

Dyslexia common cause of difficulty across languages

Editor's note: This is the first in a planned series of semimonthly columns from the co-founders of WY Lit, a new nonprofit advocacy organization created after they were instrumental in the passage of Wyoming House Bill 297, related to K-3 reading screening and intervention. They have been contracted by the Wyoming Department of Education on several literacy projects, and the intent of these columns is to educate the general public about literacy issues.

Dyslexia is the most common cause of reading, writing and spelling difficulties across languages. Dyslexia is estimated to impact between 17% and 20% of the population and about 80% of children identified with Specific Learning Disabilities in reading.

In the most simple terms, people with dyslexia have difficulty connecting letters to their sounds, resulting in a host of reading and writing problems. These difficulties are typically unexpected relative to intelligence and other cognitive abilities.

Dyslexia is not a vision or hearing problem. It is not related to intelligence or effort, and it does not impact a person's ability to reason or think critically. People with dyslexia are often observed to be exceptionally creative and "outside the box" problem solvers. In fact, three out of the five "Shark Tank" judges are dyslexic!

Dyslexia is caused by neurobiological differences in the left hemisphere of the brain that impact the way oral and written language is learned and processed. These differences cause language processing to occur predominantly in the right hemisphere of the brain. The right hemisphere does not process language efficiently, resulting in the difficulties experienced by people with dyslexia.

It is as if a dyslexic brain is forced to take country roads to read, write and spell, and a non-dyslexic brain has access to a highway.

Some of the most common signs of dyslexia include: delay in speaking; persistent mispronunciation of parts of words or similarly sounding letters; difficulty identifying or producing rhyming words, learning letter names or sounds, learning colors, forming letters; messy handwriting; laborious, choppy below grade-level reading reflecting little intonation or awareness of punctuation; and persistent misspelling of words, including leaving out vowel sounds. It is common for dyslexic children to develop anxiety around school and feelings of shame, depression and suicidality.

The notion that children struggling with reading, writing and spelling will “catch up” or are just “late bloomers” is not supported by research. There are almost always specific skill and knowledge gaps that need to be identified and filled.

We encourage parents and teachers to trust their instincts that something may be wrong when an intelligent child has trouble learning to read. People of any age can learn to read; however, intervention is four times more effective if offered before third grade.

We know from decades of neuroscience research and brain imaging studies that children learn to read words through identifiable neurological processes. With evidence-based instruction, these processes result in words being stored in long-term memory so that they may be recognized, retrieved and understood almost instantly.

Research shows that these processes are best developed for all children through explicit, systematic, engaging instruction in phonological awareness (the ability to identify and manipulate sounds and syllables in words), phonics instruction (sound/letter relationships), vocabulary development and comprehension (the development of background knowledge is more important for reading comprehension than comprehension strategy instruction per se), and in the skills that lead to reading fluency.

Early identification of students with dyslexia is critical to their academic success and emotional well-being. In Wyoming, three to four students in every classroom are likely to be dyslexic. These students need early, intensive, explicit instruction in the sounds and syllables in words and letter-sound relationships. They need to study the meanings of word parts, such as prefixes, suffixes and root words. And they need to be exposed to engaging vocabulary instruction that provides diverse and distributed opportunities to learn and use vocabulary words, as well as exposure to rich, diverse texts and related discussions.

Here's the good news: numerous high-quality studies have shown that early, evidence-based reading instruction and intervention can actually rewire the brain of a child with reading difficulties! Brain imaging shows that evidence-based instruction and intervention reroutes language processing from the right hemisphere back to the left, where it belongs.

This is why we must ensure that teachers are empowered to offer reading instruction, and districts commit to purchasing curricula that is based on what decades of scientific research tell us about how the brain learns to read.

For more information about evidence-based instruction and dyslexia, please visit the International Dyslexia Association's Rocky Mountain Branch at <http://idarmb.org>, our website at www.wylit.org or the Facebook pages, [WY Lit](#) or [Decoding Dyslexia Wyoming - Active Page](#).

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