

LEARNING DISABILITIES: What Educators Need to Know



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The term Learning Disabilities (LDs) refers to a collection of neurodevelopmental or brain-based disorders that affect people who have at least average to above average intelligence. These individuals are as smart as their peers. Learning Disabilities affect the way a person processes information and thus how they learn information. Simply put, their brains are wired differently.

Learning Disabilities are common and affect approximately 5 - 15% of young people around the world. They are considered an “invisible disability”.

Learning Disabilities are not new. Professionals have identified the characteristics of LDs for more than a hundred years even though the names used to identify them have changed. Researchers have studied the characteristics of Learning Disabilities extensively. Most of the research has been done on reading LDs which are the most common LD. It is suggested that 80% of LDs are in reading.

WHAT CAUSES A LEARNING DISABILITY?

Learning Disabilities have biological origins even though the exact causes are not truly understood. A combination of genetic (i.e., hereditary) and environmental (e.g., injury before or during birth, low birth weight) factors cause differences in the brain. This affects how the individual perceives or processes different types of information.

We can actually see physical differences between the brains of those with LD and those who do not through neuroimaging. Depending on the LD, we can see differences in size and level of activity in

certain areas of the brain when compared to the brain of the same age without a LD.

While the exact causes of Learning Disabilities are unknown, we do know that they are NOT caused by:

- ineffective teaching,
- poor parental support,
- economic disadvantages,
- health-related problems,
- lack of exposure to schooling/instruction, or
- sensory deficits.

These factors, though, can contribute to students' learning progress and later academic success.

HOW DO LDs IMPACT LEARNING?

LDs can range from mild to severe. Some children have mild LDs that may only affect them in certain academic activities. Other children have severe LDs that can affect them not only in their academic work but also across social and home activities. Some students may have more than one LD.

The following chart shows some of the ways LDs can impair different cognitive processes. We all have difficulties in these areas from time to time. But, individuals with LD can struggle to learn in the same way and/or at the same pace as other peers their age.

HOW ARE LEARNING DISABILITIES DIAGNOSED?

A psychologist is the only person who can make a diagnosis of a Learning Disability through a process called a psycho-educational assessment. A psycho-educational assessment is a comprehensive look at the child's cognitive, academic, and social-emotional-behavioral functioning. As part of the assessment, a psychologist will gather information from both the child's parents as well as teachers.

Psychologists can use different definitions and criteria to identify a Learning Disability (see note). In Canada, psychologists often use the definition provided by the Learning Disabilities Association of Canada (LDAC). However, psychologists also often

Impairments in processes related to:	Perceiving	Thinking	Remembering	Learning
Language Processing	Difficulties in processing sarcasm or understanding when someone is joking Difficulty taking another's perspective	Difficulties in understanding: long or complex sentence structure; and with figures of speech	Difficulties with: retrieving vocabulary words; orally presented task demands	Difficulties with new vocabulary and responses to teacher-directed questions
Phonological Processing	Sounds in words (e.g. bat/bag) are confused; poor sound sequencing in words; limited automaticity in decoding	Difficulty with comprehension of content caused by lack of fluency in decoding	Difficulty retaining sound/symbol correspondence	Difficulty extracting essential concepts due to focus on decoding
Visual Spatial Processing	Difficulty with oral or written directions for an activity; perceiving organization of ideas in a text	Difficulty identifying main ideas in a text	Difficulty with left/right; north south, hierarchical structures	Poor integration of sequential information (days of the week, recipe)
Processing Speed	Poor social interactions; does not keep up with fast-paced lessons	Few connections between isolated bits of information in texts	Slow linking of new with previously learned information	Less material covered or takes extra time and much effort to cover material
Memory	Few strategies when trying to remember content or concepts	Difficulty writing since spelling may not be automatic	Difficulty retrieving previously learned information	Forgets spelling words after test; difficulty recalling significant events in history; any new learning is difficult
Attention	Difficulty knowing when to pay attention Poor reading of social situations; impulsive	Poor concentration when putting ideas together	Little effort expended for remembering	Work may be disorganized; goes off on tangents,
Executive Functions (planning or decision making)	Poor recognition of value of planning; impulsive	Difficulty problem solving and understanding consequences of decisions	Difficulty in linking new with previously integrated knowledge; Few strategies	Difficulties in higher levels of learning, but has isolated pieces of knowledge
Information From: www.ldac-acta.ca				

use the Diagnostic and Statistical Manual of Mental Disorders – Fifth Edition (DSM-5). The DSM-5 uses the term “Specific Learning Disorders” instead of Learning Disabilities.

If a diagnosis is made using the DSM-5 criteria, subsets of Specific Learning Disorders are identified with terms such as dyslexia (difficulties with reading), dysgraphia (difficulties with writing), and dyscalculia (difficulties with math). A persistent difficulty learning key academic skills and poor academic performance are consistent criteria for diagnosis of a Learning Disability whether the LDAC definition or DSM-5 criteria is used.

