

## Literacy and Learning Disabilities

*[Image of the LD@school logo.]*

*Text on screen: Literacy and Learning Disabilities.]*

*[Text on screen: What is literacy?*

*Images on screen: a book, pencil, ear, telephone, and a head. These images represent the different aspects of literacy.]*

Literacy is the ability to read, write, listen, speak, and think critically about ideas. Literacy skills are life skills that enable us to interact with others, share knowledge, and learn.

*[Text on screen: Many students with LDs struggle with literacy.]*

Many students with learning disabilities struggle with these skills, and this can affect their progress in all academic subjects.

*[Text on screen: Reading*

- *Phonological awareness*
- *Phonemic awareness*
- *Alphabetic principle*
- *Orthographic awareness*
- *Fluency, vocabulary, and comprehension.*

*Images on screen: musical notes to represent the sound structure of speech, and alphabet blocks to represent the alphabetic principle.]*

Reading is a complex process of deciphering and understanding. The ability to read requires the development of:

- Phonological awareness: which means sensitivity to the sound structure of speech
- Phonemic awareness: the ability to identify and manipulate phonemes, the smallest units of sound
- Alphabetic principle: the idea that letters and letter patterns represent sounds
- Orthographic awareness: understanding of the principles of a writing system, such as grammar and spelling
- And fluency, vocabulary and comprehension skills

*[Text on screen: Reading and LDs*

*Image on screen: a boy struggling to read.]*

Students with LDs often have a harder time learning to read than their peers, and experts attribute this difficulty to a difference in brain structure or function.

*[Text on screen: Dyslexia]*

*Image on screen: a comparison of the brain activity of a reader with dyslexia vs. without dyslexia. The image demonstrates that readers with dyslexia use a different section of the brain to read.]*

Let's look at the example of dyslexia to explore this idea further. Normally, the parts of the brain that process language are located in the left hemisphere. However, magnetic source imaging has shown that when students with dyslexia read, they use a region of the right hemisphere that is ill equipped for the job.

*[Text on screen: Strategies]*

- *Explicitly teaching phonological skills*
- *Use imagery to help students visualize*
- *Instruct students in reading comprehension*
- *Help students connect to literature.*

*Image on screen: two turning cogs.]*

Studies have shown that with appropriate intervention strategies, students with LDs can essentially “re-train” their brain to use the correct network. Strategies that educators can implement to help students with LDs learn to read fluently are:

- *Explicitly teaching phonological skills*
- *Use imagery to help students learn to visualize*
- *Instruct students in reading comprehension strategies*
- *And help students emotionally connect to what they are reading*

Students who continue to struggle with reading may need both remedial instruction, and accommodations such as books in electric formats.

*[Text on screen: Writing]*

- *Fine motor skills*
- *Ability to apply grammatical rules*
- *Vocabulary*
- *Working memory*
- *Organization skills*
- *Planning + setting priorities*

*Image on screen: a pencil.]*

Students with LDs may also struggle with writing, a skill that requires fine motor and language processing skills. To fully translate ideas to written text, the following skills must be developed:

- Fine motor skills to create the shapes of letters on paper
- Correct spelling and the ability to apply grammatical rules and exceptions
- Using vocabulary in a way that relays the message to the reader
- Working memory to hold and manipulate information in mind when writing
- Organization skills and the ability to put ideas in a logical sequence
- Planning and setting priorities in order to complete a task in accordance with instructions

*[Image on screen: a cue card with the word "Dysgraphia" written in very messy writing.]*

Students with LDs in writing, sometimes referred to as Dysgraphia, may struggle with one or more of the above skills. Students with Dysgraphia often have a harder time expressing themselves through writing, and their writing may appear to be messy and filled with errors. It is important to understand that this is not an accurate reflection of the student's knowledge.

*[Text on screen: Strategies:*

- *Writing warm-up exercises*
- *Practicing copying letters*
- *Assistive technology tools*
- *Modify assignments for LD students*
- *Keyboards and other electronic devices.]*

Educators can help students overcome these difficulties by:

- Teaching students to perform writing warm-up exercises
- Practicing copying letters, and using paper with raised lines
- Allowing students to use assistive technology tools such as voice-to-text software, some apps can even help students use voice-recorded notes to organize their writing
- Modifications such as allowing the student to write shorter papers
- And allowing students to use keyboards or other electronic devices

*[Image on screen: three students smiling and reading books.]*

When given the appropriate help, students with LDs in reading and writing can learn to overcome these difficulties, and develop a life long interest in learning.

*[Image of a whiteboard with the words "Thank you for watching" and the LD@school logo.]*

The next part of the module will cover Numeracy and Learning Disabilities.

Sources:

Dyslexia and the Brain: What Does Current Research Tell Us?

<http://www.readingrockets.org/article/dyslexia-and-brain-what-does-current-research-tell-us>

Reading and the Brain

<http://www.readingrockets.org/shows/launching/brain>

Remediation Training Improves Reading Ability of Dyslexic Children

<http://www.readingrockets.org/article/remediation-training-improves-reading-ability-dyslexic-children>

Literacy & LDs

<http://ldatschool.ca/learn-about-lds/literacy-and-lds/>

Interventions for Students with Writing Disabilities

<http://ldatschool.ca/literacy/developing-interventions-for-students-with-writing-disabilities-addressing-the-most-complex-academic-problem/>

Ask the Expert: What strategies can be used for teaching reading and writing to intermediate age students with LDs?

<http://ldatschool.ca/literacy/ask-the-experts-readingwriting/>

Strategies to Assist Students with Writing Difficulties

<http://ldatschool.ca/literacy/strategies-for-writing-difficulties/>