EMERGENT LITERACY
FOR YOUNG BLIND CHILDREN

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F B C

Foundation
for Blind
Children

Pre-Braille Readiness Checklist

The following checklist consists of skills that may be important for a young visually impaired child who will be a potential braille reader. These skills can be incorporated into the child's daily preschool program. It is assumed that the young visually impaired child is already mastering many of the milestones in the 4-5 year old levels of development (fine motor, gross motor, language, socialization, body/spatial awareness, daily living skills, compensatory and cognitive).

1. Demonstrates one to one correspondence by placing single objects in a 12-hole muffin tin to fill all empty spaces.

HANDEDNESS	X	SYSTEM	X
Right Hand		At Random	
Left Hand		By Rows	
Two Hands		By Rows L-R	

One hand as place holder, one hand to place object

_____

Transfers activity to peg board.

Yes _____   No _____

Comments:

2. Demonstrates searching ability by locating single objects in a muffin tin.

HANDEDNESS	X	SYSTEM	X
Right Hand		At Random	
Left Hand		By Rows	
Two Hands		By Rows L-R	

One hand as place holder, one hand to place object

_____

Transfers activity to peg board.
Yes _____ No _____

3. Demonstrates the ability to copy patterns upon imitation.

PATTERN	RAISED LINE DRAWING	MUFFIN TIN	PEG BOARD	RUBBER BAND BOARD	OTHER
Corners					
Rows					
Rows L-R					
Columns					
Square					
Cross					
Diagonal					

Copies 6 hole peg patterns.

Yes _____   No _____

Comments:

4. Demonstrates spatial concepts using three dimensional and two dimensional materials for placement and location.

SKILL	MUFFIN TIN	PEG BOARD	BOOK	PAPER
Top				
Bottom				
Sides				
Back				
Front				
Corners				
Middle				
Above				
Below				
Left				
Right				

5. Demonstrates ability to sort and match objects according to shape.

	X	OBJECTS
Sorts 2 Dissimilar Objects		
Sorts 3 Dissimilar Objects		
Sorts 5 Dissimilar Objects		
Sorts 2 Similar Objects		
Sorts 3 Similar Objects		
Sorts 5 Similar Objects		

6. Demonstrates ability to sort and match fabrics according to texture.

	X
Matches 2 Fabrics	
Matches 4 Fabrics	
Matches 6 Fabrics	

7. Demonstrates ability to tactually identify 3-6 geometric shapes.

	X	SHAPES (i.e. ■● ▲)
Sorts and Matches Concrete Shapes		
Traces Outside Edge of Concrete Shapes		
Traces Continuous Raised Line Shapes		
Traces Braille Filled Shapes		
Traces Braille Outlined Shapes		

8. Sorts 3 x 5 inch note cards according to absence or presence of braille.

   Yes _____   No _____

9. Demonstrates ability to track across a line from left to right.

    A.

Line of popsicle sticks		Full cells with no space	
Line of wikki sticks		Dots 2356 with no space	
Line of puff paint/paper glue		Dots 2356 with space	
Line of thermoform plastic		Dots 36	
Other		Dots 1	

    B. Tracks across line using:

Both Hands		Left Hand	
Right Hand		Index Finger(s)	

    C. Demonstrates the ability to move to the end of a line with both hands and track back along the same line to locate the beginning of the second line.

        Yes _____ No _____

10. Has gained exposure to braille through tactually exposing:

His/her name in braille	
Braille labels of objects at home and at school	
Braille numbers (book pages, daily calendar, telephone)	
Braille games	
Braille and twin vision books at school	
Tactual story boxes and books (progressing from authentic concrete to miniature representations)	
Print/braille books in the home	
Print/braille books providing sequentially based tactile illustrations (Series - ON THE WAY TO LITERACY)	

11. Demonstrates physical ability to write a line of braille cells using the braille writer.

BRAILLE WRITER	YES	NO
Electric		
Manual		

12. Completes Touch and Tell Book Series.

BOOK	YES	NO
Book 1		
Book 2		
Book 3		

13. "Scribble writes" by pushing the braille writer keys at random for a self-initiated literacy activity.

YES _____   NO _____

14. Completes the BOEHM - a tactual test of basic concepts.

YES _____   NO _____

15. Completes a teacher-made first book for developing tracking skills, braille awareness, tactual discrimination, and spatial orientation using a two-dimensional surface.

YES _____   NO _____

Comments:

Beginning Braille Competencies

The following competencies do not have to be accomplished before kindergarten. Each child is unique in his development and readiness level. Literacy skills will progress according to a child's language development, concept formation, interest-motivation, and fine motor discrimination abilities. The Braille reading/writing skills that he or she learns will provide the added exposure that many sighted children possess upon entering kindergarten. More specifically, the young student will have the opportunity to use braille producing tools and begin processing the complexities of the Braille Code prior to kindergarten.

The following competencies are **not** in sequential order. A certified teacher of students with visual impairments will determine the sequence and combination of instructional skills necessary for each student's optimal progress.

_____ 1. Tracks smoothly across three to eight lines of double spaced braille.

_____ 2. Finds beginning and end of a braille line.

_____ 3. Located long and short horizontal and vertical braille lines.

_____ 4. Locates braille symbol that is different in a line of braille.

_____ 5. Locates braille symbol that is the same in a line of braille.

_____ 6. Discriminates two braille symbols to determine if they are the same or different.

_____ 7. Matches and sorts braille symbols (letters, numbers, whole word combinations).

_____ 8. Demonstrates organization of braille cell using a variety of materials (golf balls, marbles, pegs.)
a. Copying six piece configuration
b. Copying by demonstrating "dot" system

_____ 9. Transfers skill #8 to the six keys on the braille writer.

_____ 10. Pushes each key separately and in combination with other keys.

_____ 11. Reads and writes number 0 -10 in braille using number signs.

_____ 12. Reads and writes some letters of the alphabet in braille.

_____ 13. Reads and writes simple whole word contractions (go, like).

_____ 14. Reads and writes first and last name.

_____ 15. Discriminates own name from other dissimilar names in braille.

_____ 16. Attempts to "read" or follow along when an adult reads a print/braille book.

_____ 17. Inserts and removes paper in braille writer.

_____ 18. Locates all parts of the braille writer when named.

_____ 19. Demonstrates use of all parts of braille writer when asked.

_____ 20. Locates, removes and replaces push pin in cork board to complete teacher directed task.
_____ Uses pencil/crayon to mark correct response.

_____ 21. Moves beads on abacus for counting purposes.

_____ 22. Dictates and co-actively writes simple language experience phrases for developing a book or weekly news notes.

_____ 23. Rhymes words for building simple word families.

_____ 24. Sorts tactual objects according to their beginning sounds.

_____ 25. Begins *Patterns* pre-primer.

_____ 26. Begins *Mangold* program.

_____ 27. "Scribble writes" using a slate and stylus.

_____ 28. Exposed to technology.

Comments:

LITERACY RECOMMENDATIONS:

Independent Life Skills Trays

Denise Bishop

Cooperative Preschool for the Visually Impaired
Arizona State School for the Deaf and Blind - Foundation for Blind Children

An independent life skills tray can be an exciting learning adventure for children. The trays should be located in a place where the children feel comfortable and spills will not be a problem. Our trays are located on a book case with cube chairs and carpet squares for the child's work area.

