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Sensory Processing Handbook for Early Childhood Educators

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Abstract

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Delayed learning and poor behavior is often caused by inadequate sensory integration within the child's brain. Ayres (1979) coined sensory integrative dysfunction, also known as Sensory Processing Disorder (SPD), as an irregularity or disorder in the brain function that makes it difficult to integrate sensory input. The way children primarily learn, from birth to age 7, is through their senses. When a child has difficultly taking in and processing sensory information, it inhibits his/her function in daily life.

Noticeably, we have five senses we deal with every day: sight, touch, hearing, taste, and smell. However, there are two other senses, the vestibular and proprioceptive senses. The vestibular sense comes from hair cells within our ear, which help with balance and movement. The proprioceptive sense tells us about our own posture or muscle tone and body position in space (Kranowitz, 2005).

While it is typical for children to have some sensory issues, children with SPD have more trouble than is typical. When observing a child, it is important to remember that behaviors vary from child to child because every brain is unique. No child will show all of the symptoms of SPD. SPD exists on a continuum. We are teachers and notice when a child is having difficultly, so it is our job to advocate and support the child and his family. Please note that this handbook is not a diagnostic tool. It is designed to help you better understand SPD and advocate for a child if needed.

Introduction

This handbook is to help educators of young children understand the role of sensory integration and recognize how sensory processing difficulties may impact a child's everyday life. Before moving forward, it is important to remember that all humans are sensory beings—especially young children. Children first learn about the world through their senses, shaping the knowledge they gather. The sensory information gathered from children with sensory integration difficulties is disorganized, unlike children without sensory integration difficulties. To fully understand our students' world, it is important for us to consider how each child experiences and reacts to the constant stream of sensory input, both internally and externally.

In order to educate young children, it is important to have an understanding of the typical developmental milestones, sensory systems, and atypical and typical behaviors. With that knowledge and understanding teachers can then ensure each child to reach his/her highest potential. In this handout, I will lay out the foundations of what educators need to know in order to recognize and understand sensory processing difficulties, as well as share strategies to best support the child.

Well, what is sensory integration? Sensory integration is a theory that was developed by A. Jean Ayres, a psychologist and occupational therapist. Without getting too complex, sensory integration is defined as the brain's ability to take in information from the senses (sound, taste, touch, movement, smell, and vision) put it with previously stored experiences in the brain, which then produces meaningful outcomes. For children without sensory processing issues, this process allows them to interact appropriately within their environment. However, for children with sensory integration difficulties, the information they take in is, or becomes, disorganized as it is processed. Consequently, a confusing and/or alarming outcome is produced, which may result in variety of behaviors from the child. These behaviors can make every day routines and activities a challenge.

It is essential to be aware of the role of all of the senses and their function in the everyday life of a child. Most of the senses mentioned are recognizable, such as sound, taste, touch, smell, and sight. However, senses like movement (vestibular) and body position (proprioception) are less familiar or less recognizable. Murray-Slutsky & Paris (2005) referred to Haron (1999) that these senses the "hidden senses", but noted that they play a significant role in sensory processing (p. 13). The vestibular sense relies on receptors from the inner ear to provide information about movement and gravity. This sense helps children come down a slide without falling over. The proprioceptive sense relies on input from joints, muscles and the connective tissues, which tell us where our body parts are in space. This sense allows children to lift a spoon to their mouth without spilling their food.

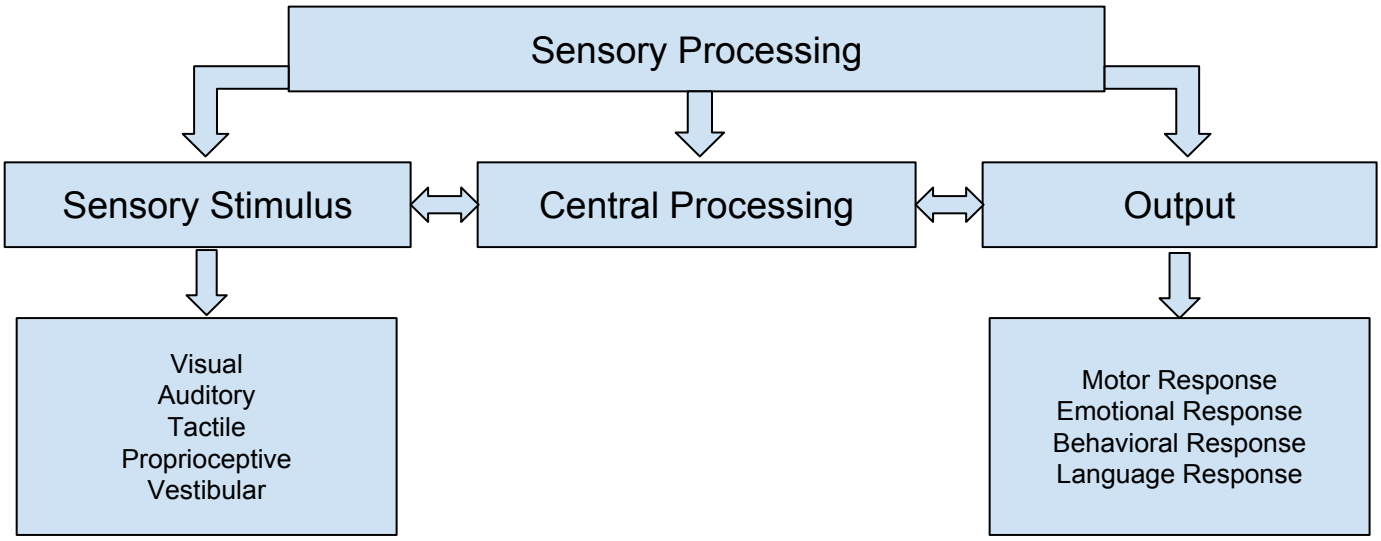
Nonetheless, all of the senses send information to the brain via the central nervous system. This process, called sensory integration or processing, is complex and multifaceted. In typically developing children, sensory integration occurs while the child engages in everyday childhood activities, which, again, allows children to interact appropriately. But for children with sensory integration difficulties, sensory integration does not develop as efficiently as it should creating a number of difficulties for children in learning, development, and behavior. Children without sensory processing difficulties are so used to receiving information this way (through our senses) that they often don't think about the process—like bringing the spoon up to their mouth. But for a child with sensory processing difficulties, it becomes frustrating spilling your cereal all over yourself every time he/she lifts the spoon.

