



# SENSORY DOMAIN

## SENSORY

This Domain addresses both Sensory and Sensory Processing issues that may affect student learning. These are two distinct issues: how information received by the senses is processed by the brain (sensory processing), and the physical reception of aural and visual information by the ears and eyes (sensory-vision and hearing).

# SENSORY PROCESSING

Every move we make, every object we touch, every sight we see and every sound we hear produce sensations that are registered with our brain. Our senses receive information from both outside and inside our body and provide us with the information we need to function in the world.

When all our senses are operating efficiently, providing consistent, reliable information to our brain and this information is effectively interpreted, we are then able to build an accurate picture of ourselves, and the world around us, enabling us to interact with the environment and with other people.

- *Learning Through the Senses.*

## How to

Effectively supporting students with sensory processing needs begins with having a common understanding of the way people process their environment using all their senses. To gain a deeper understanding, use the information contained here as a guide with a small group or in the Learning and Support Team (LST), and then begin your own research into sensory processing and how to adapt your classroom to meet all of your students' sensory processing needs.

If a student has had involvement with an Occupational Therapist, they will have had an assessment and, probably, a range of strategies will have been suggested for the school setting. Consult with parents/carers to share in the expertise of other professionals involved with the student.

## Sensory Systems

There are five commonly known sensory systems: sight, hearing, touch, taste and smell, which provide us with information about the world around us. Less well known are the other important internal monitoring senses, which give us information from within our bodies. The six sensory processing systems that will be dealt with in this plan are:

### Visual

#### Light and Vision

Input from the eyes. No diagnosed visual deficit.

### Olfactory & Gustatory

#### Smell & Taste

Input from nose and mouth.

### Proprioception & Kinaesthesia

#### Body sense

Input from the muscles and joints about body position, weight, pressure, stretch, movement, and changes in position in space.

### Auditory

#### Sound and Hearing

Input from the ears. No diagnosed hearing problem.

### Tactile

#### Touch

Input from skin receptors about touch, pressure, pain, and movement of hairs on the skin.

### Vestibular

#### Movement sense

Input from the inner ear about equilibrium, gravitational changes, movement experiences and position in space.



### References and further reading

Kendall, A. (2009). *A teachers manual for sensory processing*

Northern Territory Department of Health and Community Services (2006). *Learning through the senses resource manual.*

Campbell, S. (2010). *Strategies for children with Sensory Processing Disorders.*

## ASSESSMENT

The Sensory Processing Checklist is used as an assessment tool to identify the areas of concern for teachers/LST. This checklist will begin to identify what type of sensory processing issues the student may have. You will then need to draw on your existing knowledge of the student, information from parents/carers, or do further observations to identify which of the following categories their sensory processing difficulties fall into.

### Interpreting the Sensory Processing Checklist

#### Oversensitivity

A child who is over-sensitive may respond to stimulation in one of two ways in an attempt to cope with the information.

##### Sensory Sensitivity

These children notice everything in their environment and are constantly reacting to sensory experiences. They are often:

- Easily distracted
- Hyperactive

##### Sensory Avoiding

These children avoid sensory stimulation. Too much sensory input can be uncomfortable and frightening for these children. Their behaviour can be disruptive as they are:

- Rule bound
- May seem controlling or stubborn
- Throw tantrums to avoid activities
- Strongly resist change
- Withdraw from activities
- Are uncooperative

#### Undersensitivity

A child who is under-sensitive may respond to stimulation in one of two ways in an attempt to cope with the information.

##### Sensory Seeking

These children notice and enjoy all activities in their environment and they like to generate extra sensory input for themselves so they will feel stimulated. Sensation seeking can be difficult in the classroom as a child's seeking can easily distract them from participating in the task at hand. These children are:

- Fidgety
- Active
- Excitable
- Continuously engaging in new things

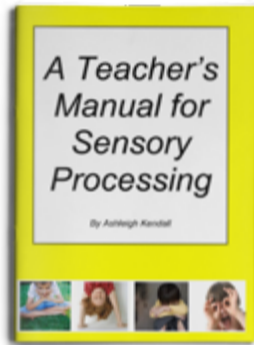
##### Low Registration

These children notice sensory stimuli much less than others. They do not notice what is going on around them, and miss cues that might guide their behaviours. These children often seem:

- Dull in affect
- Withdrawn
- Uninterested
- Self-absorbed

## PLANNING

After assessing the student using the Sensory Checklist you will have a better understanding of the category(s) of sensory processing issues your student has. From there you can use the following excellent resources to plan strategies to be incorporated into the student's learning program and documented in the Sensory Process Plan



A Teacher's Manual For Sensory Processing



Strategies for children with Sensory Processing Disorders (SPD).