Our purpose for these trays is to give each child the opportunity to initiate, practice, and complete a skill independently. These skills are necessary for the development of independence in children. The trays concentrate on skills that require a great deal of practice for young children to master, i.e. eye-hand coordination, scooping, squeezing, pouring, etc.

Attached you will find a list of some of the trays we use and a description of what the child will do with each tray. It is important that an adult go through the tray from start to finish with the child. This demonstrates to the child exactly what he is expected to do. These trays have been used in classrooms with children ranging in age from 2 ½ to 5 years old. Before using a tray, be sure the children are mature enough to handle the materials safely. Let your imagination run with this method of fun practice.

In thinking of additions for life skill trays, remember that any activity around the house can be an exciting learning experience for a young child. We are also interested in your ideas. If you think of a tray and it works for you, please drop me a line: Denise Bishop, Foundation for Blind Children, 1235 E. Harmont Drive, Phoenix, AZ 85020.

A book that lists all of the trays we currently use is press. Here is a sample of some of the trays. If you are interested in purchasing a copy of the book, fill out the order form and leave it with the speaker and one will be shipped to you. The cost is $10.

Bottle Twist Tray
Materials Needed:
1. A nice variety of bottles with odd shaped lids

  Place the bottles, with their lids on, on a tray. The child will remove all of the lids and then proceed to reunite the bottle with its correct lid.

Clip Textures Together
Materials Needed:
1. A group of 8 fabric swatches that have at least 4 different textures (these can be mounted on tag board or left alone)
2. 4 clips (these can be clothes pins, hair clips or any fun clips)

  The child will take the tray and lay out the fabric pieces and match them. When they are matched, the child will use the clip to hook like fabrics together.

Cotton Ball Pick-Up
Materials Needed:
1. 10 or 15 cotton balls
  HINT: Craft balls or colored pom poms hold up longer.
2. A pair of tweezers
  HINT: try a variety of small implements for grabbing the puffs. We like the Tupperware strawberry stem remover.
3. 1 large margarine tub

  The child will dump the bowl of cotton balls onto the tray. With the tweezers, he will replace the cotton balls into the bowl.

Earring Sort Tray
Materials Needed:
1. 6 pairs of clip-on earrings that are different
2. An ice cube tray with 6 holes

  Put the earrings in a margarine tub and let the children dump them out and begin sorting them into the sections of the ice cube tray. When they are finished matching, the earrings will go back in the tub. Hint: Sometimes it is fun to put a mirror for the children to look at themselves after they put on the earrings.

Flip-the-Cookie Tray
Materials Needed:
1. 8 to 10 small round bean bags (we made them gray smooth on one side and white fuzzy on the other side. They were 3 inches in diameter)
2. Spatula
3. Cookie sheet with an edge all around it

  The child gets the cookie sheet and all of the "cookies" are fuzzy side up. They use the spatula to flip them over. A variation is to put the cookies on a plastic plate using the spatula.

Hammer Golf Tee Tray

Materials Needed:
1. 1 8" x 8" baking pan
2. Large can of play dough
3. 15 or 20 golf tees
4. Small wooden hammer
5. 1 margarine tub

Spread the play dough in the bottom of the pan. The child will take one golf tee from the tub and hammer it into the clay. This tray should be stored in a ziplock bag when it is not being used. HINT: This was very difficult to keep soft, so a non-crumbling type of styrofoam was used.

Rock Scoop

Materials Needed:
1. 1 to 2 cups of colored rocks (used in fish tank)
2. Spoon, coffee scoop, medicine cup
3. Glass or see through plastic sugar bowl or creamer
4. Small rectangular dish

Place the rocks in the rectangular dish. Have the different scoops available for the child to choose. The child will scoop the rocks from the dish and pour them into the sugar bowl. When this has been completed, he will pour the rocks back into the rectangular dish.

Silverware Sort Tray

Materials Needed:
1. Silverware tray
2. 6 knives, 6 forks, 6 spoons

The child will dump the silverware on his tray then separate them into the appropriate sections of the tray.

Sink And Float Tray

Materials Needed:
1. Tray large enough to hold the items firmly
2. Clear plastic tub filled with 1 to 2 inches of water
3. Folded hand towel
4. A variety of toys that will either sink or float
5. Margarine tub to hold all of the toys

The child will sit down with the tray and open the plastic margarine tub. He will take the items out, one at a time, and place it in the water. After discovering if it sinks or floats, the child will dry the toys and put them in the dry margarine tub.

Sponge Squeeze

Materials Needed:
1. A dog food dish with two bowls
2. A sponge
3. Water
4. A small hand towel for spill clean up

Fill one side of the dish with water and the other side with the sponge. The child will place the dry sponge in the water. After the sponge has soaked up some water, he

will move it to the dry side and squeeze out the water. He continues this until the water is completely transferred.

Toothpick Drop Tray
Materials Needed:
1. A colander or other perforated utensil
2. 15 to 20 toothpicks
3. Toothpick holder or bowl for the picks

The tray should be large enough for the colander to be upside down. The child will drop the toothpicks through the tiny holes, then pick up the colander to reveal the scattered picks. The child will then put the picks back in the holder.

Turkey Basting Tray
Materials Needed:
1. Puppy two-sided dish
2. Food coloring and water
3. Turkey baster with squeeze bulb

By squeezing the turkey baster, the child will transfer the colored water from one side of the dish to the other.

Supporting Children to Participate Successfully in Everyday Life by Using Sensory Processing Knowledge

Winnie Dunn, PhD, OTR, FAOTA

There is an accumulating literature describing sensory processing in young children and suggesting the importance of this knowledge for understanding the characteristics of vulnerable children. Professionals and families need a working knowledge about sensory processing because it enables them to understand and interpret children's behaviors and to tailor everyday life routines so that children may have successful and satisfying experiences. This article reviews Dunn's model of sensory processing, and summarizes both typical and special population evidences that demonstrate support for the model. The article also describes how the concepts in this model are reflected in everyday behaviors so that readers can link the concepts to their own knowledge about young children. Since processing concepts are based on evidence across the lifespan, this knowledge can also enable caregivers to understand their own responses as well. The article then discusses the application of sensory processing knowledge within natural contexts and routines, arguing that using sensory processing knowledge to analyze, adapt, and support the established routines is an effective application of knowledge. Finally, the article provides specific suggestions for adapting everyday life situations to meet the needs of children with different patterns of sensory processing, and illustrates how adults can manage their own sensory processing needs as they care for young children. **Key words:** *avoiding*, *daily life*, *early intervention*, *family-centered care*, *natural environments*, *routines*, *seeking*, *sensitivity*, *sensory integration*, *sensory processing*

THERE is an accumulating body of literature describing sensory processing as an important factor in human behavior. Researchers describe 4 patterns of sensory processing that occur across all age groups, and seem to occur more intensely in vulnerable populations. Early intervention profes-

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sionals and families need to have a working knowledge about sensory processing so that they can interpret children's behaviors from a sensory processing perspective. Professionals and caregivers can also use sensory processing knowledge to understand their own responses to events in everyday life. Sensory processing knowledge is useful for planning interventions that support children to have successful and satisfying experiences in everyday life.