A. Jean Ayers identified sensory integration dysfunction and realized its neurological process (Kranowitz, 2005). Ayers (1979) compared sensory integration, the disorganization or organization of the sensations in the brain, to traffic. For example, when the brain is able to organize sensations, it is like a policeman directing traffic—smooth and understandable. But when a child's brain is unable to organize sensations, it turns into a five o'clock traffic jam—overwhelming, frustrating and chaotic.

It is easy to overlook a child with sensory processing difficulties, labeling him as “the clumsy one” instead of realizing his silent cry for help because his brain is wired differently than what you’re used to. This handbook is a slither of the pie, so to speak, of how to recognize sensory processing difficulties and help your children cope with the variations.

The Three Phases

There are three phases of sensory processing: ***sensory stimulus*** (taking in information through the senses), ***central processing*** (putting it together with other information), and ***output*** (making meaningful motor, language, behavioral or emotional responses). Sensory processing dysfunction may happen because of a breakdown in one (or more) of these phases (Murray-Slutsky & Paris, 2005). However, the integration of sensory processing involves all three steps intertwined. Sensory processing is not a linear process, although this explanation may seem as so. But it is impossible to separate these phases.



(Murray-Slutsky & Paris, 2005, p. 16)

Common Behaviors and Symptoms

We all have our own sensory intolerances and preferences but it becomes problematic when they interrupt the function of our daily life. To increase the knowledge of student's sensitivities, first take a look into your own common sensory annoyances. Do you chew gum or drink coffee during a lecture or meeting? Fidget or create silly drawings? Zone out or doze off? Do mushy, wet substances bother you? Do street noises keep you up at night? After thinking about yourself, now think about your students…

While it is typical for children to have some sensory issues, children with Sensory Processing Disorder (SPD) have more trouble processing sensations. When observing a child, it is important to remember that behaviors may vary from child to child and day to day, because every brain is unique. No child will show all of the symptoms and behaviors of SPD. SPD exists on a wide spectrum. However, please keep in mind, we are not diagnosticians. We are teachers and notice when a child is having difficulty, so it is our job to advocate and support the child and his family.

Children with SPD usually show many of the following behavioral symptoms, which interfere with the function of daily life:

- *oversensitivity (hypersensitive), under-sensitivity (hyposensitive), or craving to touch, sight, sounds, movement, tastes, or smell*
- *high distractibility, with problems paying attention and staying focused on task*
- *an unusually high or low activity level*
- *frequent tuning out or withdrawing*
- *intense, out-of-proportion reactions to challenging situations and unfamiliar environments*
- *impulsiveness, with little or no self-control*

• difficulty transitioning from activity to activity, or situation to situation

• rigidity and inflexibility at times

• clumsiness and carelessness

• discomfort in group situations

• social or emotional difficulties

• developmental and learning delays and acting silly or immature

• awkwardness, insecurity, or feeling "stupid" or "weird"

• trouble handling frustration, tendency to tantrum longer and more intensely than other children do, and more difficulty returning to a calm state

• problems transitioning from an alert, active state to a calm, rested state (for example, difficulty falling asleep or waking)

(Biel, 2005, p. 13)

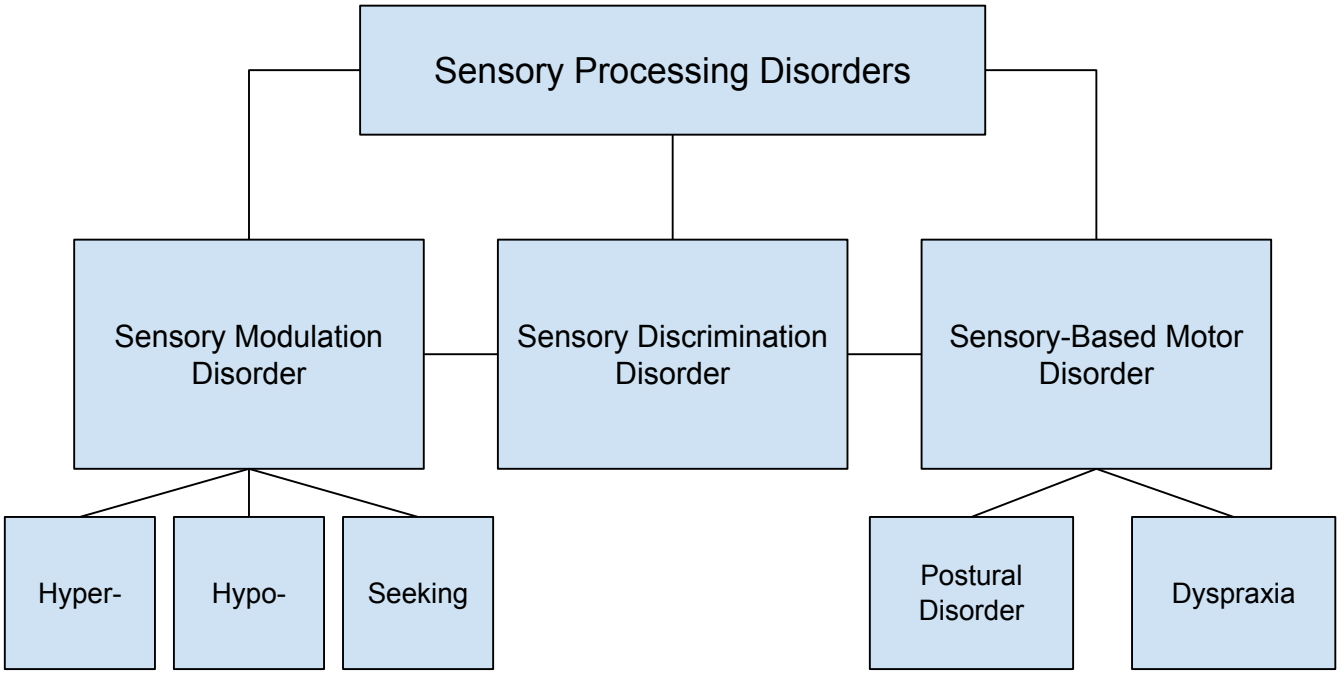
A hallmark of sensory integration dysfunction is inconsistent responses to sensory information. A child may be hypersensitive to sensory input one day, then hyposensitive to the same sensory input the next day (Biel, 2005).

