

The Conference  
Board of Canada

# Let's Talk about Learning Disabilities



BC Campus - Accessibility Bites

Jennifer Fane, PhD, Lead Research Associate, Education and Skills

[conferenceboard.ca](https://www.conferenceboard.ca)

# About us

The Conference Board of Canada is our country's foremost independent organization for applied research. We deliver unique, evidence-based insights to help Canada's leaders shape a more prosperous future.

Since 1954, our work has helped guide decision-makers to solve complex issues and navigate a better path for organizations and Canadian society.

Drawing on deep academic and practical experience, we provide unparalleled objectivity and rigour in our analysis. As researchers and economists with profound subject matter expertise, we bring applied insights to our key focus areas of Immigration, Health, Economics, Indigenous & Northern Communities, Human Resources & Leadership, Education & Skills, Sustainability, Inclusion, and Innovation.

Through sophisticated data modelling, best-in-class forecasting, and multi-method approaches, we deliver research that helps leaders take action. Our relationships are built on the trust in the validity and objectivity of our work. Leaders know they can turn to us to help solve Canada's most wicked problems.





## About Me

Dr. Jennifer Fane is a Lead Research Associate at the Conference Board of Canada, where she leads the neurodiversity research portfolio.

With over 18 years of experience as an autistic and dyslexic educator, professor, and researcher in Canada and Australia, she is committed to translating research into practice to strengthen learning and workforce outcomes for neurodivergent Canadians.



## Neurodiversity and post-secondary education

- There are more students who identify as neurodivergent than ever before in post-secondary education. This is due to advances in diagnoses, awareness, and more inclusive pathways through K-12 education.
- Yet, neurodivergent students are less likely to graduate than their neurotypical peers due to a lack of awareness of their learning needs and available supports.
- Learning disabilities and their impact on neurodivergent learners are often less recognized or discussed than other neurodivergent identities like ADHD or autism.
- Faculty, instructors, and support staff play a vital role in supporting the success of neurodivergent students in and outside the classroom.

# Neurodivergent Students and Learning Disabilities

## What is a learning disability?

- a brain-based difference that affects the acquisition of knowledge or skills that impacting a specific area such as reading, writing, or mathematics
- an unexpected, significant difficulty in a specific academic area by an individual with otherwise average or above-average intelligence that cannot be explained by other factors.
- is life-long, an individual does not 'outgrow' a learning disability (or any neurodivergence)

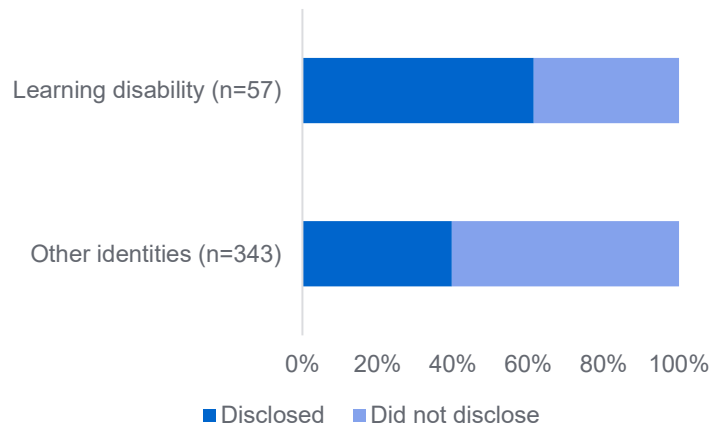
## How common are learning disabilities in Canadian post-secondary education?

In a sample of 400 neurodivergent students and recent graduates:

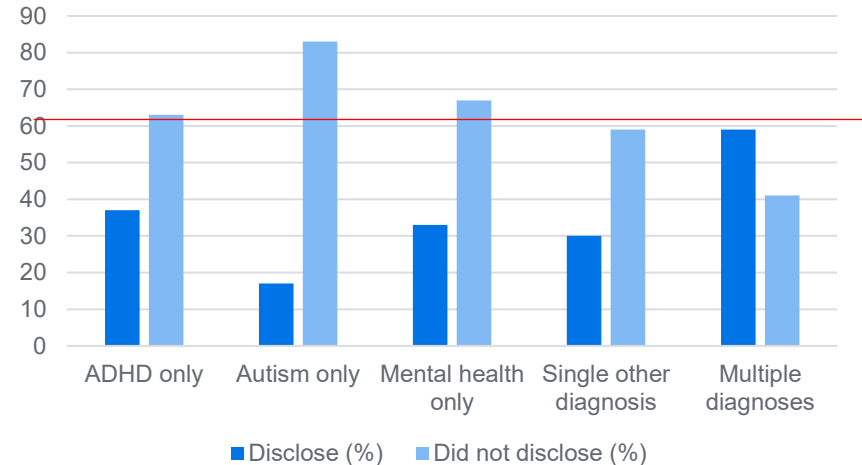
- 14% of neurodivergent participants reported a learning disability (LD)
- 66% of students who reported an LD also reported a co-occurring neurodivergent identity/diagnosis (i.e. ADHD or Autism)

