publications

Autism/P.D.D.: Creative ideas during the school years (1993)
by Janice L. Adams
Kent Bridge, ON: Adams Publications

Autism/P.D.D.: More creative ideas from age eight to early adulthood (1997)
by Janice I. Adams
Kent Bridge, ON: Adams Publications

Autism training sourcebook (1997)
Indiana Resource Centre for Autism.

by C. Maurice (Ed.)
Austin, TX: Pro-Ed

Behavioural issues in autism (1994)
by E. Schopler & G. V. Mesibov (Eds.)
New York: Plenum Press

Breakthroughs: How to reach students with autism: A hands-on how-to manual for teachers and parents (1998)
by Karen Sewell,
Verona, Wisconsin: Attainment Company, Inc.

Building bridges through sensory integration (1998)
by E. Yack, S. Sutton, & P. Aquilla
Toronto, ON: Print Three.

Choosing outcomes and accommodations for children: A guide to educational planning for students with disabilities (1997)
by M. Giangreco, C. Cloninger, and V. Iverson
Toronto, ON: Paul H. Brookes Publish Co.

Comic strip conversations (1994)
by C. Gray,
Jenison, MI: Jenison Public Schools
by K.A. Quill
Baltimore, Maryland: Paul H. Brookes Publishing Co.

Emergence: Labeled autistic (1986)
by Temple Grandin
New York: Random House

Functional assessment and program development for problem behaviour (1997)
by R. O’Neill, R. Homer, R. Albin, J. Sprague, K. Story, & S. Newton
Pacific Grove, CA: Brooks/Cole

Handbook of autism and pervasive developmental disorders (2nd ed.) (1997)
by D.J. Cohen & F. R. Volkmar (Eds.)
New York: John Wiley & Sons

Job-related social skills: A curriculum for adolescents with special needs (1991)
by M. Montague & K. Lund
Brijan Resources Ltd.

Let me hear your voice (1993)
by C. Maurice
New York: Fawcett Columbine Company (Catalogue) P.O. Box 1579, Salona Beach, CA 92075-1579 1-619-550-0084

Model for coordination to children and youth: Handbook for profiling the needs of children/youth (2002)
Departments of Education, Health and Community Services, Human Resources, and Justice.
Government of Newfoundland and Labrador, P.O. Box 8700, St. John’s, NL A1B 4J6

More than words (1999)
by F. Sussman
Toronto, ON: Hanen Centre Publication

The picture exchange communication system: Training manual (1994)
by L.A. Frost & A.S. Bondy
Cherry Hill, NJ: Pyramid Educational Consultants, Inc.
Point...click...& learn!!! A “User Friendly” guide to educational software programs for individuals with developmental disabilities (1997)  
by C. K. Hileman  
Arlington, TX: Future Horizons

Preschool programs for children with autism (1994)  
by S. Harris & J. Handleman  
Austin, TX: Pro-ed

Programming for Individual Needs:  
Using Technology to Enhance Student’s Differing Abilities (1996).  
Pathways to Programming and Graduation (1998)  
Department of Education, Division of Student Support Services, Government of Newfoundland and Labrador, P.O. Box 8700, St. John’s, NL A1B 4J6.

Social skills for students with autism  
by Richard Simpson, et. al.  
Reston, VA: Council of Exceptional Children

Social stories: All new social stories teaching social skills (1996)  
by C. Gray  
Arlington, TX: Future Horizons

The out-of-sync child (1998)  
by C. Kranowitz  
Skylight Press

The social story book (1993)  
by C. Gray  
Jenison, MI: Jenison Public Schools

Solving behaviour problems in autism: Improving communication with visual strategies (1999)  
by L. A. Hodgdon  
Troy, MI: Quirk Roberts Publishing
Taming the recess jungle (1993)
by C. Gray
Jenison, MI: Jenison Public Schools

Targeting autism: What we know, don’t know, and can do to help young children with autism and related disorders (1998)
by S. Cohen
University of California Press

by S. Freeman & L. Dake
SKF Books

Teaching children with autism to mindread (1999)
by P. Howlin, S. Baron-Cohen, & J. Hadwin
Sussex: Wiley

Teaching children with autism: Strategies for initiating positive interactions and improving learning opportunities (1995)
by R.L. Koegel & L.K. Koegel
Baltimore: Brookes

Teaching children with autism: Strategies to enhance communication and socialization (1995)
by K.A. Quill
New York: Delmar