This article has 3 parts. First, there is a review of Dunn's model of sensory processing, and a summary of the evidence that validates this model. Second, the article presents behavior patterns that would be associated with the 4 patterns of sensory processing in Dunn's model. Finally, there is a discussion about how to apply sensory processing to intervention planning within natural environments.

DUNN'S MODEL OF SENSORY PROCESSING

On the basis of data from more than 1000 children with and without disabilities, Dunn (1997) hypothesized that there is a relationship between a person's nervous system operations and self-regulation strategies, and that the interaction of these functions creates 4 basic patterns of sensory processing. After making these initial hypotheses, Dunn and colleagues (Brown, Tollefson, Dunn, Cromwell, & Filion, 2001; Brown, Cromwell, Filion, Dunn, & Tollefson, 2002; Dunn & Bennett, 2002; Dunn & Daniels, 2001; Dunn, Myles, & Orr, 2002; Dunn & Westman, 1997; Ermer & Dunn, 1998; Kientz & Dunn, 1997; McIntosh, Miller, Shyu, & Hagerman, 1999; McIntosh, Miller, Shyu, & Dunn, 1999) tested these hypotheses about basic patterns of sensory processing with other age groups and in groups with and without specific disabilities. What they found is that these patterns of sensory processing occur in each age group from infancy to older adulthood, and that people with disabilities including autism, attention-deficit/hyperactivity disorder (ADHD), schizophrenia, Asperger syndrome, and developmental and learning disabilities have both distinctive and more intense patterns of sensory processing than do their peers without disabilities.

Neurological thresholds are an important nervous system construct for understanding sensory processing. A "threshold" is the point at which there is enough input to cause a nerve cell or a system to activate. When a stimulus is strong enough to trigger the threshold, it causes activation (ie, you notice it) (Kandel, Schwartz, & Jessell, 2000). Thresholds are on a continuum; when a person has low sensory thresholds, this means that the person will notice and respond to stimuli quite often because the system readily activates to those sensory events. When a person has high thresholds, this means that the person will miss stimuli that others notice easily because the system needs stronger stimuli to activate. Each

person has a personal range of thresholds for noticing and responding to sensory events in everyday life and these thresholds may be different for each type of sensory input. For example, a person may easily notice noises (eg, low threshold for sounds) but may not notice other stimuli very easily, such as touch (eg, may have a high threshold touch) (Dunn, 1997).

A second construct that is important to understand is **self-regulation**, a behavioral construct that is also on a continuum. At one end of the continuum, persons have a passive strategy; they let things happen around them, and then react. For example, a child may continue to sit amidst other children during play and become irritable because of all the random sounds in the play area. It is a passive self-regulation strategy to remain in this noisy play area even when the child feels uncomfortable from all the sounds. At the other end of the continuum, persons utilize an active strategy; they tend to do things to control the amount and type of input that is available to them. For example, the same child playing amidst other children would crawl to a quieter place when the sound got overwhelming. It is an active self-regulation strategy to adjust one's position to get a more manageable amount of sensory input.

When these 2 continua intersect, 4 basic patterns of sensory processing emerge. Figure 1 provides a diagram summarizing the relationship among the thresholds, self-regulation, and sensory processing patterns. Each pattern is unique, and represents one extreme of the threshold and self-regulation continua (Dunn, 1997, 2001). The 4 patterns that result are (*a*) sensation seeking, which represents high thresholds and an active self-regulation strategy; (*b*) sensation avoiding, which includes low thresholds and an active self-regulation strategy; (*c*) sensory sensitivity, which includes low thresholds and a passive self-regulation strategy; and (*d*) low registration, which represents a high threshold and a passive self-regulation strategy. It is helpful to understand the functional characteristics of each pattern.

Neurological thresholds	Self-regulation strategies/behavioral responses	
	Passive	Active
High threshold	Low Registration	Sensation Seeking
Low threshold	Sensory Sensitivity	Sensation Avoiding

Figure 1. Dunn's model of sensory processing. Reprinted with permission from Dunn (1997).

Before discussing each specific pattern, it is important to note that no one has only one pattern of sensory processing. When considering the different sensory systems, a person might have sensitivity for touch but have low registration for sounds. When one recognizes the details of children's patterns, this detail enables parents, teachers, and other care providers to tailor experiences and environments to meet children's precise sensory processing needs. When meeting specific needs, children have more opportunities for participating successfully.

In addition, remember that these patterns of sensory processing are characteristic of every human being's experience in daily life. Therefore, adults who interact with children need to understand their own sensory processing needs as well. If a parent has sensory sensitivity for touch and has a child who seeks touch, they will need to negotiate their interactions so that the parent does not get overwhelmed and the child get these needs met.

When persons have a *sensation-seeking* sensory processing pattern, they derive pleasure from sensations in everyday life. Al-though they have high sensory thresholds, which means that they do not notice stimuli easily, their interest in creating sensory experiences for themselves (ie, the active self-regulation strategy) enables them to meet their own high thresholds, and therefore respond to the world around them. It is easy to determine which sensations are of interest by watching behavior; children interested in tactile input will touch everything, as if they are mapping the world around them with their hands and skin. Children interested in auditory input will make sounds with their mouths, or other objects during the day. An adult who has a seeking pattern may want to participate with the children in physical play rather than direct children to play areas, or may be very verbal in describing objects and activities to the children.

When persons have a *sensation avoiding* pattern, they tend to withdraw from situations very quickly. This person's thresholds are met very quickly with very little input, and more input can be overwhelming, as if the nervous system cannot handle more information. Sensation avoiding is an active

self-regulation strategy for controlling input; but since these persons have low sensory thresholds (ie, notice sensory stimuli easily), their withdrawal strategy serves to limit sensory input rather than get more input like a person with sensation seeking would. Children might withdraw by moving away from noisy spaces, getting out of crowded rooms in which they are being touched a lot, or may be very picky eaters. Remember that withdrawing is an adaptive strategy the child uses to handle too much input. Adults who have a sensation avoiding pattern may create independent play options with toys that interact with the child, or may design more contained areas for play to restrict sound and visible clutter.