Identifying Sensory Processing Disorders

According to Kranowitz (2005), with common symptoms, SPD can be divided into four categories:

1. **Sensory Discrimination Problems**--child has difficulty distinguishing one sensation from another or understanding what a sensation means
2. **Sensory-Based Motor Problems**--child may position his body in unusual ways and have difficulty figuring out what action to do, planning how to organize and move his body, and carrying out the plan
3. **Associated Regulatory and Behavior Problems**—issues that can result from inefficient sensory processing
4. **Sensory Modulation Problems**—how a child regulates his response to sensations (p.13), which relates to hyper-, hypo-, or sensory craving/seeking.

These categories may overlap with each other and vary in severity, depending on the child and day.



(Cross, 2005, p. 16)

Sensory Discrimination Problems

For a child with sensory discrimination problems, he may have a hard time protecting himself or learning something new. For example, a child with poor discrimination cannot tell a marker from a pencil at the bottom of his bag by just using touch. The child may not be able to tell you where he is being touch on his body and how hard the touch is. At circle time, he may not realize that he is leaning on his neighbor. According to Biel (2014), any child with sensory discrimination problems take a very long time to get used to something new.

Sensory-Based Motor Problems

A child with sensory-based motor problems has difficulty using the feedback from his senses to guide and control his body movements and posture in order to meet the physical needs of motor tasks. A child may also have low muscle tone, poor strength, balance and endurance, as well as motor planning difficulties (Biel, 2014, p.78). Motor planning includes multiple steps: making a decision, figuring out how to make it happen, then actually execute. These difficulties may result in dyspraxia, which makes motor planning for unfamiliar events or learning new gross motor or fine motor tasks hard.

Associated Regulatory and Behavior Problems

In order to learn, or for a young child to sit at meeting, there has to be a balance in being calm and alert to achieve the optimal level of arousal for learning. Self-regulation gives the child the ability to achieve, sustain, and adjust arousal levels in order to meet the requirements of an activity as they change. For example, a child that has difficulty self-regulating has a hard time with transitions, sleeping, eating, regulation of mood and attention level.

Participating in everyday activities that seem ordinary for most can be extremely overwhelming for a child with sensory issues. The child may become sensory overloaded, resulting in various behaviors

such as tuning-out (withdraw attention or engagement), acting-out (aggressive or loud), or stimming (self-stimulation like rocking, humming, spinning) (Biel, 2014, p. 84).

Sensory Modulation Problems

A common problematic factor in Sensory Processing Disorder is sensory modulation. Sensory modulation disorder is the problem of timing in the central nervous system. Biel (2014) describes sensory modulation as the “process in which the central nervous systems adjusts the intensity, frequency, duration, complexity, and novelty of sensory stimulus” (p. 73). For a child with sensory modulation issues, there isn’t a balance in excitement and inhibition. When this is the case, the child may be hypersensitive, hyposensitive, sensory craving, or have a combination.

Closer Look at Hypersensitive, Hyposensitive, and Sensory Craving

Hypersensitive

Hypersensitivity is also known as over-responsivity or sensory avoidant. If a child is hypersensitive to one or more senses then he has a low threshold for sensory input. He requires less intense and less frequent sensory input to become aroused. He cannot inhibit sensory stimuli efficiently. Therefore, he may be easily distracted because he is paying attention to all sensory input. The responses to stimuli may be more intense, quicker in onset or last longer than a child with normal sensory modulation. Two types of hypersensitive characteristics may be: fearful and anxious or negative and stubborn. Below are various behavior patterns associated with each type.

