INTERNATIONAL LITERACY ASSOCIATION

Is My Adolescent/Adult Struggling Reader Dyslexic?

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As the topic of dyslexia has swept the media and government alike in many nations, people from all walks of life seem convinced that they know what dyslexia is and who has it. From my own nonscientific sampling, I gather that they believe dyslexia is any kind of reading difficulty, and anyone who struggles with or dislikes reading is dyslexic.

That is wrong. Dyslexia is clinically defined as a specific deficit in phonological processing, which is why marketers claim that school systems should buy into particular brands of phonics instruction to "cure" it. Yet, there is much more to reading than phonology and orthography. Leaving aside the question of whether these products cure dyslexia (they don't), of what value is a phonics program for a student who struggles to read for reasons other than decoding difficulty?

Nearly all states in the United States and in a number of other countries have passed some form of dyslexia legislation, and typically the resulting statutes extend to the diagnosis and intervention of dyslexia in middle and high school. If the overexuberant promoters of this effort have their way, on the basis of an overly broad definition of dyslexia, up to a fifth of all K–12 students could be swept into scripted phonics programs. From historical precedent, we know that this is unlikely to help striving readers. It is likely instead to target high-poverty populations, possibly exacerbating class and race (and resource) segregation in schools.

Responsible adolescent and adult literacy educators should review their knowledge of students' diverse reading difficulties and be alert to the dangers of mis- and overdiagnosis of dyslexia. Once dropped mislabeled into the hopper of targeted instruction, students are unlikely to emerge unscathed, if at all. Herewith, I provide some pointers.

Defining Dyslexia

Dyslexia has a specific clinical definition, but its legal definition varies by jurisdiction. Currently, it is likely a matter of regulatory statute in your country or state, so be sure to check. It may already be alluded to by special educators as a specific learning disorder with impairment in basic reading, or reading fluency. However, *dyslexia* is the term preferred by remediation advocates because it specifies a phonological processing disorder ostensibly requiring a proprietary phonics-based remediation program, which they just happen to be trained in providing (Worthy, Svrcek, Daly-Lesch, & Tily, 2018).

What *dyslexia* is not and should never be defined as is an all-purpose term for any and all kinds of reading challenges, from student disengagement with canonical literature, to inadequately funded education systems, to cultural and linguistic differences, to self-nourished adolescent anomie. Unfortunately, misuse of the term is common, including among educational specialists, and the error is rarely corrected because it guarantees potential service providers a larger, if inappropriate, market share (read *students*).

That's how some advocates for dyslexia have come up with the incredible statistic of 20% of students suffering from dyslexia. Estimates vary, but 3–5% is more likely and closer to what is prevalent in the clinical research literature (Rose, 2009). The problem is that the research literature is itself inconsistent, because it too often relies on reading test cut scores to distinguish dyslexic from nondyslexic subjects, even though most of the targeted subjects do not, on closer inspection, meet the definition of dyslexia (see below).

Many arguments have been made against dyslexia as an authentic reading disorder (e.g., Elliott & Grigorenko, 2014; Gabriel, 2018; International Literacy Association, 2016a, 2016b; Worthy, Salmerón, Long, Lammert, & Godfrey, 2018). I have been engaged by the debate and the evidence, but as of this writing, 47 U.S. states have legislated dyslexia as a mandated category, and that's as real as anyone needs to get. Nearly all state regulations include a definition of dyslexia either verbatim or approximate to the one created by a group of researchers gathered by the U.S. National Institutes of Health in 2002. It was then adopted by the National

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Institute of Child Health and Human Development and the International Dyslexia Association (2002).

In the United Kingdom, a similar definition was set forth by the Rose report (Rose, 2009) and is employed with funding from the Department of Education to the Dyslexia-SpLD Trust (n.d.). Definitions vary more widely beyond the English-speaking world, with more attention to visual difficulty in some and less concern for phonology in cultures using nonalphabetic languages.

