

Putting Yourself in the Shoes of a Law Student with Dyslexia

By Karen Markus

Karen Markus is a Legal Analysis, Research, and Writing Instructor at Santa Clara University School of Law in California. She is a certified Orton-Gillingham dyslexia tutor and a licensed registered nurse.

If you have ever lamented, “I taught him¹ but he didn’t learn,” dyslexia, a “hidden” disability that affects one out of five individuals,² may have been the cause. Dyslexia, which is rooted in the basic brain systems that allow us to understand and express language, affects not only how we read, but how we spell, retrieve, articulate, and synthesize words. It also impairs rote memory.³ Legal writing faculty charged with instilling language skills essential to the practice of law should understand the etiology of dyslexia and recognize its manifestations. We also need to have a working knowledge of common comorbid (coexisting) conditions such as attention deficit disorder.

Understanding Dyslexia

The term “congenital word blindness” was first coined in the late 19th century to describe otherwise normal, intelligent individuals who struggle to read despite ample instruction and effort.⁴ Based on the hypothesis that dyslexia is caused by impaired sight, it was initially treated by ophthalmologists.⁵ We now know that dyslexia is a localized neurological problem whose primary manifestation is weakness in phonological

processing.⁶ In fact, “the presence of a phonological deficit in the context of relatively intact overall language abilities is the *sine qua non* of dyslexia.”⁷ This localized weakness does not, however, affect higher-order intellectual ability. Thus it is phonological weakness, not a lack of intelligence, that impairs the dyslexic’s ability to read. Indeed, a sharp intellect may mask a reading disability until an individual confronts more rigorous reading and writing assignments in law school.⁸ At that point, poor phonological processing may interfere with the dyslexic’s ability to access complex new vocabulary, which in turn prevents application of the individual’s intellect.

If language is thought of as a hierarchy, with analytical application, syntax, and semantics comprising the higher levels, phonological processing is the most basic level.⁹ Dyslexics have trouble processing phonemes, language’s smallest discernable unit of sound. For example, the words *she* and *go* each have two phonemes.¹⁰ Like DNA, the 44 phonemes are the basic building blocks of the English language. Also like DNA, phonemes retain their individual identity when they are combined. This means that phonemes, like genetic material, can be combined in a vast number of different combinations.¹¹

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⁶ *Id.* at 40.

⁷ *Id.* at 137.

⁸ Kevin H. Smith, *Disabilities, Law Schools, and Law Students: A Proactive and Holistic Approach*, 32 Akron L. Rev. 1, 19 (1999).

⁹ G. Reid Lyon, *Toward a Definition of Dyslexia*, *Annals of Dyslexia*, Vol. 45, Reprint 139 at 10 (1995).

¹⁰ *Teaching Children to Read: An Evidence-Based Assessment of the Scientific Research Literature on Reading and Its Implications for Reading Instruction*, Report of the National Reading Panel, National Institute of Child Health and Human Development 7 (2000) [hereinafter Reading Panel].

¹¹ Shaywitz, *supra* note 1, at 47.

¹ Dyslexia affects slightly more males than females. Sally Shaywitz, *Overcoming Dyslexia: A New and Complete Science-Based Program for Reading Problems at Any Level* 32 (2004).

² *Id.* at 30.

³ *Id.* at 5.

⁴ *Id.* at 13.

⁵ *Id.* at 23.

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In order for a word to be identified, understood, retained, or retrieved from memory, it must first be broken down into phonemes by the brain.¹² On an oscilloscope, the word *she* appears as an undifferentiated blip. Specialized circuits in the human brain, however, break this word into its two phonemes: sh-ē. By the age of six, most normal readers can readily separate and articulate these two phonemes, but without explicit instruction, to dyslexics *she* remains one undifferentiated sound.¹³ They simply cannot pull it apart into its component phonemes. These differences do not significantly impact spoken language, which we are biologically hardwired to process seamlessly.¹⁴

However, written language is an artificial construct that appeared only 5,000 years ago.¹⁵ Reading is a neurologically complex process that starts with phonemes in symbolic form arranged on a page. Because of their difficulty distinguishing phonemes, dyslexics have trouble understanding that words are synthesized from them.¹⁶ Moreover, they cannot readily learn the alphabetic principle: the correspondence between the symbols on the page and the phonemes they represent.¹⁷ Thus dyslexics may interchange letters (commonly *b*, *d*, *p*, and *q*) and words (e.g., *was* and *saw*) because of difficulty distinguishing symbols and words that look similar. Therefore, dyslexics need explicit, specialized, systematic instruction to break the phonetic code in order for the symbols on the page to accurately represent the sounds of speech.

