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Sensory differences
Supporting students' diverse needs

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The support teachers provide is crucial to ensure that all students have the opportunity to engage in learning in safe, supportive and well-managed learning environments. Students may require varying supports depending on their strengths and needs. This practice guide is part of a suite of resources developed in partnership with MultiLit and the Institute of Special Educators to help teachers refine or refresh their understanding and practice of supporting students with diverse needs.

Not all students who require additional support will have a diagnosis of disability or a health condition, and some students may have a combination of needs. Teachers and school leaders must reasonably support all students to access and participate in education. This may require making reasonable adjustments to the learning environment, teaching or the curriculum in collaboration with students and parents/primary caregivers, specialist and support staff, and medical and allied health professionals.[1]

This practice guide will support you to implement practices that will be helpful for students with sensory differences so they can successfully engage in their learning and experience success at school. It has been designed to complement, not replace, existing school and system policies, procedures and guidance.

Understanding sensory differences

Some students may be more or less sensitive to noises, lighting, the visual environment, temperature, smell, taste or touch. These responses may be described as sensory sensitivities or differences, and may indicate that students have a different way of responding to sensory information. For example, students may:

- interpret certain stimuli as distracting, distressing or painful (e.g., noise, flickering lights, feel of carpet or tactile materials, smells such as paint or glue)

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1   Alice Springs [Mparntwe] Education Declaration, 2020; Disability Discrimination Act 1992, 2015; 2020 Review of the Disability Standards for Education 2005, 2021.

- have different internal responses to pain and movement

- seek out sensory experiences, particularly predictable and repetitive input for enjoyment or self-regulation, such as when anxious or stressed, when experiencing unpleasant stimulation or when understimulated (e.g., moving their body when seated, fidgeting with clothing, fingers or pens, or making repetitive noises)

- withdraw from activities, particularly if the stimulus is unpredictable

- experience difficulties filtering out sensory input within the classroom environment, listening to verbal instructions if there is background noise or focusing on written instructions on the board if there is visual clutter

- experience fatigue concentrating in a noisy environment or cognitive overload in environments they find distracting

- not notice when someone speaks to them if they experience an under-sensitivity to sound.[2]

Teachers need to consider sensory differences to ensure all students can attend to instruction and participate in all classroom activities. Any strategies or environmental modifications will need to support students' preferences, strengths, needs and contexts. Having an understanding of the potential benefits of sensory supports, and then carefully monitoring the effects of supports on students, will help ensure sensory supports are having a positive impact.[3]

Practices to support sensory differences

This guide outlines the following practices to support students' sensory differences:

- Identify students' preferences, strengths and needs.
- Conduct a sensory audit to inform environmental adaptations.
- Use strategies to support sensory differences.
- Provide students with a break from overstimulating environments.

It is also important to consider how you collaborate with students' support networks and plan to support students' diverse needs, including students' communication needs, emotional regulation, physical needs and social interactions.

Support for students' sensory differences is strengthened when:

- positive, collaborative connections and relationships with students and their support networks are established and maintained

- culturally safe and inclusive learning environments are created

- all students are taught and encouraged to understand and support each other's strengths and differences.

Always display calm, consistent and well-managed emotions and behaviour. This models safe emotional expression and behaviours and helps to create a supportive learning environment.

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2   Dargue et al., 2022.
3   Eron et al., 2020; Kriescher et al., 2023; Steinbrenner et al., 2020; Stephenson & Carter, 2024; Taylor et al., 2017; Weeks et al., 2012.

Identify students' preferences, strengths and needs

Responses to sensory stimuli can vary with the context and the degree of stress students experience. This is often related to physical, psychological or other factors experienced by students. Students with sensory differences may be good at paying attention to details, enjoy and be immersed in some sensory experiences, and may benefit from stable visual stimuli (such as in visual supports and diagrams). Some students may have difficulty with multiple, complex stimuli (such as focusing on verbal instructions in a noisy environment). Parents/primary caregivers can provide valuable insights to help understand students' sensory differences and how they can be supported.