Hypersensitive Types	Fearful and Anxious	Negative and Stubborn
Behavior Patterns	• Excessive cautiousness, inhibition, and fearfulness • Avoids sensations • Dislikes change in routine becoming frightened and clinging • Excessive fears and worries • Shy towards new peers and/or adults • Impulsive behavior when overloaded with sensations • Easily upset, cannot self soothe • Hard time recovering from disappointment or frustration	• Seeks to control sensory environment • Dislikes change in routine becoming negative and controlling • May become aggressive and impulsive • Often does the opposite of what is requested or expected • May be compulsive and perfectionistic • Tends to avoid to be slow to engage in new experiences

(Kranowitz, 2005, p. 70)

Hyposensitive

Hyposensitivity is also known as under-responsivity. Children who are hyposensitive usually disregard or do not respond to sensory stimuli and often have a hard time engaging in the here and

now. The hyposensitive child may seem hard to engage, withdrawn, and/or self-absorbed because they have not registered the sensory stimuli in their environment. They may also seem lethargic; lacking the inner drive for socialization and motor activity like normal young children. When in reality, they do not realize the possibility for exploration around them. These children do not seek greater intensity of input, even though they may require it for optimal arousal. Children with hyposensitivity often need high intensity and highly salient input in order to actively function in their daily environment.

Similar to hypersensitivity, there are two types of hyposensitive children with certain behavior patterns.

Hyposensitive Types	**Self-absorbed and Difficult to Engage**	**Self-absorbed and Creative**
Behavior Patterns	• Seeming disinterested in exploring relationships, games or objects • May appear apathetic, easily exhausted, withdrawn • High affective tone and saliency required to engage • May appear delayed or depressed, lacking motor exploration and social overtures • Play and behavior present limited range of ideas and fantasies • May seek out sensory input and engage in repetitive sensory activities • Child needs intensity or repetition to fully experience activity	• Tune into their own world (sensations, thoughts, and emotions) • Interest in objects through solitary exploration rather than in the context of interaction • May appear inattentive, easily distracted, or preoccupied • May escape into fantasy when faced with external challenge • May prefer to play alone • Show enormous imagination and creativity

(Kranowitz, 2005, p. 72)

Sensory Craving *(Sensory seeking)*

Children with this pattern of behavior actively seek or crave sensory stimulation. This child's brain and body is telling him he must act. Busy TV screens, lights and loud music attract sensory craving children. They energetically engage in activities that produce more intense feelings of sensation to satisfy a basic need or desire of sensory input. This child seems to constantly be moving, crashing, jumping and bumping into everything and cannot constrain this behavior. They are impulsive, overly active or aggressive, intense, demanding, hard to calm, restless, overly affectionate and craving attention.

The Senses

It is essential to have a deep understanding of the senses, the effect they have in the daily life of young children and what happens when sensations are processed differently than usual. Our senses give us information about the world. Their first job is to help us survive. Their second job is to help us learn how to be active, social creatures (Kranowitz, 2005, p. 51). Our senses take in information from inside and outside our bodies. Any activity we engage in uses more than one sensation. The more important the activity, the more senses we use. There are seven senses that send information to the brain--touch, smell, taste, sound, sight, movement, and body position.

External Senses

The sensory systems that receive information from outside of the body are known as external senses. These are the senses in which we are most familiar—touch, taste, smell, sight, and sound.

- The **tactile** sense provides information about touch, which is received through the skin.
- The **olfactory and gustatory** senses provide information about smell and taste, which is received through the nose and mouth.
- The **visual and auditory** senses provide information about sounds and sights, which may be near or far.

Internal Senses

The internal senses come from within the body and are less thought about. Kranowitz (2005) states that, “we are unconscious of these senses and cannot turn them off” (p. 54).

- The **interoceptive** sense provides information from the internal organs. This sense helps us survive. It regulates hunger, thirst, digestion, body temperature, sleep, mood, heart rate, and state of arousal. “Many children lack efficient interoception and may not sense when they are hungry or need to have a bowel movement” (p. 54). Clearly, it is important to teach young children to listen to their body to figure out what they need.

- The **vestibular** sense provides information about the position of the head in relation to the ground, movement of the body through space, and balance. Sensations come through the inner ear.
- The **proprioceptive** sense provides information about body position and movement of our body parts. Information comes from stretching and contracting our muscles.

(Kranowitz, 2005)

The Three Most Important Senses: Tactile, Vestibular and Proprioceptive

Ayers (1979) highlighted that the tactile, vestibular, and proprioceptive senses lay the groundwork for a child's healthy development.

Tactile Sense

Our sense of touch is the first sensory system to develop. This is one of the most important senses, covering our entire body. Smith & Gouze (2005) state that, "Seventy percent of our sensory receptors are located in our skin" (p. 35). As human beings it is our natural instinct to crave touch. Interestingly, babies are less likely to develop normally without tactile stimulation (Smith & Gouze, 2005). Our tactile sense provides us with information of about comfort and self-knowledge. With this input babies are better calm and console themselves. Therefore, tactile receptors are attuned to warn us when we are faced with harm. This sense has two components (1) discriminatory system, which allows us to determine what we are touching and define its spatial characteristics and (2) protective system, which tells us when we are in contact with something dangerous or threatening.

The tactile system includes several different experiences:

Experience:	Sensed by:	Examples of Experiences:
Light Touch	Movement of hair and outer skin.	Feeling wind, lightly brushing someone, having your hair played with, movement of loose clothing, getting splashed, sand on your body at the beach
Deep Pressure	Deeper skin layers when skin is compressed	Bear hugs, massages, pushing against something
Vibrations	Rhythmic tactile input	Vibrating toothbrush, vibrating chair, leaning on the washing machine
Temperature	Thermoreceptors on the skin and in the body	Always being cold so needing to wear sweaters year-round OR sleeping without covers because he gets too hot
Pain Sensations	Receptors on the skin, muscles, joints, and viscera	Range from mild through annoying. Such as a paper cut to a severe headache.

