ITZ Student Response Checklist and Strategy Tool:
-Define the sensory lens and
the processing of sensory information.
-Instructions for completing the checklist.
-Interpreting checklist observations.

Tutorial presented by Natasha Sansoni
Occupational Therapist
Consultant to The Hills School and
Academic Partner to Clarke Road School
May 2020

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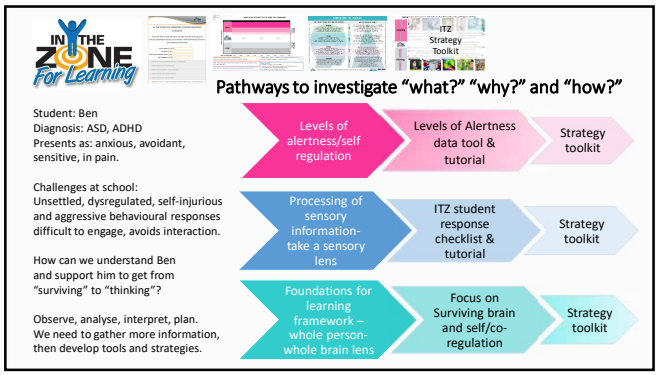

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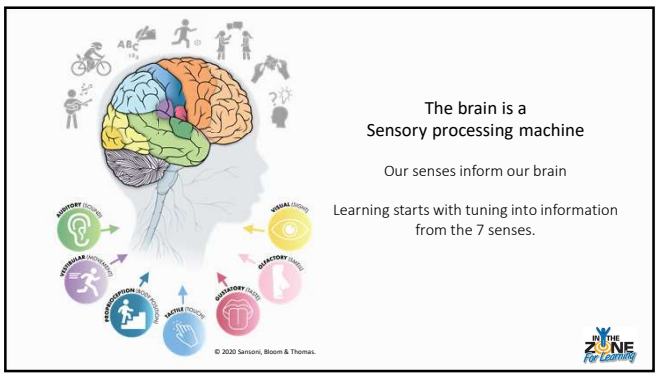
The brain is a
Sensory processing machine
Our senses inform our brain
Learning starts with tuning into information from the 7 senses.
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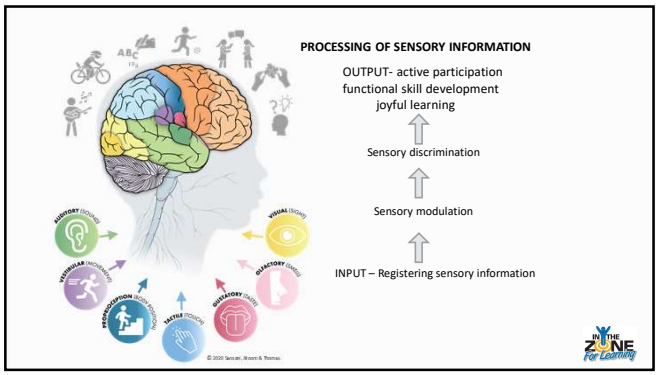
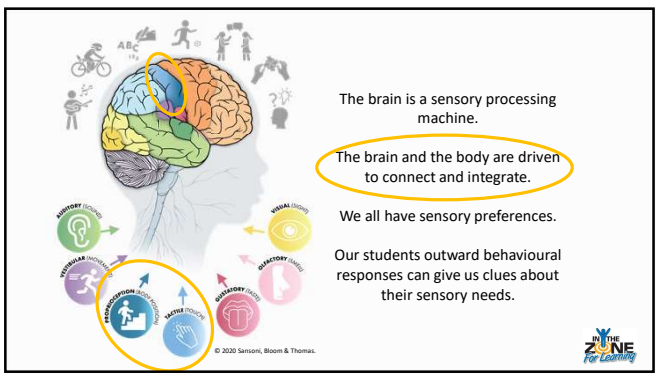

PROCESSING OF SENSORY INFORMATION
OUTPUT- active participation
functional skill development
joyful learning
Sensory discrimination
Sensory modulation
INPUT – Registering sensory information

5


The brain is a sensory processing machine.
The brain and the body are driven to connect and integrate.
We all have sensory preferences.
Our students outward behavioural responses can give us clues about their sensory needs.
© 2020 Sansoni, Bloom & Thomas.

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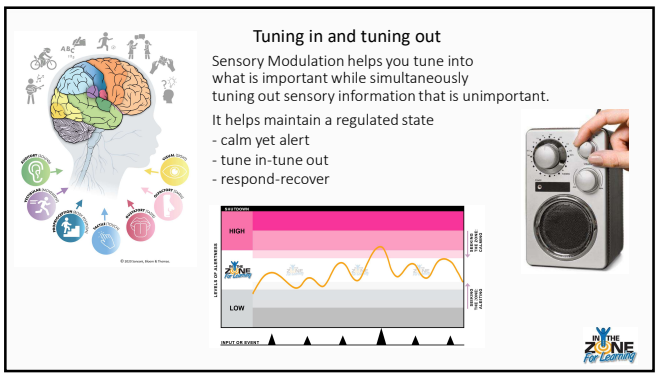
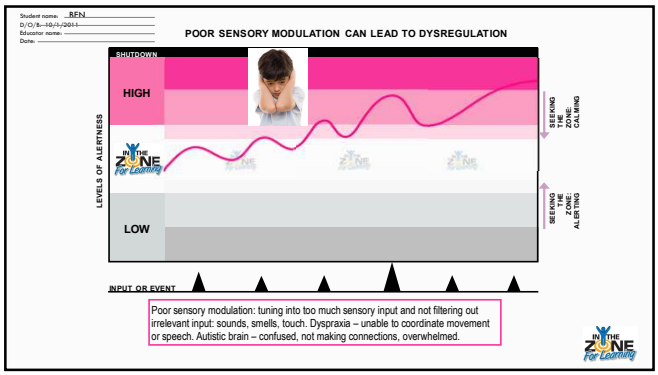
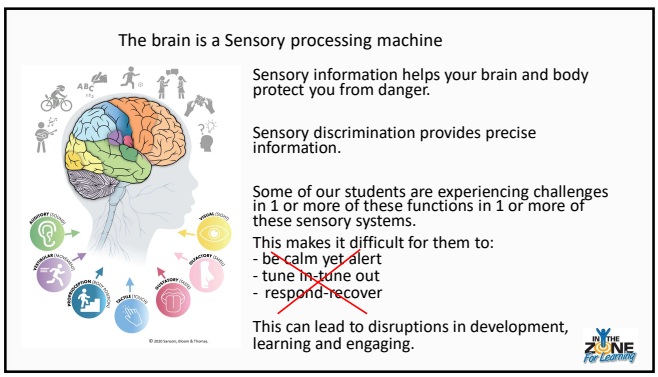

Tuning in and tuning out
Sensory Modulation helps you tune into what is important while simultaneously tuning out sensory information that is unimportant.
It helps maintain a regulated state
- calm yet alert
- tune in-tune out
- respond-recover
HIGH
LOW

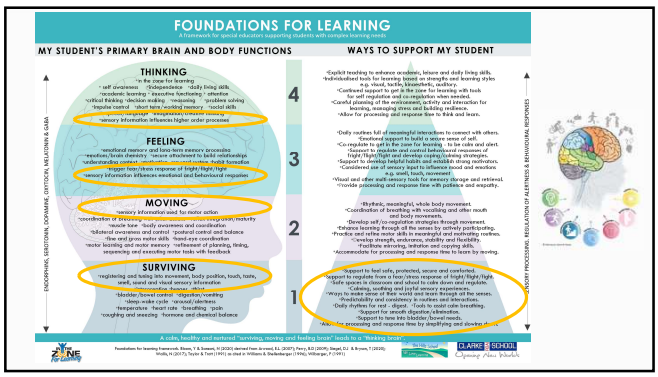
7


POOR SENSORY MODULATION CAN LEAD TO DYSREGULATION
SHUTDOWN
HIGH
LOW
LEVELS OF ALERTNESS
INPUT OR EVENT
SEEKING THE ZONE: CALMING
SEEKING THE ZONE: ALERTING
Poor sensory modulation: tuning into too much sensory input and not filtering out irrelevant input: sounds, smells, touch. Dyspraxia – unable to coordinate movement or speech. Autistic brain – confused, not making connections, overwhelmed.