Teaching students with intellectual disabilities: A resource guide for teachers (1995)
by Ministry of Education, Province of British Columbia
Government of British Columbia
http://www.educ.gov.bc.ca/specialed/docs.htm

That’s life: Social language (1998)
by N. McConnell and C. Logiudice
Lingui-Systems www.linguisystems.com

Thinking in pictures and other reports from my life with autism (1995)
by Temple Grandin
New York: Random House

Understanding the nature of autism: A practical guide (1996)
by Janice Janzen
San Antonio, TX: Therapy Skill Builders
**Resources**

by L.A. Hodgdon
Troy, MI: Quirk Roberts

*What’s next? Preparing the student with autism and other developmental disabilities for success in the community* (1992)
by Carol Gray
Arlington, TX: Horizon Publication

by B. Siegel
New York: Oxford University Press

**Video Resources**

*A is for Autism*
Films for the Humanities and Sciences, Princeton, NJ (Cartoons made by people with Autism to explain what it is like to be autistic)

*Breakthroughs: How to reach students with autism* (1998)
Attainment Company Inc.

*Building Independence through the use of adaptations and enablers*
Institute for the Study of Developmental Disabilities
Indiana University, Bloomington, IN (Strategies that enable students with autism to function more effectively, including teaching ideas)

*Great expectations: Living with more able levels of pervasive developmental disorder*
Geneve Centre: Toronto, ON (Developing an individualized approach for high-functioning students with autism and related disorders)

*Straight talk about autism* (1998)
Attainment Company Inc.

*Visual supports in the classroom*
Autism Asperger Publishing Company
P.O. Box 23173
Shawnee Mission, KS 66283
www.asperger.net
Assessment Tools

*Australian scale for asperger’s syndrome*
  by T. Attwood, J. M. Garnett
  This is in T. Attwood’s book “Asperger’s Syndrome” and is online at [www.udel.edu/bkirby/asperger/](http://www.udel.edu/bkirby/asperger/) and [www.tonyattwood.com](http://www.tonyattwood.com)

*Autism diagnostic interview - revised* (May 1999)
  by C. Lord, M. Rutter, and A. LeCouteur
  University of Chicago

*Autism diagnostic observation schedule*
  by C. Lord, S. Risi, L. Lambrecht, E. Cook and B. Leventhal
  University of Chicago.
  Available from Western Psychological Services.

*Autism screening instrument for educational planning (ASIEP)*
  (1993)
  by D.A. Drug, J.R. Arick and P.J. Almond
  Austin, TX: Pro-Ed

*Childhood autism rating scale* (1988)
  by E. Schopler, R. Reichler and B. Rochen Renner
  Los Angles, CA: Western Psychological Services

*Psychoeducational profile (PEP) Adolescent and adult psycho educational profile (AAPEP)*
  by G. Mesibov et al.
  Austin TX: Pro-Ed.

Technology

Alphatalker, Prentke Romich Company.
[www.prentrom.com/speech/alpha.html](http://www.prentrom.com/speech/alpha.html)

*Boardmaker for Windows*, Mayer-Johnson Co.
[mayerj@mayer-johnson.com](mailto:mayerj@mayer-johnson.com)

*Edmark Corporation*, Redmond, WA 1-800-362-2890 [www.edmark.com](http://www.edmark.com)

*Gaining face: Special education software to teach recognition of facial expression* Appleton, WI: Team Asperger
[http://www.ecoder.com/GainingFace](http://www.ecoder.com/GainingFace)
Resources

*Intellitools (IntelliKeys, Overlay maker, Intellitalk, Intellipics, Click-It)*

*Laureate learning systems* [www.LaureateLearning.com](http://www.LaureateLearning.com)

*Living books: Broderbund* Novato, CA. (This is a library of software and materials to support the curriculum.)

  [mayerj@mayer-johnson.com](mailto:mayerj@mayer-johnson.com)

This list is not exhaustive.

**Timer**

*Puzzling thoughts*
  334 Decimal Place, Scarborough, Ontario
  M1C 2V9, 416-284-7635, will also make personalized picture cards, schedules, puzzles.
References

This section includes sources used in the development of and referred to in the resource guide, and additional resources not listed in Resources.


References


References


Newfoundland and Labrador Department of Education, (1997). *Programming for individual needs: Individual support services plans*. St. John’s, NF. Author


Newfoundland and Labrador Department of Education, (2002). *Profiling the needs of children/youth*. St. John’s, NF. Author