(Biel, 2014, p. 20)

Proprioceptive Sense

The proprioceptive sense relays information to the brain about where body parts are in space and what they are doing. This sense gives us a clear map of how our body is put together and where our body parts are positioned in space at all times. It tells us how hard we are pushing or touching things and allows us to gauge how much pressure we need to perform a task. This system receives the benefits of a massage or heavy exercise to calm and organize a child. Proprioceptors send information via muscles, joints, and bones. Considering the amount of muscles, bones, and joints in our body, this system is almost as large as the tactile system. Our proprioceptors send continuous information to the brain, making it impossible to turn off. This sense gives us a body map of where our body is in space and how much room we can take up without bumping into objects as we move from point A to point B.

Vestibular Sense

The vestibular sense gives us information about gravity and movement. It tells us where our body is in relation to the Earth and whether the surrounding areas or we are moving. This sense is located in the inner ear and is stimulated by movement of the head, eyes, neck, and body movements. Vestibular input tells us whether our body is at rest or in motion, how fast and in what direction we are moving, and if objects around us are moving. The vestibular sense forms the basic relationship of a person to gravity and the physical world. Consequently, when this sense does not function accurately and consistently all other senses become disoriented. The child who has vestibular difficulties may appear clumsy and uncoordinated. She may not be able to sit in an upright position, bump into furniture as she walks, or fall often and easily. Eye movements are influenced by the vestibular input, which can result in visual problems. All of these difficulties can interfere with behavior, attention, self-esteem, and emotions. Inefficient vestibular processing can also relate to modulation, discrimination, and motor difficulties.

Developmental Milestones Ages 3 to 5 years

Gross Motor

Age (years)	3.0 to 3.5	3.6 to 4.0	4.1 to 4.5	4.6 to 5.0
Locomotion	• Runs 15 yards in 6 seconds or less • Using two-footed takeoff and landing, jumps forward 26 inches • With hands on hips and without heels touching toes, walks forward 4 feet on 4-inch line without stepping off • Runs with arms moving back and forth across body and below waist, balls of feet used to push forward, a high knee and heel lift, and truck leaning forward • With hands on hips without heels touching toes, and without swaying more than 20 degrees, walks forward 8 feet on 4-inch line without stepping off	• Placing one foot on each step, walks down 4 steps without support • Without letting other foot touch floor, jumps forward 6 inches on one foot • Jumps up to touch line 3 inches above standing reach • Runs and stops without falling • With hands on hips and without heels touching toes, walks backwards 4 feet without stepping off 4-inch line • Using two footed takeoff and landing, jumps forward at least 30 inches	• With hands on hips and toes touching heels, walks backwards 5 steps without stepping off 4-inch line • Completes forward roll without turning more than 15 degrees to either side • With weight transferred smoothly and evenly, gallops 10 feet • Using 2-footed takeoff and landing, jumps forward 36 inches • With hands on hips and body not swaying more than 20 degrees, jumps and turns so feet land in opposite direction from starting position • Hops 3 feet on 1 foot, changes feet, and hops back	• Using 2-footed takeoff and landing, jumps over string 10 inches off floor without tripping • Runs 10 feet, picks up can, and returns to starting line without tripping or dropping can • Maintaining balance, using opposite arm and leg movements, and using alternating feet, skips 8 steps • With hands on hips, with feet together, and without touch lien or pausing between jumps, jumps back and forth across line taped on floor
Stationary	• With hands on hips, stands on 1 foot for 5 seconds	• With arms held overhead and without moving feet, stands on tiptoes	• With arms held overhead, without moving feet, and without swaying more than 20	• Accurately imitates arm positions • With hands on hips and without swaying

		• With hands on hips and without swaying more than 20 degrees, stands on one foot	degrees, stands on tiptoes • With hands on hips and without swaying more than 20 degrees, stands on 1 foot, then stands on the other foot	more than 20 degrees, stands on each foot for 10 seconds • Completes 3 sit ups
Reflexes and Object Manipulation	• Using upper trunk rotation, arms and legs moving in opposition, and initiating overhand throw by moving arm up and back, throws small ball 10 feet forward • Using an underhand toss, hits target with small ball • With arms bent at 45 to 90 degrees at elbows and palms up or facing each other, catches 8-inch ball with hands, securing it to chest if necessary	• Using an overhand toss, hits target from 5 feet • Using upper trunk rotation and moving arms and legs in opposition, throws small ball underhand 10 feet	• Using an overhead toss, hits target from 12 feet • Bounces small ball so it bounces once then hits wall from 5 feet • With arms bent and using only hands, catches small ball thrown 5 feet away	

PRO-ED, Inc. (2002)

Fine Motor

Visual-Motor	• Cuts paper into two pieces • Laces 3 holes • Cuts within ½ inch of line for entire length of line • Draws a cross • Puts 10 pellets in bottle • Traces horizontal line		• Draws a square • Cuts out circle printed on paper • Builds steps of 6 blocks • Connects dots by drawing straight line • Cuts out square printed on paper • Builds pyramid of 6 blocks	• Folds paper in half lengthwise with edges parallel • Colors between vertical lines
Grasping	• Grasps marker with thumb and pad of index finger, other 3 fingers against palm, upper portion of marker rests between thumb and index finger, child moves hand as unit when drawing • Unbuttons 3 buttons	• Buttons and unbuttons one button	• Grasps marker between thumb and pad of index finger, marker rests on first joint of middle finger • Touches each finger to thumb	

PRO-ED, Inc. (2002)

Social/Emotional Development

Ages (years)	3 to 4	4 to 5
Stages	Mastery "Why?" Phase Cause and Effect Relationship Parallel Play Cooperative Play, Dramatic Play Same and Different Monsters, Dreams	Peer Group "Are you my friend?" Identity Issues Gender Power vs. Powerlessness Body Integrity Birth, Death, Injury Fantasy vs. Reality

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Strategies for Supporting Sensory Processing in the Classroom

Children struggling with SPD face many obstacles throughout the day. However, the way in which a teacher structures the classroom environment can greatly influence a child's experiences. One thing to bear in mind is that a child will not be harmed by the integration of various sensory-integrated activities in the classroom. By permitting these options, we (teachers) can observe and then respond, in order to best support our children's development and growth. Responding with appropriate teaching strategies and techniques makes way for desirable outcomes like increased adaptive behaviors, positive responses to motor issues, and graspable, creative connections to play.