When persons have a *sensory sensitivity* pattern, they tend to be reactive in situations. They have high detection skills (due to low thresholds), and so they notice many things in the environment. Rather than withdraw from all these stimuli (as a person who avoids sensation would), persons with sensitivity take the more passive self-regulation approach of staying in situations and reacting to what is happening. Children with sensitivity may be irritable, short-tempered, or demanding. Children with sensitivity to sounds may cover their ears or tell others to be quiet; children with sensitivity to movement may be hard to carry because they react to every bump in the road. They may also be hard to hold because of their constant fidgeting. Adults with sensitivity may ask other parents or a teacher's aide to set up the materials for activities that are messy (eg, finger painting, cooking, snack time). This adult may lead these activities but keep a damp cloth handy to keep hands from accumulating the paints or foods.

When persons have a *low registration* pattern of sensory processing, they fail to notice what other people notice readily because of their high thresholds. Because they also use passive self-regulation strategies, they miss things, and do nothing to capture additional input. Parents and teachers may have to speak and touch this child to get the child's attention. Children may seem oblivious to their en-

vironments and may seem unresponsive or flat in situations where others are exhibiting emotions. Adults who have low registration may find themselves in a more chaotic play or meal situation because they are not aware of all the things going on during these activities. These adults may also appear to be more easy going with children, but may also miss early signs of distress or danger, and may need support from other adults to monitor more risky situations.

Most children and adults have more moderate responses to sensory events in everyday life, and therefore sensory processing patterns support their participation. When responses are more extreme, then sensory processing is more likely to interfere with daily life.

EVIDENCE SUPPORTING DUNN'S MODEL OF SENSORY PROCESSING

Over the last decade, researchers have tested the validity and reliability of Dunn's model of sensory processing by conducting studies of children and adults with and without disabilities across the lifespan using 3 age-appropriate questionnaires (ie, the Infant/Toddler Sensory Profile, the Sensory Profile, and the Adolescent/Adult Sensory Profile) (Brown & Dunn, 2002; Dunn, 1999, 2002). Each of the questionnaires contains statements about how a person might respond to a sensory event in everyday life, and the respondent records how frequently that behavior occurs using a 5-point Likert-type scale (ie, never, seldom, occasionally, frequently, and always). For the children, caregivers complete the questionnaire, whereas the adolescents and adults complete their own questionnaire. Examples of items across the lifespan address similar behaviors that are age relevant. The infant/toddler version includes "My child is distracted and/or has difficulty eating in noisy environments," the children's version includes "can't work with background noise (eg, fan, refrigerator)," and the adolescent and adult version includes "I find it difficult to work with background noise (eg,

fan, radio)." Examiners using these measures can obtain summary scores reflecting the 4 patterns of sensory processing from Dunn's model, and indications about how specific sensory systems might be responding as well.

To evaluate the validity of the concepts from Dunn's model of sensory processing, researchers tested national samples of infants and toddlers ($n = 589$) (Dunn, 2002; Dunn & Daniels, 2001), children ($n = 1115$) (Dunn, 1999; Dunn & Westman, 1997), and adolescents and adults ($n = 950$) (Brown & Dunn, 2002; Brown et al., 2001), and in every age group, researchers verified the existence of the 4 patterns of sensory processing hypothesized in Dunn's model of sensory processing (Dunn, 1997). The data from the national samples of children and adults without disabilities are distributed on the bell curve, suggesting that although most people have moderate responses to sensory events in everyday life, some people without disabilities have intense responses just like cohorts with disabilities.

Studies have reported that persons with various disabilities, including autism, Asperger syndrome, developmental disability, attention deficit hyperactivity disorder, learning disabilities, Fragile X syndrome, and schizophrenia, have significantly different patterns of sensory processing when compared with peers without disabilities (Baranek, Foster, & Berkson, 1997; Brown et al., 2002; Cermak & Daunhaur, 1997; Dove, 2003; Dunn, 2002; Dunn & Bennett, 2002; Dunn et al., 2002; Ermer & Dunn, 1998; Kientz & Dunn, 1997; McIntosh, Miller, Shyu, & Dunn, 1999; Myles et al., 2004; Pohl, Dunn, & Brown, 2001; Rogers, Hepburn, & Wehner, 2003; Watling, Dietz, & White, 2001). Specifically, children and adults in these disability groups have more intense responses than do most of their cohorts without disabilities. In addition, persons in various disability groups have distinct patterns of sensory processing when compared with each other.

Other researchers have reported significant differences in Sensory Profile scores for children with normal and abnormal skin conductance responses (McIntosh, Miller, Shyu, & Dunn, 1999; McIntosh, Miller, Shyu, & Hagerman, 1999; Schaaf, Miller, Sewell, & O'Keefe, 2003). Young adults with distinct patterns of sensory processing (ie, seeking, avoiding, sensitivity, and registration) also had distinct reaction patterns on skin conductance measures (Brown et al., 2002). Studies such as these demonstrate that the Sensory Profile measures may reflect nervous system responses. If studies can verify that these relationships exist, then questionnaires such as the Sensory Profile measures can serve as a proxy for inferring nervous system activity.

SENSORY PROCESSING AS PART OF EVERYDAY LIFE

Research summarized above suggests that there are patterns of sensory processing that can be identified in systematic ways. For those who serve vulnerable children (such as those tested in research studies reported above) and their families, it is important to link patterns of sensory processing to everyday life behaviors as part of assessment; the relationship between sensory processing and everyday life informs intervention possibilities.

Everyone has an individualized pattern of sensory processing

Everyone, including children, their parents, and teachers, have particular ways of responding to sensory events in everyday life. Sensory input from the environment and from the body itself provide information the brain uses to understand experiences and organize responses. People's responses to sensory experiences in everyday life are distributed along a bell curve continuum, with most people responding moderately to sensory experiences, and a few people responding intensely (Brown & Dunn, 2002; Dunn, 1999, 2001). The bell curve distribution is based on the mean and standard deviation of a population, and places about 2% to 4% of people more than 2 standard deviations from the mean. This means that of 100 people, about 2 to

4 of them will significantly respond more intensely to sensory experiences than do their peers (Portney & Watkins, 2000). Therefore, a small number of children and adults in the typical population are responding more intensely to sensory experiences in everyday life. Although it is more common for people in the disability groups tested to respond intensely, intense responses are not reserved for those who have disabilities. Therefore, it is not these intense sensory processing patterns that matter; what matters is how that pattern affects the person's ability to participate in everyday life.

For example, a person may have intense reactions to sounds that make it difficult to concentrate on a conversation when other activities are going on in the home. This person may create a quiet home space for conversation, so the person can get away from the bustle of the kitchen or play areas. Family members will learn that this quiet space is where they need to go to have this family member's attention. When people understand their own and their children's sensory processing patterns, then they can create life routines that are consistent with sensory processing patterns, and thereby support successful participation.

