Improving Learning Outcomes for Students through Sensory Integration-Based Occupational Therapy

Sarah Sawyer, MA, OTR/L
ssawyer@otathecroomcenter.com

Goals of our session...

› Help you to understand what Sensory Integration is
› Help you to become detectives to begin to understand what you are seeing .... sensory challenges ????
› If sensory based, begin to explore sensory strategies

AYRES Sensory Integration ®

› Sensory Integration is the organization of information from the senses for use in adapting to environmental demands.
› Developed by A. Jean Ayres, occupational therapist and psychologist.
› Integration of our senses is key to our daily enjoyment of life.

The Senses

› As children, we are taught that we have 5 senses
  @Touch (tactile)
  @Smell
  @Taste
  @Hearing (auditory)
  @Vision

There are Hidden Senses Too

Movement senses
  @Proprioceptive
  @Vestibular

Touch

› Safety/comfort/exploration
› Pressure to the skin provides calming input and creates body awareness.
Proprioception

- Proprioception is basically the way your body senses how it is moving.
- Information is received from the joints, tendons, and muscles
- Trouble processing this information can cause clumsiness and inappropriate use of pressure or force among other difficulties

Vestibular

- Our internal "GPS"
- Provides sense of safety, enjoyment with movement
- Balance, Coordination, Rhythm
- Coordination with visual and auditory information

The Vestibular system

- Semicircular Canals—arc, rotation
- Utricle and Saccule—gravity and back and forth movement

Hierarchy of Skill Development

Sensory Integration Overview

Sensory Modulation

- Ability to tune in/out sensory information for safety/comfort.
- Can result in increased arousal, flight, fright, freeze, creating difficulties in coping with many typical daily activities.
- Need calming organizing activities to support self regulation
**Continuum of Arousal States**

- Continuum of arousal states showing sensory overload and modulation.

**Signs of modulation challenges**
- Irritability or withdrawal from touch
- Avoidance of certain textures of clothes or foods
- Distracted by sounds or sights or smells
- Fearful reactions to movement activities
- Challenges with sleep cycles
- Seeks out intense sensory stimuli: whirling, crashing into objects, or self-abusive behaviors
- Activity levels extremely high/low
- Becomes upset easily, slow to recover

**Sensory Integration Overview**

- Sensory input to CNS process to functional outcome.
- Challenges include modulation, discrimination, and functional outcome.

**Sensory Discrimination**

- Refined skills and quality of the input
- Poor body awareness and poor sense of position in space
- Creating motor coordination and planning (praxis) problems, resulting in frustration, anxiety.
- Often need stimulating input to support best performance

**Signs of discrimination challenges**

- Activity level unusually high or low
- Constantly on the move seeking more input for skill
- Coordination problems
- Fatigues quickly
- Difficulties with gross or fine motor activities
- Poor balance
- Breaks toys unintentionally
- Difficulty with unfamiliar tasks
- Difficulty mastering new skills

**Sensory Integration Overview**

- The process of sensory integration from sensory input to functional outcome.
Motor planning (PRAXIS)

- Conceptualizing, organizing, and sequencing purposeful actions (ideation, sequencing/execution)
- Planning new and unfamiliar motor actions and problem solving as needed
- Interaction with the environment

Signs of praxis challenges

- Difficulty organizing behavior
- Impulsive
- Shows little planning in approach to tasks
- Difficulty adjusting to changes or transitioning between activities
- Rely on predictability
- Require lots of repetition to master new skills
- Frustration, aggression, or withdrawal when encountering difficulty or failure
- Isolation on playground

Common symptoms

- Poor self concept
- Anxiety
- Avoids social situations, sports, parties
- May appear lazy, bored, or unmotivated
- May be labeled stubborn, manipulative, or a troublemaker

- One study (Ahn, Miller, Milberger, McIntosh, 2004) shows that at least 1 in 20 children's daily lives is affected by SPD.
- Another research study by the Sensory Processing Disorder Scientific Work Group (Ben-Sasson, Carter, Briggs-Gowan, 2009) suggests that 1 in every 6 children experiences sensory symptoms that may be significant enough to affect aspects of everyday life functions.

Mistaking Capacity for Capability

Many individuals who are thought to have behavioral issues, poor intellectual capacity, attentional issues, psychological issues such as anxiety, may have underlying issues in sensory organization.

They cannot get "in the ballpark" to function as needed on a regular basis.

Dispelling Myths

- Pay attention and sit still? Is that how it really works?
- What are your sensory strategies?
- What do you do to pay attention in long meetings or lectures?
Sensory Diets

- Sensory diets are a collection of sensory based activities designed to help improve focus, attention span and involvement in the task at hand, most commonly school work or meal time activities.
- These "diet" suggestions may be included in an individual's day at set times or when there are signs that the individual needs to have a sensory break.

Sensory Diet

- Sensory points for daily success
- 70 sensory points
- What gives us our daily supply – Sleep, Nutrition, Sensory Diet Activities
- Assessing points needed for activities
- Does the activity give us points or take points away?
- Cannot be a prescription, must be individualized

Activities Requiring Points

- Prepping for school
- Meal times
- Transitions
- Academics/homework
- Peer/social interaction
- After-school activities
- Going to store
- Chores

4 components to a sensory diet

1. Environmental - adaptations to the classroom
2. Sensory strategies – accessible as and when needed
3. Movement input throughout school day - within and outside the classroom
4. Activities outside of school - before and after school

Environmental Accommodations

- Forewarn of loud noises, bells, alarms
- Carpets, tennis balls on chairs
- Keep visual distractions to a minimum
- Adapt art activities
- Approach child from front
- End/beginning of line/position during circle time

Seating options

- Focus swing
- Howda swing
- Rocking/swivel chairs
Quiet Corner

Fiddle & Fidgets

http://www.stimtastic.co

Weighted
› Weighted blankets, balls, shoulder and lap pads
› Bear hugs and vests

Oral Inputs

› www.talktools.com

Movement opportunities
› Taking walk/delivery guy/girl
› Time on playground
› Time in the gym
› Helper within classroom
› Therapy session
› Bike riding
› Snack/drink breaks

Movement Opportunities
Efficient & Effective

Key Components to Analyze
✓ Intensity
✓ Duration
✓ Frequency
✓ Rhythm

Banking Points for Sensory Needs

- Key Sensations for Organization and Arousal
- Proprioception – heavy work to our muscles and joints
- Touch Pressure
  hugs, weighted blankets
- Linear Vestibular – jumping
- Angular vestibular – swinging, rocking

Making Decisions Throughout the Day

- Sensory input can be used in preparation for activities, during activities and afterwards to regroup
- Shifting arousal in readiness for skill.
- Shortening activities for success
- Explaining sensory needs to others

Charting to Measure Effectiveness of Sensory Diets in the Classroom

- Keep record of sensory diet tasks
- Quickly measure after each sensory diet activity
- Analyze the log to determine what activities are most effective and how to improve the sensory diet components

Sensory Diet Data Sheet

| Date | Time | Sensory Input | Duration | Intensity | Sensory Diet Activity | Length of Time (%)
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Sensory Activities:
- Proprioception
- Touch Pressure
- Linear Vestibular
- Angular Vestibular

Length of Time (%): 1 = 0-2 minutes
2 = 3-5 minutes
3 = 6-10 minutes
4 = 11-15 minutes
5 = 16-30 minutes
6 = 31-60 minutes
7 = Over 60 minutes

www.sensationalbrain.com
www.alertprogram.com
www.thespiralfoundation.org
www.southpaw.com
www.therapro.com