Play Skills

As an educator of young children, one miraculous gift we can offer students is the healthy concept of play, which is an integral part of each child's growth and development.

According to Cross (2010), play:

- Enhances a child's dexterity
- Promotes social skills
- Sharpens cognitive and language skills
- Encourages spatial understanding
- Develops cause-and-effect reasoning
- Clarifies pretend and real
- Enriches sensory and aesthetic appreciation
- Extends attention span, play persistence, and self-mastery
- Helps release emotions

(p. 2)

However, children with SPD often encounter a range of play challenges. There are five common play challenges: (1) dabbling, (2) roaming around room, (3) anxiousness about/during play, (4) detachment or unfriendliness during play, (5) continual rejection by playmates during play (Cross, 2010, p. 3).

	Common Behaviors	Interventions	Activities
Dabbling	• Plays irregularly and without engagement • Plays with little or no intrinsic motivation • Fails or refuses to attempt anything new in play • Engages in continually unconnected repetitive play motions • Displays unfocused perseverative actions • Appears noticeably indifferent to play activities and materials	• Enhance the curriculum and play materials regularly • Change the environment and rotate play materials regularly • Connect "dabblers" to a play-directing peer • Keep atmosphere noncompetitive and orderly • Look directly into the child's personal interests and learning styles	• Imaginatively prompt the child (*ask questions like what things are round other than a ball? Or what if your birthday was everyday?*) • Use the outdoors to observe and create games (*can you find something in the shape of a triangle*?) • Use music
Roaming	• Spends an abnormal amount of time wandering aimlessly around the room • Consistently is uninvolved with peers or materials • Consistently meanders on the edge of play, only watching playmates	• Plan activities that are developmentally appropriate • Help child select an activity • Help sustain a child with encouragement and check-ins • Make use of areas that have fewer distractions • Establish physical	• Develop a gadget center where children can take things apart • Enhance the dramatic play area • Introduce board games or fine-motor activities

	• Flits from material to material • Drifts around touching and investigating things already investigated over and over	boundaries with boxes, tape, rope… • Designate a path for child to use • Develop a play plan with the child • Support the start of play with prompting and modeling • Pair child with play-buddy	
Anxious	• Freezes up, throws a tantrum, becomes aggressive when asked to perform a play task • Clings when separated from a parent or teacher is required • Obsessively fears unrealistic situations such as closet monsters • Insists on doing everything “just right” for approval • Appears excessively nervous, irritated, or worried • Only watches, suddenly withdraws or begins to self-soothe	• Support and respect anxious feelings • Establish trust • Incorporate affection into daily routine • Make classroom safe and predictable • Offer a play menu that includes dramatic play, physical and outdoor play • Incorporate an imaginative and revolving morning play center	• Create ways for children to express emotions (artwork, journals, quilting, read books about emotions) • Spend one-on-one time with child

Detached	• Continually and obviously avoids interactions with other children throughout the school day • Continually demonstrates a stoic and uncomfortable disposition when participation with others is necessary • Gives off a message of "I want to be left alone!" • Displays stagnant and less than age-appropriate social interaction skills • Child seldom engages in conversation with peers • Child keeps mostly to herself, rarely joining others in play • Child hesitates to participate in group activities that require interaction • Consistently turns down play opportunities when approached by peers	• Play with this child and model how playing is fun and worthwhile • Pair child with a social and verbal strong child • Communicate and work closely with child's family • Focus on strengths of child's social and play skills • Encourage, build, and coach pro-social behavior skills	• Make a rain-stick together • Create a "safe space" together • Act out words • Play simple games together—bingo or lotto games
Rejected	• Child intimidates peers with aggressive behaviors (hitting, slapping or name-calling) • Child acts immaturely	• Place a rejected child with a responsive, socially accepted child • Use drama and other creative activities to help child play	• Play community sports with child to promote social behavior • Use music and dance

	(extreme silliness) or over exaggerates play • Often self-centered and not sensitive to the needs of others • Moves haphazardly from one activity to the next • Plays oddly • Has poor impulse control • Demonstrates language and communication delays, resulting in fits of frustration • Expresses emotions inappropriately (crying excessively, growling, or huffing, puffing and stomping off when not given his way) • May be rejected by peers simply because they don't want to share their play space or materials	• Communicate and work closely with family • Focus on rejected child's social and play strengths • Encourage, model, and teach pro-social behavior skills • Teach a rejected child to solve problems • Be clear, calm, and consistent	• Provide language; modeling voice, emotion, timing, and tone • Teach entrance strategies to play • Redirect oncoming poor social behaviors

(Cross, 2010, p. 31-49, 65-79, 89-112, 122-138, 148-161)

Increase Self-Awareness

Another important mechanism in supporting children with SPD, recognized by Biel (2014), is teaching how to self-soothe. In infancy the caregiver performs most of the “soothing” by rocking or singing to calm the baby. As a toddler, the caregiver embraces a child who is upset, reassuring security and comfort. As children get older, they begin to use self-talk to express and cope with various emotions and problems, combined with the use of sensory input such as looking at a picture, singing a favorite song, rubbing the corner of a beloved blanket or snuggling a soft toy. So we mature and still use the crutch of sensory input to help self-regulate ourselves. However, children with SPD do not have the self-awareness or advocacy to take the steps needed in order to help themselves stay at a desired level. Therefore, for many young children a lot of this time and learning will be teacher initiated. Developing such insight takes practice and maturity.

