

What is neurodiversity?

Neurodiversity (a term coined by Judy Singer in the 1990s and short for 'neurological diversity') simply means that there is a range, or diversity, of ways in which human brains function, a range of ways in which we think, learn and relate to others.

The dictionary defines neurodiversity as:

- individual differences in brain functioning regarded as normal variations within the human population
- the concept that differences in brain functioning within the human population are normal and that brain functioning that is not neurotypical should not be stigmatized"
- the inclusion in a group, organization, etc. of people with different types of brain functioning

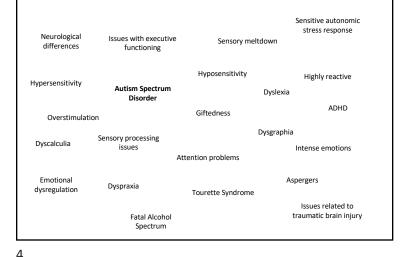
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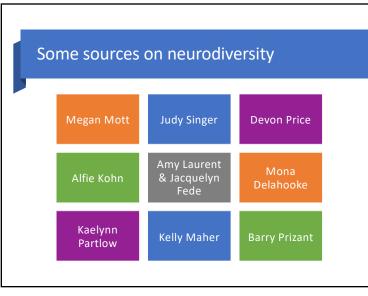
Presentation overview

- What is neurodiversity?
- Neurodiversity and anxiety
- What are neurodiversity affirming practices?
- Neurodivergent differences
- What doesn't work, and why
- CEBM pyramid of interventions

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A Continuum of neurodivergence and sensitivity





Research on sensitivity

Thomas Boyce, M.D. and his colleagues have generated over 200 scientific publications

They have found a subset of children - "orchid children"

- who demonstrate exceptional biological sensitivity to their social environments
- who show higher cortisol levels for "normal" stressors
 - bear higher risks of illness and developmental disorders in settings of adversity and stress
 - ON THE OTHER HAND, these same characteristics make them responsive to positive influences and sensitive to social and emotional cues – when raised in supportive environments

"They can really blossom into extraordinary people."

Research on sensitivity

Sensitivity research stretches back 100 years;

Research has led to the discovery that sensitivity should be considered along a continuum (everyone is sensitive to an extent). However, hypersensitivity occurs in 15 to 20 % of the population

Carl Jung (1921), argued that some people are born being more sensitive than others, and that this innate trait shapes and interacts with their experiences and their perception of the world.

- He observed that when sensitive individuals are given the same degree of stress in childhood as non-sensitive individuals, they are more likely to develop depression, or anxiety later in life.
- However, if sensitive individuals experience lower levels of stress or experience a <u>nurturing upbringing</u> that provides a good match to their innate trait, they show no more of these difficulties than the non- sensitive individuals.

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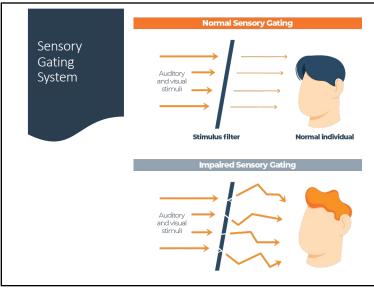
Research on sensitivity

Elaine Aron – describes these children as

- · being shy and fussy
- having sensory-processing sensitivity
- being startled easily, are sensitive to pain, bright lights, strong smells and coarse fabrics, and they are also deeply moved by art.
- tending to notice more about the people around them and their physical environment, but they are also easily overwhelmed.

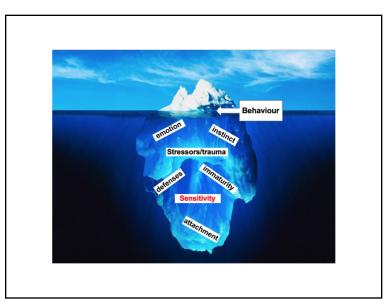
Jelena Obradovic: "These are the kids that if you approach them too quickly, or make too loud a noise in their face, get fussy and irritated."

