

Neurodivergence in students

The terms "neurodivergent" and "neurodiverse" refer to people whose thought patterns, behaviors, or learning styles fall outside of what is considered "normal," or neurotypical of humans. Neurodivergence embraces the idea that differences in the human brain are natural and, in many cases, can lead to meaningful and positive insights and abilities.

- ADHD
- Autism
- Dyslexia
- Giftedness

Also, dyscalculia, bipolar disorder, anxiety disorder, OCD, down syndrome, dyspraxia and tourettes can be seen as neurodivergence

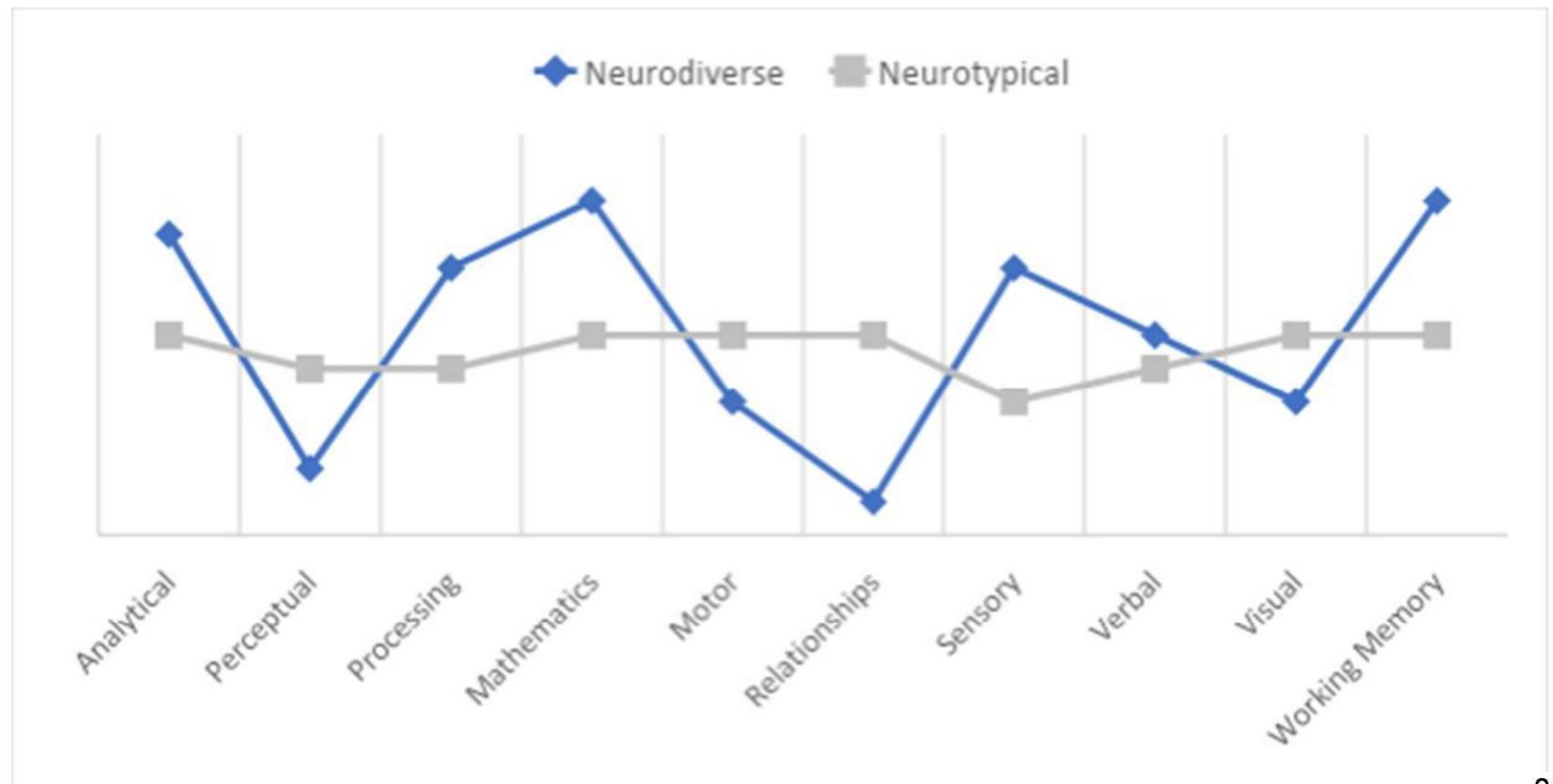
Neurodivergence at the university/faculty