Sensory processing occurs within everyday life

There has been a lot of discussion in the early intervention literature about providing intervention in natural contexts (eg, Dunst & Bruder, 2002; Dunst et al., 2001; Dunst, Hambay, Trivette, Raab, & Bruder, 2000; Dunst & Raab, 2004). There is additional evidence to suggest that applying sensory processing concepts in natural environments is effective (Baranek, 2002; Schneck, 2001). Baranek (2002) reviewed the literature regarding sensory integrative interventions for children with autism, and reported that in order to support generalization of skills, interventions needed to be part of the natural context. Hanft and Pilkington Ovland (2000) discuss the benefits of providing services in natural environments and offer strategies for

making therapy services effective within the children's daily life.

Recent studies focus on applying sensory processing knowledge to improve children's focused behavior in the daily life setting of school. Touch pressure (ie, firm touch on the surface of the skin) and proprioception (ie, sense of where joints and muscles are in space) are sensations that provide organized, calming input to the nervous system (Kandel et al., 2000). Using weighted vests as an application of touch pressure and proprioception, researchers hypothesized that providing an intense amount of this input would help children focus and organize themselves for work at school.

In one study of preschoolers with pervasive developmental disabilities and another study of school-aged children with ADHD, researchers reported on the use of weighted vests to improve children's attention, decrease their negative behaviors, and increase their work productivity (Fertel Daly, Bedell, & Hinojosa, 2001; VandenBerg, 2001). They used a reversal design to show that children did better when using the weighted vests. Applying similar concepts, Schilling, Washington, Billingsley, and Deitz (2003) asked children to sit on a ball chair as they completed seatwork in the classroom. The ball chair provides continuous feedback for children's postural control systems because the ball adjusts with the children as they make even small adjustments in their bodies while working. A traditional chair does not provide this feedback, so children can have a tendency to move their bodies more to activate themselves. Although they were targeting children with ADHD, all the children in the classroom alternately (for 3 weeks each) sat on regular chairs and ball chairs (12 weeks total). The children with ADHD improved in their seating behavior and work productivity, and the other children and the teacher indicated they felt more productive when using the ball chairs (Schilling et al., 2003).

Generalizing from this work, in the examples below, sensory experiences are imbedded within daily life routines. In this

paradigm, therapists consult with families and teachers to identify the routines that are challenging, and then construct strategies to adjust the routines so that the children can get their sensory processing needs met while continuing to participate in their life activities. In this way, the focus of intervention remains on the children's life activities, and the sensory processing knowledge is a tool for constructing effective strategies within the life routines. In addition, families can implement these strategies as part of their family routines with children who have intense sensory responses and who are not part of the early intervention service system.

Vulnerable children are more likely to have extreme patterns of sensory processing that interfere with everyday life

As summarized above, the evidence accumulated thus far suggests that vulnerable children (eg, children with autism, ADHD, Asperger syndrome, Fragile X syndrome) are much more likely to have intense sensory response patterns. For example, children with autism spectrum disorders have a pattern of significantly different registration combined with avoiding (Dunn, 2002; Myles et al., 2004). With this pattern, these children may fail to notice stimuli (difficulty with registering), and then when the sensory input is strong enough for them to notice, they quickly withdraw (demonstrating avoiding). This pattern would make it very challenging for the children to respond appropriately; children have to sustain their attention to a stimulus in order to learn.

When intense sensory responses are combined with other characteristics of particular disabilities (eg, communication challenges in autism), adaptive responses in everyday life can be challenging. When providers and families can understand the meaning of the children's behaviors from a sensory processing perspective, then they can create a more "sensory friendly" environment for them, thus increasing the chances for the children to manage more situations successfully.

UNDERSTANDING HOW TO EMPLOY SENSORY PROCESSING KNOWLEDGE TO AFFECT EVERYDAY LIFE

Since each of the patterns of sensory processing represents a particular way of responding, it is important to review the responses one might expect, and provide some ideas about how to create a more successful sensory context for the children. This includes considering the best fit between the children and their caregivers; all interactions create sensory experiences for both parties. Balancing everyone's needs leads to more successful interactions, and therefore better intervention outcomes for the children.

Occupational therapists are the most likely to serve as the "therapist" in the vignettes below because sensory processing is part of the core knowledge in this profession's education. The vignettes illustrate functional assessment strategies within the child's natural context combined with standardized assessment to verify impressions; the ability to make these interpretations and recommendations is built on specialized expertise typically provided by occupational therapists. Specialized knowledge also includes the ability to detect signs of overload, and the ability to adjust intensity based on skilled observation during the activity. Tables 1–4 provide ideas for applying sensory processing knowledge to support children in everyday life. Consultation with occupational therapists provides a means for crafting effective individualized intervention ideas for everyday life settings.

More intense responses in registration

When children have a more intense response in low registration, this means that they miss more cues than others (ie, they fail to notice things). Because these children notice less, one might observe that they are more easy going than other children, and are undisturbed by things that others in the family or classroom notice. However, not noticing can also mean that children do not respond when called, may drift away during activities, and have a harder time getting tasks

Table 1. Strategies for supporting children who miss cues in everyday life (low registration)*

	Bathing	Dressing	Mealtime	Playing	Waking	Outings
Touch	Use rough and varied textures for wash cloths and towels	Rub lotion before dressing	Provide varied and textured food options	Add texture to handles and toy surfaces	Move hands along the child's body while waking	Bring textured toys along
	Use textured soaps	Select highly textured socks, shirts	Serve food with varied temperatures	Provide different surfaces for play (eg, linoleum, carpet)		Be sure the child is wearing textured socks, underwear
	Use sprayer to vary water texture					
Movement	Place bath objects and toys out of easy reach	Place items in distant spaces so child moves around while dressing	Have child carry utensils/items to table	Place favorite toys in harder to get places	Jostle child; pick up to vertical position	Be extra aware of safety when the child is moving about (child may not notice objects, stairs, changes in terrain)
Visual	Incorporate soap crayons into the bath regime	Select bright and contrasting clothing	Use contrasting plate so that food is easily visible	Place mirrors at the floor level	Turn on bright lights	Point out things you see
			Select brightly colored toys	Add colored tape to door jams and edges of stairs	Have child look for things	
Auditory	Provide lively music background	Talk about what the child/you are doing as you do it	Provide lively music background	Provide toys that make sounds	Turn on the radio	Talk to the child; make sounds together
	Sing during bath	Play the radio		Play TV in the background	Talk a lot, varying voice intonation	Point out sounds you hear

(*Continues*)

Table 1. Strategies for supporting children who miss cues in everyday life (low registration)* *(Continued)*

	Bathing	Dressing	Mealtime	Playing	Waking	Outings
Taste/smell	Use scented bath products	Use scented lotions	Add new aromas, tastes to foods	Clean toys with scented cleaners	Spritz scents on shoulder before picking up	Apply scented lotions on child; your hands
Body position (proprioception)	Have child sit on heels or prop with hands	Make child reach and bend for clothing	Have child stand up to eat	Select heavier objects for playing	Vary body positions frequently	Give child heavy objects to carry; wear a backpack

*Adapted from Dunn (2006).

completed in a timely manner. In general, these children can profit from adults providing more intense sensory experiences that are naturally integrated into the routines of their daily life. With more intensity of sensory input, these children can pay attention for a longer time during daily life activities. Table 1 provides some ideas for enhancing the sensory experiences during daily life activities.