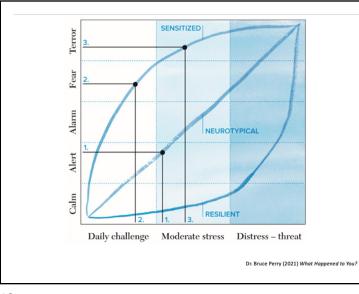
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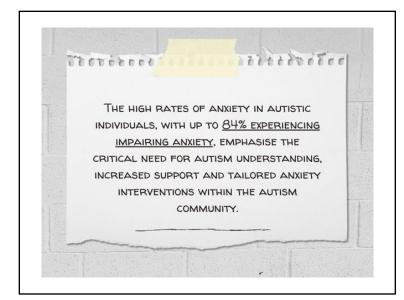


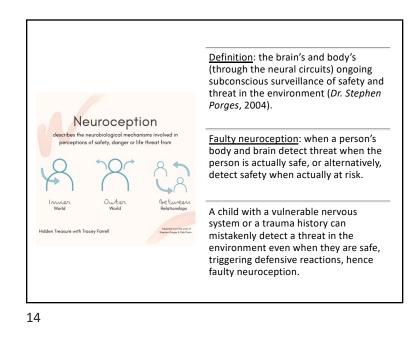


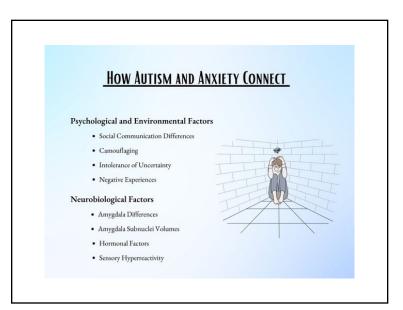




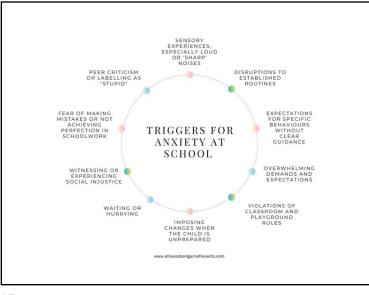
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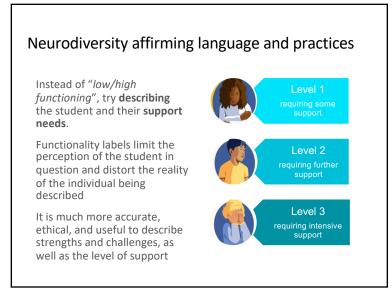