Currently the conservative view is that around 15% of people worldwide have a form of neurodivergence.

We have a higher percentage of known neurodivergent students, in last year's BA1: 23,5% of our students have a form of neurodivergence.

Unique profile

Each of these students is unique, one of them explains it like this: “Autism is like the color codes on your computer. My code is #28bfb1 somewhere between blue and green, but your code can be between orange and yellow, code #e7cf0b. We both have autism, but we are not the same”



The common denominators

- Almost all of these students are creative, sensitive, loyal, funny, open, and work their asses off to fit a norm that does not fit nor accommodate them in their everyday lives
- Multiple choice is more complicated for students with ADHD/Dyslexia
- have a spiky profile
- Have a “social battery” that empties on things that may seem ‘normal’ or ‘simple’. Does not easily recharge.
- Need to mask part of their nature to appear ‘normal’
- Have sleeping difficulties
- Are damaged by the fact that they do not meet the norm
- Are afraid of sending emails
- Have heightened sensory receptors
- They will not easily tell you about this. There is so much misconception that they are often misjudged.
- What you can perceive as ‘lack of will power’ to do seemingly easy tasks, is essentially a lack of dopamine, which is impeding the executive functions. Compassion for the fact that all acts that seemingly come natural to you (brushing your teeth, grocery shopping, writing an email, calling your mother, sending that card, reading that text, watering the plants, taking out the trash, writing that essay, eating lunch, meeting a deadline, drinking enough) take more effort from them, because the brain does not help them naturally, by producing dopamine.


ADHD

Executive function system of the brain develops differently and functions differently. Also, there is an imbalance in Norepinephrine and Dopamine. This not only impacts the attention regulation but also the emotion regulation.


ADHD in Adults

Your symptoms determine which ADHD subtype you have.


Inattention subtype symptoms:




Errors because of inattention.



Trouble completing tasks.




Easily distracted.




Avoidance of tedious work.


Hyperactivity/impulsivity subtype symptoms:




Frequent fidgeting.




Trouble sitting still or restlessness.



Conversational self-restraint problems.



Difficulties with social boundaries.



THE ADHD STRENGTHS ICEBERG

WHAT PEOPLE THINK ADHDERS ARE GOOD AT:

talking fast

creativity

WHAT ADHDERS ARE ACTUALLY GOOD AT:

literally anything they find interesting

empathy

changing the world

unique intuition

learning

getting a lot done in a short amount of time

optimism

competitive challenges

mastering new hobbies

authenticity

creating something beautiful

imagination

hyperfocus

tackling new challenges

sense of humor

problem solving

working under pressure

brainstorming

risk-taking

forgiveness

crisis situations

entrepreneurship

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@jessejanderson

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ADHD students may

- Have issues with planning, prioritizing tasks (identifying main points from details),
- Find it more difficult to sustain their motivation/efforts towards a goal.
- Have problems with their working memory (temporarily storing information for later use, like when making a recipe, or, writing an essay!), this also causes students to blurt out the answer before they forget, or ask you to repeat something you just said! Multi step directions are therefore complicated.
- Have sensory issues
- Have problems ignoring distractions and switching tasks.
- Have imposter syndrome, often caused by all the times they heard they could do better if “they just work harder” or that they have “so much potential if they just tried harder”.

