



Are my students *IN THE ZONE* for learning?

GREY ZONE STRATEGIES to address levels of alertness and sensory needs

Self-regulation is the ability to attain, maintain and change levels of alertness appropriately for a task or situation. Students with Sensory Processing Disorder (SPD) have difficulty reaching their zone of learning, as they are unable to change their degree of alertness. For example a typical student may be able to unconsciously increase their level of alertness during a test or at lunchtime and then calm themselves down to sit quietly during story time.

The purpose of this strategy section is to help teachers provide appropriate strategies for their students with SPD to get in the zone for learning. This is known as co-regulation and with practice the aim is for students to be able to take the strategies of co-regulation and use them independently for self-regulation .

This strategy section has been developed as a tool for teachers and is to be used as a general guide **ONLY**. Please consult an occupational therapist specialising in sensory processing disorders for assessment and interventions for individual students with complex needs.

When considering which strategies to implement with a student consider:

- Frequency (how often)
- Intensity (how fast)
- Time (when and for how long)
- Type (what activity)

For example; jumping on a trampoline (type) for 5 minutes (time) as high as you can (intensity) before a learning activity (frequency) may help increase the alertness for a student craving vestibular/movement sensory input who may usually be fidgeting and unable to sit still to attend to that task.

Adapted from Northern Territory Dept. of Health and Community Services (2006)

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Sensory Processing Disorders for formal assessment and interventions.**





GREY ZONE STRATEGIES



- Students in the **GREY** zone are in a low state of alertness and require alerting and organising sensation at regular intervals throughout the day.
- Some students would benefit from short bursts of activity or input and others will require longer and more intensive workouts

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PROPRIOCEPTION (HEAVY MUSCLE WORK)

- The student in the grey zone may require extra encouragement, a lively tone of voice, exaggerated facial expressions and body language, vestibular movement and/or multi-sensory input to alert before doing the heavy muscle work (e.g. jump on trampoline while listening to lively music and smelling peppermint followed by pushing the trolley of books to the library).
- ☐ Incorporate whole body heavy muscle work activities:
 - Walking especially upstairs or up hills or while carrying an object
 - Running
 - Swimming.
- ☐ Incorporate pushing and pulling activities:
 - Pushing hands together
 - Standing and pushing against a wall ('wall push up')
 - The 'chair push up' (lifting one's body off the chair with their hands on the sides of the seat and straight elbows)
 - Pushing a trolley of books to the library
 - Pushing a shopping trolley on a school trip to the shops.
- ☐ Give the student jobs that require the student to lift and carry heavy objects:
 - Taking out the garbage or recycling
 - Raking leaves, sweeping leaves
 - Watering herbs and plants with a watering can
 - Holding the door open
 - During cooking stirring big pots and kneading dough
 - Kneading and moulding clay or play dough in a craft activity.
- ☐ Incorporate thera-putty into class activities such as moulding the putty into shapes.
- ☐ Incorporate heavy or weighted toys/ pillows/ blankets.
- ☐ Use large, weighted academic tools such as floor puzzles, weighted counting tools, large lego for building.
- ☐ Check that the student is in the right position for learning, e.g. is their chair and desk the correct height (we can attend longer to tasks if seated in a supported posture).



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TOUCH

- ☐ Provide alerting tactile input, e.g. cool face washer, ice pack, deep pressure, fanning at the beginning or during activities and use different textures such as sand paper, silk, wool, soft/hard, hot/cold during learning activities.
- ☐ Introduce games with a strong tactile focus such as patting rhythms on each other's backs, clapping and body slapping songs.
- ☐ Use touch cues to get your student's attention.
- ☐ Use and provide tactile input such as rubbing their back, squeezing their shoulders or touching their hand to maintain their attention.
- ☐ Encourage use of mirrors to check face and clothing.

VESTIBULAR MOVEMENT

- ☐ Alert the student through movement.
- ☐ Encourage changes in direction and pace when walking to the library or music class.
- ☐ Perform activities to increase strength and awareness in arms and hands, e.g. pre-writing warm-up, cutting, finger exercises, the handwriting song.
- ☐ Physically guide the student when introducing new gross motor skills.
- ☐ Introduce clear boundaries as these students may have reduced awareness of their bodies in space, e.g. use masking tape to indicate where they sit.
- ☐ Trial use of assistive equipment if the student has reduced endurance, e.g. slope board, pencil grip, and ensure appropriate seating/posture.
- ☐ Allow access to different seating positions for different activities throughout the day to provide opportunities for movement and to assist with alertness, e.g. floor time, bench chair, swivel chair.
- ☐ Provide movement within learning activities (i.e. active participation in the lesson), e.g. coming up to the whiteboard, giving out worksheets etc.