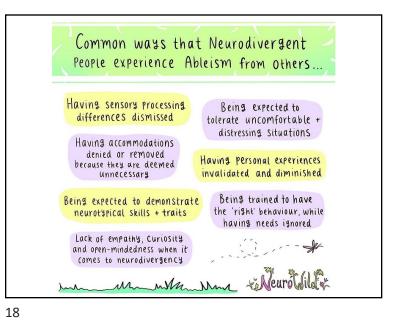


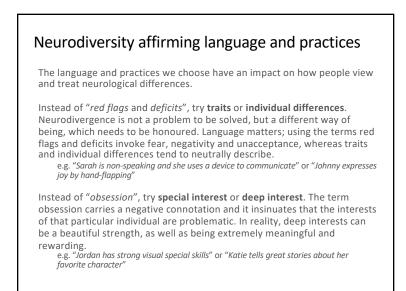




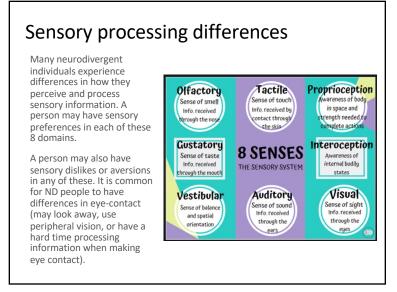


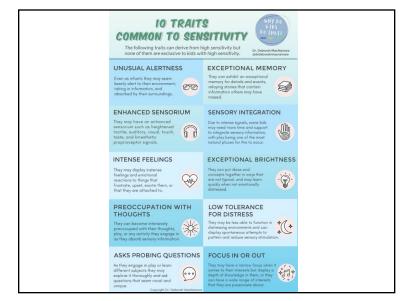


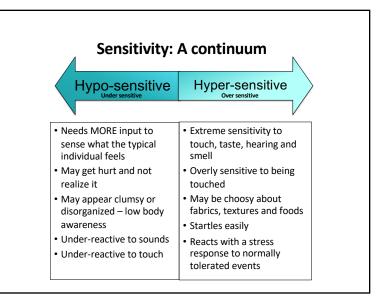


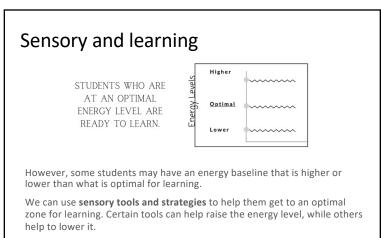


Neurodive	rsity affirmi	ng language and practices
	Instead of	Try
	impulsive	instinctive, spontaneous
	attention seeking	seeks social connection
	rigid	benefits from predictability and routine
	picky,fussy	demonstrates strong preferences
	defiant	determined, has strong beliefs
	tattles	has a strong sense of justice
	distractible	Curious, notices environment
	hyperactive	< energetic
	stubborn	< persistent
	emotional, moody	< sensitive
	intrusive	eager, passionate



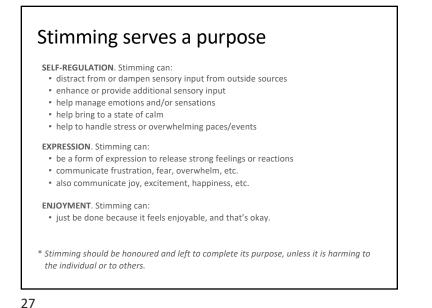






It may be beneficial to connect with your school Occupational Therapist to see what they might suggest, which is adapted to the student's individual needs and challenges.

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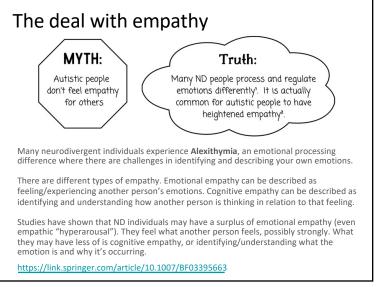
What is stimming?

"Stimming" is a term for self-stimulatory behaviour – a repetitive action or movement of the body, including making noises. It is common adaptive behaviour amongst neurodivergent individuals, and it serves an important purpose.

Here are some examples of stimming:

- Twirling hair
- Biting nails
- Rocking back and forth
- Flapping hands
- Flicking fingers, or repetitive motions with the fingers
- Arching or tensing parts of the body
- Visual stimming, such as watching something intensely or on repeat, looking at something with peripheral vision
- Chewing or mouthing items
- Spinning or twirling
- Repeating behaviours, like opening and closing a container
- Etc.

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Communication differences

Some neurodivergent individuals may:

- be non-speaking
- need a speech augmentative device (voice amplifier) or a speech alternative device (speech generating device) to communicate
- have a multimodal way of communicating (with a combination of words, gestures and icons)
- use echolalia (repeating language that was heard previously).

ND people may also have a language processing differences, including literal interpretation of language.

As educators and allies, we can support neurodivergent communication by: • Promoting multimodal communication

- Recognizing and modeling that all type of communication is important, and accepting whichever way your student chooses to communicate
- Providing access to the use of icons, symbols, AAC devices, etc.
- · Responding to all communication attempts, including echolalia
- Understanding that the ability to communicate may not be fluid for an ND individual (more effective/available at some times than others)
- Helping with literal interpretation of language, by explaining to and supporting ND students with figurative language, sarcasm, and body language

Need for openness and accommodation around Communication

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Neurodivergent play

"Play is often talked about as if it were a relief from serious learning, but for children, play is serious learning." – Fred Rogers

There are many misconceptions about play in neurodivergent children, including that they play the "wrong" way.

If we force our ideas of play onto students, then are they really even 'playing' anymore?

When it's play time ...

- Consider if the activity is actually play or work. Is the student enjoying the pay? Are they free to play as they see fit?
- Let students choose what to play with. It might be the fringe of the rug or the lid of a container. That's okay.
- Allow play to be repetitive. We sometimes have the urge to push children to play different games. Remember that true play is engaging, free and expressive. It should be about choosing what pleases the adults or the peers.

Motor differences

Many neurodivergent individuals experience differences in how their bodies move, or their level of control over their body movements.

GROSS MOTOR DIFFERENCES: some students may be ambulatory or use a wheelchair, may need supportive equipment for movement, may have a difference in their gate or walk, a difference in their muscle tone, a difference in their balance or a difference in their coordination.

FINE MOTOR DIFFERENCES: some students may experience challenges grasping or manipulating objects, such as small objects that require a pincer grasp, scissors, buttons, zippers, keyboard, and/or writing utensils. They may have some difficulty isolating movement of a certain body part, such as a single finger.