Learning Disabilities can be difficult to diagnose. Part of the process includes ruling out other conditions that can cause a child to struggle at school and home such as an intellectual disability, ADHD, or a mental health concern.

To further complicate the diagnosis process, many young people with LDs will meet the diagnostic criteria for additional disorders. Many of these diagnoses have common genetic origins. The most common diagnoses for students with LDs are:

- Attention Deficit Hyperactivity Disorder (AD/HD)
- Depressive Disorders



- Anxiety Disorders
- Language Disorders
- Autism Spectrum Disorders (ASD)
- Developmental Coordination Disorder (DCD)
- Behavioural Disorders

In the media, ADHD (Attention Deficit Hyperactivity Disorder) and ASD (Autism Spectrum Disorder) are often lumped together and referred to collectively as “Learning Disabilities” which is incorrect. While ADHD and ASD can definitely affect learning, they are distinct disorders with their own criteria for diagnosis.

HOW DOES HAVING A LEARNING DISABILITY AFFECT MY STUDENT?

There is a saying that can apply to the LD population: If you have met one person with a Learning Disability, you have met one person with a Learning Disability. This saying highlights the fact that LDs can show up differently in each individual.

A key feature of those with LDs is the unusually high level of effort and support required for the individual to achieve at the same level as their peers despite their strong potential. This can lead to great frustration and in some cases cause the individual to give up due to fear of failure.

Some students may appear “lazy,” unmotivated or show a lack of effort. In actuality, they may have become discouraged because they’ve been struggling significantly, often over a long period of time. Individuals with LDs tend to get the most attention and feedback for their difficulties instead of their strengths. This lack of positive feedback and the repeated academic failure they may experience can lead to a sense of incompetence.

Feelings of failure and incompetence can negatively impact student motivation, desire to improve, social functioning and emotional well-being.

It is also well understood that individuals with LDs often do not have a “knowledge deficit” but instead have a “performance deficit”. This means that they

know what they are supposed to do but they struggle to perform the task when required. This can lead to social challenges because they struggle to apply appropriate social skills in the moment. Social challenges can include difficulties connecting with others, making friends, and understanding what is expected of them in social situations. They may miss social cues or misinterpret body language and tone of voice. As a result, they may be rejected by peers and may become targets of teasing and bullying. Students rely on friendships to provide them with a sense of acceptance, belonging, and approval. Social challenges can have a significant negative impact on a child’s self-esteem and create anxiety about social situations and activities.

HOW ARE LEARNING DISABILITIES TREATED?

There is no way to “cure” Learning Disabilities. But, research supports the two most common treatments: remediation and accommodation.

1. REMEDIAL INSTRUCTION (Special teaching techniques)

Remedial instruction helps students to build up their foundational academic skills. Remedial instruction may be provided as part of a student’s school programming (e.g., pull-out instruction in small groups) or arranged outside of school by families privately. Remedial instruction targets the particular skill in which the child is showing gaps. Most research has been conducted in the area of reading. It suggests that such programs should be:

- multi-sensory in nature (use sight, sound and touch),
- taught in a step-by-step fashion at the student’s pace, and,
- offer regular reviews to reinforce learning and practice of the new concepts.

A key feature of those with Learning Disabilities, no matter the definition used, is the unusually high level of effort and support required for the individual to achieve.

2. CLASSROOM ACCOMMODATIONS

Accommodations help to level the playing field for children with Learning Disabilities. They do not change the curriculum the child is expected to learn. Instead, they provide what the child requires to access the curriculum (i.e., changes how they learn). In other words, they lower the

barriers in the classroom, not the bar! Examples of accommodations include:

a. Instructional/Environmental:

These accommodations help match teaching methods and the classroom environment more to the child's individual learning needs. These accommodations can vary from how material is presented (e.g., audio recording for a child who struggles with reading) to the setting (e.g., where the child sits).



b. Testing:

These accommodations ensure the child is able to demonstrate their knowledge of what they have learned. They can vary from how the child responds (e.g., an oral exam rather than a written one) to changes in the timing and scheduling of the test (e.g., extra time).

c. Assistive Technologies:

In our 21st century world, technology is important for all students. But, it represents a key strategy in supporting students with LDs. Assistive Technology involves any device, equipment, or system that allows an individual with a disability to work around their challenges. It can vary from very simplistic technology (e.g., calculator) to more complex (e.g., text-to-speech software). Not every technology will be a good fit for each student. It is important to ensure that the tool not only addresses the student's particular need but that the child is capable of using, and willing to use, the tool. Many assistive technology tools can be used throughout the student's education, including at the post-secondary level, and even in the workplace.