Current Scientific Findings

Dyslexia is a hereditary trait. Between one-quarter and one-half of all children born to a dyslexic parent will be dyslexic.¹⁸ Furthermore, there is

no cure for dyslexia. The phonological deficit that causes dyslexia persists into adulthood even in the brightest individuals.

Thanks to technological advances, however, dyslexia is no longer a hidden disability. Functional magnetic resonance imaging shows that the manner in which dyslexics use their brains while reading differs drastically from that of normal readers. The primary reading area of the brain is the left mid to posterior portion.¹⁹ The more skilled a reader is, the more the reader activates the left posterior part of the brain, which almost instantaneously reacts to word models that have already been mastered, without pausing to decode their phonemes.²⁰ In contrast, dyslexics' neural wiring interferes with using this part of the brain to store and access words. Instead, they compensate by using the right and frontal areas of the brain to slowly analyze words, resulting in much less efficient processing of written language.²¹

Manifestations of Dyslexic Neuroanatomy

Nonsense words, which is what legal terminology may initially resemble, are particularly difficult for dyslexics.²² Acquiring each new vocabulary word involves parsing its arrangement of phonemes, rather than merely noticing its shape or the letter it starts with, as dyslexics tend to do. A normal “reader must have four or more successful encounters with a new word to be able to read it fluently,”²³ i.e., to store it accurately in the left posterior brain. Dyslexics, on the other hand, need many more exposures to a word over a longer period of time.²⁴ Once acquisition occurs, the reader no longer has to process the word phoneme by phoneme, which greatly increases reading speed, or fluency. Thus, fluency is acquired one word at a time, as each word is analyzed and mastered. However, word acquisition

¹² *Id.* at 41–42.

¹³ *Id.* at 55.

¹⁴ *Id.* at 46.

¹⁵ *Id.* at 50.

¹⁶ *Id.* at 43.

¹⁷ *Id.* at 44.

¹⁸ *Id.* at 99.

¹⁹ *Id.* at 81.

²⁰ *Id.*

²¹ *Id.* at 82.

²² *Id.* at 37–39.

²³ *Id.* at 105.

²⁴ *Id.* at 111.

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in dyslexics may be faulty because they do not match all the symbols in a word with their corresponding phonemes.²⁵ Because of these faulty stored word models, dyslexics often must infer meaning from context,²⁶ which is particularly difficult when working with complex new vocabulary. This is exacerbated by the fact that poor readers have relatively small internal lexicons.

The hallmark of dyslexia in adults is slow, laborious reading and writing, rather than lack of accuracy.²⁷ Dyslexics can learn to read fairly accurately but their reading is usually slow²⁸ and this lack of rapid, automatic word recognition impairs both comprehension and word retrieval. Slow readers, who have difficulty decoding new words and retain a paucity of accurate word models, cannot devote their energy to comprehending the material. Their lack of fluency prevents them from engaging with the text. If they are required to read too much too quickly, they simply will not comprehend the material. Reading is also very fatiguing for them.

Word retrieval in both speech and writing may be particularly difficult for dyslexics.²⁹ This is called *dysnomia*, “from *dys* meaning poor or having trouble with, and *nomen*, to name.”³⁰ Difficulty replicating and combining phonemes leads to incorrect substitution of words that sound and look somewhat similar, e.g., *suburb* for *superb*, especially when rapid word retrieval is required.³¹ This is because dyslexics tend to look at the shape and size of a word rather than comprehending its internal details. Thus, they may write *horse* instead of *house*.

Consequently, a dyslexic student who is intellectually capable of complex understanding may be unable to produce the words to express it, a phenomenon that is extremely frustrating to both student and teacher. To avoid this frustration, dyslexics tend to circumlocute to get around a vocabulary gap, to express indirectly the concepts in words they cannot come up with.³² Nevertheless, with effort, dyslexics can master vocabulary, particularly specialized terminology that tends to be repeated.³³

Spelling is intimately linked with reading because skilled readers have huge internal dictionaries of stored word models.³⁴ They also store groups of letters that commonly go together, such as *ight* and *ough*.³⁵ To spell correctly, we rely on these word models stored in our brains. The imperfectly stored word models of dyslexics are thus reflected in poor spelling. In fact, atrocious spelling, not difficulty reading, is the most common complaint of undiagnosed adult dyslexics.

Rote memorization, which requires strong phonological ability, is very difficult for dyslexics.³⁶ Rather, they must fully understand a concept in order to remember it. This is why visual displays such as synthesis or flow charts that help students draw connections between ideas or categories are a great help to dyslexics. Furthermore, knowledge gained in this manner is more enduring than that obtained through rote memorization.³⁷

Attention Deficit Disorder

Attention deficit disorder (ADD), which includes the subset of attention deficit hyperactivity disorder (ADHD), is present in 12 to 24 percent

²⁵ *Id.*

²⁶ *Id.*

²⁷ *Id.* at 163.