APRAXIA: some students may have a neurological difference in that they are not able to voluntarily control their precise body movements, despite being physically able to complete the movement and/or willing to complete the movement. For example, apraxia of sound is when we mean to say one sound, but another one comes out.

There are a number of adapted tools and strategies (e.g. pencil grips, adapted keyboard, adapted scissors, etc.) that provide accommodations to help students with motor differences. It may be beneficial to connect with your school Occupational Therapist to see what they might suggest, which is adapted to the student's individual needs and challenges.

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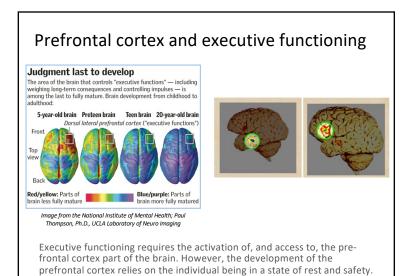
What is executive functioning?

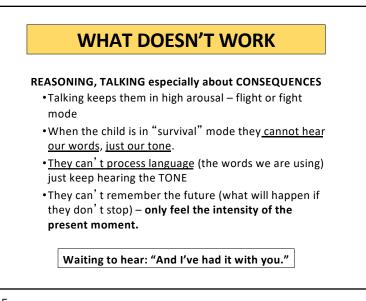
The set of cognitive processes that allows us to do things like plan, prepare, problem-solve, judge time, focus attention, self-regulate, and remember steps to a plan. Neurodivergent students commonly demonstrate differences in executive functioning.

They may have challenges with everyday tasks that are easy to take for granted, such as keeping an organized desk, turning in finished work, or not shouting out answers in class. These challenges are not present because a student "just needs to try harder" or because they are "lazy" or "doing it on purpose".

Provide supports:

- Visual cues
- Visual organizers
- Timers
- Note-taking support
- Etc.



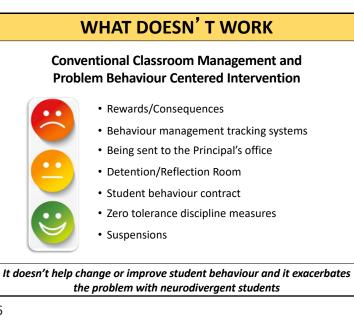


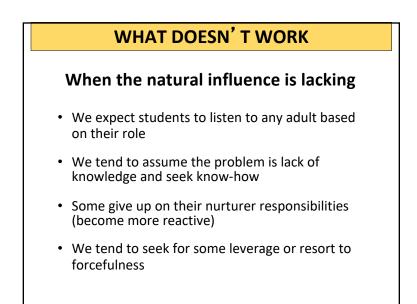
WHAT DOESN'T WORK

To EXPECT neurodivergent students to:

- <u>give you eye-contact</u> at all times when you are talking to them
- <u>function well</u> in a neurotypical environment without any ND accommodations
- <u>follow daily routine</u> without too much struggle
- stay seated in class during desk work
- be able to remain focused on a given task
- <u>tune in to instructions</u> automatically without needing too many cues/prompts
- <u>manage transitions</u> (hallway, schoolyard, cafeteria) with ease

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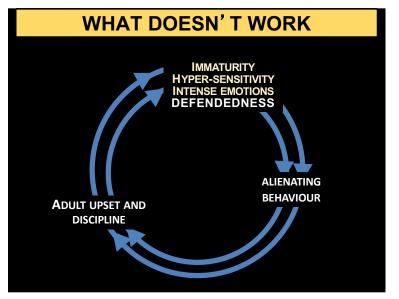
WHAT DOESN' T WORK

Compliance-based strategies

ABA type of approach

- Compliance-based strategies teach a dangerous precedent to an already vulnerable community: "I have to do what you say, regardless of how I feel about it". It puts ND individuals in a position of being at risk for future abusive situations.
- Compliance-based strategies often ask a student to mask, or to adhere to neurotypical norms. Masking can be detrimental to the mental and physical health of ND students.
- Compliance-based strategies do not validate the internal feelings and/or needs of ND individuals. It also overlooks critical development areas, such as self-awareness and self-advocacy.