The type of remedial instruction and the classroom accommodations suggested for an individual will depend on their learning profile and specific LD. Furthermore, these may change as the individual develops and encounters greater academic demands. Regardless of age, individuals with LDs should be

taught how to self-advocate for their learning needs. It is important that they learn how to ask for the supports they need. Help the student to discover their learning strengths and needs; what supports their learning; and how to communicate these

needs appropriately. In particular, self-advocacy builds self-confidence, independence and success in post-secondary and the workforce.

In Alberta, the recommended supports and strategies for students from Kindergarten to Grade 12 are outlined in an Individualized Program Plan (IPP). An IPP is a living document, which

can change over time. It translates a student's needs into the supports required, goals to work towards, and strategies to accomplish these goals. These strategies are typically outlined in the psycho-educational assessment report.

A child's IPP team generally consists of their parents, teachers, resource teachers, and often a principal/assistant principal. The team should meet a few times a year to discuss whether the student's goals are being met and how to continue working towards them. IPPs do not follow students into the post-secondary system. But, these students are still eligible for supports, accommodations, and grant funding at this level. They must have an up-to-date psycho-educational assessment, which shows the barriers they might experience because of their learning challenges.

Both remediation and accommodation are possible within all classroom environments. But, in some cases, these treatments are not enough. Thus, a special education placement may need to be considered for the student. These placements provide smaller class sizes and specially trained teachers. They also provide access to other treatments the student may need. For example, they may allow the student to see an Occupational Therapist to support motor concerns. If a special education placement is not possible, such supports can be accessed privately.

There are a number of funding options that can be accessed to help families with these costs.



HOW CAN I SUPPORT STUDENTS WITH LEARNING DISABILITIES IN THE CLASSROOM?

No two students with a Learning Disability are the same. Each individual's profile must be considered in determining the best fit of supports, strategies, and accommodations for them. But, research supports some key principles to consider in working with the majority of students with LD, along with suggested strategies for the classroom.

1. Provide opportunities to experience success.

Many students with Learning Disabilities can begin to feel hopeless. They become reluctant learners after experiencing failure over time. So, it is important to find ways to build the students' sense of competence where they're at.

- Match learning commensurate with their needs. For example, consider the child's zone of proximal development the difference between what they can and can't do without help.
- Foster "islands of competence" or areas of pride and accomplishment. These may be outside the academic realm (e.g., sports, music, leadership opportunities)
- If possible, communicate regularly with parents with good news. This will allow the child to be celebrated in both the home and school environments.

2. Make expectations clear.

Students with LD frequently exhibit unrealistically high pre-task expectations. This may be due to: being expected to do things they are not yet

capable of doing, misperceiving task demands, difficulties understanding the task, inaccurately matching demands to ability level, selective attention to what has been mastered versus what has not, or inaccurate self knowledge. Get rid of the ambiguity as much as possible by providing explicit explanations about tasks, assignments, and tests/ exams.

- Have realistic expectations and set standards of success that are achievable for the student
- Don't just tell them what you don't want them to do; tell them exactly what you do want them to do.
- Use simple language, repeat directions/ instructions, and check-in for understanding
- Provide rubrics/exemplars of assignments that they can work towards
- Help students to break down a large task into its components and check-in on each of these components

3. Provide frequent, positive feedback for both academics and behaviour.

Be sure to praise effort, not product or success. As noted above, students with LD tend to receive more negative than positive feedback. Many opportunities to provide feedback on what they are doing correctly are often missed. Be sure to "Catch 'em being good!" Furthermore, students with LD often need to put forth much greater mental effort to meet the same task demands as others. And, they may not be able to meet those demands in the same way. As such, it is important to ensure that we are measuring them against their own progress. Goals on their IPP can assist with this.

- Provide a combination of both summative and formative feedback to better assist students in directing their behavior and academic goals



- Ensure that feedback is not only sincere, but also specific and immediate. This helps to ensure that the positive behavior will occur again. IFEED is a useful acronym to assist in remembering how to provide positive reinforcement:

I - Immediately
F - Frequently
E - Eye Contact
E - Enthusiastically
D - Describe

- Build personal connections with students. Don't forget the profound value of giving a struggling student eye contact and a genuine smile.
- Be flexible on expectations. An example of this is avoiding grading students for neatness if they struggle with motor coordination
- Fair doesn't mean equal. If the student has an LD that impacts their ability to complete math tasks, expecting them to complete the same 20 questions for homework as others in the class can be defeating and exhausting. Five questions may be enough to ensure and show that the student is understanding the concept.



4. Provide scaffolding as required.

Much like students with ADHD, students with LDs can be inconsistent in their skills. They can be inconsistent from one day to another and subject to subject. They can also be inconsistent within the same day, subject, or skill area. As noted above, they can also often show knowledge about a particular concept but fail to put this knowledge into practice when expected. As such, each student needs to be met where they're at and provided the needed supports to move them towards greater independence in skill areas.