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AUDITORY (SOUND)

- ☐ Alerting rhythms and beats, e.g. dance music, exciting orchestral music, clapping rhythm to get the student's attention.
- ☐ Incorporate a listening chart into the classroom which encourages good listening behaviours, e.g. look, listen and think (can be used for all zones).
- ☐ Changing beats, pitch, volume to attract and maintain the student's attention: keep them alert.
- ☐ Emphasise key words.
- ☐ Use visual cues and prompts and physically model actions to reinforce auditory instructions.
- ☐ Allow extra time to process instructions and information rather than repeating the verbal input several times and potentially overwhelming the student who is trying to process the information.
- ☐ Rhythm and music in daily routines- sing your instructions!
- ☐ Alerting, lively background music during activity. Monitor closely to ensure student does not disengage in a noisy environment.
- ☐ Music or sounds that signal a transition or a new activity.

VISUAL

- ☐ Increase visual stimulation for this student, e.g. seating the student near the window or bright lights, position the student at the front of the classroom, use contrasting colours, highlighting, stickers and bright arrows to direct attention.
- ☐ Use appropriate overhead lighting, e.g. a lamp to help them focus on task in front of them.
- ☐ Use auditory input and sounds with a visual cue to catch the student's visual attention e.g. clapping
- ☐ Be expressive in your face and body language.
- ☐ Encourage students to touch learning materials to support visual processing/learning, e.g. "this is a circle" - give them the feeling first.
- ☐ Using borders/frames around things you want the student to focus on.
- ☐ Have their worksheet in a contrasting colour to their desk.
- ☐ Provide the student with opportunities to interact with and watch moving objects such as a ball maze or marble run, water wheel or lava lamp, whistles with moving parts that spin when they blow, bubbles, kites etc.
 - Some students who are alerted by visual stimulation will also need movement input.
 - As well as increasing visual input in class, make sure you provide the student with more movement opportunities to activate their vestibular system. (see grey zone vestibular movement strategies)



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TASTE/SMELL

- ☐ Encourage student to explore tastes and smells. Less familiar, distinct tastes and smells stimulate students who are less alert, e.g. can use scented markers or scented stickers.
- ☐ Add a fragrance such as mint to craft items and play-dough.
- ☐ Use a fragrance to signal a transition or new activity.
- ☐ In music lessons, encourage the student to play an instrument that uses their mouth, e.g. harmonica or recorder
- ☐ Opportunities to chew on chewy tubes, chewelry etc.
- ☐ Opportunities to drink from a straw.
- ☐ Opportunities to drink a cold fizzy drink, e.g. carbonated mineral water.
- ☐ Opportunities to eat crunchy, salty snacks

IMPROVING RESPIRATION

Many of our students experience low muscle tone, postural weakness and have difficulty regulating their alertness levels. Heart rate and respiration are closely connected with these difficulties. These students will often be breathing in a shallow way which makes it difficult for them to get adequate levels of oxygen to their brain or to be able to take deep centreing breaths to calm themselves down. Some students hyperventilate (take short, shallow, rapid breaths) which exacerbates the panic or fright/flight/fight state they may already be in. Daily respiration (deep breathing) exercises will assist all students to develop an important self-regulatory tool that can help them to calm down, refocus and get in the zone for learning.

- ☐ Encourage deep breathing:
(By encouraging students to extend their exhalations automatically deepens their inhalations)
 - hissing sound
 - humming competition
 - songs with long vowels
 - resistance whistles and breathing exercises
 - heavy muscle work that increases heart rate and encourages deep breathing (e.g. chair push ups, jumping on the spot, bouncing on the gym ball).



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Additional *information* to assist the teacher in understanding their student.

PRAXIS, MOTOR PLANNING AND MOTOR IDEAS

Praxis is the process of forming an idea and creating and executing a motor plan by taking in feedback through the senses. For praxis to occur smoothly all the senses need to be integrating well and providing accurate information. Many of our students experience motor and verbal praxis difficulties; often referred to as dyspraxia.