# Students with LDs report higher rates of disclosure than other neurodivergent identities/diagnoses

61% of students with LDs disclose compared to neurodivergent students without LDs (40 %)

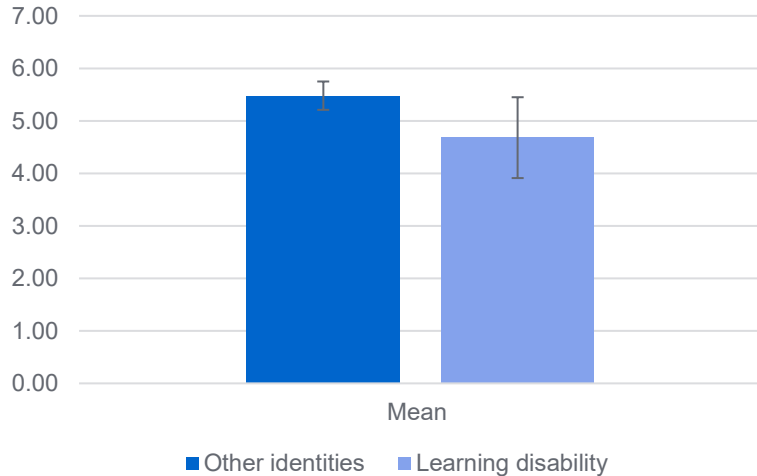


Breakdown of disclosure rates by other neurodivergent identities/diagnoses.

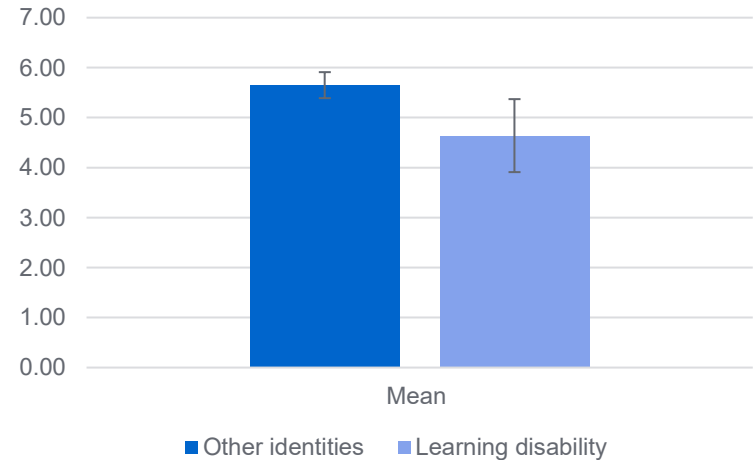


# Yet, despite higher rates of access to accommodations for learning, students with LDs are:

Less likely to agree that teaching staff support and implement their accommodations



Less likely to agree that alternate testing are available and meet their learning needs