- Slowly increase independence and complexity
- Follow these steps in order (the amount of time required at each step will vary for each student):

- » Explicitly model the skill;
- » Do the skill together;
- » Have the student do the task with help;
- » Have the student do the skill independently;
- » Eventually fade support.
- » Be sure to celebrate each accomplishment!

Help the student to discover their learning strengths and needs, what supports their learning, and how to communicate these needs appropriately.

5. Keep the Tanks Full.

Kids with LD use a lot of mental energy and can deplete faster than other kids. Provide opportunities for brain breaks, snack breaks, and regular exercise. These can help with modulating frustration while also increasing attention and productivity. Some suggested programs include (but are not limited to):

- **GoNoodle:** Movement and Mindfulness for Kids gonoodle.com
- **Calm** guided meditation app - Calm.com
- **Brain Gym** (stretching, jumping jacks; www.braingym.org)

Remember that recess is necessary! Don't take it away as punishment.

6. Use Universal Design for Learning.

Although each learning profile is different, what can help one student can often help most, if not all, students within a classroom. Many of the best practices for teaching are applicable to students with LD.

- Use visuals to support content and to show typical routines (e.g., visual schedule)
- Provide lesson outlines and copies of notes to student(s)
- Have clear visible objectives on the board
- Whenever possible, allow students to set their own pace of task completion
- Provide a quiet space to work
- Have consistent and predictable routines and expectations for instruction and assessment.
- Support development of executive functioning

skills (e.g., planning, time management, organization):

- » teach colour coding of materials;
- » teach students to make checklists for the steps of big projects and assignments;
- » provide and explicitly teach how to use organizers, planners, lists and mindmapping software;
- » highlight key words on worksheets; explicitly teach students how to create study guides and how to study
- Give choice and differentiation in products to personalize learning; this can help maximize student potential through engagement.
 - » For example, if the purpose of an assignment/test is to demonstrate knowledge on a topic, allow students to choose how they demonstrate this knowledge. They may choose to do this through written, oral, or other creative means.

help them not feel bad about the challenges they face. All students have strengths and weaknesses in their cognitive profile. A student with a Learning Disability/Disorder needs to understand how the disability/disorder impacts them. They also need to recognize that the diagnosis is only a small part of who they are. A young person is also more likely to advocate for themselves if they understand the disorder. For example, they can request accommodations or use strategies they have been taught. As well, other students in the classroom are more likely to have empathy for a student with a Learning Disability if they understand each other's learning differences.

- Have the entire class watch age appropriate videos on how the brain works
- Create a 'menu' of strategies for the student to try in different circumstances
- Work together with the student to identify a list of strategies that work best for them
- Scaffold their self-advocacy skills overtime
- Help them see and embrace their academic strengths

7. Teach them about their brains. Educating students about their brain is an important way to

FOR FURTHER INFORMATION:

- Foothills Academy' Online Professional Development Workshops www.foothillsacademy.org
- Learning Disabilities Association of Canada (LDAC) www.ldac-acta.ca
- Learning Disabilities Association of Alberta (LDAA) www.ldalberta.ca
- Understood: For Learning and Attention Issues www.understood.org

Note on Learning Disability Definition: The LDAC definition indicates that individuals with a Learning Disability have average to above average intelligence. This means a general IQ of 85 and above. Since the DSM-5 was introduced in 2013, the term Specific Learning Disorders is now often used. As defined in the DSM-5, Specific Learning Disorders include a general IQ of 70 and above. These ranges are quite large. This means that the level of supports required, both within the home and school environments, can vary greatly. Individuals with an IQ closer to the 70 mark may require information to be explained in concrete terms and support with complex daily living tasks such as making meals or managing money. Conversely, individuals with an IQ closer to the 100 mark and above may only need support for higher academic tasks and are quite capable of continuing on to a post-secondary education. These are the individuals that Foothills Academy identifies as having Learning Disabilities, in matching with the LDAC definition.

This information was prepared by Melanie Reader (Registered Psychologist) who is the Manager, Psychological Services & Programs at Foothills Academy, a full-time school program and Community Services.

Community Services at Foothills Academy assists individuals of all ages with Learning Disabilities and/or ADHD in the Calgary community and well beyond. We are open year-round and have a wide-range of financially accessible services and programs. Our goal in Community Services is to offer wrap-around support to individuals and families (whether they are in our school or not) in order to help them thrive in the face of LD and ADHD.



Community Services at Foothills Academy

745, 37 Street NW, Calgary, AB T2N 4T1

www.foothillsacademy.org

Phone: 403.270.9400

Email: info@foothillsacademy.org