

# Understanding & Responding to Sensory Needs

Learning Assistant PD  
Professional Learning 2022

Presented by Vanessa Randall, Fiona Barnes & Tanya Keeling



# **KARAKIA TIMATANGA**

*Mā te whakapono*

*Mā te tūmanako*

*Mā te titiro*

*Mā te whakarongo*

*Mā te mahi tahi*

*Mā te manawanui*

*Mā te aroha*

*Ka taea e matou*

*By believing and trusting*

*By having faith and hope*

*By looking and searching*

*By listening and hearing*

*By working and striving together*

*By patience and perseverance*

*By all being done with love*

*We will succeed*



## DIVERSI-TEA

KŌRERO STARTER CARDS



WHO IS ONE PERSON WHO HAD  
A POSITIVE INFLUENCE ON YOU?



## DIVERSI-TEA

KŌRERO STARTER CARDS

WHAT IS SOMETHING YOU DO  
OUTSIDE OF WORK  
THAT YOU REALLY ENJOY?

## DIVERSI-TEA

KŌRERO STARTER CARDS



WHERE DO YOU GO TO  
RECHARGE YOUR BATTERIES?



## DIVERSI-TEA

KŌRERO STARTER CARDS

WHERE IS THE  
MOST BEAUTIFUL PLACE  
YOU HAVE EVER BEEN?

## DIVERSI-TEA

KŌRERO STARTER CARDS



WHAT IS SOMETHING YOU  
LOVED DOING AS A KID?



## DIVERSI-TEA

KŌRERO STARTER CARDS

WHAT IS  
A WHĀNAU TRADITION  
YOU STILL CONTINUE TODAY?



# Kaupapa (Purpose)

- Look at how the brain functions
- Sensory processing - understand over responsiveness and under responsiveness
- Explore the panic, comfort and learning zone
- Learn about the three less known senses and how they may impact behaviour
- Share practical ways to support students with sensory needs

Why do we lose  
**CONTROL**  
of our  
emotions?



# Sensory Processing is...

- Input from the environment & bodies
- Informs perception of the world
- Impacts learning, play and interactions



# Over & Under Responsiveness

**Over:** Difficulty filtering out unwanted input.

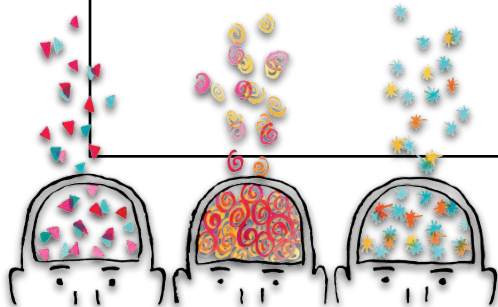
(dislike of certain types of input eg; noise, smell, touch)

- Distractibility
- Anxiety
- Defensiveness
- Avoidance
- Emotional outbursts
- Socially withdrawn

**Under:** Slow response or unawareness of sensory stimuli.

(increasing input can bring alertness and engagement)

- Appears to ignore instructions
- Responds to instructions more slowly than others
- Difficult to engage in activities
- Difficulty initiating activities
- Appears to be withdrawn
- Low muscle tone
- Seems to tire easily



# What are the Signs?

## Under Responsiveness

- Have a constant need to touch people or textures, even when it's not socially acceptable
- Not understand personal space even when kids the same age are old enough to understand it
- Have an extremely high tolerance for pain
- Not understand their own strength
- Be very fidgety and unable to sit still
- Love jumping, bumping and crashing activities
- Enjoy deep pressure like tight bear hugs
- Crave fast, spinning and/or intense movement
- Love being tossed in the air and jumping on furniture and trampolines

## Over Responsiveness

- Be unable to tolerate bright lights and loud noises like ambulance sirens
- Refuse to wear clothing because it feels scratchy or irritating or shoes because they are 'too tight'
- Be distracted to background noises that others don't seem to hear
- Be fearful of surprise touch, avoid hugs and cuddling even with familiar adults
- Be overly fearful of swings and playground equipment
- Often have trouble understanding where their body is in relation to other objects or people
- Bump into things and appear clumsy
- Having trouble sensing the amount of force they're applying; so for example, they may rip paper when erasing, pinch too hard or slam objects down