Important to know is that the brain does not only have trouble regulating attention, but also regulating emotions.
“emotional dysregulation is like sunburn, even a playful slap on the back can hurt so, so bad”

This can result in:

Asking a lot of questions

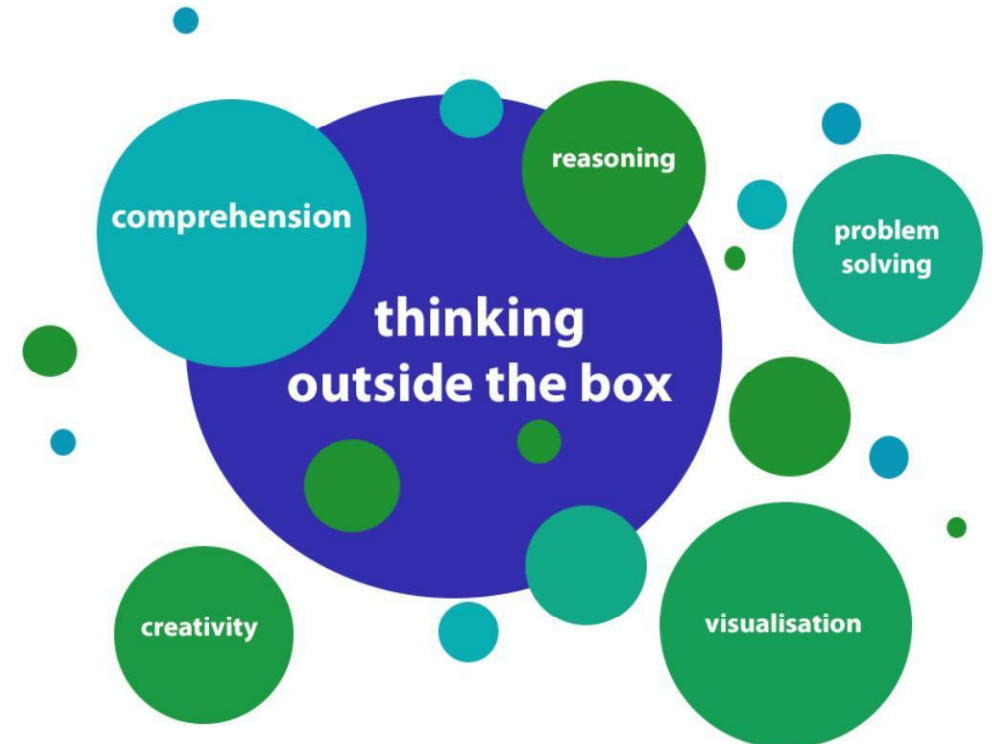
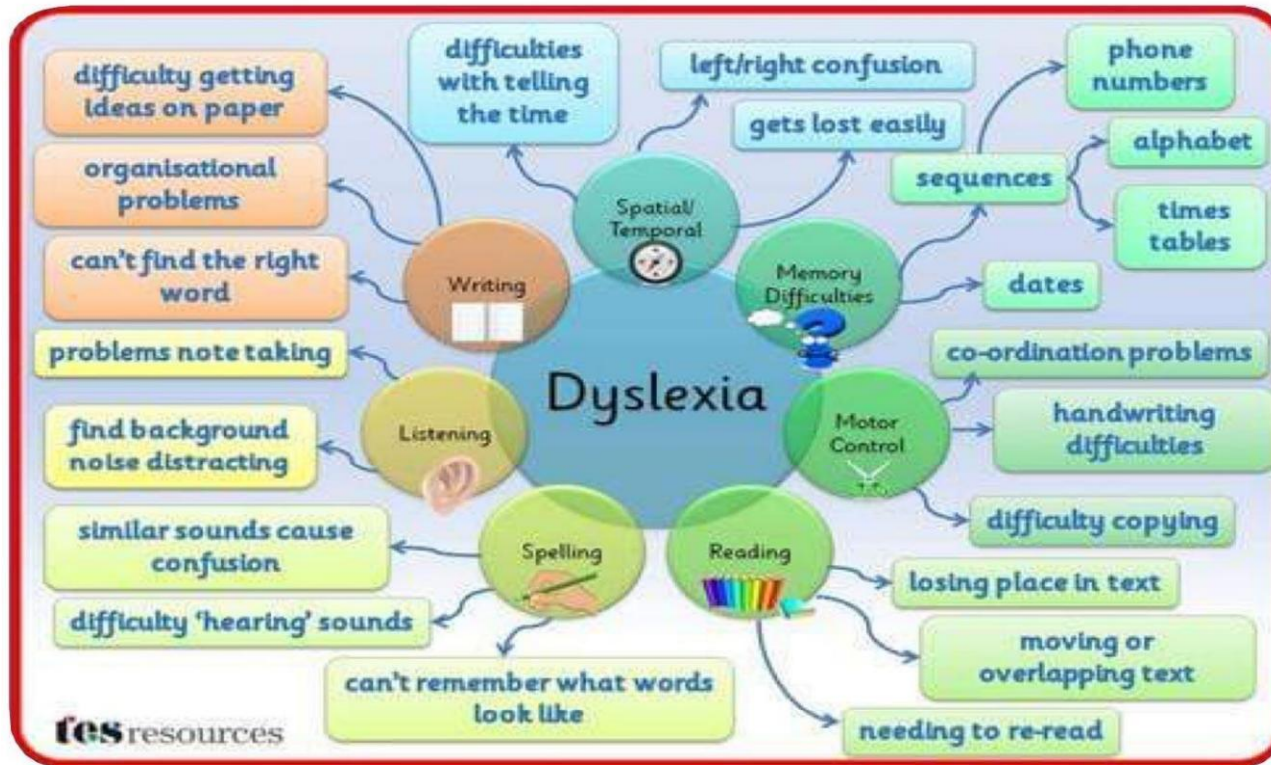
Needing reassurance