To identify individual student's sensory differences:

- Consult with students, parents/primary caregivers and allied health professionals. Occupational therapists may be able to help identify students' sensory preferences and needs.

- Observe students across different times and settings to identify their responses to noise, visual distractions, different textures and smells.

- Consider if they are avoiding or are distressed by particular stimuli or activities.

- Consider if they seek particular experiences or stimuli, or are under-responsive to some sensations.

- Consider if student behaviours are functioning to access sensory stimulation (e.g., rubbing hands to get tactile input or making sounds for auditory input) or to escape stimulation (e.g., covering ears or eyes).

Conduct a sensory audit to inform environmental adaptations

A sensory audit helps identify elements of the classroom environment that may contribute to sensory difficulties.[4] Carefully observe the classroom and check each of the areas noted in the following questions. Action can then be planned and taken to support students. For example:

Table 1: Sensory audit

Sensory elements	Questions
Noise	Is there excessive noise from people, objects, movement or outside sources?
Quiet areas	Is there a place in or out of the classroom where sensory stimuli are minimised?
Visual distractions	Are displays cluttered and visually distracting?
Lighting	Is there flickering or glare or are there distracting reflections?
Touch	Is crowding or jostling likely when students enter, leave or move around the classroom, or sit near one another? Are students exposed to textures they find unpleasant (clothing, carpet, craft materials)?
Crowded environments	Are places with noise, movement and jostling problematic? For example, playgrounds, school assemblies, large group activities and corridors.
Smells and scents	Are there smells or scents from paints, glue, cleaning products and personal perfumes or cosmetics?

4   Saggers, B., & Ashburner, J., 2019.

In addition to reviewing the environment in a sensory audit, check that students understand tasks and have the skills to engage in learning activities while considering their sensory differences. Consider whether behaviours that seem to be due to sensory experiences may actually serve other purposes, such as seeking or avoiding non-sensory experiences. Talking with students can help to clarify the impact of sensory differences.

Use strategies to support sensory differences

Noise sensitivities

Some students may be highly sensitive to loud or unexpected noises, making environments like busy classrooms or noisy hallways overwhelming. Reducing extraneous noise lowers stress for many students listening and working in a noisy environment.

There are a range of strategies you can use to effectively support students' noise sensitivities. In consultation with students, parents/primary caregivers and other professionals, select those that will best meet students' identified needs. You can:

- Use floor mats or carpet and switch off noisy equipment such as computers when not in use. Curtains, soft furnishings, dividing panels for open multi-classroom spaces and sound-absorbing panels can also be used.

- Use a quiet, calm voice to demonstrate an 'inside voice'. This supports co-regulation, a process where a more regulated individual, such as a teacher, supports and helps students to manage their emotions and behaviour responses. A calm voice also helps manage classroom noise levels to support learning.

- Develop visuals to support routines, and explicitly teach how to enter, exit and move around the classroom to minimise noise and jostling.

- Provide a quiet place or a shielded area such as a study carrel, or use portable screens or a curtain, and develop procedures for students to access it.

- Pre-warn students when regular loud noises are going to occur (e.g., bells signifying lesson changes or recess times). Peers can also verbally remind students by telling them 'The bell will go off in a couple of minutes.'

- If possible, provide students with control over the noise. For example, allow students to ring the bell or play the music. It can be the lack of control over the noise that is the problem for students.

- Provide access to noise-cancelling headphones or less intrusive noise-reducing earplugs when appropriate, such as when students need to work independently. You may need to develop and explicitly teach a routine for students to request access (verbally or non-verbally) and an agreed visual or touch signal when students must remove headphones to listen.

- Explicitly teach students to self-advocate if noise levels are becoming unpleasant for them. For example, 'When you feel like the noise may be starting to get too loud for you, can you please tell me or a peer, "It's getting too loud for me to concentrate. Can you ask the class to be quieter?" or "Can you please tell the teacher for me?"'

- When necessary, talk to the rest of the class so they understand the effects of noise. The use of a noise-level indicator or app may help teachers and students monitor noise levels.

- Ensure consistent use of available sound field systems, including teacher and student microphones, to evenly distribute sound throughout the classroom. This will support all students, as well as minimise teacher vocal strain.