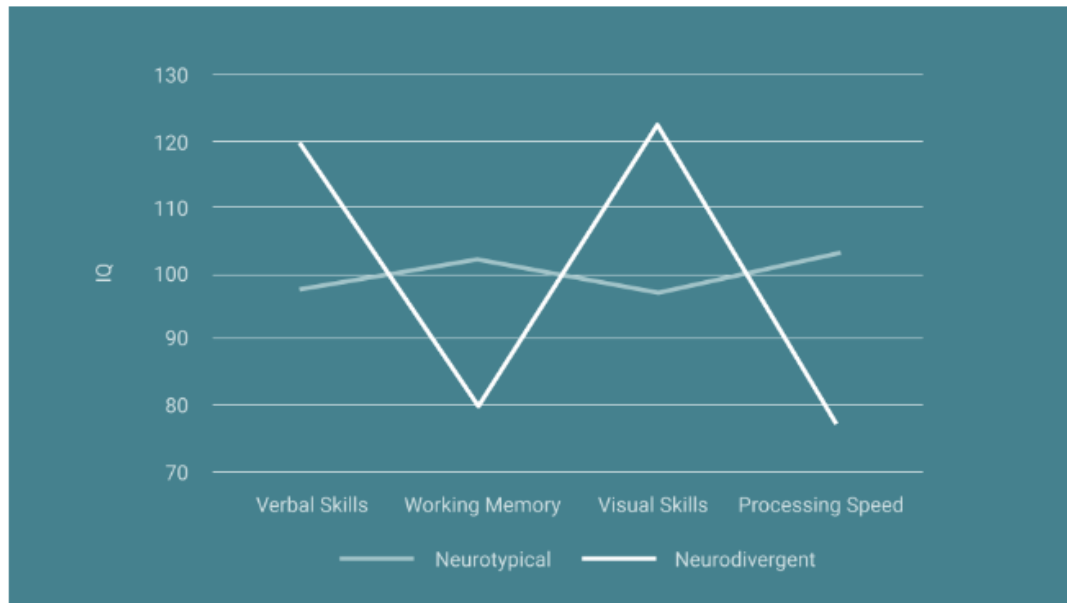
# Barriers to Educational Success

## Students with learning disabilities:

- have likely had repeated negative learning experiences throughout their schooling and educational career
- may have internalized inaccurate and unhelpful comments/labels/ideas such as being 'stupid' or 'lazy'.
- may have trauma like responses to learning and new learning environments
- often come to post-secondary education with significant fear and apprehension of being found not able or capable of learning
- may still be learning about their brain and learning profile and needs, and unaware of strategies and supports that can help.

# Additional barrier: Spiky Skill Profiles

- Neurodivergent individuals have spiky skill profiles compared to neurotypical peers.
- A spiky skill profile results in an individual having abilities that are uneven, with exceptionally high strengths in some areas and significant weaknesses in others



The spiky cognitive profile of neurodivergence (adapted from Doyle, 2020)

# Understanding Learning Disabilities

There are seven different types of learning disabilities:

## **More commonly known**

1. Dyslexia
2. Dyscalculia
3. Dysgraphia

## **Less Commonly known**

4. Auditory Processing Disorder
5. Language Processes Disorder
6. Visual Processing Disorder
7. Nonverbal learning disabilities

# Challenges for students with LDs in the classroom

## Reading and Writing:

- reading speed
- reading comprehension and ability to identify key information
- difficulty with spelling, proof reading and editing
- word retrieval and language learning
- slow writing speed and/or illegible handwriting
- difficulty organizing thoughts and ideas in written form

## Math:

- may struggle to recall basic math facts
- may struggle to link numbers and symbols to amounts,
- read or write numbers
- understand concepts like place value challenges with calculations, mental math, and abstract reasoning
- difficulties with estimating, money management, directions identifying patterns

---

## Social/Communication:

- processing visual or auditory information
- maintaining focus and attention
- spatial reasoning and hand-eye coordination

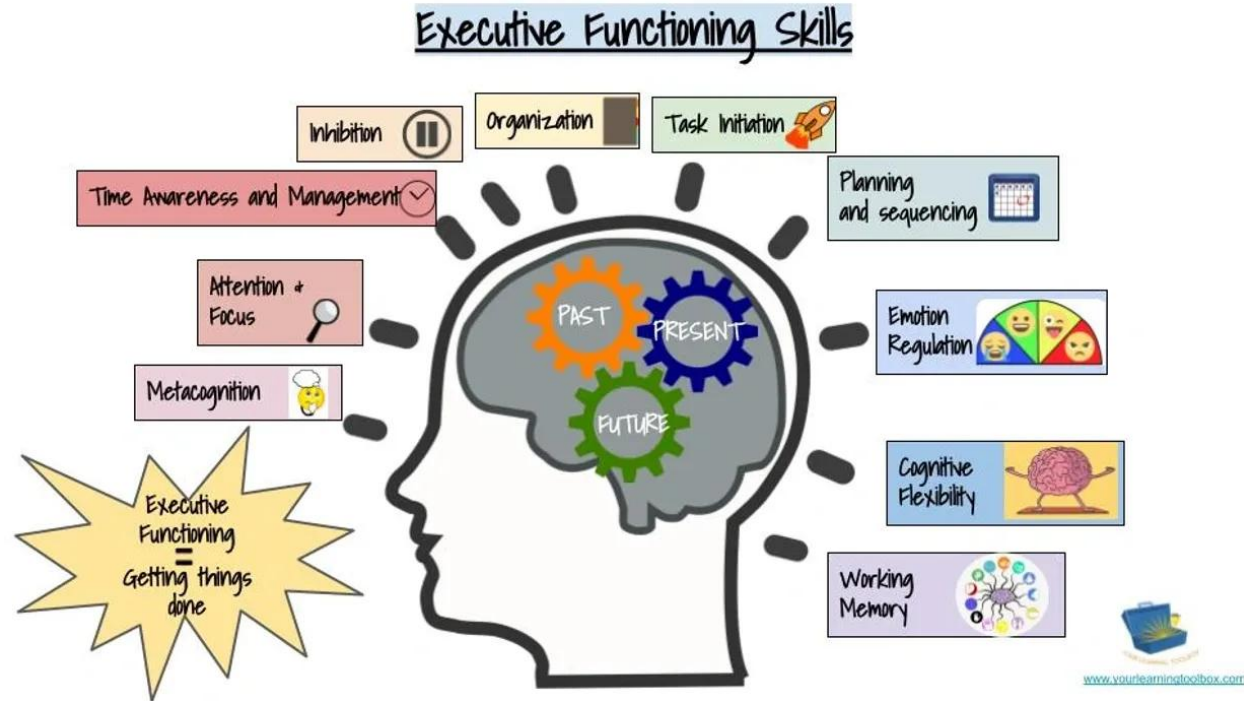
# How challenges may present in the classroom