8


The brain is a Sensory processing machine
Sensory information helps your brain and body protect you from danger.
Sensory discrimination provides precise information.
Some of our students are experiencing challenges in 1 or more of these functions in 1 or more of these sensory systems.
This makes it difficult for them to:
- be calm yet alert
- tune in-tune out
- respond-recover
This can lead to disruptions in development, learning and engaging.

9



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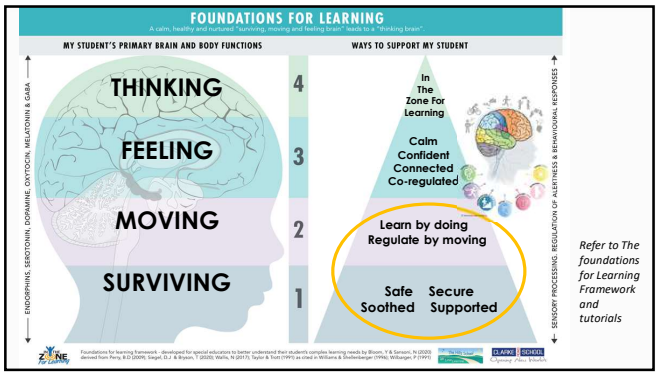
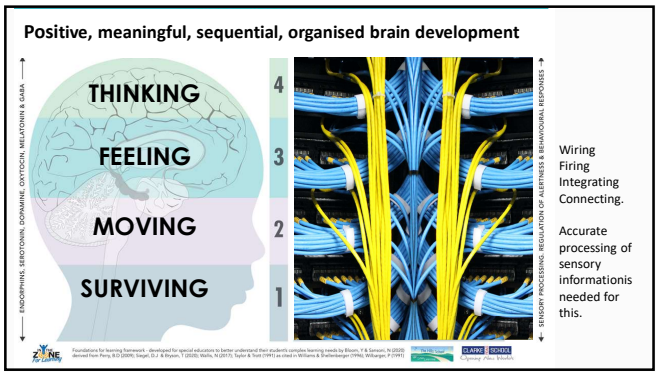


Refer to The foundations for Learning Framework and tutorials

11



Wiring
Firing
Integrating
Connecting.

Accurate processing of sensory informationis needed for this.

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CHALLENGES WITH THE PROCESSING OF SENSORY INFORMATION

DIRECTLY EFFECTS:		INDIRECTLY EFFECTS:
Sense of safety and perception of the world.	➡	Reactions, responses – behaviour.
Tuning into important sensory information while tuning out irrelevant input (sensory modulation)	➡	Levels of alertness, learning, memory. Brain development.
Interpretation of information received through movement, body position, touch, sound, smell, taste, visual sensory systems.	➡	Attachment, relationships, interaction, engagement, participation.
Levels of alertness/arousal – self-regulation.	➡	Motivation, mood, attention, concentration, impulse control – behaviour.
Over-active protective responses - fright/flight/fight – sensory defensiveness.	➡	Anxiety, stress, fears, trauma. Balance of brain chemistry.
A restricted in diet and digestive issues.	➡	Nutrition, vitamins, minerals, gut health, metabolism and immunity.
Planning and carrying out coordinated movement and coming up with movement ideas – praxis.	➡	Intelligible speech, gestures, facial expression, signing and all movement. Stereotypical and repetitive movements.

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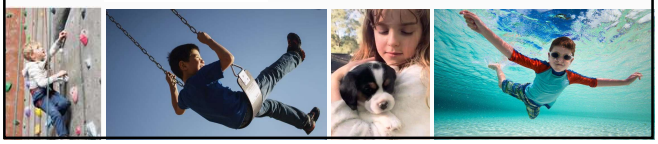
We can experience meaning, joy & soothing through our sensory systems.



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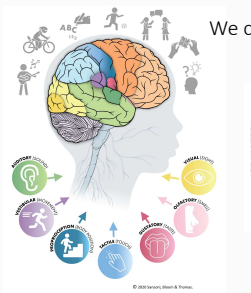
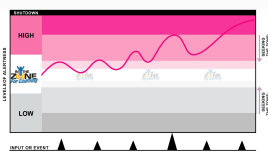


We can be over-whelmed by sensory input



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Sensory processing research

- About 5-16% of typically developing children have sensory processing difficulties (Ahn et al., 2004; Ben-Sasson et al., 2009).
- Sensory processing difficulties are common in about 69-95% of children with ASD (Baranek et al., 2006; Tomchek & Dunn, 2007) and 56%-69% of children with ADHD (Ahn et al., 2004; Parush et al., 2007).
- Research studies also suggest that children with sensory processing difficulties (specifically sensory over-responsivity) show evidence of different neurophysiological responses to sensation (Davies & Gavin, 2007; Davies et al., 2009; Miller et al., 2012; Schaaf et al., 2010; Schoen et al., 2009); therefore their brains appear to be wired differently.

More great information on www.spdstar.org – Star Institute.

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"Kids do well if they can" Dr. Ross Greene

How can we help our students do as well as they can?

WHAT?

Get to know Ben.
Understand his internal world

Observe ➡ **Analyse** ➡ **Interpret** ➡ **Plan**
using a sensory lens

Design a schedule and classroom environment that meets Ben's needs in the context of the whole class

Evaluate effectiveness and benefit to student and whole class.

Greene, R. W. (2005). The Explosive Child. New York, NY: HarperCollins Publishers.

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Tune into part 2 for guidelines on completing and interpreting the ITZ Student Response Checklist

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Use a sensory lens. Focus on the processing of sensory information

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ITZ student response checklist provides a tool to take a sensory lens on your student's behavioural responses

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Student name: Ben
Age: 9 years old

Please refer to ITZ student story - Ben

Diagnosis:
- Autism Spectrum Disorder (ASD)
- Attention Deficit Hyperactive Disorder (ADHD)
- Verbal and motor Dyspraxia
- Speech and language delay,
- Intellectual Delay (ID)

Ben seems stressed and anxious.
Ben sometimes enjoys swimming and bush walking.