Let us consider an example. Rondina is a 24-month-old girl whose mother is frustrated with getting Rondina awake and dressed in the morning. Mother has to make several attempts to get Rondina awake, and because Rondina is not alert, she does not actively participate in getting her clothing on. Mother knows that Rondina can manipulate her clothing, because she can put her jacket on and undress at other times of the day. As a result of parent interviews, skilled observation during the morning routine and based on the Infant/Toddler Sensory Profile data, the therapist determined that Rondina was missing a lot of cues in her environment (ie, was experiencing low registration).

Using Table 1 as a guide, the therapist prepared some suggestions. Mother was already jostling Rondina to wake her. During the next visit, which was during Rondina's wake-up time, they tried some of the suggestions. They opened Rondina's shades and turned on the radio. This improved the situation some, so the therapist then made a list of additional strategies mother could try, including rubbing scented lotions on Rondina as part of getting up and selecting brightly colored and textured clothing. With the therapist's help, they also moved underwear, socks, and shoes to separate locations around the room; mother asked Rondina to collect these clothing items as a strategy to increase movement (and alertness) during the morning routine.

More intense responses in seeking

When children have a more intense response in sensation seeking, this means that they enjoy sensory experiences and need more sensory input. Because these children enjoy sensory input, one might notice that

Table 2. Strategies for supporting children who create opportunities for sensation in everyday life (sensation seeking)*

	Bathing	Dressing	Mealtime	Playing	Bedtime	Outings
Touch	Let child pick among several wash cloth textures	Select highly textured underwear	Include multiple foods, textures, and temperatures in one meal	Add textures to finger paint; toy surfaces	Massage child	Bring textured toys along
	Use exfoliating soaps	Add accessories, eg, head bands, wrist bands, belts		Encourage bare foot play on a variety of surfaces	Provide textured bed clothing of child's choice	Be sure the child is wearing textured socks, underwear
Movement	Place bath objects and toys out of easy reach	Place clothing items in different places to increase opportunities for moving	Have child help with setting the table	Place favorite toys in places to increase climbing, crawling, etc	Incorporate a rocking or swaying sequence into bedtime routine	Select errands that require moving about, eg, walking in aisles
				Put toys away one at a time		
Visual	Sort toys by color	Select bright clothing	Provide variety of colors in one meal, eg, berries in oatmeal	place mirrors at floor level	Leave a night light on in the room	Bring child's attention to objects in context
	Use bright colors for soap, cloths	Put posters up at child's eye level		Provide colored lighting		
Auditory	Provide lively music background	Explain dressing routine as you go	Provide lively music background	Provide musical instruments	Play background radio	Tell child what you see, hear, smell; ask what they are noticing
	Sing during bath	Open windows for ambient sound	Talk during meal	Play TV in the background	Create bedtime voices for talking	Get a walkman

(*Continues*)

Table 2. Strategies for supporting children who create opportunities for sensation in everyday life (sensation seeking)* *(Continued)*

	Bathing	Dressing	Mealtime	Playing	Bedtime	Outings
Taste/smell	Use scented bath products	Use scented lotions and detergents	Ask child to guess foods by smell	Clean toys with scented cleaners	Use a "sleep" scent on pillow	Have scented lotions available for child to use
Body position	Have child sit, get on hands and knees during bath	Alter the dressing pattern each day	Have child stand and prop on table	Dig in dirt/sand	Prop child into interesting body positions	Take short, varied trips that require child to get in out of car frequently
				Place heavy book on child's lap	Dance with and without music	

*Adapted from Dunn (2006).

they move more, hum, or rub their hands on things throughout the day. These children might also point out interesting sensory events throughout the day. The children's interest and pleasure with sensory events might also lead to difficulties with task completion because they may get distracted with new sensory experiences and lose track of daily life tasks. In general, these children can profit from more opportunities to have sensory experiences as part of daily life so they do not have to stop engaging in daily life to create the extra sensory input they desire. With more opportunities for sensory input, these children can continue to pay attention during daily life activities, and therefore stick with them for a longer time. Table 2 provides some ideas for enhancing the sensory experiences during daily life activities. You will notice that some of the ideas in this table are similar to Table 1; this is because both "low registration" and "sensation seeking" are high threshold patterns, which means that they need a lot of extra input to understand what sensory experiences are occurring.

Let us consider an example. Frank is a 13-month-old boy; his father is having difficulty getting through bath time successfully. Mother and father agree that Frank's father is having trouble keeping himself and Frank focused to get the bath completed satisfactorily. The therapist meets with Frank and his father during bath time, since the father has primary responsibility for this routine. The therapist sees that the father misses cues from Frank to interact and play, and is not thorough in bathing him. Frank has many toys in the tub, and seems to go from one to another. Frank enjoys being in the bath, and is frequently trying to move about in the tub. The Infant/Toddler Sensory Profile data confirm the therapist's hypothesis that Frank is seeking sensations; without some guidance from his father, Frank's seeking behaviors are disorganized, and may be leading to mother's worries that he might be unsafe sometimes. The therapist asks the father to complete the Adolescent/Adult Sensory Profile, and confirms what she has hypothesized, that is, the

Table 3. Strategies for supporting children who move away from sensations in everyday life (sensation avoiding)*

	Bathing	Dressing	Mealtime	Playing	Bedtime	Outings
Touch	Use cotton knit for washcloth and toweling Press soap bar directly on the skin	Warm up wipes Select firm fitting natural fibers underwear with or without elastic	Use one food temperature and limit textures Try coated utensils	Identify play area with space away from other children	Direct fans/vents away from the child Use tight clothing and heavy blankets	Keep child out of crowded spaces Wear tight-fitted clothing
Movement	Pick one position and stick with it, no bending over, reaching	Gather clothing for child to dress in one place	Select an assigned seat, with minimal passing	Honor quiet play Make toys easily accessible	Create exact ritual for getting into bed	Use stroller with upright sitting position
Visual	Remove toys from bath	Keep shades drawn, add light sparsely, use pure light such as halogen	Allow child to have one food at a time on plate	Keep play area clear; select one toy at a time	Remove all light sources; close shades, pad door jams	Create "blinders" on the stroller to reduce side visual input
Auditory	Close bath door Draw bath before child is in bathroom	Create rituals so you do not have to talk during dressing	Run fan (that does not blow on child) to create "white" noise	Find closed in quiet places for the child to play/rest	turn off TV, radio, close windows	Limit unstructured time Attend outings during nonpeak times

(Continues)

Table 3. Strategies for supporting children who move away from sensations in everyday life (sensation avoiding)* (*Continued*)

	Bathing	Dressing	Mealtime	Playing	Bedtime	Outings
Taste/smell	Use unscented soaps, lotions	Use unscented products before dressing child	Provide a predictable set of foods for mealtimes	Use unscented products to clean toys	Use unscented products on bedding, hands	Avoid stores/aisles with scented products
Body position	Create routines for everyday tasks	Use exact pattern of events every day	Use seats/chairs, so the child does not have to be held	Craft alone time for the child; recognize it is GOOD	Use very heavy blankets	Have child carry/wear a backpack

*Adapted from Dunn (2006).

father's behaviors are consistent with a low registration sensory processing pattern. Frank's father is missing information from Frank.