Include video interview on an Autistic discussing ABA



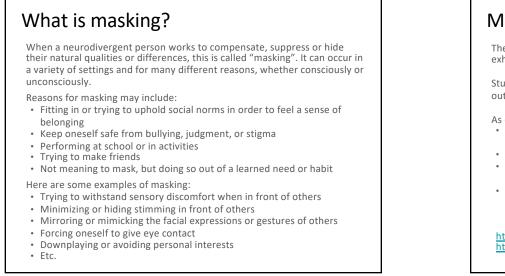
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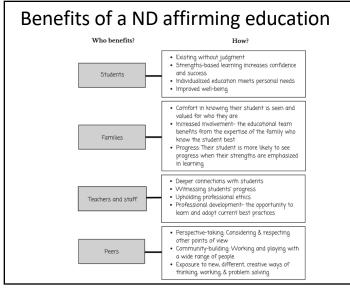
WHAT DOESN' T WORK

Using the student's joys and interests as a reward

- In the educational setting, it is common to see students' favorite items and activities kept away from them in order to use them as reinforcers for work. ("First work, then dinosaurs")
- While this has been done with 'the best intentions' (to motivate students to complete tasks), the reality is that these joys, interests and comforts were withheld from students.
- This has an effect on motivation, feelings of safety and comfort, and teaches neurodivergent children compliance for the sake of compliance. In other words, "You tell me what to do and I have to do it, or I don't get something I need or love.
- Studies have shown that using rewards to motivate students (like prizes and tokens) actually decreases the response rates by weakening intrinsic motivation. This means that rewards aren't long-term successful motivators.
- The same studies have also found that genuine encouragement, in the context of a strong and supportive relationship (not gratuitous praise), improved response rates by increasing intrinsic motivation. Connection is more motivating than tangible rewards!

arton JS. The differential effects of tangible rewards and praise on intrinsic motivation: A comparison of cognitive valuation theory and operant theory. Behav Anal. 1996 Fall:19(2):237-55.







Masking and mental health

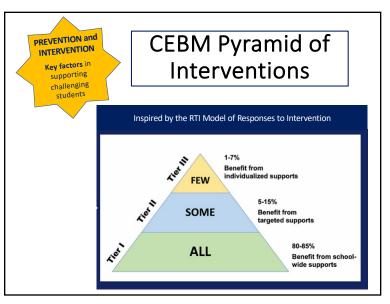
The neurodivergent population reports masking can be extremely stressful, exhausting, and creates dysregulation and burnout.

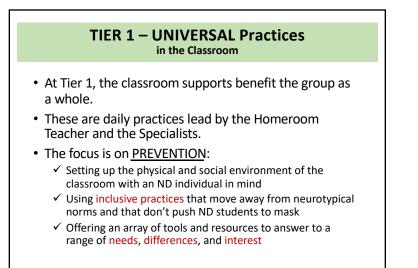
Studies* have shown that masking can lead to some extremely negative outcomes, including higher rates of depression and suicidal ideation.

As educators and allies, we can support their mental health by:

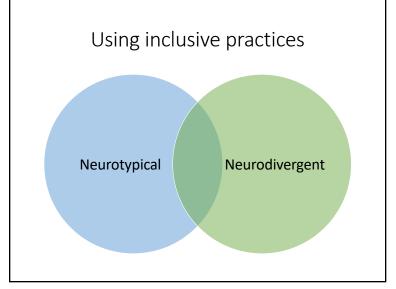
- Not teaching "social skills" that promote masking (e.g. enforcing eye contact)
- · Embracing and supporting individual students' interests
- Openly talking to students about neurodiversity and promoting an environment of acceptance
- Encouraging self-advocacy by helping students recognize their individual needs

https://pubmed.ncbi.nlm.nih.gov/29071566/ https://journals.sagepub.com/doi/full/10.1177/2156869318804297









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MINIMIZING SENSORY INPUT

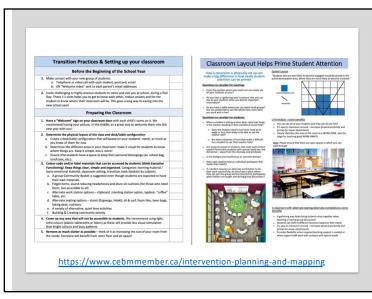
Be aware that your classroom decor may be overstimulating to a neurodivergent student. While the decor may appear fun to you, lots of bright colors with no place for the eyes to rest could be hard on the sensory system of ND students in the classroom.