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Observations of Ben's behavioural responses impacting function at school

- Self-injurious behaviours (hits own head, picks at sores).
- Impulsive and "hyperactive".
- Aggressive outbursts – especially triggered by 1 peer.
- "Controlling" about routines, seating arrangement, following rules.
- Blocks ears and vocalises loudly, whinges and cries frequently.
- Avoids tasks and interaction, not taking in new information.
- Constantly moving, rocking, pacing, jumping.
- Sometimes drops to the ground during transitions.
- Bumps into others, leaning against others, forceful and rough.
- Moves classroom furniture, hiding under tables and under cushions.
- Walks on tip toes.
- Removes clothes when distressed.
- Washes hands all the time, plays with water a lot.
- Flicks, fidgets, fiddles with objects.
- Fussy with food, gags and chokes, sometimes regurgitates/vomits.

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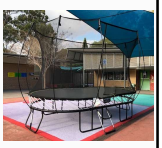
Observations and assessments

- ABC – behaviour analysis provides information about the behaviour, antecedent and consequences but the information can sometimes be inconsistent, confusing and misleading. The antecedent is not always clear and the consequence is deeper than merely avoiding, obtaining or attention seeking.
- Ben is triggered by 1 particular classmate that cries and yells a lot.
- Passport to Learning assessment results show that on a challenging day Ben needs very explicit instructions, tangible (real) objects, contextual learning tools and routines and structured environments.
- He requires explicit, clear, consistent and concrete messages from his educator. Less verbal – more visual and gestures.
- He needs a lot of time on his own in the outdoor learning area.



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Observations and assessments cont.

On his "best day" :

- Ben is beginning to understand first-then with a preferred activity and real objects/familiar photos.
- He can also do 12 piece interlocking puzzles and pack his own school bag when motivated to go home.
- He can use a few objects functionally e.g. watering can, goggles for swimming, spoon to eat, magnetic blocks to build, puzzles etc.
- Ben is motivated by water and his favourite food.

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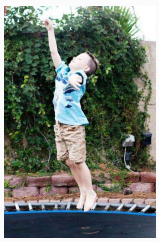
Observations and assessments cont.

On a challenging day:

- Ben presents as a child with high anxiety, sometimes sad, scared, reactive, restless, pacing, moving all the time. He displays many challenging behavioural responses
- Ben struggles with interactions. He is non-verbal and needs concrete objects for communication. He mostly communicates by placing the educator's hand on things to get food, water or go outside.
- Ben craves jumping on the trampoline and swinging extremely high and gets upset when it's time to stop.



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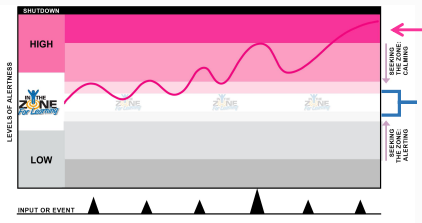
ITZ levels of alertness data for Ben:



- over-responsive.
- Fright/flight/fight mode
- narrow window of tolerance
- Sometimes seeking ways to calm down = self-regulation tools/co-regulation

- Refer to ITZ levels of alertness scale and tutorials.

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"Kids do well if they can" Dr. Ross Greene

How can we help our students do as well as they can?

WHAT?
WHY?

Get to know Ben.
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Observe → **Analyse** → **Interpret** → **Plan**

Design a schedule and classroom environment that meets Ben's needs in the context of the whole class

Evaluate effectiveness and benefit to student and whole class.

Greene, R. W. (2005). The Explosive Child. New York, NY: HarperCollins Publishers.

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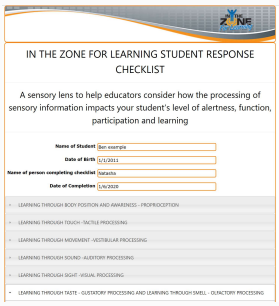
Take a sensory lens to understand Ben's behavioural responses

Please note:
This checklist is a guide for educators. Please consult an Occupational Therapist specialising in sensory processing challenges for formal assessment and intervention of your students with complex needs.



IN THE ZONE FOR LEARNING STUDENT RESPONSE CHECKLIST

A sensory lens to help educators consider how the processing of sensory information impacts your student's level of alertness, function, participation and learning

Name of Student: Ben example
Date of Birth: 1/1/2013
Name of person completing checklist: Natasha
Date of Completion: 1/6/2020

- LEARNING THROUGH BODY POSITION AND AWARENESS - PROPRIOCEPTION
- LEARNING THROUGH TOUCH -TACTILE PROCESSING
- LEARNING THROUGH MOVEMENT -VESTIBULAR PROCESSING
- LEARNING THROUGH SOUND- AUDITORY PROCESSING
- LEARNING THROUGH SIGHT -VISUAL PROCESSING
- LEARNING THROUGH TASTE - GUSTATORY PROCESSING AND LEARNING THROUGH SMELL - OLFACTORY PROCESSING

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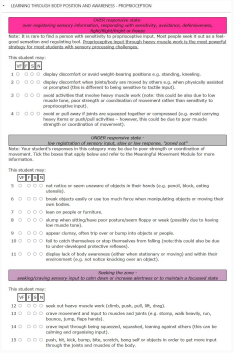

- LEARNING THROUGH BODY POSITION AND AWARENESS - PROPRIOCEPTION

UNDER-responsive state
Low registration of sensory input, slow or low response, "zoned out"

This student may:

1 ○ ○ ○ ○ display discomfort or avoid weight bearing positions e.g. standing, kneeling.
2 ○ ○ ○ ○ display discomfort when joints/body are moved by others e.g. when physically assisted or prompted (this is different to being sensitive to tactile input).
3 ○ ○ ○ ○ avoid activities that involve heavy muscle work (note: this could be also due to low muscle tone, poor strength or coordination of movement rather than sensitivity to proprioceptive input).
4 ○ ○ ○ ○ avoid or pull away if joints are squeezed together or compressed (e.g. avoid carrying heavy items or push/pull activities – however, this could be due to poor muscle strength or coordination of movement).

UNDER-responsive state
Low registration of sensory input, slow or low response, "zoned out"

Note: Your student's responses in this category may be due to poor strength or coordination of movement. Tick the boxes that apply below and refer to the Meaningful Movement Module for more information.

This student may:

5 ○ ○ ○ ○ not notice or seem unaware of objects in their hands (e.g. pencil, block, eating utensils).
6 ○ ○ ○ ○ break objects easily or use too much force when manipulating objects or moving their own bodies.
7 ○ ○ ○ ○ lean on people or furniture.
8 ○ ○ ○ ○ slump when sitting/have poor posture/seem floppy or weak (possibly due to having low muscle tone).
9 ○ ○ ○ ○ appear clumsy, often trip over or bump into objects or people.
10 ○ ○ ○ ○ fail to catch themselves or stop themselves from falling (note:this could also be due to under-developed protective reflexes).
11 ○ ○ ○ ○ display lack of body awareness (either when stationary or moving) and within their environment (e.g. not notice knocking over an object).

Seeking the zone
seeking/craving sensory input to calm down or increase alertness or to maintain a focussed state

This student may:

12 ○ ○ ○ ○ seek out heavy muscle work (climb, push, pull, lift, drag).
13 ○ ○ ○ ○ crave movement and input to muscles and joints (e.g. stomp, walk heavily, run, bounce, jump, like tight hugs).
14 ○ ○ ○ ○ have difficulty not being squeezed, squashed, leaning against others (this can be calming and organising input).
15 ○ ○ ○ ○ push, hit, kick, bump, bite, wrestle, bang self or objects in order to get more input through the joints and muscles of the body.

