Sensory Activities to Enhance Speech and Language Therapy for Children with Sensory Processing Disorder

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It is increasingly being found that children with special needs such as Developmental Language Disorder (DLD) and Autism Spectrum Disorder (ASD) have accompanying sensory deficits (Karanth, Roseberry-McKibbin, & James, 2017a). Research has clearly shown that sensory processing deficits, often described under the term sensory processing disorder (SPD), are a co-morbid problem that can accompany childhood apraxia of speech, ASD, attention deficit hyperactivity disorder (ADHD), and DLD (Delgado-Lobete et. al., 2020; Galina-Simal et al., 2020; Newmeyer et al., 2009; Piek & Dyck, 2004; Taal, Reitman, Meulen, Schipper, & Dejonckere, 2013).

Research has suggested that SPD can be at least partially explained by the presence of abnormal white matter microstructure (Owen et al., 2013). Children with SPD have an irregularity in brain function that makes it difficult to integrate sensory input effectively. Possible causes of SPD include prematurity, birth trauma, drug/alcohol exposure in utero, infections and viruses, genetics, environment, neurological disorders, and others. SPD may occur alone or, as mentioned, as a co-morbid problem that accompanies other disorders. Children with SPD often show specific difficulties in the following areas: motor learning, social/emotional skills, speech/language skills, and attention. They frequently exhibit delays in fine motor skills as well.

Speech-language pathologists (SLPs) provide service delivery to children with childhood apraxia of speech, reading disabilities, DLD, ADHD, and autism spectrum disorder. These SLPs may be unaware of comorbid SPD in children with these disorders, and thus may experience frustration and limited success in therapy for speech and language.

It is important for SLPs to be aware of symptoms of SPD. These symptoms include the child's being hypersensitive to stimuli, hyposensitive to stimuli, or a combination of the two. Children exhibit symptoms in seven major areas: 1) tactile, 2) visual, 3) taste, 4) smell, 5) auditory, 6) vestibular, and 7) proprioceptive. SPD is diagnosed through multiple means. First, a thorough occupational therapy evaluation is necessary. Parent/caregiver questionnaires are critical. There are also checklists which can be used; vision and hearing screening is critical. Clearly, the diagnosis of SPD needs to occur through evaluations by an interprofessional team who is working directly with families.

While most SLPs have considered treatment of sensory deficits the realm of occupational therapists, more and more SLPs are acknowledging that speech and language therapy should incorporate sensory-based activities for children with sensory deficits. These activities can also encourage the development of fine motor skills which eventually helps writing. While these activities in no way replace the services of an occupational therapist, SLPs can enhance their service delivery to children with communication disorders accompanied by SPD and fine motor problems by incorporating sensory-based activities into treatment. Children with communication disorders that are not accompanied by sensory processing deficits can also benefit from sensory activities that are incorporated into speech-language therapy because these activities are often fun and highly motivating. Again, these activities can also include the incorporation of fine motor activities to build skills in this area to support children who have difficulty writing.

For children who need tactile supports in therapy, SLPs can use fingerpainting, toys hidden in rice or bean buckets, and fidget balls. For children who need visual supports, SLPs can reduce distractions, use games such as beanbag toss, and others. For children who need auditory supports, SLPs can use calming music and eliminate distracting environmental noises. For children who need vestibular supports, SLPs can give movement breaks, allow children to change positions when activities change, and play balance games. Activities to increase hand strength and finger dexterity will improve writing; speech and language goals can be easily incorporated into these activities.

IDEAS TO INCREASE OVERALL HAND STRENGTH AND DEXTERITY—HAVE THE CHILD:

*Squeeze balls of varying degrees of difficulty

*Play the pick-up-sticks game

*Cut anything—paper, playdough, coupons for Mom and Dad!

*Crumble Cheerios or Rice Krispies to make "sand" for pictures

* Help with washing the car

*Help with washing dishes

*Help with gardening, planting

* *Practice identifying small objects in a bag without looking

*Roll a small ball of playdough. Using the thumb, roll the ball across the finger tips, from the index to the little finger and then back.

*Using a flashlight, make "finger shadows" against the wall

*Drop coins one at a time into a slotted top or piggy bank

*Place coins, on their sides, into play dough

*Hang from monkey bars and overhead rungs

*Mix cookie dough by hand

*Use clothespins to pick up small pieces of crumbled paper. Pass the paper to each other and drop the pieces into a bucket

*Push pins into foam with a paper design over the top

*Use playdough to make dragons and pinch marks on top of the dragon

*Tear pieces of construction paper into small pieces and glue the different colors of paper on an uncolored picture

*Make a small mosaic picture by gluing colored rice onto a piece of paper—the child can follow a design, or do this freehand!

*Get bubble wrap and have the child pop the bubbles

*Make candy sculptures—use colored toothpicks and candies to make wonderful creations!

*Using a chalkboard, write or have the child write letters or draw pictures with chalk. Have him erase them with small bits of paper towel. The child can also erase with a small piece of damp sponge. A chalkboard is better than a whiteboard because it takes more effort to write, thus increasing the child's muscle tone and strength.

*Have the child tear pieces of Scotch tape from a dispenser and tape pictures or other objects onto paper

*Have the child draw on a chalkboard using <u>small</u> pieces of chalk—this helps with finger dexterity for writing

*Roll and shake dice within the palm of one hand

*Use Leggo blocks to build things

*Roll and pull taffy

*Drop marbles, small shells, or other small objects into spaces in an egg carton

*Pull a rubber band as far as you can

*Poke holes in playdough with fingers

*Have the child paint anything—pictures, objects such as ceramic figures

*Squeeze glitter paint from tubes

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