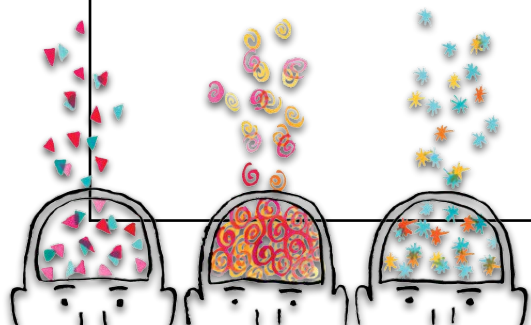
# Sensory Seeking

## Increase alertness

- Leaving their chair to move around the room
- Swinging in chair
- Fidgeting
- Humming or chatting at quiet times

## Seeking Calm

- Repetitive behaviours eg; echolalia, pacing, flicking fingers close to eyes
- Deep pressure input eg; jumping, biting/chewing objects, hugging others tightly or asking for a tight squeeze
- Fixating on visual input eg; spinning objects, light up toys, visual patterns  
Tactile input eg; familiar fidget object





Humming

Talking loudly

Stomps when walking

Tapping pen on table

Wears backpack in class

Touching other people

Zones out when on the mat

Calling out

Clenching fists

Sits close to peers

Looks agitated when peers approach

Swinging when seated for a while



## Olfactory

Sense of smell  
Info. received  
through the nose

## Gustatory

Sense of taste  
Info. received  
through the mouth

## Vestibular

Sense of balance  
and spatial  
orientation

## Tactile

Sense of touch  
Info. received by  
contact through  
the skin

# 8 SENSES

THE SENSORY SYSTEM

## Auditory

Sense of sound  
Info. received  
through the  
ear's

## Proprioception

Awareness of body  
in space and  
strength needed to  
complete actions

## Interoception

Awareness of  
internal bodily  
states

## Visual

Sense of sight  
Info. received  
through the  
eyes



# Interoception

Awareness of  
internal bodily  
states

## What is Interoception?

- Prerequisite skill to self management and self regulation.
- Interoception is an internal sensory system where the internal physical and emotional states of the body are noticed, recognised, identified and responded to”.
- Is needed for functions eg; going to the bathroom, awareness of becoming angry, proactively managing emotions.

## What do Interoception activities focus on?

- “An interoceptive activity focuses on creating and noticing an internal change”
- Muscles, breathing, temperature, pulse and touch

## Activity process

- Sessions are more beneficial after breaks eg; kai, transitions, arriving at kura
- Activities are done twice
- First time- students asked where they felt the difference or what they felt
- Second time- Guided where or what to feel and focus on that



## Hand Press

Start by placing your hands on a table, resting upwards on your pinkie fingers.

Press down on the side of your hands.

*Where did you feel it in your body?*

Now with your hands still resting on the table, spread open your fingers wide.

Now try to press down on the side of your hands with your fingers still spread out open wide.

*Where did you feel it now in your hands when you had your fingers spread out wide?*

*Was there a difference compared to having your fingers closed when we pushed down?*



# Proprioception

Awareness of body  
in space and  
strength needed to  
complete actions

## What is Proprioception?

- Our body has an internal sense known as “proprioception”, which is basically body awareness.
- Our body senses proprioception through messages sent to the brain from sensory receptors in our muscles and joints.
- These sensations from the muscles and joints tell us how our bodies are moving, what each body part is doing in relation to the others, and where they are in space.

## What do proprioception activities focus on?

- Proprioceptive activities involve **providing intensive input to the muscles and joints**. ... Think of activities that will work the muscles and joints: Weight bearing activities e.g. crawling, push-ups. Resistance activities e.g. pushing/pulling, squeezing, climbing, lifting and stretching

## Activity process

- Proprioceptive input is an effective therapy tool used for children with sensory processing needs. It **can improve focus and help to calm a child** when it is used in the correct way.
- It's very important to the brain, as it plays a large role in self- regulation, coordination, posture, body awareness, the ability to focus and speech.