- Avoid sources of unexpected loud noises in the classroom (e.g., balloons).

Visual sensitivities

Some students may be sensitive to visual stimuli, such as light and movement. Consider implementing the following strategies to support visual sensitivities:

- Remove or minimise hanging displays, particularly those that move. Most students benefit from minimising visual distractions in areas where they receive instruction.

- Ensure that flickering lights are replaced and consult students on the level of lighting that best suits them.

- Provide a position away from glare and reflections.

- Consider providing a hat, visor or dark glasses.

- Cover shiny surfaces in non-reflective material, or close blinds.

- Provide a seating position and sight lines that reduce visual distraction (e.g., repositioning displays and computers when not in use, or minimising vision of areas outside classroom). Screening a classroom area or providing students with a movable screen may also be options.

- Use curtains to hide materials on shelves that may be visually distracting.

Tactile sensitivities

Some students may be sensitive to certain textures or touch, such as materials used in clothing, classroom supplies or physical contact with others. Consider implementing these strategies to support tactile sensitivities:

- Reduce the opportunities for jostling or physical contact with others by allowing students to enter or leave locations before or after others, establishing open and clear traffic patterns for accessing desks and resources, or allowing extra space in a student's seating area in class by designating personal space for all students (e.g., by providing lines on the floor).

- Provide cushions for alternative seating and alternatives for clothing that causes problems (e.g., alternative painting smock).

- Provide additional space in their seating area (e.g., away from others at the end of the row or near an exit).

- Provide brushes or glue sticks for students who dislike touching sticky or wet materials.

Sensitivity to smells or scents

Some students may be sensitive to smells or scents. Consider implementing these strategies to support their sensitivities:

- Minimise smells or scents from class activities (paints, glues) and reduce the use of personal perfumes.

- Close doors and windows to minimise odours from outside the classroom, such as from cooking.

Provide students with a break from overstimulating environments

Taking a break allows students to move away from an overstimulating environment until conditions change or they are ready to return. To support students to take a break:

- Explicitly teach and model for students how to recognise bodily sensations or behaviours that occur when they are experiencing sensory aversions, sensory seeking or feeling overwhelmed. Model this in real time when you are feeling overwhelmed (e.g., 'Right now I am feeling overwhelmed by all this noise. I can tell this because my heart is racing, I'm feeling frustrated and impatient because I cannot concentrate on what I am trying to do. I think I need to take some big breaths myself').

- Develop and agree on a strategy with students that allows them to access a designated place in or outside the classroom when needed. Identify with students a non-verbal means of indicating that they are going to the designated place (e.g., a gesture such as pointing to the door or the quiet area). You can apply the same strategy to allow students to leave the classroom, playground, sports hall or other noisy or crowded environments. Ensure suitable supervision for student safety.

- Use 'break cards' as a more formal system for a student to leave an area (e.g., during an especially loud presentation at assembly). The student hands the card to a teacher or other adult and can then move to a supervised, designated area for a predetermined length of time. The student should still complete class activities, though potentially in an alternative way. Monitor card use to ensure it is implemented as agreed, and not being used to avoid schoolwork. Establishing explicit processes and rules around the use of a 'break card' is essential.

- Regularly review the agreed strategy for students to take a break, to ensure that students have an opportunity to share what is working and not working, and to ensure safety is maintained. If a student is taking frequent breaks, address the stressor.

There is no 'one size fits all' approach to supporting students with sensory differences. Many popular approaches lack research support, including fidget spinners, multisensory rooms, weighted vests and blankets, auditory integration approaches (Tomatis Method), brushing (Wilbarger Protocol) and sensory diets. Alternative dynamic seating (such as therapy balls) may have limited positive effects for some students.[5]

Reflection questions

- How have you considered and valued your students' strengths, as well as identified their needs?

- How have you considered all possible causes of the behaviour, as well as sensory differences?

- What steps have you taken to reduce noise and other environmental distractions in your classroom?

- How have you provided sufficient guidance and routines for your students to take a break?

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5   Rollo et al., 2019.

Further reading

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