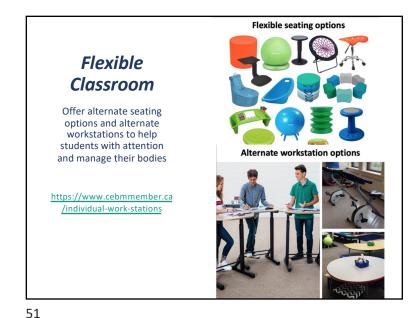
Consider toning down the decor to include:

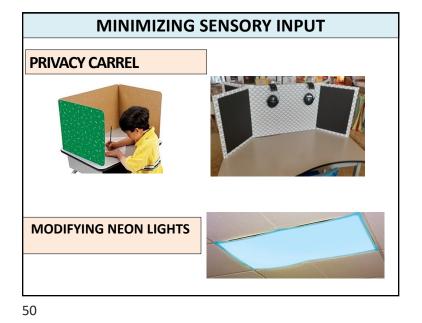
- fewer decorations
- less intense colors
- a place (perhaps towards the front of the classroom) where a child can rest his or her eyes



You'll likely find a less stimulating classroom to be beneficial for neurotypical children as well as for ND students.





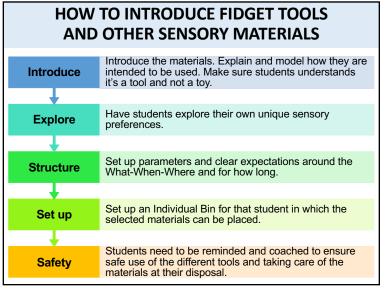


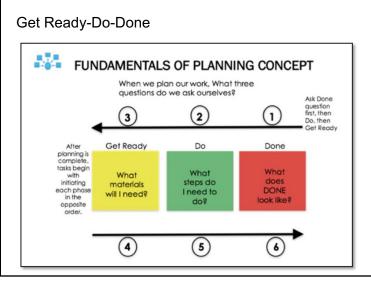
PROVIDING TOOLS

- Figure out which sensory tools works best for the student
- Create a sensory retreat for the student
- Include sensory breaks as part of the school day
- Provide choices for sensory input opportunities
- Make sensory activities fun and engaging
- Help the student to recognize their internal cues and when they need a break

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Supporting executive functioning

- ADAPT THE ENVIRONMENT. Modify the classroom by adding physical barriers, reduce distractions, use homework bins, seat child to promote attention.
- ESTABLISH ROUTINES AND SCHEDULES. Providing structure and predictability goes a long way (e.g. routine chart, visual calendar, etc.)
- HELP WITH ORGANIZATION AND TIME MANAGEMENT. Providing tools and strategies (e.g. bins/labels, visual reminders, checklists, time-timer, wonder clock, etc.)
- **OUTLINE STEPS**. Use checklists that outline steps and procedures (e.g. Ready-Do-Done model).



Get Ready-Do-Done - Elementary				
Get Ready	DO	Done		
	Paint Tube Decords CD Char Stream to Water Oct billing In Table Attach Water	Get Done		

Embracing ND interests

SHARE ENJOYMENT: join in the with the items and activities that your student truly enjoys.

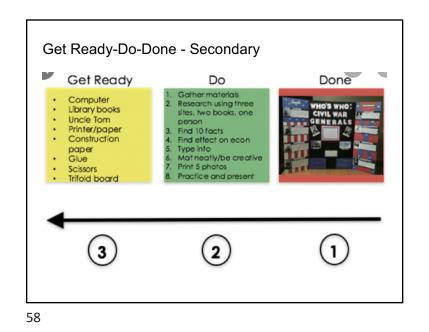
TALK ABOUT IT: let your student talk about or share their interest regularly.

INCORPORATE THE INTERESTS: try include your student's interest into the learning by:

- offering themed activities
- picking a book with a character or a topic of interest
- providing manipulatives or sensory tools of the interest
- having the student write about their interest
- using clips/songs of the interest in learning

HONOUR THE VALUE: recognize that interests may be deeply comforting and meaningful to the student.

EDUCATE PEERS: talk to students about neurodiversity and special interests. Like the fact that some people can love their interest so much that they can learn basically everything there is to know about it! That's impressive!