7 sensory systems.

3 types of responses to sensory input:

-Over-responsive

-Under-responsive

-Seeking the zone

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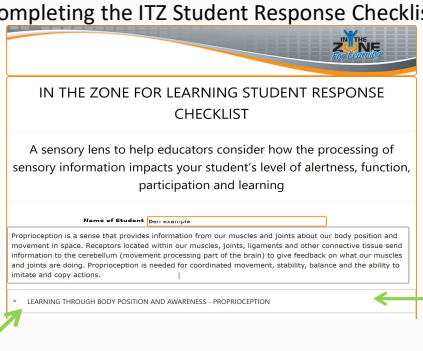
Completing the ITZ Student Response Checklist



IN THE ZONE FOR LEARNING STUDENT RESPONSE CHECKLIST

A sensory lens to help educators consider how the processing of sensory information impacts your student's level of alertness, function, participation and learning

Name of Student: Ben example

Proprioception is a sense that provides information from our muscles and joints about our body position and movement in space. Receptors located within our muscles, joints, ligaments and other connective tissue send information to the cerebellum (movement processing part of the brain) to give feedback on what our muscles and joints are doing. Proprioception is needed for coordinated movement, stability, balance and the ability to imitate and copy actions.

- LEARNING THROUGH BODY POSITION AND AWARENESS - PROPRIOCEPTION

Click or hover for explanation

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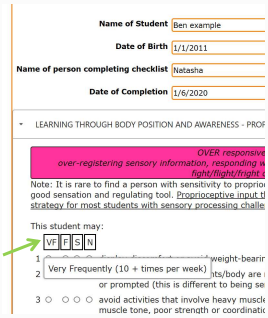
Completing the ITZ Student Response Checklist



Click or hover for explanation

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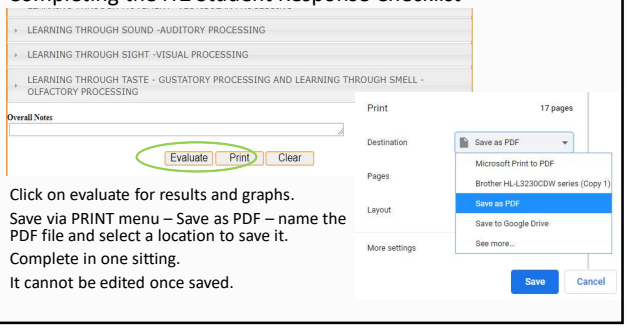
Completing the ITZ Student Response Checklist



Click on evaluate for results and graphs.

Save via PRINT menu – Save as PDF – name the PDF file and select a location to save it.

Complete in one sitting.

It cannot be edited once saved.

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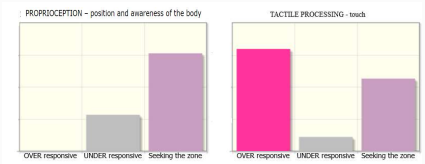
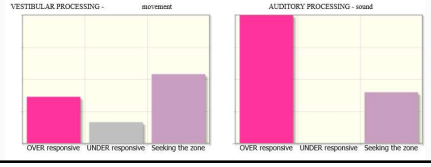
Results of the ITZ student response checklist

Position & awareness of the body



Touch

Movement



Sound

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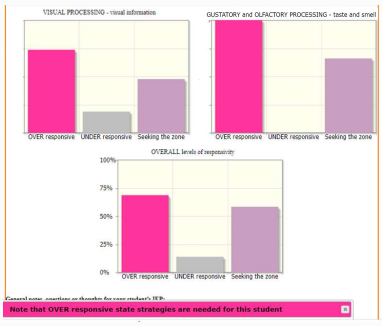
Results of the ITZ student response checklist

Visual

Smell

Taste

Overall Responsivity: Dysregulated Sensitive anxious



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Observations of student:
Blocking ears and vocalising, removing clothing, dropping to the ground.

What need is my student communicating through these behavioural responses?

HOW?

WHY?

POSSIBLE INTERPRETATIONS

KEY LENSES	STRATEGY PRINCIPLES
Sensory lens: Sensory overload/extreme sensitivities. Craving/Seeking tactile & deep pressure input. Extremely dysregulated. Fright/flight/fight.	*Use sensory input to attain & maintain a calm-alert state.* Provide calming input – deep pressure touch, heavy muscle work, linear vestibular movement. Reduce exposure to and impact of painful sensations. Develop self-regulation skills, offer co-regulation.
Medical lens: Pain, imbalance in neurochemistry, digestive hearing, vision, dental issues, medication etc.	*Rule out medical issues.* Consult doctor/specialist. Be mindful of student's current medications and medical history. Offer co-regulation and comfort for pain relief.
Emotional/cognitive/communication lens: Overwhelmed, anxious, frustrated, confused, difficulty understanding concepts & making relationships. Needs connection but doesn't know how to communicate it appropriately.	*Help the student to feel safe, secure & understood.* Connect with student to understand needs. Reassure, calm, explain more clearly. Provide ways to communicate Modify task to match skills. Self and co-regulation skills.
Behavioural lens: Disruptive, aggressive, attention seeking, non-compliant, unhealthy habits etc.	*20 % correction; 80% affirmation/praise.* Reinforce class rules. Planned ignoring at low level. Reward appropriate participation. Build skills and teach alternative options. Develop self-regulation skills, offer co-regulation

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Please consult a medical or allied health professional if you are concerned about your student's health or wellbeing.

HOW DOES DYSREGULATION AFFECT MY STUDENT'S LEVEL OF ALERTNESS AND ABILITY TO LEARN?

LEVELS OF ALERTNESS

	PROCESSING OF SENSORY INFORMATION	EMOTIONAL REGULATION	COGNITIVE REGULATION	INTERNAL/ PHYSIOLOGICAL REGULATION
SHUTDOWN	EXTREME SENSORY OVERLOAD	FREEZE/SHOCK	SHUTDOWN	SHUTDOWN
HIGH	FRIGHT/FLIGHT/FIGHT			
	•unable to tolerate •defensive /protective	•angry •distressed	•overwhelmed •frustrated	•excruciating pain •internal distress
	•overwhelmed/vigilant	•confused/worried	•confused/puzzled	•pain
	•over-responsive/sensitive •heightened •distracted	•jealous/irritated •easily excitable •nervous/giggly/flighty	•over-responsive •heightened •distracted	•unwell •discomfort
SEEKING THE ZONE: CALMING	•seeking sensory input to calm	•seeking connection and co-regulation	•seeking to calm/relax/focus	•seeking relief
	•processing sensory info •calm yet alert •focused	•happy •confident •content	•thinking/concentrating •attending •processing	•well •alert
SEEKING THE ZONE: ALERTING	•seeking sensory input to alert •registering sensory input	•animating/ motivating self	•seeking to alert/increase focus (move, crunch)	•seeking to feel well/alert
LOW	•under-responsive	•flat affect/expression	•repetitive •unmotivated •bored/aimless	•lethargic •unwell
	•not detecting sensory input •asleep	•sad/melancholy •depressed •asleep	•not processing information •asleep	•tired •exhausted •asleep
	PROCESSING OF SENSORY INFORMATION	EMOTIONAL REGULATION	COGNITIVE REGULATION	INTERNAL/ PHYSIOLOGICAL REGULATION

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Sensory input can vary in intensity or duration and can be calming or alerting

CALMING





- **Tactile:** soft, warm, firm, rhythmic touch input.
- **Vestibular:** rhythmic, linear, constant movement.
- **Visual:** dim lighting, soft, natural, stationary visual input.