The 'Strategies for children with Sensory Processing Disorders' (SPD) publication uses slightly different terminology but it is straightforward to work out.

They both offer a number of daily activities and simple adjustments that can be made to any learning program for each identified category of need.

The book 'Learning Through the Senses Resource Manual' is useful for students requiring sensory processing support.

As with many interventions, trial and error comes into play; if strategies are not working ask 'why?'. Make changes to the strategy you are using or try another one.

### Referral to an Occupational Therapist

If a student has significant sensory processing issues, or difficulty in a number of areas, discuss with parents/carers the possibility of consulting with an Occupational Therapist.

Sensory processing issues should only be diagnosed by a qualified professional. Some behaviors that appear to be related to sensory issues are actually behavioral issues independent of sensory needs.

# SENSORY

## HEARING & HEARING LOSS

The impact of hearing loss on the early development of a child's language, cognition, and social-emotional competence can be pervasive. When a child has a hearing impairment of early onset, even of a relatively mild degree, the development of these skills is often delayed. Such delays adversely affect communicative, academic, and social success, which at a later age limit vocational choices.

A hearing loss, first and foremost, interferes with a child's detection and recognition of speech. The development of auditory skills that are prerequisite to the development of receptive and expressive language skills, as well as speech intelligibility, are delayed. Such auditory skills include detection, discrimination, recognition, comprehension, and attention. In turn, a delay in the early development of auditory skills caused by a hearing loss negatively impacts a child's ability to learn and use an auditory-oral language system.

From: **Matkin, N. D. & Wilcox, A. M.** (1999). *Considerations in the education of children with hearing loss*. Pediatric Clinics of North America, 46 (1),143-152.

### Referral to an Audiologist

If you suspect a child has a hearing loss after completing the Signs of Hearing Loss Checklist, encourage their parent/carer to have a hearing assessment at an audiologist.

If a child does have a hearing loss diagnosed by an audiologist, ask parents/carers for the report. It should give you information about what type of sounds and environments the child has difficulty with, and suggestions for accommodating these difficulties.

If a child has a hearing loss they may be eligible for assistance from a DEC Itinerant Teacher (Hearing) who will provide training, support and resources to the classroom teacher.


The following gives advice for teachers about reducing classroom noise and communicating as clearly as possible:



The following link has general information about hearing and hearing loss.

This link addresses hearing loss from otitis media in Aboriginal children but is a useful resource for working with all children with hearing loss. Information about hearing, teachers assessment checklist, strategies to assist students in the classroom.

If you suspect a child has a hearing loss you can complete this checklist.



Be sensitive to student fatigue. Try to understand what this child is going through. It's hard work straining to listen and to understand, trying to fill in the gaps.