Taking two weeks to draft an email and two more to finally find the courage to send it

Being “off-radar” after failing to meet a deadline

Dyslexia

Current research suggests that the reason the brain of dyslexic people are functioning differently, is that they have different levels of grey and white matter. There is still a lot uncertain about the why and how. Because dyslexia is often found later in life, there is less data available about the development of the brain in young children.



Dyslexic students may

- Need up to 5 times longer to read a page of text and process its contents
- Have a hard time processing the information during a lecture – processing information goes slower
- Have a hard time reading texts that are not in Dyslexia-friendly font OR in light colours (light colour on dark background!). Or, texts of poor quality (scan wise, if letters blur into each other).
- They often write slowly (to keep it legible) and therefore taking notes during lectures is hard. Made more difficult by the fact that you are processing auditive information while doing another task.
- Problems organizing information (not only text but also dates).
- Taking multiple choice exams (many of these are based on fast language comprehension, which is exactly what these students are struggling with – and questions are often phrased with a complicated negation which is harder for them to recognize).

Autism

The brain of the autistic person develops differently than the neurotypical brain. There are a rainbow of different varieties to this, but some traits are common for the larger group of people.

COMMON AUTISTIC TRAITS



Autism: the positives

Understanding, embracing and celebrating different ways of thinking and doing can release the true power of the autistic mind. Here we look at the positive features of autism.

