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*Photos courtesy of Margarita Sweet*

# helping children with sensory processing disorders:

## the role of occupational therapy

*By Margarita Sweet*

**I**magine yourself inside the coach of a train on your way home during rush hour. It's packed and you can't move. You want to find your mobile text device so you dig into your backpack. The train suddenly stops and you grab a handlebar so that you don't step on someone else's feet.

In this scenario, to relax during the train trip you must have adequate sensory processing skills, including:

- A mature tactile system to feel comfortable around the people riding on the train who may unexpectedly touch or rub against you (maintaining your usual personal boundaries is difficult in this situation). Your tactile system also enables you to find items, such as your mobile device, without using your vision.
- Your vestibular and proprioceptive systems, which play an important role in maintaining your balance while the train moves or stops. These systems tell you where you are moving in relation to space and to activate your muscles in order to obtain a desired position. In this case, they help you move your hand to find and hold the handlebar without hurting anyone and increase your muscle tone to help you stand still and not fall.

For many people, riding on a train during rush hour is a normal experience. They get used to the crowded conditions and/or already know that they are not likely to be harmed in this situation. However, for some who do not have intact sensory systems, this experience can be very challenging. They may feel uncomfortable standing close to strangers, lose their balance on unstable surfaces, depend on their eyes or take extra time to find an object inside a bag, or simply avoid taking the train during rush hour. We all experience unpleasant situations that we cannot control, and this is normal. But when someone has difficulties functioning in daily life, he or she may have sensory dysfunction.

Normally functioning sensory systems develop through sensory experiences. Children are stimulated through their senses in many different ways. They learn to tolerate this stimulation and also how to use the information they receive to control themselves and their movements and interact with the world around them. For example, just



as the eyes detect visual information and relay it to the brain for interpretation and action (i.e., copying information from the chalkboard or becoming excited when you run into a dear friend), other sensory receptors pick up and relay information to the brain for interpretation and purposeful response.

Even though a person's sensory system is intact, he or she may have a sensory processing disorder (SPD), also known as sensory integration dysfunction. This means the person's brain does not correctly process the data it receives through the senses. SPDs are linked to many issues, including autism spectrum disorders, Attention Deficit Disorder, developmental and/or neurological disorders such as Fragile X Syndrome, Down syndrome, fetal alcohol syndrome, and even food allergies (Mitchell, 2010). In some people, a SPD may co-exist with these diagnoses; in others, they may only have a SPD. The red flags of sensory integration dysfunction in children are a child's unusual responses to touching and being touched, and/or to moving or being moved (Kranowitz, 1998).

The day-to-day living of people with SPDs may be affected. Children, who may have not yet learned how to independently compensate for sensory difficulties they experience, face challenges in focusing on learning in school. For example, under-responsive or over-responsive sensory systems may cause these students to fear movement while using the playground equipment, dislike being in circle time, or have difficulty transitioning, or the students may present a high activity level, touch everything, and/or take excessive risks that compromise personal safety. Either way, this may prevent them from participating fully in classroom activities.

This is where occupational therapy (OT) comes in. Occupational therapists figure out why people have difficulties with daily activities and help them develop skills or strategies for adapting to and participating in these activities. Therapists play a valuable role in the school system, working with students who have SPDs. At Kendall Demonstration Elementary School

(KDES), therapists make a big difference in some students' ability to benefit from their educational environment and their teachers' understanding of their needs. The following story of three KDES students illustrates how OT can help.

Every morning at KDES, three deaf students with additional disabilities come to the sensory-motor gym for OT services identified in their Individualized Education Programs (IEPs). The gym setup changes each day, carefully arranged by their occupational therapist

to ensure the students continue developing and regulating their sensory skills. The students eagerly take off their shoes, leave their backpacks and jackets neatly placed on their chairs, and attend to the therapist's directions. The directions may, for example, guide the children through completing an obstacle course, playing on different kinds of swings, riding scooters, putting their hands in a box full of rice and beans to find hidden objects, being squeezed with balls or mats, or following a sequence of moves to make a dance. Those activities and others often incorporate academic concepts such as numbers, shapes, or colors, and reinforce the use of language, allowing the students to have fun while developing key sensory processing skills.