²⁸ *Id.* at 111.

²⁹ Susan L. Hall & Louisa C. Moats, *Straight Talk About Reading* 136 (1999).

³⁰ Priscilla L. Vail, *Smart Kids with School Problems* 123 (1987).

³¹ Shaywitz, *supra* note 1, at 58.

³² *Id.* at 97.

³³ *Id.* at 118.

³⁴ *Id.* at 114.

³⁵ *Id.* at 104.

³⁶ *Id.* at 332.

³⁷ *Id.* at 285.

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of dyslexics.³⁸ The condition was formerly called “hyperkinesis” because of its hyperactivity component.³⁹ Like dyslexia, ADD is genetically determined.⁴⁰ It is caused by deficiency of a neurotransmitter called norepinephrine in the frontal lobes of the brain.⁴¹

ADD may be confused with dyslexia because some of their manifestations, such as distractibility, are similar. However, distractibility in dyslexics is caused by the difficulty of the task, while ADD involves chronic problems with modulating attention.⁴² Thus the hallmarks of ADD are distractibility, hyperactivity, and impulsivity.⁴³ Distractibility, which results both from external stimuli and from irrelevant thoughts, manifests itself as a short attention span. In adults, hyperactivity is most often demonstrated by foot tapping and other repetitive leg movements. The student who chronically blurts the answer in class may be displaying impulsivity.⁴⁴ ADD is a learning disability because these behaviors render the individual mentally unavailable for learning.⁴⁵

Difficulty modulating anxiety, anger, or mood is also associated with ADD.⁴⁶ Individuals with ADD may sustain a generally high level of anxiety that can spill over into panic in severe cases. Those with anger have a short fuse. The associated mood disorder is usually depression.⁴⁷ Thus,

it is important to recognize that ADD affects more than academic performance. It is a life problem. Furthermore, most individuals do not “outgrow” ADD,⁴⁸ although they may learn to manage it. Psychopharmacology offers effective assistance by supplementing deficient neurotransmitters. About 80 percent of individuals with ADD show improvement on medication.⁴⁹ In fact, improvement with medication is diagnostic of ADD.

Remediation of Dyslexia

It is not uncommon for dyslexia to go unrecognized until adulthood. Although reading disabilities diagnosed after the third grade are much more difficult to remediate,⁵⁰ dyslexic adults can substantially improve their reading accuracy and even fluency with proper instruction. In the 1930s, Dr. Samuel Orton, a neurologist, and Anna Gillingham, a teacher, developed a systematic multisensory teaching method that today is still the gold standard of reading instruction for dyslexics.⁵¹ Orton-Gillingham reading programs are widely available for both children and adults.

The manner in which a person reads out loud is a critical measure of fluency. Dyslexic individuals tend to stumble or hesitate over words and mispronounce, omit, or add words.⁵² In 2000, the federally funded National Reading Panel released its evidence-based assessment of the scientific literature on reading. The panel concluded that a key feature of reading instruction is oral reading with feedback and correction.⁵³ Because a mispronounced word is less likely to be stored in the brain, requiring an individual to accurately read aloud enhances storage

³⁸ *Id.* at 141.

³⁹ Larry B. Silver, *The Misunderstood Child* 20 (3d ed. 1998).

⁴⁰ Erik G. Willcutt & Rebecca Gaffney-Brown, *Etiology of Dyslexia, ADHD, and Related Difficulties: Using Genetic Methods to Understand Comorbidity*, *Perspectives* 14 (2004).

⁴¹ Silver, *supra* note 39, at 251.

⁴² Shaywitz, *supra* note 1, at 336.

⁴³ Silver, *supra* note 39, at 76.

⁴⁴ *Id.* at 74–76.

⁴⁵ For more information on teaching law students with ADD, see Robin A. Boyle, *Law Students with Attention Deficit Disorder: How to Reach Them, How to Teach Them*, 39 *J. Marshall L. Rev.* 349 (2006).

⁴⁶ Silver, *supra* note 39, at 7.

⁴⁷ *Id.* at 7–8.

⁴⁸ *Id.* at 333.

⁴⁹ *Id.* at 259.

⁵⁰ Shaywitz, *supra* note 1, at 30.

⁵¹ Judy Duchan, *Getting Here: A Short History of Speech Pathology in America*, <www.acsu.buffalo.edu/~duchan/history_subpages/samuelorton.html>.

⁵² Shaywitz, *supra* note 1, at 335.