- Whole body, heavy muscle movement is powerful in regulating and can be both calming and alerting.
- Deep breathing and oral-motor movement such as chewing, sucking and blowing is regulating and can be calming or alerting.

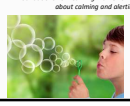
Please refer to the ITZ Strategy Toolkit and Foundations For Learning Framework for more ideas about calming and alerting.

IN THE ZONE For Learning

- **Tactile:** light touch, cold, varying input.
- **Vestibular:** arrhythmic, rotary movement; with varying speed and direction.
- **Visual:** bright, colourful, moving, changing, flashing visual input.

ALERTING

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Over-responsive to sound

- LEARNING THROUGH SOUND -AUDITORY PROCESSING

OVER responsive state- over-registering sensory information, responding with sensitivity, avoidance, defensiveness, fight/flight/fright or freeze

Please note: sound travels through air and bounces off surfaces, changes and distorts. Some students in high alert can over register all these sounds and become sensitive to sound.
Sound also carries a lot of information about different aspects such as: distance (e.g. a bird call), speed (e.g. a motor bike racing past) and size (e.g. a large rumbling truck). these complex aspects can trigger a student's protective system and send them into flight/fight/fright-freeze.

This student may:

	VF	F	S	N	
75	●	○	○	○	experience sensitivity to sound, startle easily or block ears from loud or unexpected noise (e.g. another student vocalising, school bell, fire alarm, microphone feedback, door slamming).
76	●	○	○	○	become distressed or frustrated may avoid noisy environments or places that echo or distort sound (e.g. the school hall, shops or crowds).
77	●	○	○	○	find it difficult to focus or pay attention in noisy situations.
78	●	○	○	○	look disengaged or become overwhelmed and tune out sound altogether, including the teacher's voice and therefore take longer time to process auditory information.
79	●	○	○	○	have fears of certain sounds and anxiously anticipate them. They might show this by blocking ears frequently or "watch the clock" (e.g. microwave or school bell).
80	●	○	○	○	overly notice, be easily distracted or distressed by irrelevant noises in the environment (e.g. air conditioner, footsteps, birds, ticking of clocks, hum of computer, other students).
81	●	○	○	○	increase the volume of their own voice when the volume of the teacher or classroom increases (as a way of blocking out the environmental sounds).
82	●	○	○	○	vocalise, hum, mumble, talk or sing to self when bothersome noises are present (this could be helping to block out external noise and keep themselves calm).

- Ben is very frequently over-responsive to auditory input.
- It's very hard to escape the auditory environment – it can be very stressful and feel painful.
- It can lead people to block out the world and avoid interaction.

38

Over-responsive to tactile input

- LEARNING THROUGH TOUCH -TACTILE PROCESSING

OVER responsive state- over-registering sensory information, responding with sensitivity, avoidance, defensiveness, fight/flight/fright or freeze

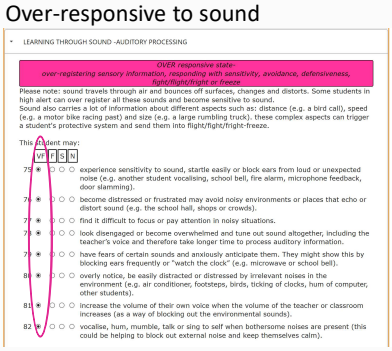
This student may:

	VF	F	S	N	
22	○	●	○	○	avoid touching different textures or participating in activities such as craft, messy play, cooking or gardening, be wary, hesitant or distressed.
23	○	●	○	○	appear anxious to clean hands or face or change clothes if wet or messy.
24	○	○	○	○	appears uncomfortable with light touch (e.g. another student brushing past or touching them or tickling. This can lead to a fright, flight, fight response).
25	○	●	○		pull away from being touched or refuse physical comfort (may need own space and time to recover rather than hugs or touch).
26	○	●	○	○	resist hand-over-hand guidance.
27	○	●	○	○	dislikes/ avoids being too close to other students or teachers, may be restless, unsettled or disruptive when lining up or sitting close to other students.
28	○	●	○	○	prefers touch on his or her own terms (prefers to be in control and initiate touch).
29	●	○	○	○	be fussy about clothing (e.g. may only wear long sleeves even in summer or short sleeves all year round or need tags removed from clothing).
30	●	○	○	○	remove clothing or rip or tear clothing if distressed or irritated because the sensation has become overwhelming.
31	○	●	○	○	walk on tip toes to limit tactile input to feet, avoid walking barefoot or be fussy about wearing socks and shoes.

- Task avoidance could be due to tactile sensitivities.
- Holding and manipulating objects doesn't come naturally to him – they feel different to him.
- Tactile issues affect motor planning and praxis which affect tool use.

39

Over-responsive to sound


LEARNING THROUGH SOUND -AUDITORY PROCESSING

OVER responsive state- over-registering sensory information, responding with sensitivity, avoidance, defensiveness, fight/flight/fright or freeze

Please note: sound travels through air and bounces off surfaces, changes and distorts. Some students in high alert can over register all these sounds and become sensitive to sound.
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This student may:

	VF	F	S	N	
75	●	○	○	○	experience sensitivity to sound, startle easily or block ears from loud or unexpected noise (e.g. another student vocalising, school bell, fire alarm, microphone feedback, door slamming).
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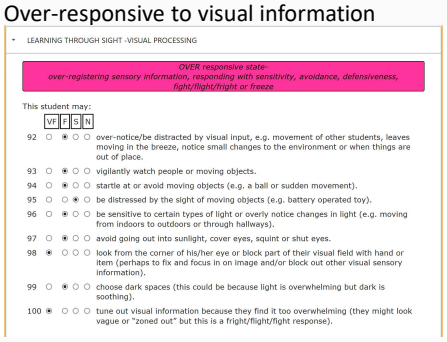
- It's very hard to escape the auditory environment – it can be stressful and feel painful.
- It can lead people to block out the world and avoid interaction.

40

Over-responsive to visual information


LEARNING THROUGH SIGHT -VISUAL PROCESSING

OVER responsive state- over-registering sensory information, responding with sensitivity, avoidance, defensiveness, fight/flight/fright or freeze

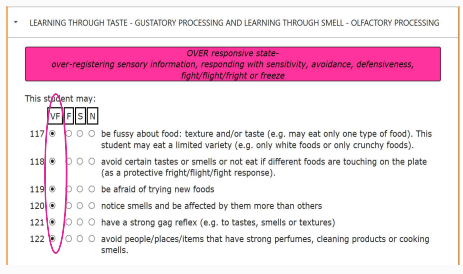
This student may:

	VF	F	S	N	
92	○	●	○	○	over-notice/be distracted by visual input, e.g. movement of other students, leaves moving in the breeze, notice small changes to the environment or when things are out of place.
93	○	●	○	○	vigilantly watch people or moving objects.
94	○	●	○	○	startle at or avoid moving objects (e.g. a ball or sudden movement).
95	○	○	●	○	be distressed by the sight of moving objects (e.g. battery operated toy).
96	○	●	○	○	be sensitive to certain types of light or overly notice changes in light (e.g. moving from indoors to outdoors or through hallways).
97	○	●	○	○	avoid going out into sunlight, cover eyes, squint or shut eyes.
98	●	○	○	○	look from the corner of his/her eye or block part of their visual field with hand or item (perhaps to fix and focus in on image and/or block out other visual sensory information).
99	○	●	○	○	choose dark spaces (this could be because light is overwhelming but dark is soothing).
100	●	○	○	○	tune out visual information because they find it too overwhelming (they might look vague or "zoned out" but this is a fright/flight/fight response).

