

Autism Spectrum Disorders and Visual Impairment

MEETING STUDENTS' LEARNING NEEDS

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APPENDIX 2A

Comparison of Development Among Children Who Are Sighted and Typically Developing, Blind or Visually Impaired, and Blind or Visually Impaired with an Autism Spectrum Disorder

Typical Development	Blind or Visually Impaired	ASDVI
Communication Behaviors		
<p>Makes cooing and gurgling sounds (3-6 months).</p>	<p>The process of acquiring speech and language appears to be the same for visually impaired children as it is for typical children, but slower physical development, a more restricted range of experiences, and the lack of visual stimulation may cause a child's language development to be slower (Scholl, 1986).</p>	<p>Language develops slowly or not at all.</p> <p>Development is frequently "splintered"; language development may or may not be consistent with typical developmental norms or sequences.</p> <p>May show no interest in communicating.</p>
<p>Copies speech sounds (6-12 months).</p>		<p>Exhibits concrete understanding and use of language; has difficulty with generalizations.</p> <p>Echolalic; often has difficulty breaking this pattern. The echolalia often leads to patterns of verbal perseveration with idiosyncratic meanings.</p> <p>Has difficulty initiating and engaging in meaningful conversations. The range of "topics of interest" is narrow.</p> <p>Has difficulty maintaining a topic chosen by others; exhibits limited or no conversational reciprocity.</p>
<p>Uses much jargon (unintelligible speech) with emotional content.</p> <p>Is able to follow simple commands (18 months).</p> <p>Has a vocabulary of 150-300 words (24 months).</p>	<p>Speech is echolalic but for a short duration.</p> <p>Language may be delayed if experiences are limited, but is not distorted.</p> <p>Responds appropriately to language requests; enjoy communication "give and take."</p>	

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Typical Development	Blind or Visually Impaired	ASDVI
<p>Understands most simple questions dealing with his or her own environment and activities (36 months).</p> <p>Relates experiences so that they can be followed with reason.</p> <p>May briefly exhibit pronoun reversals.</p> <p>Takes part in simple conversations (2-3 years).</p>	<p>Vocabulary is built through concrete experiences.</p> <p>Can experience difficulty with abstract language because of limited concrete experiences.</p> <p>May reverse pronouns, but such reversals are brief in duration.</p> <p>Difficulties with concepts are common because of the lack of a visual model; once understood, concepts can be generalized.</p> <p>Language development usually follows developmental norms.</p>	<p>Uses words without attaching the usual meanings to them.</p> <p>Uses nonconventional or non-traditional behaviors (such as gestures, pulling) as a form of communication.</p> <p>Has long-term difficulty using pronouns appropriately.</p>
<p>Follows a logical pattern of concept development from the concrete to the abstract.</p>	<p>Language development is based on concrete "hands-on" experiences.</p>	<p>Has apparent lack of common sense; may be overly active or passive.</p> <p>Has difficulty with abstract concepts and often focuses on "irrelevant" information; has a literal translation of language; a literal or concrete understanding of concepts makes generalizations difficult.</p>
<p>Develops language from experience and interaction with the environment; can adjust the topic of interest from an early age.</p>	<p>Learns language from an early age; adjusts the topic of conversation.</p> <p>Had difficulty with abstract concepts for which there is limited "hands-on" experience.</p> <p>Develops a broader understanding based on experiences; is able to generalize information with instruction.</p>	<p>If verbal, may converse but focus on a topic of perseverative interest.</p> <p>Has difficulty generalizing information, even with instruction.</p>

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Typical Development	Blind or Visually Impaired	ASDVI
Social Interactions		
<p>Responds to his or her name (6-9 months).</p>	<p>Responds to his or name; responses are more defined when paired with tactile contact.</p> <p>Needs to learn that a world exists beyond reach; may exhibit social interest through changing or shifting posture (leaning or turning).</p>	<p>Appears not to hear; does not orient toward sound.</p>
<p>Takes turns while playing with an adult (for example, using actions, sounds, or facial expressions) (6-12 months).</p>	<p>Engages in social give-and-take; seeks to share information or experiences with others.</p>	<p>Has limited, if any, social interests</p> <p>Has a limited understanding of social give-and-take.</p>
<p>Makes simple choices among toys.</p> <p>Mimics another child's play (18-24 months).</p>	<p>Play is sometimes observed to be less "imaginative" and more concrete because of the lack of a visual model. Redirection of an activity is possible.</p>	<p>Plays repetitively; often does not use toys for their intended purpose.</p>
<p>Often indulges in make-believe (48 months).</p>	<p>Because of limited visual references, may have difficulty in observing, organizing, and synthesizing the environment; imitative and make-believe play may be delayed, but can be specifically "taught."</p> <p>Requires a variety of opportunities to learn and to generalize; needs feedback to understand and comprehend some social situations.</p>	<p>Does not engage in spontaneous or imaginative play or initiate pretend play.</p> <p>Perseverative behavior is a problem, and a redirection of activities may be difficult.</p>