Let us therefore consider dyslexia as defined by its own advocates, because whatever the failings of how it frames reading difficulty, potential misuse or disregard of what constitutes dyslexia in their own terms is the movement's soft white underbelly. Although the standard U.S. definition is ostensibly about decoding, it seems to induce comprehension difficulty in otherwise literate adults. This is because of the convoluted way that its four components are arranged into a single paragraph. Disentangled, the components are (1) a cause, (2) primary symptoms due to the cause, (3) secondary symptoms due to the primary symptoms, and (4) counterfactuals or exclusions to test symptoms against the cause to rule out false positives. Here is the definition in toto, followed by closer analysis:

> Dyslexia is a specific learning disability that is neurobiological in origin. It is characterized by difficulties with accurate and/or fluent word recognition and by poor spelling and decoding abilities. These difficulties typically result from a deficit in the phonological component of language that is often unexpected in relation to other cognitive abilities and the provision of effective classroom instruction. Secondary consequences may include problems in reading comprehension and reduced reading experience that can impede growth of vocabulary and background knowledge. (International Dyslexia Association, 2002)

Cause

Dyslexia "is neurobiological in origin" and "result[s] from a deficit in the phonological component of language."

Explanation. Dyslexia is an inherent condition due to a putative malformation in the student's brain impairing the processing of language sounds. It is not due to environmental conditions in the home or inadequate reading instruction in the school (which is ruling out a lot). Because of its inherent nature, dyslexia is a latent condition; that is, it cannot be observed directly but only by way of its impact on reading. Thus, identifying dyslexia before the student has had a chance to respond to effective reading instruction (e.g., first month of kindergarten) is impossible, yet some states mandate this nonetheless.

Primary Symptoms

Dyslexia "is characterized by difficulties with accurate and/or fluent word recognition and by poor spelling and decoding abilities."

Explanation. Good spelling and decoding ability requires accurate matching of language sounds to alphabet symbols; these are the phonological tasks with which dyslexics are said to suffer an impediment. Difficulties in phonological processing make it hard to sound out and recognize word forms in texts, which slows the development of automatic sight word recognition, which allows readers to bypass the sounding out that we require in common phonics instruction. Nonetheless, these primary symptoms may result from other causes, such as inadequate early literacy support or poor vision, and these alternative causes must be ruled out before primary symptoms can be taken as indicators of dyslexia (see the Counterfactuals subsection).

Secondary Symptoms

"Secondary consequences may include problems in reading comprehension and reduced reading experience that can impede growth of vocabulary and background knowledge."

Explanation. If a reader cannot decode a text to recognize the words it contains, they cannot comprehend the language encoded in the text. This is true even if the reader has good oral language comprehension. Because so much vocabulary and background knowledge are learned during the school years and beyond through reading, the inability to read for understanding constrains the development of this crucial knowledge. However, there are other possible reasons for comprehension difficulty more probable than dyslexia, so secondary symptoms alone do not constitute evidence for dyslexia.

Counterfactuals

Dyslexia's phonological difficulties are "often unexpected in relation to other cognitive abilities and the provision of effective classroom instruction."

Explanation. This portion of the definition is a doubly negated way of saying that if students have not had

effective classroom instruction in decoding, then we could expect that they would suffer from decoding difficulty because they were not taught to decode. This would not be dyslexia, for it would not be an inherent neurological problem (see the Cause subsection) but an instructional or policy problem, the solution to which is basic reading instruction.

Similarly, if a student lacks the cognitive capacities necessary to learn decoding relatively quickly, we would expect the student to be flagged as having difficulty with decoding, because most decoding instruction programs require cognitive processing development paced at a rate set by population averages. Again, this would not be dyslexia, for most severe cognitive difficulties would not be specific to phonological processing (see the Primary Symptoms subsection).

Other possible counterfactuals, termed *exclusions* in the special education world, include sensory impairment (e.g., in vision or hearing), emotional or behavioral disorders, attention deficit disorders, nondeficit developmental delay, or the impact of poverty (American Psychiatric Association, 2013; Research Excellence and Advancements for Dyslexia Act, 2015). Any or all of these could cause difficulty in learning to decode, but reading difficulty because of these causes does not constitute dyslexia. Poor vision, for instance, cannot be improved with phonics exercises.

Of course, some students may have any or all of these counterfactuals and also be dyslexic, so shouldn't they also have access to services? This is a loaded question because if any of those other causes sufficiently explain the difficulty, there is no way to tell if there are additional causes hiding behind the obvious ones. Scientifically informed practice and common sense requires that we address the most immediate, evident, and sufficient cause(s) of a problem first.