CLASSROOM BRAIN BREAKS

As movement is incorporated into the daily classroom routine

- the brain is able to function at higher levels,
- · stress and anxiety are reduced

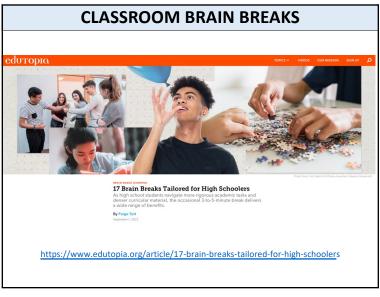


Improves STAYING ON TASK

Increases ATTENTIVENESS

Restores ENERGY AND MOTIVATION

Be mindful of overly stimulating activities – provide options



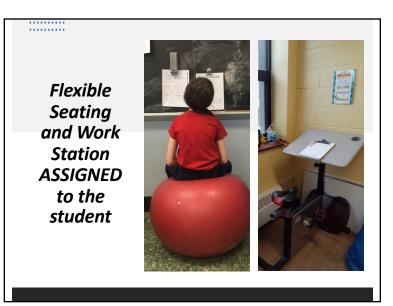


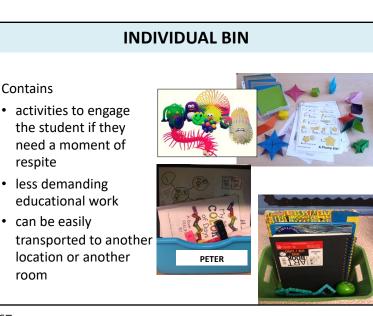




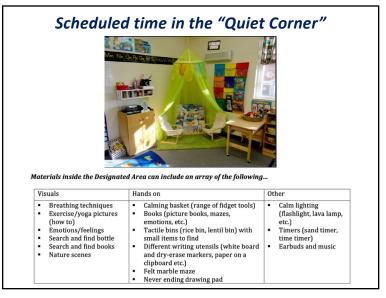
TIER 2 – TARGETED Practices in the Classroom and School

- At Tier 2, the student requires a more targeted support.
- These supports measures and accommodations are meant to be assigned to or scheduled for the ND student.
- Practices lead by the Homeroom Teacher and the Specialists with the help of Support Staff and Resource Teacher.
- The student continues to benefit from Tier 1 supports in addition to supplemental Tier 2 measures.









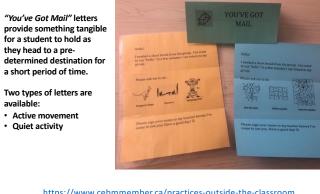






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"You've Got Mail" Transition with a Destination



https://www.cebmmember.ca/practices-outside-the-classroom

Kinesthetic Pathway / Movement Stations



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TIER 3 – INDIVIDUALIZED Practices with the help of Support Staff and/or Professionals

- At Tier 3, the student requires a more intensive and individualized measures. One-to-one support is needed.
- These accommodations and adaptations are tailored to the student's individual needs and interests. The student may require an adapted schedule as well.
- A collaboration is needed between the school team, the board consultants/professionals, the parents, as well as outside partners (if present).
- The student continues to benefit from T1 and T2 supports in addition to supplemental T3 measures.

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Daily student "Check-Ins" with a significant adult



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Nurturing Support Centre (NSC)

- Provide student with passes to visit the NSC, to work, to talk, to have supervised 'alone time'
- Participation in 'interest clubs' with adult supervision during recess and lunchtime
- Sheltered recess and/or sheltered lunch in a predetermined location (small group) – orchestrate the schedule to 'divide & conquer' clusters of students who struggle together



https://www.cebm.ca/nurturing-support-centre

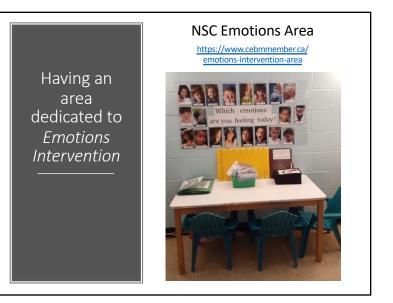
USE TIME AWAY INSTEAD OF TIME OUT

KNOW YOUR LIMITS AND WORK WITHIN THEM

If you are starting to "reach your limit" with a student:

- 1. Send the student to another place
 - The "Quiet Area" in the classroom
- 2. Send the student TO SOMEONE with a "task"
 - a book or an envelope
 - ✓ Another adult technician, school secretary
 - ✓ Nurturing Support Centre
- 3. Always go to the student and let them know that the **relationship is still intact** and that you will take care of them the next day.