A couple of suggested strategies to support children with SPD in the classroom:

- Educate a child to be more self-observant and catch himself before he has a problem. This requires a lot of self-knowledge and understanding of the sensory environment.

- Offer a variety of sensory exploration for the child to figure out what works for him, such as touching an assortment of objects, fabrics or textures, trying different types of movements such as rocking in a chair or bouncing on a ball, or sniffing different essential oils and so forth.

Group Times

Circle/Meeting Time

Many students struggle to sit still and remain attentive because of low muscle tone and floppy muscles, decreased muscular strength, especially in abdominals and back, poor body awareness, difficultly processing auditory and visual inputs and tactile issues make sitting on a hard floor painful.

To support these children teachers may:

- Schedule meetings soon after gross motor activities such as gym or recess
- Begin meetings with a gross motor activity
- Provide external cues or “boundaries” that organize children in space (carpet squares, laminated paper seat mats, tape squares)
- For children who need natural frequent movement, provide a lightly inflated seat cushion
- Offer other seating arrangements such as rocking chairs, regular classroom chair, stools, ball chair
- Hand fidgets that are using only in the child’s “lap space” like Cuisenaire rods, Unifix Cubes, squeeze balls, erasers
- Oral comforts such as a bottle or cup of water, gum, chewy or crunchy snacks
- Weighed vests or stuffed animals
- Supply child with small jobs such as meeting helper

Transitions

Transitions are a prime time for sensory overload. Here are a few suggestions teachers may use to support a child:

- Provide constant cues about upcoming transitions (verbally, musically, visually)
- Ensure routine and consistency

- Use visual timers
- Change the view of classroom to help children organize that change is about to happen (play light music, dim lights, sing)
- Keep lights dim throughout transition
- Change volume of noise to low (encourage children to whisper)
- Provide children with an actual line of tape for line up.
- Use the stairs
- Provide child with a place in the front of very back of the line

Cozy Corner

A cozy corner, which may be called the relaxation station or cozy nook, should never be used for punishment or time-out. The child should view the area as safe and secure and use it when he/she needs a “break.” This area should encourage the child to manage his state of arousal by removing him from the sensory overload he is experiencing.

The cozy corner may include:

- *Dim lighting*
- *Away from the busyness of a classroom*
- *Something soft and cozy (pillows, a beanbag chair)*
- *Headphones for noise reduction*
- *Hand fidget*s
- *Organizing activities*
- *Books*

Sensory Diet

As part of a child's treatment his occupational therapist should develop what is known as a "sensory diet" or sensory program. Based off various observations of the child, this support system is a personalized schedule of activities that help the children function throughout the day. The plan should support the child's sensory cravings, withdrawals, and/or overloads from input. The goal is to give the child the right type of sensory input in a controlled dose so that there is no need for the unwanted behaviors to stem (Biel, 2014).

Some important things to note about a sensory diet:

- Each sensory diet is tailored to an individual child
- The sensory diet should include environmental and task modifications in order for the child to better participate in his daily life (such as changing the lighting, seating arrangement, clothing, and so on.)
- Routines and consistency are helpful
- As the child's needs change, the sensory diet may need change too

Sensory Diet Activities Chart

Tactile	Auditory	Visual	Smell/Taste/Oral	Movement/ Body Awareness
•Use hand fidgets including smooth and textured items such as squeeze balls, hand exercisers, worry stones, stuffed toys, or fabrics such as corduroy and velvet	•Use a metronome to provide a steady beat during any activity	•Take a break in soft ambient lighting	•Explore high-quality pure essential oils such as vanilla, rose, and sweet orange (which tend to be calming) and lemon, peppermint, and eucalyptus (which tend to be invigorating)	•Rocking (teacher's arms, hobby horse, glider, or rocking chair)
• Play-Doh, Aroma Dough or Wonder Dough for gluten-free kids, Eco Kids Eco-Dough for chemically sensitive kids, Silly Putty, Gak, Floam, Model Magic, Sculpey, Kinetic Sand, modeling clay, Oobleck	•Enjoy a quiet space	•Relax eyes strained by close-up work (writing, computers, reading) by gazing into the distance approximately every 20 minutes	•Smell flowers, spices, and herbs	•Walking, marching, and running
•Water table	•Listen to the sounds of nature including animals, water, and wind while playing, working, or falling asleep	•Look at a relaxing photograph, DVD, or picture book (popular themes include animals, landscapes, great paintings)	•Explore tastes: sweet, salty, sour, spicy, bitter	•Wheelbarrow walking
•Firm massage with or without lotion	•Play music that is calming or music that is alerting. Consider classical or pop music, pure instrumental or singing, nature recordings, and slow steady	•Look at a fish tank, mobiles, lava lamps, bubble lamps	•Eat frozen, cool, or warm foods	•Jump on trampoline, do jumping jacks

	beats or faster beats			
•Use a backscratcher, washcloth, loofah, or net scrubber in the shower	•Bang on pots and pans (young children) or drums	•Wear tinted lenses indoors to cut glare	•Explore textures: crunchy, creamy, chewy, lumpy, and so on	•Use swings and slides
•Deep pressure: bear hugs; swaddle or roll up like a burrito in a blanket or thin exercise mat with head out; log rolling; jumping on a crash pad; “sandwich” between pillows or sofa cushions; use a Steamroller Squeeze machine; roll over a therapy ball	•Whisper, sing, or hum	•Wear optical-quality sunglasses and/or wide brim hats outdoors	•Drink water	•Climb stairs
•Arts and crafts such as drawing with markers, crayons, colored pencils, painting, glitter glue, modeling clay, crochet, knitting, sewing	•Blow a whistle or kazoo	•Use colored overlays on printed material	•Chew gum	•Use Sit ’n Spin, Dizzy Disc Jr., or other spinning toy
•Messy play with foaming soap, shaving cream, pudding, mud	•Use a white noise machine or white or pink noise CD		•Drink a carbonated beverage or slushie	•Use a hop ball or Rockin’ Rody
			•Blow: for example, bubbles, whistles	•Bounce on a therapy ball
			•Suck on a mint, lollipop, or hard candy	•Ride a tricycle, bicycle, scooter, or skateboard