## COMMUNICATION TIPS FOR TEACHERS

### HOH = Hard of Hearing

- **Find out what works for the student.** Open communication is essential. Speak to them. Under what circumstances do they experience difficulty? You might find if you change a few small things it could make a world of difference.
- **Keep a clear channel of communication** open with the parents. You can learn a lot from each other.
- **Decrease the distance between you and the listener.** This is the single most effective way to increase understanding. Moving a little closer can make a big difference.
- **Don't eat, drink,** or chew gum while speaking.
- Wait until passing noises subside. Wait for that plane to pass overhead or for the students to settle down.
- **Don't talk while children are retrieving material.** First of all, people make noise when they gather material. And the HOH student cannot rummage through things and hear you at the same time because they are looking at you.
- **Be sure the listener is ready to hear you.** They will need a moment to focus because understanding speech requires more concentration for them. To see why this is so, think of listening to someone with a thick accent; it's much more difficult to understand their first few words if you are unprepared to listen.
- **Face them so they can see your lips,** your entire face, and hands and body gestures. These all provide valuable cues and can help fill in for sounds they are not getting. Try to avoid bushy moustache or other facial hair that obscures the lips. Avoid shadows.
- **When addressing the student, say their name first.**
- **Lighting should be above or in front of you,** never coming from behind you. Don't stand in front of the window while talking. As discussed earlier, they need to observe facial and body gestures. This is particularly important if the listener is further away, as in a classroom.
- **Face them and talk directly to them** so the volume of your voice doesn't fluctuate. Turning away from someone while talking sharply decreases the volume. Talking into the supply cabinet is even worse. Don't talk while writing on the board (this is tough on all students) and try not to talk while moving around so volume level and visual cues don't fluctuate.

## HOH = Hard of Hearing

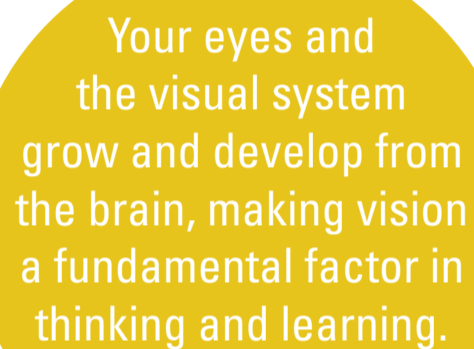
- **Find out what works for the student.** Open communication is essential. Speak to them. Under what circumstances do they experience difficulty? You might find if you change a few small things it could make a world of difference.
- **Keep a clear channel of communication** open with the parents. You can learn a lot from each other.
- **Decrease the distance between you and the listener.** This is the single most effective way to increase understanding. Moving a little closer can make a big difference.
- **Don't eat, drink,** or chew gum while speaking.
- Wait until passing noises subside. Wait for that plane to pass overhead or for the students to settle down.
- **Don't talk while children are retrieving material.** First of all, people make noise when they gather material. And the HOH student cannot rummage through things and hear you at the same time because they are looking at you.
- **Be sure the listener is ready to hear you.** They will need a moment to focus because understanding speech requires more concentration for them. To see why this is so, think of listening to someone with a thick accent; it's much more difficult to understand their first few words if you are unprepared to listen.
- **Face them so they can see your lips,** your entire face, and hands and body gestures. These all provide valuable cues and can help fill in for sounds they are not getting. Try to avoid bushy moustache or other facial hair that obscures the lips. Avoid shadows.
- **When addressing the student, say their name first.**
- **Lighting should be above or in front of you,** never coming from behind you. Don't stand in front of the window while talking. As discussed earlier, they need to observe facial and body gestures. This is particularly important if the listener is further away, as in a classroom.
- **Face them and talk directly to them** so the volume of your voice doesn't fluctuate. Turning away from someone while talking sharply decreases the volume. Talking into the supply cabinet is even worse. Don't talk while writing on the board (this is tough on all students) and try not to talk while moving around so volume level and visual cues don't fluctuate.
- **Speak louder and enunciate clearly,** but don't exaggerate sounds and don't shout. Exaggerating can distort sounds as well as the shape of the lips while speaking. Shouting can be very disruptive to the HOH person for two reasons: first, the HOH person, depending on the degree of hearing loss, may dwell in silence where ambient sounds we take for granted are severely reduced or absent. A sudden loud sound can be startling. Second, there is a reduced listening comfort range between what can be heard and what becomes uncomfortably loud.
- **Rephrase, don't repeat.** Vary the words. Some words are more difficult to understand than others and/or may be more difficult to lipread.
- **Introduce topics clearly, as well as transitions.** For example, "John, (pause), let's consider Phil's problem. He misses the last train. What are his options?" When presenting new or complex subject matter, good organization and clear transitions will aid all your students' understanding. This is critically important. Why? It's related to the way we listen and absorb information. If we're prepared, it goes more smoothly.
- **Be sensitive to signs of confusion or uncertainty.**
- **In group conversations, try to have only one person speak at a time.** The person who is about to speak, if at all possible, should provide a subtle visual cue such as a hand gesture. The HOH person can't understand one voice over another and needs to be facing the speaker for maximum clarity. In more formal settings, such as book clubs, the leader should indicate who is to speak by pointing and saying their name.
- **In group discussions, arrange the seating** so the student can see and hear as clearly as possible.
- **Be aware that the student's hearing ability may fluctuate** from day to day (or hour to hour). Fatigue, background sounds that you are unaware of, or health conditions such as ear infection can impede clear hearing. They may not be bored or tuning you out.
- **Be sensitive to student fatigue.** Try to understand what this child is going through. It's hard work straining to listen and to understand, trying to fill in the gaps.
- **Announcements made over public address systems are particularly difficult to understand** Perhaps someone can translate for the HOH student.
- **Speak clearly with good diction.**
- **Give good directions,** repeating key elements when necessary or writing them on the board.
- **Switch to visuals frequently** (handouts, posters, etc.) to provide breaks from listening.
- **Seat the student about a third of the way back in the middle of the room** (away from the windows and noisy hallways) so they can hear and see clearly without having to look up to see you.
- **Print new vocabulary on the board.**
- **Be aware of situations when the student will not be able to lipread and prepare beforehand.** For example, if you are going to present a slide show with the lights out, some options might be to try for a captioned set of slides, provide them a transcript if one is available, or to seat the student next to you.
- **Institute a buddy system to always let them know what they're doing,** what page they're on, and possibly to take notes for them. The teacher should be considerate of the "buddy" and make sure they doesn't miss out on crucial information while helping.
- **Assignments and homework should be printed on the blackboard or passed out as handouts.** Daily and weekly agendas are very helpful in maintaining a strong context.
- **Be aware that it is impossible to lipread and take notes at the same time.**
- **If you are reading from the blackboard or flipchart,** stand next to it so they can lipread and see the printed material easily. Make it easy for the student to focus their attention in one area of the room at a time. Avoid presenting too many visual stimuli at the same time.
- **Learn the basics of hearing aids, their strengths and their limitations;** i.e., under what circumstances they will experience difficulty.
- **Find out what assistive listening devices may be appropriate and how they work.** (Personal FM systems are very effective.)