⁵³ Reading Panel, *supra* note 10, at 12.

of correct word models.⁵⁴ Research shows that such fluency practice need be only five to 10 minutes per day.⁵⁵ The reading material used to develop fluency should be enjoyable or interesting and the reader should be able to easily decode 95 percent of the words.⁵⁶ Rereading words from specialized materials until they are pronounced correctly is also useful in mastering new terminology and helps with word retrieval.⁵⁷

With hard work and commitment, dyslexics can succeed in the field of law. Given appropriate accommodations, they can generate the same work product as normal readers. However, rather than becoming generalists, they may wish to specialize in a particular area of the law so as to become familiar with its terminology. They should also consider fields in which billable hours and strict deadlines are not overarching concerns.⁵⁸

What Should Legal Writing Faculty Do?

To increase comprehension, *all* students should be explicitly instructed in and given ample opportunity to practice active reading. There are a number of approaches to this but they all involve an initial overview of the material, use of headings and subheadings for context, active engagement with the material via highlighting and margin notes, and guided questions to enhance understanding.

Dyslexic law students should be encouraged to take full advantage of available technology, including mind mapping software such as *Inspiration*, and voice recognition software such as *Naturally Speaking*. These types of visual and auditory learning tools help students process and organize

new information. Simply enlarging font size to 14 or 16 points can help dyslexics to read more accurately as well as to detect errors in their own writing.⁵⁹ Finally, since taking notes causes dyslexics to miss large chunks of information, tape recording lectures is very helpful.

Small group work allows dyslexics to talk through concepts with their peers. This type of discussion is important because dyslexics tend to remember what they hear better than what they read. Similarly, during conferences, asking students to explain orally what they are trying to convey in their written work will help them express their thoughts in writing.

Dyslexics admitted to law school have expended enormous energy to get there. They have already experienced the adverse impact of dyslexia on their self-image and are now in an environment where their self-esteem is more at risk than ever before.⁶⁰ Thus, to avoid stigma they may choose to forgo accommodations such as extra time on tests.⁶¹ However, extra time has been described as physiologically necessary for dyslexics to access and express their knowledge.⁶² Assuming that the goal of testing is to show what a student knows, extra time simply levels the playing field for dyslexics because of their slow processing of written language.⁶³ Furthermore, the excessive energy dyslexics expend on decoding and comprehending written words means that they are more vulnerable to distractions by outside stimuli, especially noise.⁶⁴ Thus, for some students a quiet exam room is essential.

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⁵⁴ Shaywitz, *supra* note 1, at 12.

⁵⁵ *Id.* at 272.

⁵⁶ For teenagers, the author uses short books such as *Oh, the Places You'll Go!* by Dr. Seuss, which should be read several times until the reading is automatic and fluent.

⁵⁷ Shaywitz, *supra* note 1, at 233.

⁵⁸ Pamela Coyle, *What Sylvia Law, Jonathan Pazer and David Glass Confront When They Read or Write*, 82 A.B.A. J. 64, 67 (Sept. 1996).

⁵⁹ Jennifer Jolly-Ryan, *Disabilities to Exceptional Abilities: Law Students with Disabilities, Nontraditional Learners, and the Law Teacher as a Learner*, 6 Nev. L.J. 116, 154 (2005).

⁶⁰ Andrew Weis, Book Review, *Jumping to Conclusions in "Jumping the Queue"*, 51 Stan. L. Rev. 183, 199–200 (1998).

⁶¹ Coyle, *supra* note 58, at 66.

⁶² Shaywitz, *supra* note 1, at 314.

⁶³ Lisa Eichhorn, *Reasonable Accommodations and Awkward Compromises: Issues Concerning Learning Disabled Students and Professional Schools in the Law School Context*, 26 J.L. & Educ. 31, 57 (1997).

⁶⁴ Shaywitz, *supra* note 1, at 116.

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Conclusion

Law schools have a legal duty to accommodate students with properly documented dyslexia.⁶⁵ However, the teaching techniques that enable dyslexics to succeed are beneficial to all students. Graphic representations and multisensory teaching tools such as PowerPoint help all students to master complex material. An interactive classroom and a collaborative learning environment enhance student comprehension of concepts, decreasing reliance on rote memory. Finally, all students benefit from detailed syllabi, sequenced assignments designed to achieve explicit goals, and prompt feedback.⁶⁶

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Another Perspective

“The education of lawyers should deal with the cognitive, behavioral and experiential, affective, and normative aspects of being and learning as a professional. ... I aim for a statement about legal education that recognizes all of these constituent elements of being a lawyer and a human being and acknowledges that they are intertwined and related to each other, not necessarily in any particular linear or hierarchical order.”

—Carrie Menkel-Meadow, *Narrowing the Gap by Narrowing the Field: What's Missing from the MacCrate Report—Of Skills, Legal Science and Being a Human Being*, 69 Wash. L. Rev. 593, 596 (1994).

⁶⁵ 42 U.S.C.A. § 12132 (2000) (public law schools); 42 U.S.C.A. § 12182 (2000) (private law schools).

⁶⁶ Jolly-Ryan, *supra* note 59, at 146–147.