In this situation, Frank and his father can both do better with more intense, focused sensory input during bathing. The therapist and father make a schedule for the bath-time activities, and place a laminated copy of the schedule on the bath wall. Father will mark off the activities as they complete them during bath time (eg, "have Frank reach for 4 toys," "wash Frank's legs," "sing a song with Frank"). Using Tables 1 and 2 as a guide, the therapist brings some scented bath products, soap crayons, and several different textured fabric squares so father and Frank can see what they like best. With additional items to increase the intensity of sensory experiences, and a focused plan for implementing the activities, the father can remain attentive because his thresholds are being met, and Frank also gets more sensory input that is organized to facilitate completing the bath successfully.

More intense responses in avoiding

When children have a more intense response in sensation avoiding, this means that they notice things much more than do others. Because these children notice more, one might observe that they are more isolated than other children, and are anxious more quickly than others in the family or at school. These children may be more interested in being alone or in very quiet places. When environments are too challenging, these children may withdraw, and therefore not get activities completed in daily life. In general, these children will be better able to participate in everyday life activities when there is less sensory input available in the environment. When the environment is "quiet" (ie, less sensory input from key sensory systems for that child), these children can continue daily life activities for a longer time. Table 3 provides some ideas for managing the sensory experiences during daily life activities.

Let us consider an example. Millie is a 30-month-old girl; her parents and day care

Table 4. Strategies for supporting children who react quickly to sensations in everyday life (sensory sensitivity)*

	Bathing	Dressing	Mealtime	Playing	Bedtime	Outings
Touch	Press firmly on child's skin Place mat with or without preferred texture in bottom of tub	Select tight, natural fiber clothing Select firm underwear, with or without "tight" spots (eg, elastic)	Identify favorite food flavors, textures, and temperatures and stick with them	Provide a buffer space for child to play without getting bumped easily Identify preferred surface textures	Wear clothing that provides even pressure on skin, and gives freedom during movement	Provide a favorite blanket for child to hold Wrap your body around child when holding
Movement	Pick one stable position for bathing	Place clothing at chest level in drawers/shelves	Create a single seating arrangement	Create predictable patterns for movement play	Use repetitive movements for calming (eg, rocking, slowly, swaying)	Create typical rituals for moving child in and out of seating/stroller/car
Visual	Provide 1 or 2 selected toys for bath time	Create a blank area for dressing Have child look at you while dressing	Serve foods that do not touch on plate Serve similar colors together	Provide back drops for play areas to reduce visual distractions	Reduce light sources in the room	Give child something to play with while moving in stroller to reduce strobe effect as you move
Auditory	Play soft background music during bath	Tell child what you do then be quiet	Have one person talk at a time	Play even tempo background music during play time	Turn off sound sources	Use ear plugs/ear muffs

(*Continues*)

Table 4. Strategies for supporting children who react quickly to sensations in everyday life (sensory sensitivity)* (*Continued*)

	Bathing	Dressing	Mealtime	Playing	Bedtime	Outings
	Tell child what you are doing, and then be quiet or hum	Turn off radio/TV	Use coated or plastic utensils to reduce noise	Monitor child's need to move away	Play preferred song softly	Limit the amount of time in loud public places
Taste/smell	Identify scents, textures child likes, and incorporate them regularly	Remove air fresheners	Identify favorite spice and incorporate often (eg, cinnamon)	Be careful about cleaners for toys—use unscented ones	Use unscented laundry soap for bedding	Be cautious about entering stores/aisles with scented products
		Apply own scents after dressing child	Name aromas of flavors/foods		Use unscented soap for hands	Reduce exposure to scents, eg, food courts
Body position	Have child prop on hands/arms during bath	Make tasks smaller in time/in parts	Create a comfortable seating structure for the child for mealtime	Crawl in tight spaces, carry heavy objects/pushing heavy objects	Use very heavy blankets	Have child wear backpack
		Follow same sequence daily				Place heavy toy on lap

*Adapted from Dunn (2006).

provider are concerned about Millie's play behaviors. She has the most trouble during open play time at day care; she is hesitant to decide what she wants to do, and does not respond to other children's invitations to play. At home, Millie seems content to play in her room; she has certain toys she plays with repeatedly. Her parents want to make sure that this is OK for a child her age. The therapist visits the day care program during the open playtime, and notices that Millie is quite attentive to the other children, although she does not approach them to play. The day care provider says that Millie has good skills with toys, but does not do well in group play situations. The Infant/Toddler Sensory Profile indicates that Millie tends to avoid sensations, particularly touch and sounds.

The therapist explains that Millie seems to be getting overwhelmed by the myriad of sensations that occur during this open play time; she is exhibiting behaviors that help her manage the amount of sensory input she has to deal with at one time. For example, she can get bumped easily by other children and their toys, so hanging back and watching keeps her from having these unpredictable touch experiences. This is also likely the reason she seems content to play in her room at home; it is quiet and predictable in this contained space so she can concentrate on her playing. These explanations help allay the parents' and providers' fears about why Millie is not choosing group play options. With everyone understanding the meaning of Millie's behaviors, the therapist uses Table 3 to generate some additional ideas. They agree to identify a visually accessible but separated play space for Millie at day care. This way, she can still keep track of what is going on, without encountering more sensory input than she can handle. Parents identify some structured play options that take advantage of her visual system strength and reduce the possibility of additional auditory and touch input. For example, they create a corner of the dining room for puzzle making; Millie sits with her back to the wall and facing outward, with the table separating her from the rest of the room.

These strategies are respectful of Millie's need to limit input and yet know what is going on.

More intense responses in sensitivity

When children have a more intense sensitivity response, this means that they detect sensory events more than others. Because these children detect more, one might observe that they are more easily distracted than other children, and are upset by things that others in the family might not even notice. Children who notice more will pick up more details in life, and may notice changes in setting or mood very quickly. However, noticing more can also mean that children are distractible, and therefore get interrupted from getting tasks completed in a timely manner. In general, these children can profit from more structured patterns of sensory experiences during daily life. With more structure regarding the sensory input that is available, these children can continue to pay attention during daily life activities, and therefore stick with them for a longer time. Table 4 provides some ideas for managing the sensory experiences during daily life activities. You will notice that some of the ideas in this table are similar to Table 3; this is because both "sensation avoiding" and "sensory sensitivity" are low threshold patterns, which means that children may respond to input quickly and can get overwhelmed.