- Blocking eyes can be a common way of dealing with multi-sensory environments.
- Ben seems sensitive to light and startles when objects move suddenly e.g. he would dodge a ball being gently thrown to him because it feels like an attack.

41

Over-responsive to taste and smells


LEARNING THROUGH TASTE - GUSTATORY PROCESSING AND LEARNING THROUGH SMELL - OLFACTORY PROCESSING

OVER responsive state- over-registering sensory information, responding with sensitivity, avoidance, defensiveness, fight/flight/fright or freeze

This student may:

	VF	F	S	N	
117	●	○	○	○	be fussy about food: texture and/or taste (e.g. may eat only one type of food). This student may eat a limited variety (e.g. only white foods or only crunchy foods).
118	●	○	○	○	avoid certain tastes or smells or not eat if different foods are touching on the plate (as a protective fright/flight/fight response).
119	●	○	○	○	be afraid of trying new foods
120	●	○	○	○	notice smells and be affected by them more than others
121	●	○	○	○	have a strong gag reflex (e.g. to tastes, smells or textures)
122	●	○	○	○	avoid people/places/items that have strong perfumes, cleaning products or cooking smells.

- Ben is extremely over-reactive to tastes, textures and smells.
- He gags, chokes, vomits.
- He has fears of trying new foods and sometimes seems afraid to eat.
- He may have gut issues and pain and feel nauseous.

42

Let's interpret these observations of Ben's behavioural responses through a sensory lens

- Self-injurious behaviours (hits own head, picks at sores)
- Impulsive and "hyperactive"
- Aggressive outbursts – especially disturbed by 1 particular peer
- "Controlling" about routines, seating arrangement, following rules
- Blocks ears and vocalises loudly
- Avoids tasks and interaction, not taking in new information.
- Whinges and cries frequently, Constantly moving, rocking, pacing, jumping
- Bumping into others, leaning against others, forceful and rough
- Moving classroom furniture, hiding under tables and under cushions
- Walking on tip toes
- Removing clothes
- Washing hands all the time, playing with water
- Flicks, fidgets, fiddles with objects
- Fussy with food, gags and chokes, sometimes regurgitates/vomits.

43

Observations of Ben's behavioural responses with a sensory lens

- Self-injurious behaviours
- Aggressive
- "Controlling" -routines, following rules
- Task avoidance
- Blocks ears, vocalises loudly
- Whinges and cries frequently

→ Sensory overload
Auditory sensitivity
Stress, anxiety,
Confusion.
Needing order and predictability

- Walking on tip toes
- Removing clothes
- Washing hands all the time
- Fussy with food, gags and chokes

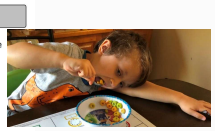
→ Over-responsive to touch, smell and taste: Reduce impact of painful or confusing sensory input

44

Learning through body position and awareness- Proprioception

UNDER responsive state - low registration of sensory input, slow or low response, "zoned out"

Note: Your student's responses in this category may be due to poor strength or coordination of movement. Tick the boxes that apply below and refer to the Meaningful Movement Module for more information.



This student may:

	VF	F	S	N	
5	○	○	○	○	not notice or seem unaware of objects in their hands (e.g. pencil, block, eating utensils).
6	○	○	○	○	break objects easily or use too much force when manipulating objects or moving their own bodies.
7	◉	○	○	○	lean on people or furniture.
8	◉	○	○	○	slump when sitting/have poor posture/seem floppy or weak (possibly due to having low muscle tone).
9	○	○	○	○	appear clumsy, often trip over or bump into objects or people.
10	○	○	○	○	fail to catch themselves or stop themselves from falling (note:this could also be due to under-developed protective reflexes).
11	◉	○	○	○	display lack of body awareness (either when stationary or moving) and within their environment (e.g. not notice knocking over an object).

45

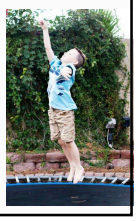
Observations of Ben's behavioural responses through a sensory lens

- Bumping into others
- leaning against others
- forceful and rough

Proprioception
Poor body awareness
Low muscle tone

- Constantly moving, rocking, pacing
- Jumping, swinging very high
- Moving furniture, hiding under tables
- Walking on tip toes
- Flicks, fidgets, fiddles with objects

Vestibular movement
Seeking the zone. These sensations are meaningful and pleasurable to Ben: endorphins, serotonin, dopamine



46

Learning through tactile information

Seeking the zone - seeking/craving sensory input to calm down or increase alertness or to maintain a focussed state

This student may:

	VF	F	S	N	
41	○	◉	○	○	have a strong need to touch furniture, walls, objects, people.
42	◉	○	○	○	crave certain tactile input and textures (e.g. water, messy activities, bark, twigs, sand, plays with food).
43	○	○	◉	○	seek out hot or cold surfaces (e.g. the window, fridge or metal objects).
44	○	○	○	◉	smear faeces or play with wet nappy or spit.
45	◉	○	○	○	frequently go to the bathroom or bubbler to seek out water.
46	○	○	◉	○	crave kisses, hugs or physical affection.
47	◉	○	○	○	resort to self-injurious behaviours and not seem to find them painful e.g. punch, hit, pinch or bite self or fall to floor or head bang). This is very complex and serious and could be for several reasons including craving extreme deep pressure touch because it can release "happy neurotransmitters" and help them feel better or release "painkillers" in the brain that can lead to a numbing or euphoric feeling. People with sensory processing challenges can have inaccurate pain perception".
48	○	○	◉	○	frequently bump into, crash into or climb objects or furniture.
49	◉	○	○	○	fidget—flick, twirl, touch objects or people excessively (note: if looking intently, they may also be craving visual and vestibular input).
50	○	○	○	◉	like to walk barefoot and explore textures and surfaces with feet.

- Need to address this straight away. Indicates extreme dysregulation, stress or pain. Refer to Over-responsive and Seeking the zone Strategy Toolkit.
- Brain cells are firing and wiring into an identity of stress – Ben can get "wired" to respond in this way.

