Module 10: Sensory Processing in the classroom

Today, this module will explore sensory processing in the context of the classroom for students with Language Disorder. This module will explore sensory processing and the different ways students with sensory processing difficulties may present. This module will look at the different types of sensory processing disorder including Sensory Modulation Disorder, Sensory Based Motor Disorder and Sensory Discrimination Disorder Throughout the module, classroom strategies will be provided to support students in meeting their sensory needs.
As discussed in other modules, children with Language Disorder often have co-occurring difficulties with motor and perceptual skills, social/emotional needs, cognition, learning and sensory processing. Language acquisition involves a number of systems that are responsible for sensory modulation, so it is not surprising that challenges managing sensory input could impact language processing. This in turn can have a significant impact on the acquisition of other skills. Sensory processing is often discussed in relation to other conductions, such as Autism Spectrum Disorder and Attention Deficit Hyperactivity Disorder.
It is well known that humans have five senses: touch, hearing, taste, smell and sight. However, we also have two "hidden senses:" body position or proprioception and movement or vestibular. Other forms of sensation, can include vibration, kinaesthesia, interoception, pain and temperature. The brain is responsible for organising and interpreting the information that we receive through the senses. It is the combined input from these senses that influences our level of arousal and consequently how we behave and respond. When the brain is unable to organise and categorise the incoming sensations to formulate an appropriate response, sensory processing difficulties can occur.
We all experience and interpret sensory information differently and therefore, have different preferences or aversions to senses. For example, some people enjoy the feel of walking on sand, whereas others may find the same feeling uncomfortable or irritating. Each person's sensory preferences affect their level of alertness. Each sense has a "just right" threshold for different people. For children, sensory processing difficulties generally occur when their threshold is "too high" or "too low."
There are three types of sensory processing disorder: Sensory Modulation Disorder is a problem with turning sensory messages into controlled behaviours that match the nature and intensity of the sensory information. Sensory-Based Motor Disorder is a problem with stabilising, moving or planning a series of movements in response to sensory demands and; Sensory Discrimination Disorder is a problem with sensing similarities and differences between sensations.
If you think your student may have sensory processing difficulties, consider contacting an occupational therapist for a sensory assessment. Occupational therapists can help to identify which senses may be over or under stimulated for your student and provide suggestions for how you may help them meet their sensory needs. Additionally, occupational therapists can provide suggestions for classroom adjustments and strategies that may assist your student in engaging in everyday life.

The following sections of this module will focus on the three areas of sensory processing disorder, sensory modulation, sensory based motor disorder and sensory discrimination disorder.

Sensory modulation disorder occurs when a student has difficulty regulating the degree, intensity, and nature of their responses to sensory input. These difficulties with regulation can impact a student's behaviour and ability to participate in the classroom.

Sensory modulation disorder can be further categorized into three subtypes: sensory over-responsivity, sensory under-responsivity, and sensory seeking.

Students who display sensory over-responsivity, respond more quickly and more intensely to sensory stimuli. This is sometimes described as sensory defensiveness. They tend to withdraw from the stimulus, for example covering their ears when there is a loud noise or covering their eyes when entering a bright room.

Students who present with sensory over responsivity may appear hyperactive and go from activity to activity as they are have poor self-regulation and struggle to modify their environment to meet their sensory preferences. Alternatively, hyper-sensitive children may also attempt to actively self-regulate by avoiding sensory stimuli and as a result they may appear fearful, cautious, defiant or negative.

Students who display sensory under-responsivity fail to effectively detect and interpret incoming sensory information. They show less of a response to sensory input than what would be expected for the situation and generally take longer to respond.

A student with sensory under-responsivity may present with low tone or floppy movement. They may slouch in their chair or lean on their peers when seated on the carpet, which gives them the appearance of being sluggish or disengaged.

Students who present as sensory seeking crave sensory experiences and will actively seek this input. For example, a student with sensory seeking behaviours who enjoys movement, may regularly move through the classroom when they are meant to be sitting.
These students may present as hyperactive and impulsive as they will constantly add sensory information to their interactions in a number of ways. For example:
Touching and smelling items
Making noises
Fidgeting
Regularly moving
Stomping feet while walking

Each individual child with Sensory Modulation Disorder will have different sensory preferences. Therefore, a unique repertoire of sensory strategies needs to be developed to assist students in their daily self-regulation. Generally, these sensory strategies are classified into two types: calming strategies and alerting strategies.
Calming strategies assist students to lower the amount of sensory input they are receiving to control and organise overwhelming sensory feelings. Implementing calming strategies may enable students to lower their perceived hyper activeness and better concentrate in class. These strategies will be particularly useful for the students who are over-responsive to sensory input or those who are sensory seeking.