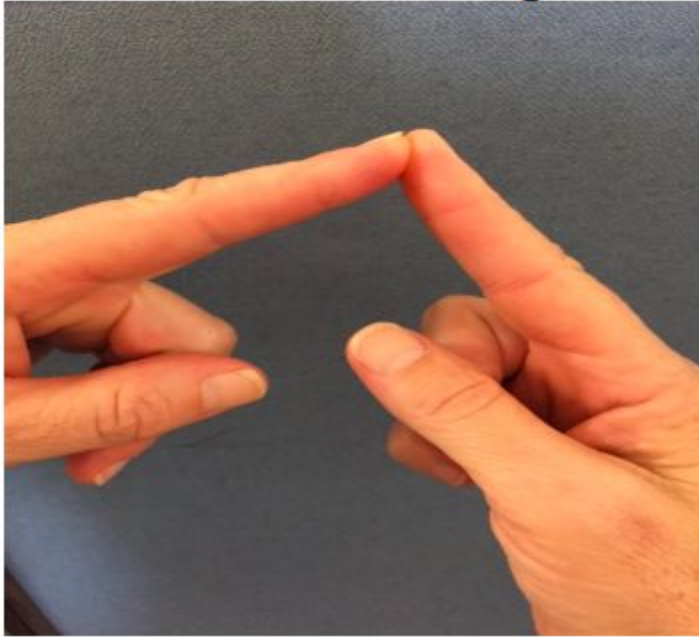
# Proprioception



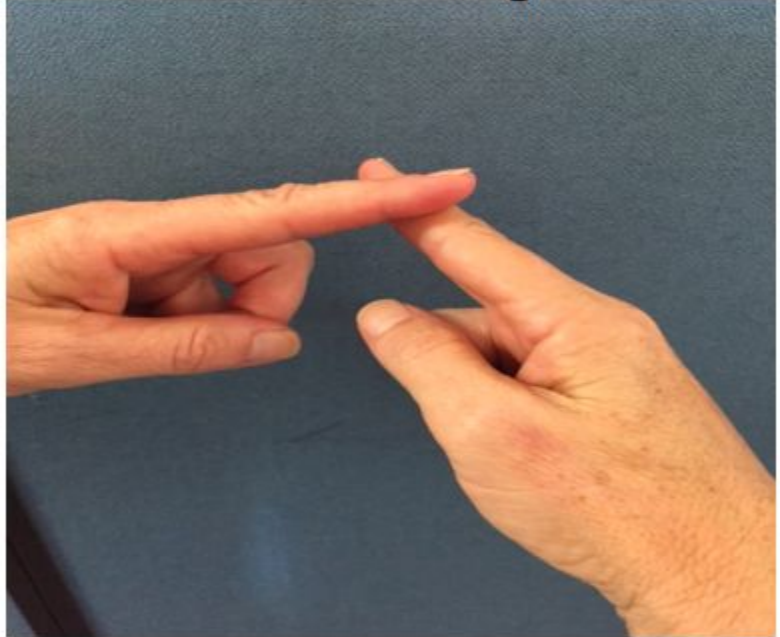
Brain Highways. (2010a)

# Proprioception

With eyes open – it is easy to sense where each finger ends



With eyes closed – it is harder to sense where each finger ends





# Vestibular

Sense of balance  
and spatial  
orientation

## What is Vestibular?

- First sensory system to get all the information received by the brain and its function is to direct this information to the other senses
- Provides the leading contribution to the sense of balance and spatial orientation for the purpose of coordinating movement with balance.
- Helps to keep you stable and upright. People with vestibular issues may not know where their body is in space
- Poor vestibular function results in trouble interpreting and directing this information
- Can be both over responsive and under responsive

## What do vestibular activities focus on?

- Jumping bouncing games (short spells of 20–30 secs) Vertical (up and down) movement is the most accepted form of vestibular input for the body and brain – it is both regulating and organizing as it involves another body sense – the proprioceptive sense
- Slow rocking movements
- Relaxation games – lying/sitting with the head still

## Activity process

- Means **good balance**
- **Improves visual tracking skills** (maintaining a steady visual image while watching a moving object) & hand (fine motor)
- **Develops and maintains normal muscle 'tone'**, (our muscles' 'state-of-readiness'). At rest, muscle tone will be low, but when we want to move, it will rise in response – otherwise we would go nowhere!