Attention to detail <ul style="list-style-type: none">• Thoroughness• Accuracy	Methodical approach <ul style="list-style-type: none">• Analytical• Spotting patterns, repetition
Deep focus <ul style="list-style-type: none">• Concentration• Freedom from distraction	Novel approaches <ul style="list-style-type: none">• Unique thought processes• Innovative solutions
Observational skills <ul style="list-style-type: none">• Listen, look, learn approach• Fact finding	Creativity <ul style="list-style-type: none">• Distinctive imagination• Expression of ideas
Absorb and retain facts <ul style="list-style-type: none">• Excellent long term memory• Superior recall	Tenacity and resilience <ul style="list-style-type: none">• Determination• Challenge opinions
Visual skills <ul style="list-style-type: none">• Visual learning and recall• Detail-focussed	Accepting of difference <ul style="list-style-type: none">• Less likely to judge others• May question norms
Expertise <ul style="list-style-type: none">• In-depth knowledge• High level of skills	Integrity <ul style="list-style-type: none">• Honesty, loyalty• Commitment

Remember

Every experience of autism is unique. No one person will identify with every positive feature of autism. We all have individual skills, attributes and characteristics that are as unique as our personalities – this is the power of neurodiversity.

Harriet Cannon
Disability Services, February 2018

UNIVERSITY OF LEEDS

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Autistic students may

- Have difficulty prioritizing
- Use stimming to mask their neurodivergence
- Have issues filtering details from the important stuff
- Have difficulty staying focused on things that are not interesting for them
- Find it very difficult to approach other students
- Find it very difficult to approach you
- Find working on team assignments much, much more complicated and challenging than most 'regular' students.
- Ambiguity in assignments can really paralyze their thinking and stop them working on an assignment.
- Sensory issues are common, can be auditive, can be visual, can be smells, can be anything or all the things.
- Problems with interpreting – in the broadest sense (one student explains: “in a Hello Fresh recipe, I had to wash a head of lettuce, and then put it in the bowl with the other ingredients. So I followed the instructions and we ended up with a whole head of lettuce and the rest o the ingredients in a bowl. Nowhere did it state I had to cut the head of lettuce. My brain does not do that jump by itself when I am following a recipe”.)

The student with an extremely high IQ

So called giftedness comes with its own set of complications. The world, and also the university, is recognizing this more and more as another type of neurodivergence.

The gifted students can be the students who flies through their courses and does all assignments flawlessly, but more often then you may think, these students are not the glorious students achieving high grades.

The impact of giftedness on emotional and social development:

- 1 Uneven development**
Cognitive development tends to outpace age-appropriate emotional and motor development
- 2 Perfectionism and self-criticism**
Aspiring for perfection can lead to unrealistic expectations and disappointment
- 3 Adult expectations**
Discrepancies between the expected behavior based on intelligence and the actual emotional development may result in avoidance and underachievement
- 4 Heightened sensitivity and intense reactions**
This combination can lead to feelings of vulnerability, frustration and anger, which may result in social rejection or ridicule
- 5 Self-determination**
Gifted children often march to the beat of their own drum and may challenge social norms, sometimes perceived as adjustment disorders
- 6 Alienation**
The disparity between the advanced abilities of gifted children and their peers can make it harder to form friendships
- 7 Unsatisfactory environment**
The mismatch between the needs of gifted individuals and the educational framework can be a source of frustration

