Creative Ideas for Sensory-based OT in the Schools

Deanna Iris Sava, MS, OTR/L
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AGENDA

- Overview of Therapeutic Intervention in a School Environment
- Sensory Processing Disorder
- Assistive Technology
- Questions
- Resources / Acknowledgements

Overview of Therapeutic Intervention in a School Environment

Team Collaboration
Overview of Therapeutic Intervention in a School Environment

- Federal Laws (IDEA; Rehabilitation Act of 1973 (504); NCLB; ADA)
- Response to Intervention / Common Core Standards
- State Laws
- Occupational Therapy Licensure
- Board of Education policies

“Referral from a physician or other health care provider is not required for evaluation or intervention for children and youths if an occupational therapist or occupational therapy assistant provides services in a school-based or educational environment, including the child’s home.”

Here is the link to the revised Practice Act:

Overview of Therapeutic Intervention in a School Environment

Occupational therapists in the school setting support the educational process.

The clinical reasoning process (Assessment-Intervention-Reassessment) involves the continual collaboration and problem solving to monitor:

- students’ responses to tools/strategies
- continued effectiveness of the tools/strategies
Overview of Therapeutic Intervention in a School Environment

- School-based OTs provide sensory-based strategies to help students increase their participation in the educational program.

- Private practitioners with proper training are equipped to provide sensory integration intervention based on Ayres Sensory Integration® therapy. The focus is to facilitate an adaptive response by improving underlying issues.

**SENSORY PROCESSING DISORDER**

**Sensory Modulation Disorder (SMD)**
- Sensory Over Responsivity
- Sensory Under Responsivity
- Sensory Seeking

**Sensory-Based Motor Disorder (SBMD)**
- Dyspraxia (Motor Planning)
- Postural Disorder

**Sensory Discrimination Disorder (SDD)**
SENSORY OVER-RESPONSIVITY

Feels sensory information too much, too soon

SOR INTERVENTIONS

- Classrooms that are organized, calm, and structured
- Wider personal space
- Quiet space equipped with sensory input
- Visual or verbal schedule/activities to help with transitions
- Deep pressure and proprioceptive input help calm the nervous system
- Calming techniques

Visual and sensory-break schedules help with transitions
A large Time Timer can help whole classrooms transition between the classroom and cubbies, lockers, hallway, or other areas of the school.

Calming Techniques

- Firm touch on shoulder or a deep hug
- Slowly rock in rocking chair
- Let child work in tent made with a blanket
- Provide quiet corner with pillows or carpeted box
- Low-level lighting
- Quiet music with headphones
- Soft voice
- Slow movements
- Vibrating pillow
- Wrap child in blanket or sleeping bag
- Sandwich child between two beanbags or large pillows
- Use weighted items (e.g., vest, blanket, lap weight, Bear Hug)
- Oral motor: foods that are sweet, hot or that you suck on have a calming effect

Steamroller

Temple Grandin's Hug Machine

Body Sock

Ribnet tunnel
Sensory Under-Responsivity

Feels sensory information too little, too late

SUR Interventions

- Enhance task and contextual cues:
  - Brightly colored construction paper on desk
  - Colored background and fonts on computer
- Utilize alerting techniques

ALERTING TECHNIQUES
- Midmorning healthful snack
- Bright lighting
- Increase air circulation with fans or by opening windows
- Move briskly
- Speak quickly
  - Play loud, fast-paced music
  - Run in place or jump
- Swing fast during recess
- Splash cool water on face or neck
- Sip ice water from water bottle
- Run errand in building
  - Use chair ball
  - Playground activities
  - Oral motor: Sour, spicy, crunchy and cold foods have an alerting effect
- SUR Interventions
  - Provide classroom that offers a lot of visual and auditory stimulation
  - Increase duration, intensity and frequency of sensory input throughout the school day
  - Provide movement breaks at least once an hour during the school day
Hanschu's and Barker's Alerting Technique:
1. Swing forward and back 4x, then stop abruptly
2. Swing side to side 4x, then stop abruptly
3. Wide rotary swing in one direction 4x, then stop abruptly
4. Wide rotary swing in the other direction 4x, then stop abruptly

