

Understanding Dyslexia by Dr. Kirstina Ordetx

Dyslexia is a multi-faceted, life-long neurological condition that combines auditory, memory, and language-based learning difficulties. It is referred to as a learning disability because dyslexia can make it very difficult for a student to succeed academically in a typical instructional setting. The exact causes of dyslexia are not completely clear, but brain imagery studies have shed light to the differences in the brain development and functions between people who have dyslexia and those who do not. According to the Dyslexia Research Institute, ten to fifteen percent of the U.S. school population has dyslexia. They estimate that approximately 60% of individuals who have been diagnosed with attention deficit and hyperactivity disorder (ADHD) also have dyslexia. Roughly 5% of students who have dyslexia are properly identified and given support. Thus, leaving a majority of individuals unidentified and left with significant challenges in reading, writing, and spelling.

Where does the breakdown become evident?

In traditional education, the primary school years (grades preK-2) are often strongly rooted in a “learning to read” approach. From third grade on, instruction will focus on a “read to learn” approach, wherein students are expected to automatically apply the decoding patterns and reading fluency that were learned earlier and will now read to gain knowledge and information. It is around this age that dyslexia is most evident, as the student is unable to keep up with his classmates, begins to experience frustration, and either attempts to compensate or loses his love for reading altogether.

The brain learns through patterning. Think back to your early years of elementary school...the specific rules and patterns for spelling that you learned were taught explicitly and may have been embedded into your brain until today.

*i before e except after c...
two vowels go walking, the first one does the talking...*

These rules help to demystify spelling by demonstrating patterns between familiar and unfamiliar words. Try reading the following passage:

You are able to read this passage because your brain can read misspelled words with little difficulty due to a pattern of reading which tells you to look at the first and last letters of each word and also take notice of the shape of the word.

It is actually pretty amazing to think that, as an expert reader, your brain allows for you to break the code when you are able to apply patterns.

17 15 4M4ZING 7O 7HINK 4BOU7 7H3 1MPR3551V3 7HINGS 7H47 OUR MIND5 C4N D0!

Phonological awareness involves recognizing and learning patterns, remembering patterns, and applying them. Your brain can break this last code because it is able to search for patterns and use its object recognition system to make sense of what it sees. Imagine that you cannot do this. For the student with dyslexia, reading can take an enormous effort. And once the student has struggled and exhausted every effort to decode (read) the words in a passage, few resources are left to understand and remember what was read.

One thing that most students, parents, and teachers can agree upon is that the student with dyslexia cannot be placed inside a box of traditional education. A “one size fits all” educational model will just not fit the bill.

How do we reach dyslexics in the classroom?

- Address the core issue(s). The dyslexic student must have a structured, systematic phonetic approach to learning. Research indicates that explicit, multi-sensory instruction can actually change the brain when specific instruction is consistent over time.
- Deeply understand each student as a learner. Understanding the student’s personal learning style, motivators, and individual interests is the key to promoting a positive learning environment. Learn about their dominant side of the brain. Right-brain strengths include intuition, illustration, encoding, visual memory, gross motor skill, and creativity. Incorporating these into learning will promote success.
- Provide a multi-sensory instructional approach. Tap into learning by stimulating the student’s visual, auditory, kinesthetic-tactile senses.
Tactile-kinesthetic: Accompany images with movement, use manipulatives, act-it-out
Auditory: Chant, repeat, sing, read aloud, book on tape
Visual: write, draw, highlight, create a mind-map or graphic organizer
- Empower students with the tools they will need to succeed. There are a variety of strategies and tools that can empower students to be independent learners. Assistiveware technologies offer great enhancements to learning such as text-to-speech, spell check, visual/auditory books, voice note sharing, and more. These tools help to alleviate stress and free the brain to focus on content. In addition, students should be taught good study skills that integrate executive functions and strategies. These are tools that will be used throughout the student’s life.
- Teach in the way that they learn. Allow students to demonstrate their knowledge via preferred learning styles. Project-Based Learning (PBL) is distinguished by its focus on big-picture thinking, collaboration, creativity, and critical thinking. PBL’s interdisciplinary approach differentiates and integrates, rather than compartmentalizes knowledge. It emphasizes experiential learning rather than memorization and offers the

student with dyslexia an opportunity to leverage his strengths to demonstrate outcomes. You can nearly feel neurons firing during the learning process!

- Offer enrichment classes. Keep in mind that students who are challenged with dyslexia are most likely bright, creative, and talented individuals. Identify and develop their talents through art, music, technology, sports, and science.
- Stress destroys memory and food fuels the brain. In addition to a balanced diet, hydration and adequate sleep can also ensure that the student is better prepared to face the challenges of school.
- Read aloud. Model reading strategies and skills from an early age. Neuroscience research has made some exciting discoveries in the development of mirror neurons. These brain cells (mirror neurons) mimic the connection of the brain cells in those who we observe (parents, teachers). So, the more visual exposure the young child has to expert readers, the more likely he is to mirror these habits.

Being in the right learning environment makes a critical difference for any student. The more dyslexic students experience the consequences of their challenges, the less enthusiastic and self-confident they will become, not only academically, but socially and emotionally, as well. A strength-based approach is best. When classrooms and teachers are equipped to balance the necessary remediation with a rich, stimulating learning environment that highlights and nurtures the student's strengths and talents, it not only boosts reading skills...it can do so much more!

A list of well-known, talented people who have dyslexia...

Jennifer Aniston	Pablo Picasso
Hans Christian Andersen	Steven Spielberg
Jim Carrey	Ann Bancroft
Thomas Edison	Albert Einstein
Ansel Adams	John Lennon
George Patton	Tommy Hilfiger
George Washington	Richard Branson

For more information, visit:

<http://eida.org>

<http://dyslexiahelp.umich.edu>

<http://ldaamerica.org>

Children who may be at-risk for dyslexia experience difficulties with the following:

- Remembering letter symbols for sounds

- Late talkers or delayed speech
- Memorizing number facts
- Spelling
- Reading fluency and accuracy
- Stamina for lengthy reading tasks

When warning signs are present and/or the child is struggling in school, parents should seek a professional evaluation to identify needs and potential interventions.