This scene might seem unremarkable, but to their teachers, parents, and the students themselves, it is an extraordinary—and satisfying—experience. A year ago, it was difficult for the three students to follow the therapist's directions. Each student isolated him- or herself in his or her own games, and it was nearly impossible to transition the students to a structured activity. One would spin on a swing continuously for 30 minutes without getting dizzy. Another would imitate others' disruptive behavior and engage students in aggressive wrestling games. The third would sit back and simply watch others. Those students needed order. Their sensory systems were under-responsive, over-responsive, or seeking additional sensory stimulation. The students also needed structure to engage in more purposeful play in order to develop academic skills (fine motor, visual motor, and visual perceptual skills) and improve their self-regulation skills to attend to their teachers and peers.

Over the past year, those students have become more adept at regulating their behavior and strengthened several skills:

- Instead of running into the sensory-motor gym, attacking the various objects, and playing on their own, they now sit patiently and listen to the therapist give them instructions, usually a sequence of steps in an obstacle course along with a set of rules agreed upon with the students.
- Their language skills have improved and expanded to the point that they have a sign for most of the equipment found in the room and cooperate with their peers by taking turns or asking for their involvement in team-coordinated activities.
- They make eye contact more consistently during discussions.
- They cooperate when transitioning from one activity to another.
- They understand when it is time to stop and move on to a different step.

The progress these students have been making has helped them to focus during other school activities. The therapists have also provided guidance to the students' classroom teachers in helping the students stay regulated. The teachers ensure that the students receive sensory breaks throughout the day. Their classrooms are structured so that they have a variety of activity stations that require the students to use their senses. There are beanbags on



which they can sit while reading a book; boxes filled with sand, water, or beans; and/or toys that vibrate. When transitioning from the classroom to another location, the teacher may lead the students in fun walks.

A key ingredient in the success of OT is the training and experience of the therapist, who must be able to guide students with SPDs in meaningful and natural ways to help their brains modulate information received through their senses. This, in turn, affects achievement in their academic, physical,



and social-emotional growth. The therapist's ultimate goal is to give the students the tools they need to independently find ways to cope when they don't feel regulated (i.e., when they feel overwhelmed, fidgety, inattentive).

For more information about SPDs, visit the website of the Sensory Processing Disorder Foundation at [www.spdfoundation.net](http://www.spdfoundation.net).

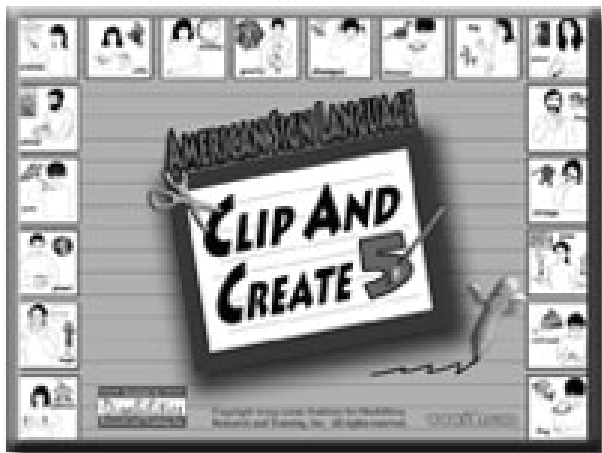
To learn more about OT, visit the website of the American Occupational Therapy Association, Inc., at [www.aota.org](http://www.aota.org).

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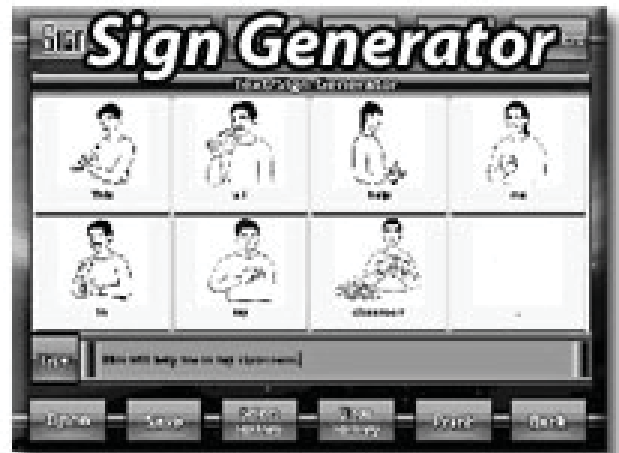
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