Student transitioning on a Hippity-Hop ball
Student pulling his 1:1 aide who is sitting on a scooter board

Incorporating proprioceptive and vestibular input with Therapeutic Listening
Tumble Top provides prop/vestibular input, and works on motor planning.
School ramp used for scooter board activity

Activities from the 'Astronaut Training' program

Under-Responsivity vs. Inattentive ADHD

- **SUR** - doesn’t initiate activities
- **ADHD** - initiates but doesn’t stick with activity

- **SUR** - knows the routines but is impossibly slow
- **ADHD** - often gets lost in the middle of a routine
Sensory Seeking / Craving

Does not get enough sensory information; never satiated

SS Interventions

- Predictable classroom
- Provide constant access to appropriate sensory input
- Heavy work activities that child can perform within the classroom
- Focusing techniques

Focusing Techniques

Structured programs (such as Yoga Ed or Calm Classroom)
- Chair ball or air cushion
- Weighted items
- Hand fidgets
- Commercial or non-modified therapeutic music comprised of high notes (e.g., Mozart)
- Oral motor: chewy foods have a focusing and organizing effect

Sensory Seeking vs. Hyperactive ADHD

- **SS** - able to stop impulsive behavior and looks more organized if sensory input is sufficient
- **ADHD** - cannot stop impulsive behavior and does not become more organized after receiving intense sensory input

Sensory Seeking vs. Hyperactive ADHD

- **SS** - seems to need more tactile input as he/she touches, pulls, and/or pokes people or objects
- **ADHD** - craves novelty and activity not necessarily related to specific sensations
  - tends to talk all the time, impulsively interrupting
Here are some examples of sensory equipment we use (some equipment is not shown), including weighted and compression products; vibrating snake; noise-canceling headphones and sound therapy; writing tools such as Smencils, Twist 'n Write pencil, vibrating pens, grips, pencil weight, finger spacers, slantboard, modified paper; adapted scissors; mouth tools; hand fidgets, and theraputty.

Fidgets and Other Sensory Tools

- Teachers and students need guidance about when and for how long to use fidgets
- All sensory strategies that we incorporate within the classroom are TOOLS and not TOYS

Process of Incorporating Sensory Tools and Strategies into a Classroom

- Therapist first discusses sensory tools or strategy with the teacher
- Then trial tool outside of classroom with student first
- Instruct student and staff how and when to appropriately incorporate tool within the classroom
Process of Incorporating Sensory Tools and Strategies into a Classroom

- Have entire class try tool so it is no longer a novelty
- Teacher could rotate use of the tool or strategy
- Tool could be used as a whole classroom intervention

Sensory-Based Motor Disorder – Dyspraxia

Dyspraxia

Three components:
- Ideation
- Motor Planning
- Execution of a Motor Act
Intervention for Ideation

- Model novel tasks
- Provide example of final product
- Allow students to observe others perform a novel task first

Interventions for Motor Planning

- Break down multi-step tasks and provide one verbal direction at a time
- Pair auditory and visual directions
- Allow extra time for assignments and transitions
- Provide visual cues and modifications for tasks requiring spatial organization
- Provide strategies for organization of materials

Box lid converts to a drawer

Desk-a-Doo (orange)
Interventions for Execution of a Motor Act

- Provide physical assistance and guidance
- Multi-sensory cues
- Computer and assistive technology

Sensory-Based Motor Disorder – Postural Disorder

Difficulty with stability and using both sides of the body together

Interventions for Postural Disorder

- Incorporate heavy work activities throughout the day
- Proprioceptive and vestibular activities
Deanna leading a whole class activity from Drive-Thru Menu for Attention

**Heavy Work Activities**

- **PUSH**
- **PULL**
- **LIFT**
- **CARRY**

**Examples of Heavy Work Activities**

- Wear a weighted backpack or carry books
- Chair push-ups; wall push-ups
- Animal walks; run in place; jumping jacks
- Walk up and down a flight of stairs; power walk
- Exercise equipment
- Help set up PE equipment
Examples of Heavy Work Activities

- Place chairs on desks at the end of the day, or take down at the beginning of the day
- Help rearrange desks; wash desks
- Sharpen pencils with a manual sharpener
- Carry books with both hands
- Make deliveries of books or other heavy objects, to the office or other area of the school building
- Climbing activities on the playground
Playgrounds provide a sensory-rich environment for all students.

