

COMPLEMENTARY
EDUCATION
SERVICES

INSIDE THIS
EDITION

What is SPD? 2

Sensory Prob- 2
lems

Strategies for 3
School Teams

Sensory Integration

Reaching Out to All Students

VOLUME 1 ISSUE 2

DECEMBER 2007



A Word or Two From the Editors...

Due to the large number of requests for information regarding Sensory Integration, we felt it would be beneficial to have Melissa Di Fruscia, Sir Wilfrid Laurier School Board's Occupational Therapist, write the articles for this month's issue. Thank you, Melissa!

A conducive learning environment is about creating a place in which all students

are offered the opportunity to shine at some point in the day. As educators, we are required to wear our *detective hats* and search out new ideas, activities, and strategies that will help us reach out to all students.

We hope that you will find this issue both informative and practical. We welcome comments and ideas for future issues. Happy reading and wishing you a relaxing holiday season!

What is Sensory Integration ... Sometimes Called Sensory Processing?

The concept of sensory integration comes from a body of work developed by Dr. A. Jean Ayres, PhD, OTR. As an occupational therapist, Dr. Ayres was interested in the way in which sensory processing and motor planning disorders interfere with daily life functioning and learning. Sensory experiences include touch, movement, body awareness, sight, sound and the pull of gravity. The process of the brain organizing and interpreting this information is called *Sensory Integration*. Sensory Integration pro-

vides crucial foundation for later, more complex learning and behaviour.

In most individuals effective sensory integration occurs automatically, unconsciously and without effort. In some people, however, the process is inefficient, demanding effort and attention with no guarantee of accuracy. When this occurs, the goals they strive for are not easily attained. In most children, sensory integration develops in the course of ordinary childhood activities. Motor planning ability is a natu-

ral outcome of the process, as is the ability to adapt to incoming sensations. But for some children, sensory integration does not develop as efficiently as it should. When the process is disordered, a number of problems in learning, development, or behaviour may become evident. This disorder is seen through adulthood as well.



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What is Sensory Processing Disorder (SPD)?

Sensory Processing is a complex disorder of the brain that affects developing children and may be present even at birth. These children may misinterpret everyday sensory information, such as touch, sound and movement. They may feel bombarded by sensory information or seek out intense sensory experiences or have other problems. This can lead to behavioural problems, difficulties with coordination, experiencing low self-esteem and other

issues. Children with SPD are often misunderstood and labelled as aggressive or clumsy. They often are socially isolated and have trouble in school.

Here are a few signs of SPD:

- Overly sensitive or under reactive to touch, movement, sights or sounds
- A high or unusually low activity level
- Impulsive; lack of self control
- Clumsy; lack of coordination
- Difficulty transitioning from one activity or one place to another
- Inability to calm or relax
- Poor attention and/or auditory comprehension
- Poor self-esteem
- Speech and language delays
- Fine and/or gross motor delays
- Learning disabilities

How Might Sensory Dysfunction Cause Problems

Sensory issues are often an underlying component of ADHD, Learning Disabilities, Pervasive Developmental Disorders (i.e. PDD, NOS; Autism), mental health issues and behavioral problems. Sensory issues will often manifest themselves in difficulties with academic achievement and peer interactions as well as have an affect on learning, attention, coordination, activity level, development, self-esteem, behavior, etc.

Children who have a sensory processing disorder can be either over or under reactive to sensory stimulation, can have difficulty making sense of incoming sensory information, and/or

may have difficulty planning and coordinating their movements with the sensory information being registered (i.e. motor planning).

Here are some examples:

1. wearing the wrong shirt or pants to school may set a student off for the day; s/he is unable to focus on anything else other than their clothing;
2. sitting next to the door or a radiator may completely capture his or her attention to the point where s/he can't listen to the teacher talking;
3. a ray of sunlight reflecting off the desk may blur his or her vision and can no longer see the test properly;

4. may be oblivious to the environment or the teacher's voice as sensory information is not powerful enough to register in their weak nervous system

5. may not have the ability to coordinate his or her body properly to perform motor tasks such as writing, cutting, jumping, playing games, etc.