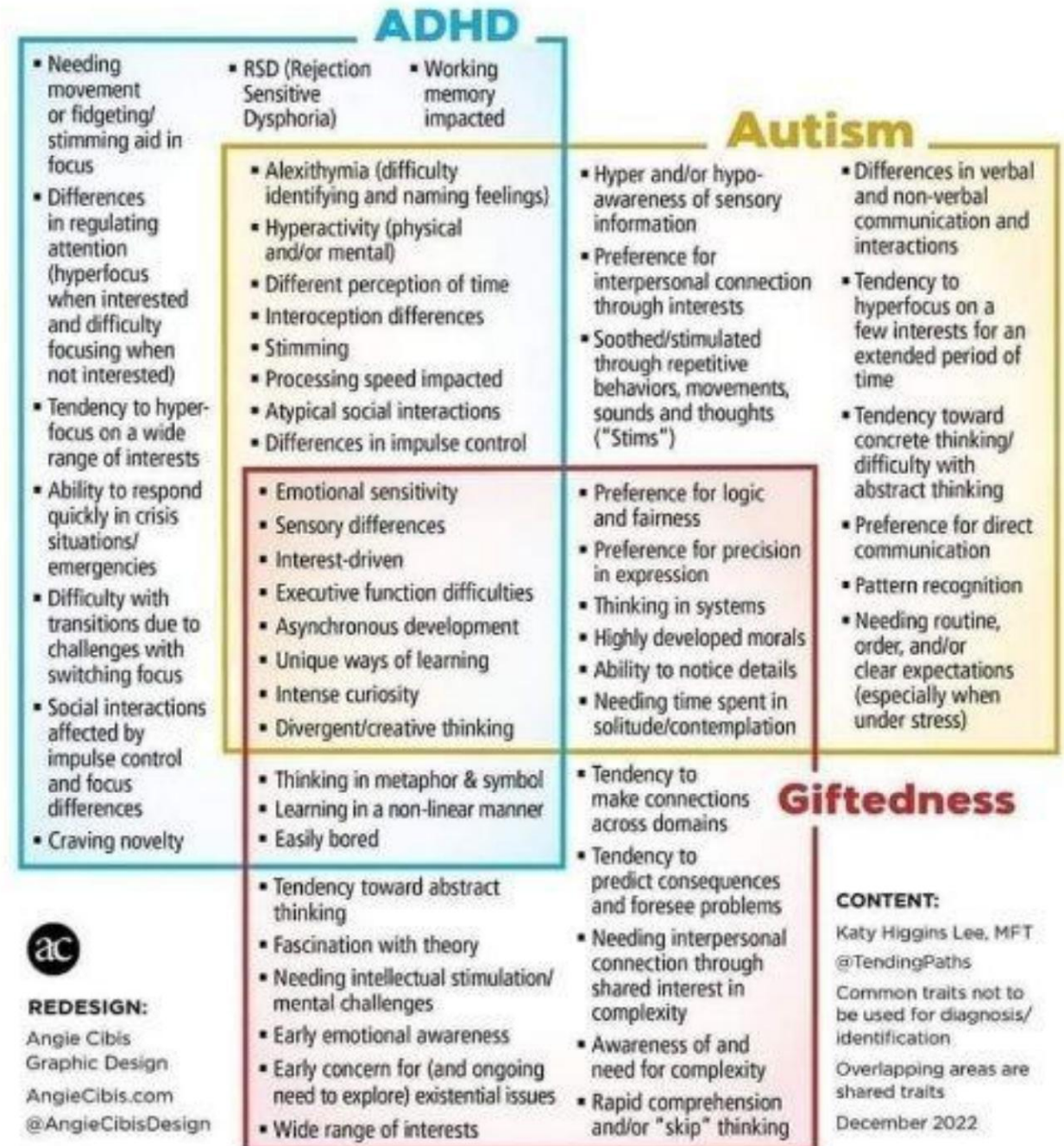
Common Gifted Traits

- Intellectual Curiosity
- Creative Thinking
- Learns Rapidly
- Challenges Authority
- Advanced Vocabulary
- The ability to focus on a subject intently for an extended period of time
- Difficulty making transitions
- Engages easily with adults
- Perfectionism
- A complex sense of humor
- A need to explore subjects in surprising depth
- Extreme Intensity
- Emotional Sensitivity
- High Energy Levels
- Advanced Empathy
- Nonconformity
- A Vivid Imagination
- The ability to think about problems in "out of the box" ways

Gifted students may

- Have a radically different approach to assignments. They often learn top down, where they start with the bigger concept and later fill in the blanks. This is not easy to understand if you yourself work differently.
- Overthink and over analyse all given assignments, leading to paralyses
- Be so used to being able to fully conceptualize assignments in their head before getting them on paper, that writing can become very complicated on the big assignments
- Be bored – which can result in underachieving, substance abuse, loneliness and depression
- Feel misunderstood – their brain functions on such a different level that finding like minded people is often a struggle
- Be very headstrong in the way they think a subject should be approached.
- Have a very high intensity in experiencing sensations, emotions, thoughts.