Examples of Heavy Work Activities

- Carry the lunch bin
- Staple paper onto bulletin boards
- Wall or chair pushups
- Open doors for people
- Participate in a regularly scheduled “exercise program” in the classroom (e.g., activities with theraband)

Theraband tied to doorknob in classroom. Student using theraband tied to doorknob in classroom.
Interventions for Postural Disorder

- Chair ball or air cushion at desk
- Alternative positions (e.g., prone)
- Standing desk
- Supported seating during circle time

Various alternative seating arrangements in classrooms including cube chairs, chair balls, rocking chair, bean bags, and gliders.

Students in Speech Therapy session.
Full Instructional classroom with standing desks. Purple light covers provide a calming atmosphere.

General education classroom with standing desks.

Adaptation to the standing desk swinging bar.

Sensory Discrimination Disorder (SDD)
**SDD Interventions**

- Decrease amount of stimuli (e.g., on worksheets; use study carrel, headphones/ear plugs)
- Colored filter for reading
- Slant board
- Writing tools such as finger spacer, modified paper
- Highlight objects to cut out

**Techniques that Provide A Single Focal Point**

- Sound spa as background white noise
- Metronome set to 60 beats per minutes (human heart rate)
- Deep rhythmic music (e.g., Sacred Earth Drums) playing in the background – never with headphones.
Assistive Technology

Samples of low- to mid-tech tools in Barrington Comm. Unit School District 220's Assistive Technology Toolboxes

iPad hub in general education first grade classroom

iPad provides multi-sensory input, which is highly motivating to students
Some iPad Apps I Use

Letter School  Chalk Walk
Ready to Print  Sounds of Nature
Letter Reflex  Sentence Builder
I Luv Drawing  Story Kit
Animals  Verbally
How to Draw  Dexteria / Dexteria Jr.
Shelby's Quest  Cookie Doodle
Doodle Buddy

*There are lists of iPad apps on OT Exchange’s and AOTA’s sites (www.otexchange.com and www.aota.org).

Questions?

RESOURCES
- OT Exchange -- Deanna Sava’s website (www.otexchange.com)
- Henry OT Services, Inc. (www.ateachabout.com)
- The Alert Program: How Does Your Engine Run? (www.therapyworks.com)
- Courses related to The Ready Approach taught by Laura Barker (www.sensoryprocessing.com)
- FootFidget by Classroom Seating Solutions (www.classroomseatingsolutions.com)
- AlphaBetter Standing Desks (www.visualedtech.com)

- SticKids (www.stickids.com)
- Drive Thru Menus (www.drivethrumenus.net)
- The Zones of Regulation (www.zonesofregulation.com)
- Core Concepts in Action, Astronaut Training and Therapeutic Listening (www.vitallinks.net)
- BrainWorks (www.sensationalbrain.com)
- Sensory Stories (www.sensorystories.com)
- Brain Gym (www.braingym.com)
- Yoga Ed (www.yogaed.com)

Sensory Processing Disorder Foundation (www.spdfoundation.net)
Sensory Integration Global Network (www.siglobalnetwork.org)
Journal of Occupational Therapy, Schools & Early Intervention (www.taylorandfrancis.com)
Sensory Focus Magazine (www.sensoryworld.com)
Sensational Kids by Lucy Jane Miller
I am grateful to all the occupational therapists and others whose work contributed to our understanding of sensory processing, sensory integration, and regulation issues.

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