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Supporting feelings and emotions

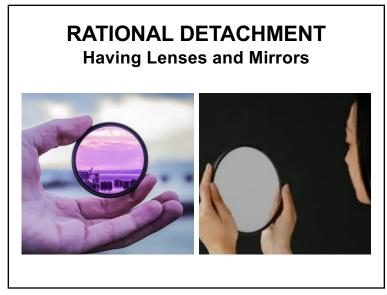
Co-regulate with them. Given that many ND students experience intense and overwhelming emotions, they do not always have a way to communicate or to regulate them effectively. They need us to model and support them in co-regulating their emotions.

Validate their emotions. ND students are sometimes taught to let others describe their emotional experience "No Johnny, this is a SMALL problem; you don't need to be upset". Instead, let your student know their emotions are valid. Try "I understand that this is important to you and that it's upsetting". Talk about the situation and help draft some possible next steps, if needed and if the student is receptive.

Provide supports. Sometimes we over-emphasize the importance of using words to describe our emotions. If this approach is difficult for your student, try another method (e.g. visual support).

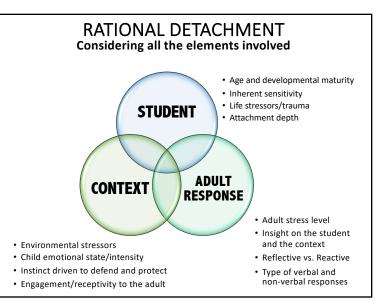
Make it part of everyday life. Don't wait until the student is experiencing strong emotions to practice using the tools and strategies. Practice these regularly to normalize using them and during times when the student is regulated so they are in a better place to be trying and adjusting them.

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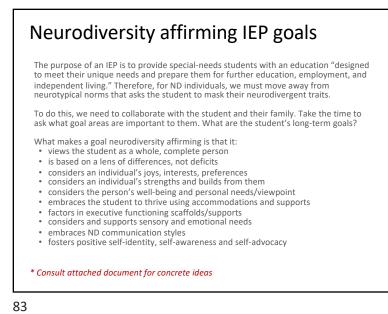


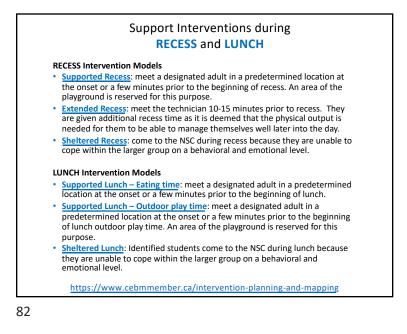
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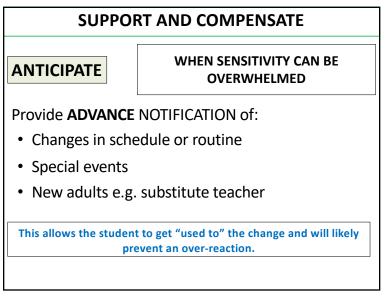


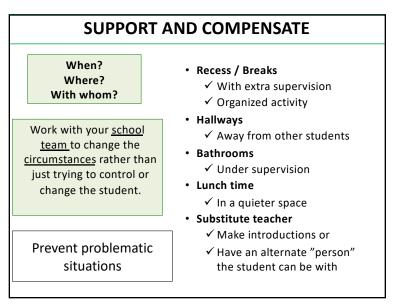












BRIDGE THE FALLOUT OF THE SENSITIVITY REACTION		
 Bridge any separation from one time of connection to the next – these students struggle to hold on to adults. Adults need to go the extra mile to hold on to them and keep the student in connection with them. "Looking forward to" 		
 Reassure the student that you will continue to help and support them despite their "difficulties". "We'll try again tomorrow." 		

SUPPORTING THE STUDENT'S GROWTH

Find a balance between "Pushing" and "Protecting"

- Recognize when the child has reached a "limit" of being stirred up and needs pressure to be removed
- Encourage the child to try challenging activities but in small steps.

Remember that these children experience higher cortisol levels for "normal" stressors than other children. We need to help them to tolerate some level of "stress" but not too much.

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SCHOOL TEAM

Use your existing a school team to

- Plan regular meetings to discuss students with challenging behaviours, and how best to help support them so they can handle being in school
- Put together a team of adults to <u>share the</u> <u>responsibility</u> of caring for these students
- Use adult resources in the school creatively
- Identify one "key" adult to connect with the student – to try for a regular check-in or recap at the end of the day by means of another activity e.g. breakfast programme, recycling, exercise "group".