# Vestibular



Brain Highways. (2010b)

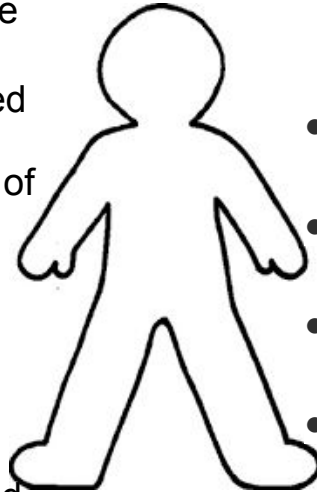
# Strategies

## Over-responsiveness Strategies

- Remove or minimise stressor input
- Lower volume in the learning space
- Have calming resources accessible
- Have a system for the student to communicate when feeling elevated
- Encourage the student to gather equipment before or after the bulk of the class move

## Under-responsiveness Strategies

- Have fidgets and wobble seating available
- Schedule sensory/movement breaks into the students timetable
- Give students extra time to respond to instructions and complete tasks
- Integrate interests and preferred learning styles into the classroom programme



## General strategies for sensory seeking

- “Movement seekers: provide Movin’ Sit cushion or ball chair; include movement breaks into the daily routine
- Tactile seekers: provide fidget objects; incorporate tactile materials into tasks
- Deep pressure seekers: weight bearing exercises; weighted items
- Visual seekers: use visual learning aids; allow access to visual toys/objects during the day
- Auditory seekers: provide breaks when student can listen to music e.g. on headphones”

Direct copy from Middletown Centre for Autism, (2021)



# Whaiwhakaro-Reflect



Brain Highways. (2015)

# **KARAKIA WHAKAMUTANGA**

*Unuhia te pō, te pō whirimarama  
Tomokia te aō, te aō whatu tāngata  
Tātai ki runga, tātai ki raro, tātai aho rau  
Haume e, hui e, tāiki e!*

*From confusion comes understanding  
From understanding comes unity  
We are interwoven, we are interconnected  
Together as one!*



# References

Brain Highways. (2015). Dear Teacher: Heartfelt Advice for Teachers from Students [YouTube Video]. In *YouTube*.

[https://www.youtube.com/watch?v=ITMLzXzgB\\_s&t=4s](https://www.youtube.com/watch?v=ITMLzXzgB_s&t=4s)

Brain Highways. (2010a). The Proprioceptive System [YouTube Video]. In *YouTube*. <https://www.youtube.com/watch?v=b2iOliN3fAE>

Brain Highways. (2010b). The Vestibular System [YouTube Video]. In *YouTube*. <https://www.youtube.com/watch?v=pEblLhUc1Pc>

Department of Education, South Australia. (2021). *Applying interoception skills in the classroom*. Retrieved from:

<https://www.education.sa.gov.au/schools-and-educators/curriculum-and-teaching/curriculum-programs/applying-interoception-skills-classroom>

Goodall, E (2018). *Assumptions, Interoception, Neurodiversity, Comfort zone*. RTLB Powerpoint from Professional Development session.

High Hopes, (2020). The Proprioception System - How this system can be both calming and alerting for children. Retrieved from

<https://www.highhopesdubai.com/the-proprioceptive-system-how-this-system-can-be-both-calming-and-alerting-for-children/>

Kidslink, (2021). *Sensory Processing FAQ*. Retrieved from: <https://kidslink.co.nz/sensory-processing-faq/>

Kids want to know, (2017). Why do we lose control of our emotions? YouTube Video]. In *YouTube*. <https://www.youtube.com/watch?v=3bKuoH8CkFc>

Middletown Centre for Autism, (2021). *Sensory Processing*. Retrieved from:

<https://best-practice.middletownautism.com/approaches-of-intervention/sensory-processing/>

The Inspired Treehouse (2016). Sensory issues and teens: Movement. Retrieved from

<https://theinspiredtreehouse.com/sensory-issues-teens-movement/>

## Resources

DiversiTea card links (Mental Health Foundation of New Zealand) - [Website](#) [PDF](#)

Dr Emma Goodall - [Interoception 101](#), [Interoception 201](#), [Interoception 301](#)

Person Outline [link](#)