			•Suck thick liquid through a straw	•Sports and gymnastics
			•Use an age-appropriate “chewy”	•Yoga and Pilates
				•Swimming
				•Dancing
				•Mindfulness meditation

(Biel, 2014)

Occupational Therapy

Occupational Therapy (OT) is a therapeutic service for children with physical, cognitive, psychosocial and/or sensory issues. OT looks at how does the child occupy his/her time, which includes a range of various activities like: play, social skills, eating, sleeping, self help skills and self care. The child needs to be able to function as an individual (playtime), a group member (story time), and a student (individual and group activities). Within these roles, the child is required to participate which demands the use of many different skills. Occupational Therapist work with children, their families, teachers, and caregivers, to help improve the child's skills needed to function in everyday life.

For children with SPD, an OT will help the child strengthen skills through playful but therapeutic tasks in the classroom and/or gym. OT is child-centered. The tasks are built around what the child is motivated to do, and then enhancing tasks to gently challenge the child to encourage learning and adaptive responses.

According to Jasienoski (2008), Occupational Therapy should include:

- Individual, ongoing assessment of each child
- Developing goals and treatment plans
- Structuring activities that challenge the child and also promote success
- Modifying the environment to allow the child to succeed
- Facilitating a "sensory diet" of multi-sensory activities that help to calm and organize the child for improved attention and participation in activities
- Helping the child to organize and process information so that they can respond more appropriately to a given situation
- Helping the child socialize and function appropriately in a group setting
- Strengthening muscles in the body (both large and small)
- Helping the child to be more independent in activities of daily living, such as dressing, grooming, and mealtime

- Educating parents and caregivers
- Working as part of a multi-disciplinary team to promote the overall health and success of the child (p. 6).

Sensory Processing Questionnaire and Checklist

Before a child is evaluated for SPD, his teacher should fill out a questionnaire and/or checklist. Prior to the observation, take some time to thoroughly read over the statements to better understand how sensory processing really affects a child's development. Often, it is helpful to have someone else observe the child as well. There are various types of checklists, questionnaires, and screening tools to help assess a child's sensory processing difficulties. One I recommend is Biel's (2014) because she also provides one for parents to do at home along with a questionnaire.

Making Sense of the Results

As you review the results, you begin to develop a sense of how the child functions from a sensory standpoint. If the child has only a few marked Rarely or even Sometimes on the Sensory Screening Tool, they have a few mild sensitivities. Always note which sensory systems have greater numbers towards Always and Sometimes, that usually indicates towards an increasingly significant sensory differences. And of course, if you are noticing that there tends to be a pattern of Always and Sometimes, please remember it is best to refer the child to a specialist. “A child who has three or more ratings of Always or Sometimes in one or more sections should be referred for an evaluation by an OT with advanced truing and experience in sensory processing challenges” (Biel, 2014, p. 44).

Closing Thoughts

Usually, one of the first contacts a parent seeks when searching for guidance about unusual behaviors or discerning emotions is the child's pediatrician. However, many mental health practitioners have limited information or understanding about sensory processing disorder (Walbam, 2013). "The parents may be scolded for overreacting or they may be offered assurances that their child is "just a little delayed" or "going through a phase" or "showing his personality" (Miller, 2015). Put yourself in the parents shoes—imagine knowing, deep inside, something isn't right with your child, but feeling exasperated, irritated, overwhelmed or totally lost because nobody believes you. This is when parents turn to us—their child's teacher, which is why it is important that we are full of knowledge about SPD.

It has been estimated that SPD occurs in about three million children within the United States (Walbam, 2013). SPD is a neurological disorder that affects the way a child learns; this is not something a child will "grow out" of. As early childhood educators, I feel it is important to expose our learners to a variety of sensational opportunities in order to observe and record his/her individual responses. Providing children with the appropriate environment to explore sight, sound, smell, flavor, gravity, and touch is not harmful to development. Therefore, integrating sensory programs into the classroom may, in turn, benefit the children.

Sensory integrative therapy, lead by an occupational therapist, is the one of the most beneficial treatment plans for SPD, which will not induce any harm. "Therapy involving sensory stimulation and responses to stimulation is often more effective than drugs…in helping the dysfunctional brain to correct itself" (Ayres, 1979, p. 135). Sensory integration is an all-natural therapy. Young children, whose nervous systems are still developing, rapidly stand a good chance of benefitting from therapeutic intervention.

It is important to advocate for the children in your classroom and educate the parents. I've noticed certain children display unsettling behaviors or emotions that puzzled me. Why, I wondered,

did she hum, “Buu” at meeting and clean up? Why did he slouch, lean, or flop in my lap like a rag doll? Why does he fall apart when its time to go to movement? It all makes sense now. As much I wanted him to pull it together, he wanted to pull it together, but he couldn’t. Now, although I am not a diagnostician, I have a better understanding of how to advocate for my children and help him/her function in the classroom.

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