47

Learning through vestibular movement

Seeking the zone - seeking/craving sensory input to calm down or increase alertness or to maintain a focussed state

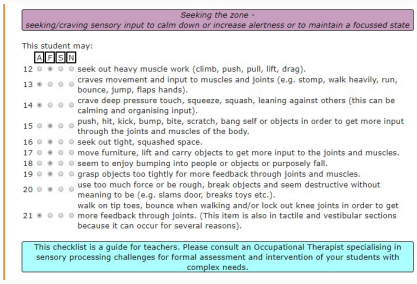
This student may:

	VF	F	S	N	
67	◉	○	○	○	crave certain movement experiences (e.g. jumping, swinging, spinning, hopping, bouncing, running).
68	○	○	◉	○	seek out gross motor movement and may have a very high tolerance to spinning, jumping, swinging, may not seem to get dizzy.
69	○	◉	○	○	pace and walk around classroom or playground (but may be able to sit still if focussed on visually motivating or moving objects because the visual input is activating the vestibular system).
70	◉	○	○	○	fidget, rock, squirm or move in chair or shake head and generally have difficulty sitting still in chair or on floor, may need to keep moving (this may interfere with listening and interacting or it may in fact assist the student to listen and be attentive).
71	○	○	○	◉	enjoy sensation of falling without regard to safety or play on edge of furniture, balance on walls or beams.
72	○	○	○	◉	like inverted upside down position (e.g. rolls over gym ball or hangs on tummy over swing and hangs head upside down).
73	○	○	◉	○	seek extreme movement activities (e.g. spinning in different directions, summersaults).
74	◉	○	○	○	enjoy running when in open space, may appear to want to be chased (this could be a "flight" response or a way of engaging playfully).

- Movement releases happy neurotransmitters
- Could be a FLIGHT response.
- Hard to sit still when stressed and feeling unsafe – brain and body is wired to escape.
- Ben is self-regulating through movement

48

Seeking out input through body position and awareness - Proprioception



Seeking the zone -
seeking/craving sensory input to calm down or increase alertness or to maintain a focussed state

This student may:

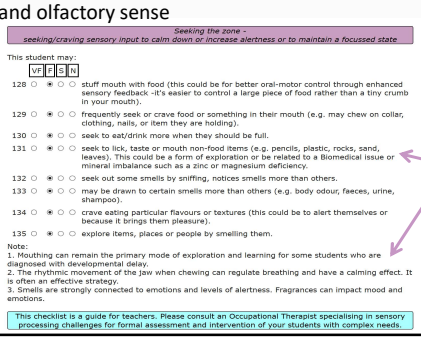
		A	F	S	N	
12	○	●	○	○	○	seek out heavy muscle work (climb, push, pull, lift, drag).
13	●	○	○	○	○	craves movement and input to muscles and joints (e.g. stomp, walk heavily, run, bounce, jump, flaps hands).
14	●	○	○	○	○	crave deep pressure touch, squeeze, squash, leaning against others (this can be calming and organising input).
15	○	●	○	○	○	push, hit, kick, bump, bite, scratch, bang self or objects in order to get more input through the joints and muscles of the body.
16	○	●	○	○	○	seek out tight, squashed space.
17	○	●	○	○	○	move furniture, lift and carry objects to get more input to the joints and muscles.
18	○	●	○	○	○	seem to enjoy bumping into people or objects or purposely fall.
19	○	●	○	○	○	grasp objects too tightly for more feedback through joints and muscles.
20	○	●	○	○	○	use too much force or be rough, break objects and seem destructive without meaning to be (e.g. slams door, breaks toys etc.).
21	●	○	○	○	○	walk on tip toes, bounce when walking and/or lock out knee joints in order to get more feedback through joints. (This item is also in tactile and vestibular sections because it can occur for several reasons).

This checklist is a guide for teachers. Please consult an Occupational Therapist specialising in sensory processing challenges for formal assessment and intervention of your students with complex needs.

- Ben is craving heavy muscle work – it helps his brain to release happy neurotransmitters and helps his body to gain awareness and connection.
- Use this in programming -
- THIS IS A POTENTIAL LEARNING TOOL.

49

Learning through taste and smell – gustatory and olfactory sense



Seeking the zone -
seeking/craving sensory input to calm down or increase alertness or to maintain a focussed state

This student may:

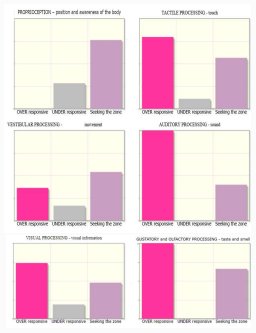
		VF	F	S	N	
128	○	●	○	○		stuff mouth with food (this could be for better oral-motor control through enhanced sensory feedback -it's easier to control a large piece of food rather than a tiny crumb in your mouth).
129	○	●	○	○		frequently seek or crave food or something in their mouth (e.g. may chew on collar, clothing, nails, or item they are holding).
130	○	●	○	○		seek to eat/drink more when they should be full.
131	○	●	○	○		seek to lick, taste or mouth non-food items (e.g. pencils, plastic, rocks, sand, leaves). This could be a form of exploration or be related to a Biomedical issue or mineral imbalance such as a zinc or magnesium deficiency.
132	○	●	○	○		seek out some smells by sniffing, notices smells more than others.
133	○	●	○	○		may be drawn to certain smells more than others (e.g. body odour, faeces, urine, shampoo).
134	○	●	○	○		crave eating particular flavours or textures (this could be to alert themselves or because it brings them pleasure).
135	○	●	○	○		explore items, places or people by smelling them.

Note:
1. Mouthing can remain the primary mode of exploration and learning for some students who are diagnosed with developmental delay.
2. The rhythmic movement of the jaw when chewing can regulate breathing and have a calming effect. It is often an effective strategy.
3. Smells are strongly connected to emotions and levels of alertness. Fragrances can impact mood and emotions.

This checklist is a guide for teachers. Please consult an Occupational Therapist specialising in sensory processing challenges for formal assessment and intervention of your students with complex needs.

- Seeking certain smells- powerful links to memory and mood.
- Mouthing/ chewing non-food items- calming/organising brain and breath. Could also be related metabolic/gut health issues.
- THIS IS A POTENTIAL LEARNING TOOL.

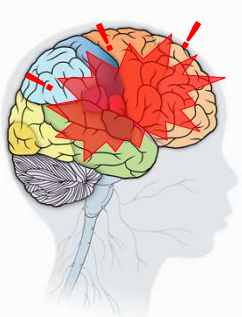
50



SUMMARY

- Ben is over-responding in 6 sensory systems.
- His nervous system is bombarded by input through touch, sound, visual, smell and taste.
- His brain is getting inaccurate messages about the world around him.
- He is in a state of fright/flight/FIGHT throughout the day.
- But he is giving us clues about what he needs.
- He is attempting to self-regulate.

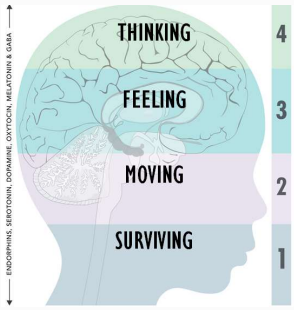
51



BEN IS IN SURVIVAL MODE

Ben needs safety, soothing, calming, connection, security…
But how do we know what is calming and soothing for Ben? How do we know what is dysregulating or overwhelming?

52



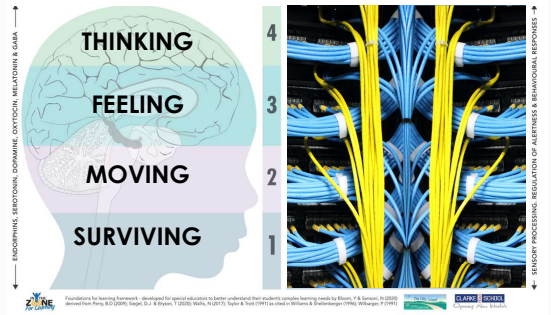
Interpreting Ben's behavioural responses through a sensory lens helps us see that we need to support him at a survival level in order to nurture his brain to re-wire for relating and learning.