As you can see, sensory processing issues can manifest themselves in different situations. A student with a sensory processing disorder does not mean to be "bad," "defiant," "lazy," etc; the student is trying self-regulate so that can s/he can keep up with environmental demands.



How Can Teachers Help Their Students with Sensory Integration Issues?

In order to help students with these issues, teachers must first put on their “detective hats”, learn to look closely at problematic situations, and develop useful strategies to resolve these situations; what is the student’s behaviour really expressing.

As *sensory detectives*, it is important that teachers analyze the behaviour by looking at the situation from the student’s “sensory” point of view. Depending on the situation and the sensory needs (proprioceptive, vestibular, and tactile) of the student, there are a number of useful strategies that can be put into practice.

Here are some examples:

1. students who do not tolerate loud noises, warn them before large gatherings (e.g. assemblies) or unexpected noises (e.g. fire alarm);
2. sit them away from windows, radiators, fish tanks and doors; 3. front row in the middle of the classroom is usually ideal;
4. students who do not like to be touched (cringe at your touch), always

touch him/her firmly, never stroke his/her arms or hair (for some this is very irritating); accept that s/he may not want to participate in activities involving glue, play dough, etc., try to find another medium s/he can work with;

5. have students stand at the back of the line so that it avoids the possibility of getting bumped by another student;

6. have students participate in “heavy muscle work” throughout the day; the stimulation they get from doing these activities, produce chemicals in their brain that either tell their nervous system to “calm down,” or “wake up”:

- *place chairs on desks at the end of the day or take them down at the beginning of the day;
- *carry something like a stack of books or a large box to another room;
- *clean the chalk- or white- board;
- *help the physical education teacher move mats, hang them up, etc;
- *wash desks;
- *staple paper on the bulletin board;
- *open doors for people

7. activities teachers can do with the whole class at least 3 times a day which would benefit all students; these activities are aimed at improving concentration, attention and alertness to enhance learning:

*whole body stretches (have the students start in a ball and have them roll themselves out stretching out their arms and legs);

*chair push-ups (holding the sides of the chair with both hands, have the students lift their bottoms and feet off the chair and floor);

*wall push-ups (have the students do push-ups against the wall);

*wheelbarrow walks;

*animal walks (e.g. crab walks, bear walks, etc);

*hand to hand pushes (have the students push against their own hands for 10 seconds; repeat this exercise 5 times)

IF YOU HAVE ANY SUSPICION THAT A CHILD IN YOUR SCHOOL HAS SENSORY ISSUES, PLEASE REFER THEM TO AN OCCUPATIONAL THERAPIST.

Useful Websites

www.sinetwork.org/
www.sensorysmarts.com
www.autism.org/si.html

Dysfunction in sensory integration is the "inability to modulate, discriminate, coordinate or organize sensation adaptively" (Lane

Interesting Books

1. **The Out-of-Sync Child**, Author: Carol Stock Kranowitz
2. **The Out-of-Sync Child Has Fun**, Author Carol Stock Kranowitz
3. **Raising a Sensory Smart Child**, Authors: Lindsey Biel and Nancy Peske
4. **Sensational Kids**, Author: Lucy Jane Miller
5. **Building Bridges Through Sensory Integration: Therapy for Children with Autism and Other Pervasive Developmental Disorders**, Authors: Paula Aquilla, Shirley Sutton and Ellen Yack
6. **Answers to questions Teachers Ask about Sensory Integration: Forms, Checklists and Practical Tools for Teachers and Parents**, Author: Jane Koomar, Carol Kranowitz, Stacey Szklut and Lynn Balzer-Martin

"Good sensory processing enables all the impulses to flow easily and reach their destination quickly. Sensory integrative dysfunction is a sort of 'traffic jam' in the brain. Some bits of sensory information get 'tied up in traffic,' and certain parts of the brain do not get the sensory information they need to do their jobs." (Ayres)

Useful Websites

<http://specialchildren.about.com/od/sensoryintegration/a/DSISchool.htm>
www.sensorysmarts.com/schools.html
www.ateachabout.com/
www.sensory-processing-disorder.com/teacher-resources.html
www.childrensdisabilities.info/sensory_integration/index.html

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