This student may:

- Have difficulty with tasks with multiple steps.
- Become confused about the correct sequence of steps.
- Have difficulty imitating or copying actions.
- Have difficulty coming up with ideas during play activities or when manipulating objects, e.g. building blocks or drawing.
- Tend to play the same game or interact with the same activity with repeated movements.
- Not seem to be able to figure out what to do with certain objects or how to manipulate them.
- Not notice the impact of his or her actions on others or the environment, e.g. knocked over a tower of blocks or dropped an object but didn't notice.
- Go about a task in an inefficient or awkward manner.
- Seem to need adult help and feedback more than other students.

MOTOR LEARNING STYLES

This student may:

- ☐ Need to be in a quiet environment to learn.
- ☐ Be more successful with one on one teaching rather than within a group of students.
- ☐ Need help to regulate their alertness level before starting the learning process, e.g. be provided with sensory input to alert or calm themselves so they are in the zone for learning.
- ☐ Need multi-sensory input to learn, e.g. touch, sight, sound, taste combined
- ☐ Need more feedback through their bodies as well as verbal feedback, e.g. writing on sandpaper provides a lot more tactile feedback than writing on paper.
- ☐ Need the task broken down to simple steps (including explicit instructions such as bend your elbow, look down etc.)
- ☐ Need repetition of the steps to a task.
- ☐ Need to watch before trying.
- ☐ Benefit from video modelling and a visual sequence.
- ☐ Need help to generalise the skill into different contexts.



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REFERENCES

- Arwood, E. L., & Kaulitz, C. (2007). *Learning With A Visual Brain In An Auditory World: Visual language strategies for individuals with autism spectrum disorder*. Shawnee Mission, Kansas: Autism Asperger Publishing Co.
- Ayres, A. J. (1972). *Sensory integration and learning disorders*. Los Angeles: Western Psychological Services.
- Canella-Malone, H.I., Tullis, C.A., Kazee, A.R. (2011) Using Antecedent Exercise to Decrease Challenging Behaviour in Boys with Development Disabilities and an Emotional Disorder. *Journal of Positive Behaviour Interventions*.13(3), 230-239. doi: 10.1177/1098300711406122
- Dunn, W. (1999). *The Sensory Profile: User's manual*. San Antonio, TX: Psychological Corporation
- Dunn, W. (2002). *Sensory Processing in Daily Life: Issues for home and school*, University of Sydney, Faculty of Health Sciences, Lidcombe. Presented on October 12th 2002.
- Kawar, HmJ., Frick, R., Frick, S.M. (2005) Astronaut Training: A Sound Activated Vestibular-Visual Protocol for Moving, Looking & Listening. *Handbooks for Innovative Practice*. Vital Links.
- Kuhaneck, H., Henry, D., Glennon, T, (2007) Sensory Processing Measure. *Main classroom form and school environments form*. Western Psychological Services, Torrance
- Miller, L. J. (2006). *Sensational kids: Help and hope for children with sensory processing disorder*. New York: Putnam.
- Northern Territory Dept of Health and Community Services. (2006). *Learning Through The Senses Resource Manual: The impact of sensory processing in the classroom*. Casuarina, N.T.: Dept. of Health and Community Services.
- Oetter, P., Richter, E., & Frick S.M. (1993). *M.O.R.E : integrating the mouth with sensory and postural functions*. PDP Press.
- Parham, D., & Ecker, C. (2010). Sensory Processing Measure. *Home Form*. Western Psychological Services, Torrance
- Perry, B.D. (2008). Child maltreatment: A neurodevelopment perspective on the role of abuse in psychopathology. In Beauchaine, T.P., & Hinshaw, S.P., (eds.), *Child and Adolescent Psychopathology* (pp.93-129). New York: Wiley.
- Wilbarger, J., & Wilbarger, P. (2007). *Course notes- Sensory defensiveness: A comprehensive treatment approach*. Maplewood: Avanti Educational Programs.
- Wilbarger, J., & Wilbarger, P. (2009). *Course notes- Sensory defensiveness: A comprehensive treatment approach*. Maplewood: Avanti Educational Programs.
- Williams, S.M., & Shellenberger, S. (1996). *How does your engine run?® Leader's guide to the alert program for self regulation*. Albuquerque: TherapyWorks Inc.
- Williams, S.M., & Shellenberger, S. (2001). *Take five! Staying alert at home and school alert program for self regulation*. Albuquerque: TherapyWorks Inc.
- Yack, E., Sutton, S., Aquilla, P. (2003). *Building Bridges Through Sensory Integration: Therapy for Children with Autism and Other Pervasive Developmental Disorders*. Future Horizons