- anxiety and fear of reading and/or writing
- struggling to keep up with pace of assigned work and learning
- Seemingly unedited or proof-read work
- inability to take sufficient notes to recall learning
- submitting handwritten work in class
- inability to perform basic math operations without a calculator
- avoidance of math and math anxiety
- time management and prioritization challenges
- trouble following multi-stepped directions
- difficulty with nuance and communication
- difficulties with group work



# Co-occurring Executive Function Deficits

- ND learners typically have significant deficits in their executive function skills
- These skills are required for learning and make learning difficult for ND learners
- Emotional maturity, social skills, and communication skills develop differently for ND learners



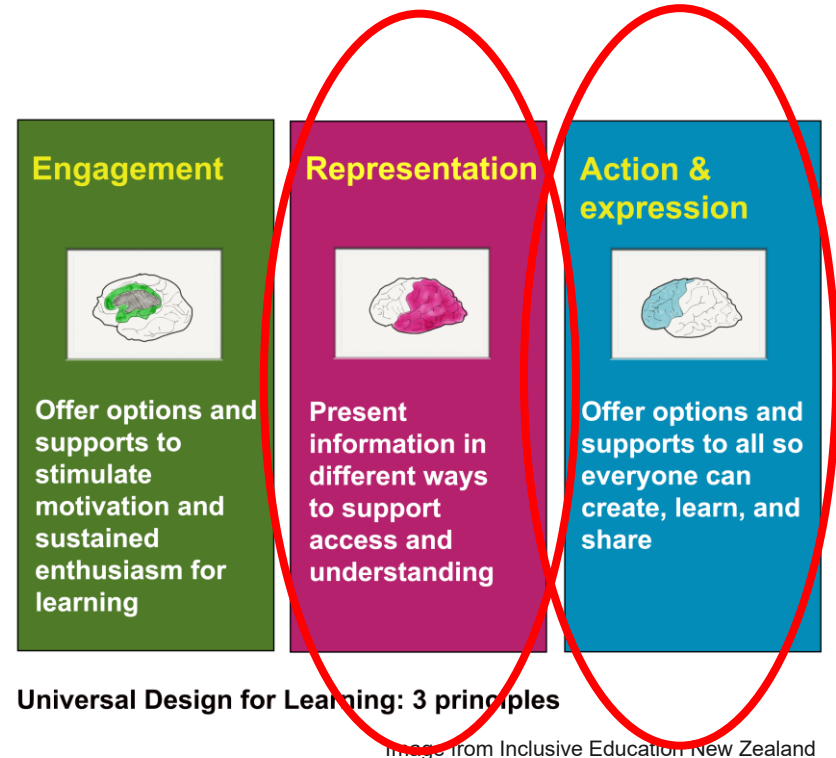
# Effectively Supporting Learners with LDs

## Key steps to effectively supporting students with LDs:

1. Awareness of learning disabilities and how they impact learners
  - Listen to and validate students' learning needs — trust their experiences and recognize their support needs.
  - Accommodations are equity levelling measures, not optional privileges
2. Work collaboratively with students to adjust or adapt (when needed) learning materials, instruction, and assessments to support student learning and success.
  - Teaching and assessment strategies that don't account for students with learning differences are **not** reasonable or effective strategies.