Alerting strategies increase the amount of sensory input students receive, "alerting" them so that they may attend better to classroom activities. These strategies will be particularly useful for the students who are under-responsive to sensory input. To find out more about sensory modulation disorder and for a range of sensory activity ideas for the classroom, please see the SALDA handouts at the end of the module.
Take a moment to organise the following behaviours into which sensory profile they fit – over-responsive, under-responsive, sensory seeking. Scenario 1: Jimmy is a very active student. In class, he moves constantly in his chair and kicks his feet under his desk. He often gets out of his chair to walk around the room and gets in trouble to touching other students belongings. Jimmy has difficulties controlling his movements and his teacher says he's impulsive. Is Jimmy, a) Overresponsive, b) Underresponsive, c) Sensory Seeking ANSWER: C Scenario 2: Jenny is a very quiet student and often finds it difficult to engage in the classroom. Jenny demonstrates poor posture while seated and often moves in a sluggish manner. Jenny has difficulty following instructions and gets in trouble for not completing her work in time. Is Jenny, a) Overresponsive, b) Underresponnsive, c) Sensory Seeking ANSWER: B
Sensory-based Motor Disorder (SBMD) occurs when a student has trouble controlling, planning and supporting their movements in a smooth and coordinated manner. SBMD is often referred to as a coordination disorder. There are two types of sensory-based motor disorders: dyspraxia and postural disorder. Students with dyspraxia have difficulty processing sensory information to create physical, unfamiliar or sequenced movements. They often have difficulty with activities that involve visual perceptual skills, motor planning, and academics. Students with postural disorder have trouble controlling their bodies to perform motor tasks. Poor postural control typically involves difficulties with sitting and standing for long periods, as well as delayed responses when off balance.
A student's ability to improve their sensory based motor skills will vary depending on their age, environment and other individual challenges. Certain accommodations can be made to support these students. Some of those accommodations include; Breaking down activities and tasks into small achievable steps Providing a visual or auditory cue for support. Allowing students additional time or repeated practice to acquire particular skills. Providing students with the opportunity to practise motor planning and problem-solving skills. Technology for written output when the load becomes increasingly difficult for students. Provide individualised amounts of extra time to complete challenging work. It may also be necessary to consult with speech pathologist for speech/oral motor strategies if required.
As well as classroom strategies for students, there is assistive equipment available which can be trialled. A physiotherapist or occupational therapist can assess the suitability of assistive equipment for students with SBMD.

To find more about sensory based motor disorder and assistive equipment listed, please see the SALDA handout at the end of the module.
I now invite you to try some body brainteasers which simulate the difficulty of coordinating body movements in a smooth and coordinated manner. When completing each body brainteaser, pay special attention to how much effort and energy you are putting in to trying to master the skill. Body brainteaser 1. Lift your right foot off the ground and move your leg in a clockwise direction. Continue to move your leg in a clockwise direction while drawing the number 6 in the air with your right hand. Body Brainteaser 2. Start by patting the top of your head with your right hand. Continue to pat your head whilst rubbing your belly with your left hand. Once you have mastered this, immediately swap movements so that your right hand is rubbing your head and your left hand is patting your tummy.
Sensory discrimination disorder occurs when children are unable to perceive, organise and understand the sensory information that is picked up by their body. They are aware of a particular stimulus, but are unable to respond or locate it, for example, a child with tactile discrimination problems will determine that someone has touched them somewhere on their body but cannot discriminate where exactly they have been touched. Sensory discrimination disorder can be a stand-alone disorder affecting any of the senses or it can coexist with sensory-based motor disorder or modulation disorder.
To support students with sensory discrimination disorder in the classroom a range of strategies and adjustments can be incorporated such as; Provide multisensory cues, for example combining verbal and visual cues to reinforce important information. Provide additional processing time for students, particularly when giving instructions. Gain the students attention before speaking to them. Allow students to write in pen or with darker pencils or alternatively have them write on different surfaces to provide additional sensory input. Use a mirror to support personal hygiene, for example, showing a student when they have a messy face. To find more about sensory discrimination disorder, please see the SALDA handout at the end of the module.
In this activity, read aloud the colour of the word rather than the word itself. *PAUSE* You will notice that your immediate visual response is in reference to the word that you are reading, which is then confused by the colour that you are also seeing. This activity gives you a sense of what it might be like to experience sensory discrimination disorder.
At this stage of the training I invite you to take a minute to reflect. Consider the content covered so far. How has your understanding of sensory processing now changed? Could you identify

students struggling with sensory processing at school? Are there any strategies you took a particular liking to which may be implemented in your classroom? When you're ready to move on click the next button.
Sensory processing is a complex domain and involves a range of subcategories including sensory modulation disorder, sensory based motor disorder and sensory discrimination disorder.
For more information on the content covered in this module, please view the following handouts. Sensory Processing Disorder Sensory Modulation Disorder Sensory Calming Strategies Sensory alerting strategies Sensory breaks Sensory Based Motor Disorder Sensory Discrimination Disorder
We hope that you now have a greater understanding of Sensory processing. Your feedback on this training would be greatly appreciated. Please click the survey link to complete a short anonymous survey.