Let us consider an example. Lester is an 8-month-old boy who is a very picky eater. His parents have had a difficult time transitioning him to foods; he squirms, spits, pushes food out with his tongue, and turns away. These are common behaviors for a young child who has sensitivity to sensations, particularly related to the mouth and face. Referring to Table 4 as a guide, there are several strategies to make mealtime more successful as Lester transitions to foods. First, the therapist identifies the characteristics of acceptable foods, including taste, texture, temperature, wetness, color, and density. For a young child like Lester, he is likely to have little experience with solid foods, so the type of nipple on the bottle may also be a consideration.

Understanding the characteristics of current meal choices provides a means to introduce a new food substance that has all the characteristics that Lester has accepted in the past, adding one new characteristic. For example, one could add just a little cereal to the milk to change the texture, but keep temperature etc the same. Another option would be to change the color, or add a little sweetness. When a child is sensitive, being systematic is very important. Once the list of preferred characteristics is available, finding other foods (or nutritional additives) that contain those characteristics becomes the strategy for expanding Lester's food repertoire. As Table 4 also indicates, making the mealtime situation comfortable can also make a difference; comfortable and predictable seating without other distractions can keep Lester from becoming overwhelmed and enable him to focus on eating. Having a pleasant calm meal time is just as important for Lester, even if he eats only a few.

These examples of individualized intervention planning in the child's daily routines illustrate the impact that sensory processing knowledge can have on participation.

Although there are many ways to interpret children's behaviors, a sensory processing perspective adds helpful information to a comprehensive picture. Since sensory processing knowledge is emerging from research, it also provides a means for designing evidence-based interventions as well.

SUMMARY

Sensory processing knowledge has developed more specificity over the last several years. Evidence indicates that both children and adults with and without disabilities exhibit 4 basic patterns of sensory processing as described in Dunn's model (Dunn, 1997). Understanding the 4 basic patterns of sensory processing enables providers to interpret children's behaviors, and therefore tailor activities and interventions to support children to participate in everyday life. Preliminary evidence supports the concept of applying sensory processing knowledge within everyday life; more studies are needed to characterize exactly how this might be done in the most effective manner.

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Individual Sensory Learning Profile Interview (ISLPI)

Child's Name   **DOB:** _____

Current Age: _____ **Date**: _____

Completed By: _____
(Name & Title)

Please complete with the child's primary caregiver and/or the child's early interventionist, teacher, and/or therapist.

Background Information

Medical diagnoses:

Current medications and their purpose:

Sensory Profile Questions
Vision

Does the child have a diagnosis as being blind or visually impaired?

Yes: _____   No: _____

Has the child been diagnosed as legally blind?

Yes: _____   No: _____

If so, what is the medical diagnosis?

Does the child wear glasses or use other optical devices? If so, please give the prescription and/or details about the devices.
Right _____   *Left* _____   *Both* _____

Does the child visually respond to a human face?   Yes _____   No _____

Does the child respond to other visual stimuli?   Yes _____   No _____

If so, what are the characteristics of the visual stimuli?

_____ *Illuminating*   _____ *Shiny/Light Reflective*   _____ *High Contrast*

_____ *Pastel Colored*   _____ *Brightly Colored*   _____ *Familiar*

Other characteristics or details about visual stimuli _____

_____

Is there an immediate or delayed response to visual stimulus? Please describe:

What type of environment seems to best support visual responsiveness?

presentation to midline, left, right, top, bottom of visual field (circle all that apply) _____

focal distance (describe in inches or feet) _____

illumination preference _____

familiar setting/items_____quiet _____low visual clutter _____

accompaniment of other sensory stimuli _____ _____

Other environmental preferences including positioning needs for visual attending:

Items that child shows a visual response/preference to:

Hearing

Does the child have a diagnosis of being deaf/hard of hearing or having a central auditory processing disorder?
                                              Yes _____   No _____

Does the child wear hearing aids or use other sound amplification devices?

Yes _____   No _____

If yes, please list the listening devices used:

Is there a history of ear infections?　　　　　Yes ＿＿＿＿　　　No ＿＿＿＿

Does the child attend to auditory stimuli?　　Yes ＿＿＿＿　　　No ＿＿＿＿

If so, what are the characteristics of the auditory stimuli?

　　　　　Human Voice:　　　　　Yes ＿＿＿＿　　　No ＿＿＿＿

　　　　　Environmental Sounds:　　Yes ＿＿＿＿　　　No ＿＿＿＿

　　Sound Volume: ＿＿＿＿ *Low*　　＿＿＿＿ *Moderate*　　＿＿＿＿ *High*

Other characteristics or details about auditory stimuli:＿＿＿＿＿＿＿＿＿＿

＿＿＿＿＿＿＿＿＿＿＿＿＿＿＿＿＿＿＿＿＿＿＿＿＿＿＿＿＿＿＿＿＿＿＿

Is there an immediate or delayed response to auditory information? Please describe.

What type of environment seems to best support auditory responsiveness?

　　Sound presentation distance (describe in inches or feet) ＿＿＿＿＿＿＿

　　quiet ＿＿＿＿　　*low noise clutter* ＿＿＿＿　　*echolocation boundaries* ＿＿＿＿

　　Accompaniment of other sensory stimuli ＿＿＿＿＿＿＿＿＿＿＿＿＿＿

Other environmental preferences for auditory responsiveness

Items that child shows an auditory response/preference to:

Touch/Kinesthetic/Vestibular

Does the child have a diagnosis of cerebral palsy or other disorder affecting movement?　　　　　　　　　　　　　　Yes ＿＿＿＿　　　No ＿＿＿＿

Does the child benefit from any orthopedic or special positioning/ambulation/mobility device?　　　　　　　　　　　　　　Yes ＿＿＿＿　　　No ＿＿＿＿

If yes, please list these device(s):

Does the child respond positively or negatively to being touched?

Positively _____   Negatively _____

Please explain preferences or aversions for being touched (e.g., soft, firm, predictable)

Does the child respond positively or negatively to touching people/objects?

Positively _____   Negatively _____

Please explain preferences or aversions for touching people/objects:

Does the child respond positively or negatively to movement?

Positively _____   Negatively _____

Please list preferences or aversions to movement (e.g., slow, rhythmic, predictable):

Positions which seem to best support overall sensory responsiveness:

prone (on stomach) _____   *supine (on back)* _____   *sidelying* _____

sitting _____   *sitting with support* _____   *other* _____

Olfactory/Taste

Does the child positively respond to specific smells and/or tastes?

Yes _____   No_____

If yes, please describe:

Does the child negatively respond to specific smells and/or tastes?

Yes _____   No_____

If yes, please describe:

Summary of Sensory Preference / Recommendations for Motivating Objects

Visual

Hearing

Touch/Movement

Smell/Taste

Other Recommendations

Individual Sensory Learning Profile Interview, Developed by Tanni L. Anthony, Ph.D., 1997, 2003