Overlap



So, what can you do?

Suggestions/insights from students:

- “All course information in one document in one place – different places for different information makes it more complicated to keep up with all necessary tasks – heightening the stress levels of worry that I miss things.”
- The whole “if you don’t X you must Y”
 - “ if you can’t remember this, then you don’t care enough”
 - “ if you can’t figure this out on your own, what are you doing at university” etc.Even if it is just a throwaway joke about something it can really deter asking for help. The worst one is the more subtle “I am sure you can all figure this out yourselves” which to me implies that if I can’t figure it out on my own I’m just shit out of luck, and shouldn’t expect help. I don’t need everything spoonfed to me, but I get stuck in the weirdest places in a process and I get really embarrassed about it. On an intellectual level I know I could ask for help, but it does not feel like it to me. If that makes sense. “

- “Exam question should be mx 10 words. If you give me 60 questions, each the equivalent of a page of Dostoyevsky, I **will** fail the test.”
- “Please, please, PLEASE stop putting music under the Kahoot questions. I can either see or hear, I can’t multitask like that.”

My 2 cents

- Use legible font and colour in your emails, PPT and on Brightspace. There are several dyslexia friendly fonts.
- Try to make your assignments (and exam questions) as unambiguous as possible. Also, assignments that are broad “so you can find your own angle/subject/idea” are not fun or a nice reason to follow their own interest for many these students. Giving the students an opening to come discuss ideas, or adding a list of suggestions really could help.
- Going to a lecturer with questions, either in person or by email is not easy. Emails are a black box for many of these students, they have so often been misunderstood or misjudged that they tend to overthink this to a staggering degree. Having an office hour, that you tell them of during class, that they are welcome to come to for questions, can really help!
- Assume they are working hard. They may not have anything to show for it. But be assured, the assignments have been on their minds constantly. What can sound like endless excuses, are significant issues for them. Believe them.
- Examples of what you expect from a student (assignments/thesis/essay/exam questions) are very useful

Thesis guidance

- The start meeting with all thesis students is the moment to ask if they need specific help – for whatever reason.
- Some will amaze you with their out of the box, or new ideas. Try to be encouraging and try to find the subject that makes their eyes spark. You will know if you hit it, for sure. Finding a subject that really triggers a students (this goes for any student, but doubly with this group!) will get that thesis written twice as fast.
- Making the ‘rules of engagement’ clear from the start can alleviate some of the stress: how can they reach you? How long will it take to respond? Can they send you reminder emails? After how many days? When will you have time for meetings? It’s the simple logistic things that may help.
- Many of these students are used to ‘writing’ the whole thing in their head, before starting on paper. This is, for most students, impossible for essays already, but this group may not ever have used another strategy for writing than this. Therefore, they will try to do it the same way. Helping them understand that it is not an A-Z thing, but that they can write pieces before seeing the complete picture is very important. With gifted students, walking backwards, from the larger picture, all encompassing, to the small steps necessary to explain the bigger picture, can be helpful.
- There is so much to this ‘thing’ that it can overwhelm to a paralyzing degree. Help them find a starting point, and guide them to take the next steps. They cannot see the forest for the trees!
- These students really need guidance. They need to know they are on the right path – or when they are not, how to get there. Many will need more reassurance along the way, will get stuck in the weirdest places, and will need help getting unstuck.
- Making appointments with them for the follow-up every time you have a meeting helps – accountability is a wonderful helper in getting things into the “urgent/necessary” box. So make plans, and ask about them without being judgemental if they did not finish all of it.