Support him to get from "surviving" to "thinking"

Refer to the Foundations for Learning Framework for a whole person-whole brain approach.

53

Positive, meaningful, sequential, organised brain development

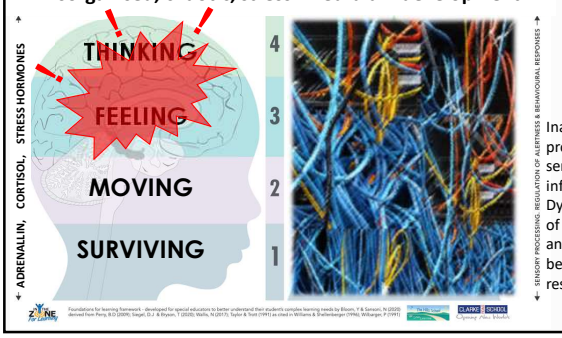


Wiring
Firing
Integrating
Connecting.

Accurate processing of sensory informationis needed for this.

54

Disorganised, chaotic, stress-filled brain development

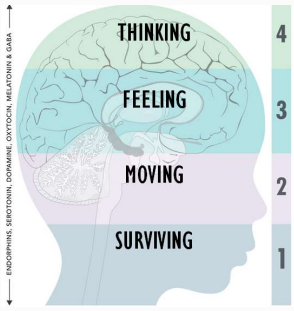


Inaccurate processing of sensory information. Dysregulation of alertness and behavioural responses.

55

BEN's BRAIN IS WIRED THIS WAY.
His behavioural responses reflect his internal state.
HE DOES WHAT HE NEEDS IN ORDER TO SURVIVE.

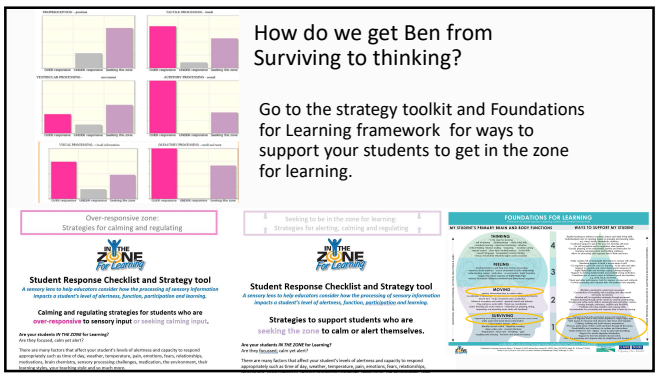
56



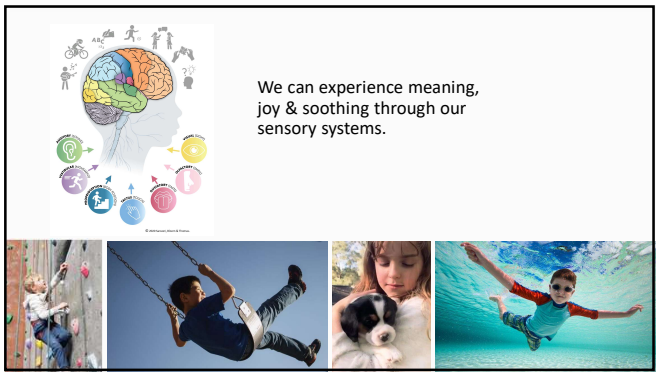
Interpreting Ben's behavioural responses through a sensory lens helps us see that we need to support him at a survival level in order to nurture his brain to re-wire for relating and learning.

Support him to get from "surviving" to "thinking"

57


How do we get Ben from Surviving to thinking?
Go to the strategy toolkit and Foundations for Learning framework for ways to support your students to get in the zone for learning.
Over-responsive zone: Strategies for calming and regulating
Student Response Checklist and Strategy tool
Calming and regulating strategies for students who are over-responsive to sensory input or seeking calming input.
Seeking to be in the zone for learning: Strategies for alerting, calming and regulating
Student Response Checklist and Strategy tool
Strategies to support students who are seeking the zone to calm or alert themselves.
FOUNDATIONS FOR LEARNING

58


We can experience meaning, joy & soothing through our sensory systems.

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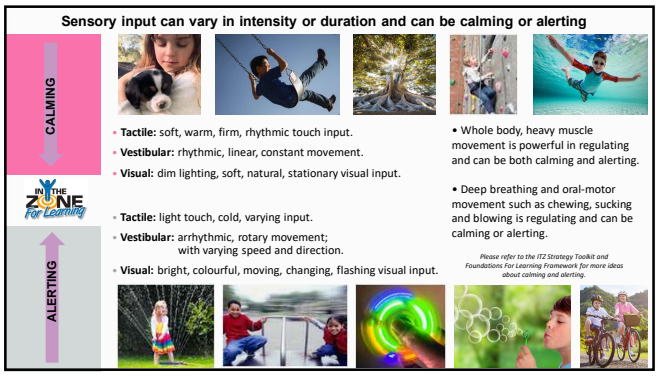
Sensory input can vary in intensity or duration and can be calming or alerting
CALMING
ALERTING
Tactile: soft, warm, firm, rhythmic touch input.
Vestibular: rhythmic, linear, constant movement.
Visual: dim lighting, soft, natural, stationary visual input.
Tactile: light touch, cold, varying input.
Vestibular: arrhythmic, rotary movement; with varying speed and direction.
Visual: bright, colourful, moving, changing, flashing visual input.
• Whole body, heavy muscle movement is powerful in regulating and can be both calming and alerting.
• Deep breathing and oral-motor movement such as chewing, sucking and blowing is regulating and can be calming or alerting.
Please refer to the ITZ Strategy Toolkit and Foundations For Learning Framework for more ideas about calming and alerting.

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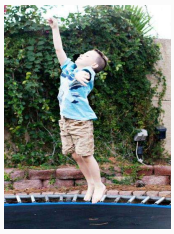
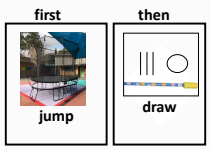
Self-regulate then concentrate.

Ben needs sensory-motor regulatory tools.





FIRST THEN

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Pathways to investigate "what?" "why?" and "how?"

Student: Ben
Diagnosis: ASD, ADHD
Presents as: anxious, avoidant, sensitive, in pain.

Challenges at school:
Unsettled, dysregulated, self-injurious and aggressive behavioural responses difficult to engage, avoids interaction.

How can we understand Ben and support him to get from "surviving" to "thinking"?

Observe, analyse, interpret, plan. We need to gather more information, then develop tools and strategies.

Levels of alertness/self regulation	Levels of Alertness data tool & tutorial	Strategy toolkit
Processing of sensory information- take a sensory lens	ITZ student response checklist & tutorial	Strategy toolkit
Foundations for learning framework – whole person- whole brain lens	Focus on Surviving brain and self/co-regulation	Strategy toolkit

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Thank you for coming on this learning journey.

Thank you for the time and energy you put into supporting your students with complex needs.

We hope this tutorial has been useful in providing some information and tools to get yourself and your students In The Zone for learning!!