Pediatricians who diagnose a child's ADHD and then, at a parent's urging, also diagnose dyslexia as icing on the cake is an instance of this error. (Chances are, there isn't a reading inventory on their bookcase, and they wouldn't know how to use one if you gave it to them.) Their diagnoses are based on secondhand reporting of primary or secondary symptoms by a worried but underinformed parent. This kind of "diagnosis" is a case of unbridled symptomology. Heartburn may be a symptom of indigestion or education policy, but it is not itself either. As an inherent (not acquired) condition, dyslexia is the cause of the symptoms, not the symptoms themselves. A conflation of symptom with cause is likely what leads nonspecialists to believe that anyone who struggles to read is dyslexic. Yet, that is not what the term means.

So, there you have it. You're welcome.

The Trouble With Subfactor Categories

It is tempting to try to categorize students by subfactors, such as phonological processing, that delay their reading development. Yet, students who have difficulty with reading do so for a variety of reasons, and those reasons are rarely mutually exclusive. The subfactors distinguished by symptomatic categories do not develop discretely and without intersection with other factors within and surrounding the student (RAND Reading Study Group, 2002).

Fixation on subfactors has led to reading intervention programs built around a single difficulty. We wouldn't build a health care system around a single disease, such as diabetes, and for good reason. Diabetes is a serious condition, but not all serious conditions are diabetes. Moreover, diabetes is manageable and can be attended to without undue diversion of resources from cancer treatment and cardiovascular disease, both of which are more prevalent and deadlier. Similarly, we should not build a reading intervention system entirely around dyslexia, diverting limited resources from language development or the educational impact of poverty, both of which also are more prevalent and deadlier.

The problem is how the category of dyslexia gets populated. Given the absence of demonstrably reliable screeners for dyslexia, and the lack of sufficient numbers of trained reading professionals in the intermediate and secondary grades, end-of-year standardized reading test cut scores are being used in a pinch to identify students requiring interventions. Recently, a school district superintendent told me that he had heard that 15% of students were dyslexic, and he wanted to know whether he could use his district's reading assessment to identify the bottom 15% of students. In cases like that, informed classroom teachers are students' only defense.

Cut scores don't cut it. Dyslexia remediation advocates will be the first to tell you that dyslexia does not correlate with IQ or, less often, that it does not correlate with socioeconomic status (Rose, 2009). Yet, students testing out at the 15th percentile or below are overwhelmingly students of poverty and/or disproportionately demonstrate cognitive challenges. (These tests are *g*-weighted, after all.) So, clearly, most students at the 15th percentile or below are, by dyslexia

advocates' own definition, struggling for reasons other than dyslexia.

Recasting dyslexia as a spectrum disorder makes matters worse (although it may allow for more nuanced assessment). It provides a definition without bounds—or, as the Dyselxia-SpLD Trust (n.d.) website has it, "there are no clear cut-off points" (para. 1) to the range of reading difficulty that can qualify a student as dyslexic. In other words, as many children will be deemed in need of remediation as available resources can be brought to bear.

What to Do?

None of the dyslexia screeners currently on the market have been independently tested for reliability or validity. It seems unlikely that an eight-question survey for use by teachers unfamiliar with the issues, to take one current example, could correctly identify who is and is not dyslexic. Actually, a school district in my state tried a screener like that and found that over 85% of a random sample of its students was dyslexic. A quick chat with the district's budget officer clarified thinking on the matter for the superintendent.

Better would be a decision tree to distinguish the most likely causes of reading difficulty to assist students given their actual need (i.e., as operationalized in common reading inventories). Yet, this would hardly be a perfect solution, as it could still target instruction at subfactors, which might lead to modularized, fractionated instruction, a game of pedagogical whack-a-mole. Inclusive, comprehensive educational experiences are more effective for most students. Still, in the hands of experienced literacy educators, an inventory of a student's reading strengths and needs could allow teachers to differentiate instruction without quarantining or marginalizing the student.

The point is that we should address the needs that students have, not the ones they don't. To rush to a judgment for dyslexia without investigating causes and counterfactuals is to deny a student the education that equity requires. We need to teach to students' needs, not to a legislatively mandated disability target. Teachers who grasp the importance of definitional precision should lead their school in understanding the importance, too.

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The department editors welcome reader comments.

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