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Typical Development	Blind or Visually Impaired	ASDVI
<p>Enjoys playing with other children (3-4 years).</p>	<p>Enjoys playing with other children.</p> <p>Shows social curiosity; is curious about the environment (for example, may ask who may be in the room or where a peer may be).</p>	<p>Prefers to spend time alone, rather than with others; peer relationships are often distorted.</p> <p>Exhibits little social curiosity; may find interactions with others to be unpleasant.</p>
<p>Is able occasionally to use feelings to explain reasons (48 months).</p>	<p>Demonstrates empathy; is able to comprehend another's feelings.</p>	<p>May treat other people as objects; has a limited ability to understand another's feelings.</p>
<p>Enjoys playing organized games with other children (5-6 years).</p>	<p>Enjoys playing organized games with other children.</p> <p>Has difficulty observing, organizing, and synthesizing the environment; requires a variety of opportunities.</p>	<p>Is often anxious and uncomfortable in social situations; prefers to follow routines and rituals. Has difficulty adapting to change.</p>
<p>Demonstrates empathy toward others.</p>	<p>Will acknowledge emotions of self and others.</p> <p>Seeks out others if hurt, sick, sad, or angry.</p>	<p>Appears to ignore when someone is hurt.</p> <p>Shows little bonding with family members</p>
<p>Restricted, Repetitive, and Stereotyped Patterns of Behavior</p>		
<p>Reaches for a toy (3-6 months).</p> <p>Puts in and dumps objects from containers (12-18 months).</p> <p>Looks at storybook pictures with an adult (18-24 months).</p>	<p>Stereotypic behaviors (rocking, eye-poke) may occur in novel and unfamiliar situations; management of these behaviors can be accomplished with redirection into meaningful activities that provide sensory feedback; the child learns to control these behaviors when older.</p>	<p>Plays repetitively; toys are not used as intended.</p> <p>May persevere on a specific feature of a toy (such as spinning the wheel of a car) or may engage in a repetitive action with a toy or objects.</p>

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Typical Development	Blind or Visually Impaired	ASDVI
	<p>Interests may be limited because of limited exposure; demonstrates an interest in a variety of toys or objects once they are experienced.</p> <p>Historically, stereotypic behaviors have been attributed to the lack of stimulation of the vestibular system. These behaviors occur more in young children and lessen as the children learn to interact with the environment.</p>	<p>The interruption of a favorite activity or of a stimulatory motor behavior (such as hand flapping or rocking from one foot to another) is often met with extreme resistance.</p>
<p>Helps with simple tasks (2-3 years).</p> <p>Follows two-step directions.</p> <p>Uses materials and toys to make things (3-4 years).</p>	<p>Interest may be limited to toys, tasks, or objects that were previously experienced; is able to engage in a variety of activities with adults and peers.</p> <p>Redirection of an activity is possible; response to changes are easier with greater experiences.</p>	<p>Has highly restricted interests; has difficulty being redirected from high-interest toys or objects.</p> <p>Exhibits an extreme interest in one part of an object or one type of object.</p>
<p>Shifts attention from one person, item, or activity to another.</p>	<p>Exhibits typical flexibility in managing changes in routine.</p>	<p>Challenging behaviors escalate when changes in routine or structure are experienced; demonstrates inflexibility when transitioning between activities.</p> <p>Stereotypic behaviors occur throughout life and are difficult to break.</p> <p>Behaviors increase with anxiety and with stressful situations and can be difficult to redirect.</p>

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Typical Development	Blind or Visually Impaired	ASDVI
		<p>May perseverate on a single item, idea, or person; may rigidly perform a seemingly nonfunctional routine.</p> <p>May engage in aggressive or violent behavior or injure himself or herself; may throw frequent tantrums for no apparent reason.</p>
Responses to Sensory Information		
<p>Turns head toward sounds (3-6 months).</p> <p>Feeds self with spoon; drinks from a cup (12-18 months).</p> <p>Moves body in time to music (18-24 months).</p> <p>Puts on clothing with a little help (4-5 years).</p> <p>Jumps, runs, throws, and climbs using good balance (3-4 years).</p> <p>Tolerates a normal range of touch, movement, sounds, and smells.</p> <p>Attends to relevant stimuli.</p>	<p>Often has poor posture because of the lack of a visual model; learns to orient to sounds with instruction.</p> <p>Interests may be restricted because of the lack of vision; interests expand with experiences.</p> <p>Exhibits little delay in motor development until the onset of locomotion.</p> <p>Can be easily engaged.</p> <p>Because of the lack of visual stimulation, often creates his or her own stimulation; can usually "redirect" the stimulatory behavior.</p> <p>Uses residual senses to gain information.</p> <p>Attends to relevant stimuli.</p>	<p>Has unusual reactions to physical sensations, such as being overly sensitive to touch or underresponsive to pain; sight, hearing, touch, pain, smell, and taste may be affected to a lesser or greater degree.</p> <p>Unusual postures and hand movements are common and can be difficult to redirect.</p> <p>Commonly perseverates various sensory stimuli.</p> <p>Tactile defensiveness is common and is usually not overcome with time.</p> <p>Often appears not to hear or focus.</p>