source:<http://www.hdhearing.com/learning/part3.htm>

## VISION

Vision is more than eyesight: SIGHT is merely what results from the eyes' responses to light shining into them and is measured by determining how well we can see different sized letters on a chart in the distance. VISION results from actively interpreting and understanding the information made available through the eyes. Children with normal (20/20) EYESIGHT may not have these abilities. Therefore, learning problems are often related to vision problems.

Learning is accomplished through complex and inter-related processes. Your eyes and the visual system grow and develop from the brain, making vision a fundamental factor in thinking and learning.



Your eyes and the visual system grow and develop from the brain, making vision a fundamental factor in thinking and learning.

Vision is a key sense in the classroom and plays a major role in reading, spelling, writing, board work, and computer work. Students tackle these tasks all day long, day after day. Each requires the visual skills of seeing quickly and understanding visual information that is frequently less than arm's length from the eyes.

If you suspect a child has a vision problem you can complete the following checklist:

[www.teachingvisuallyimpaired.com](http://www.teachingvisuallyimpaired.com) is an American website but has comprehensive information about including students who are blind or have more severe visual impairments.

If a child has a vision problem they may be eligible for assistance from a DEC Itinerant Teacher (Vision) who will provide training, support and resources to the classroom teacher.

### Referral to an Optometrist, Ophthalmologist or Behavioural Optometrist

If you suspect a student has a vision problem, encourage their parents/carers to have a vision assessment at an optometrist or behavioural optometrist.

Behavioural optometry tries to incorporate the physical, neurological and developmental aspects of vision and can assess problems such as:

- Eye movement problems
- Eye teaming problems
- Eye-hand coordination problems
- Visual form perception
- Long-sightedness

If a vision problem is diagnosed, ask parents for the report from the optometrist/ophthalmologist/behavioural optometrist. It should give you information about what type of tasks and environments the child has difficulty with, and suggestions for accommodating these difficulties.