# Supports and practices – Universal Design for Learning

- Universal Designs for Learning remove the need for individual accommodations.
- Removing the need for individual accommodations:
  - Increases equity and access
  - Reduces stigma and barriers
  - Allows for deeper learning
  - Supports students in demonstrating their learning versus their ability to pass assessments



# UDL Approaches continued

Considerations when developing courses and designing syllabi and assessment structures:

- Are you testing their learning or ability to perform to your teaching style and assessment structure?
- Readings and course material
  - consider volume and complexity
  - are multiple formats available? (ebooks, Word or HTML for screen readers)
  - are slides and documents developed with accessible fonts, clear headings, and spacing
  - do slides have good colour contrast to support legibility
  - use captioning and transcription for multimedia content
- How can you support access to lecture notes and materials?
  - recordings
  - peer note taking
  - Slides in advance

# UDL Approaches continued

How can I let students with additional learning needs know that I want to support them?

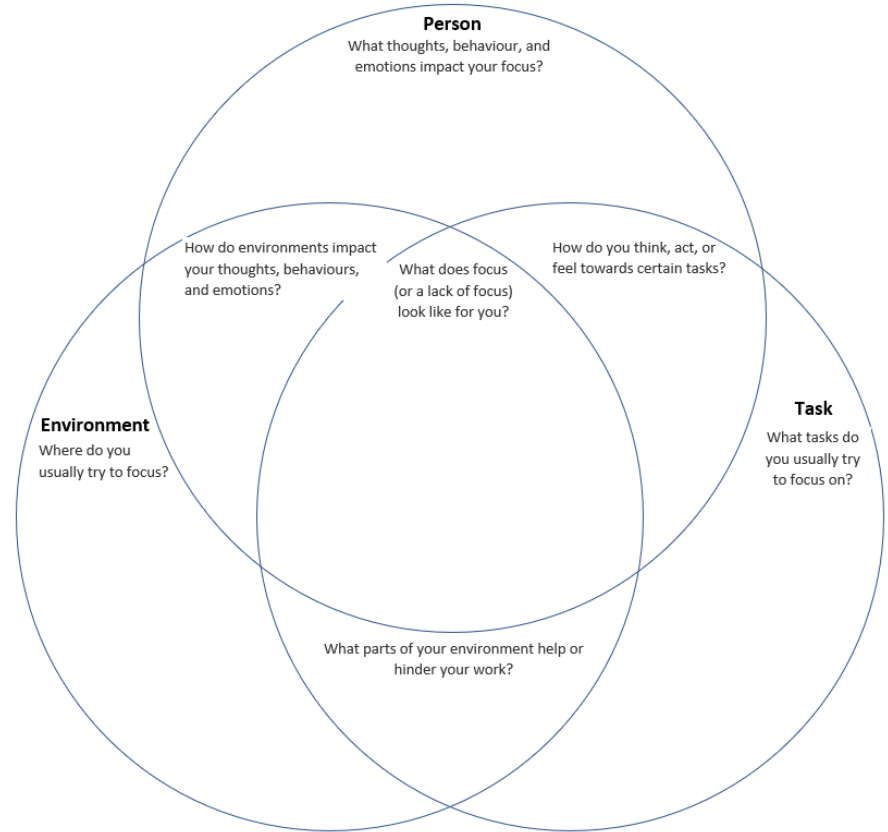
- including an accessibility statement on the course syllabus
- working collaboratively to solve accessibility challenges
- connecting students with accessibility services (if needed) or seeking support from accessibility services to identify workable solutions
- Responding respectfully to students sharing information about their learning needs.
  - If you don't know how to solve a problem right away, let the student know you need to connect with accessibility services for further support and that you will follow up with them (and do it!)

# Levelling the Playing Field: Assistive Technology and AI

- ND students benefit from explicit teaching, support, and access to assistive technology
  - text to speech (screen readers and read aloud functions for proof reading and editing)
  - speech to text
  - ebooks or ability to convert for screen readers
  - graphic organizers
  - calculators
  - digital recorders and scribe pens
  - timers and scheduling/reminder apps
- AI programs have increased functionality that can be leveraged by students:
  - ChatGPT 4 can act as a tutor by asking comprehension questions based on material
  - 'unsticking' written output challenges
  - summarizing material and giving examples

# Supporting Executive Function development

- ND students benefit from explicit study skill practice alongside learning
- Additionally, ND students benefit from an increasing awareness of their learning profile and that ability to focus and attend to learning



Self-reflection activity for adult learners developed by the University of Toronto Accessibility Services

# Q&A

