

Teaching Students with Dyslexia: How to Recognize Early Warning Signs, Provide Effective Intervention, and Unlock Student Achievement

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If Henry had a dime for every time his teacher asked him to try harder, he'd be a rich kid! This experience is common for students with dyslexia, which is often referred to as the hidden disability. Although Henry and students like him are trying hard, they struggle with underlying processing difficulties associated with dyslexia. Their struggle is often unexpected in relation to their other adequate or even exceptional abilities—hence the admonishment. The purpose of this paper is to help educators recognize the warning signs of dyslexia and provide the appropriate interventions so that students like Henry can become successful readers and motivated learners.

What is dyslexia?

Dyslexia is generally defined as a disorder that involves difficulty learning to read associated with specific problems in word identification. It often runs in families and does not affect general intelligence. Although estimates vary, approximately 15 percent to 20 percent of the population will experience difficulties related to dyslexia. The following definition (in italics and bolded) was adopted by the International Dyslexia Association in 2002 and is used by the National Institute of Child Health and Human Development:

Dyslexia is a specific learning disability that is neurobiological in origin.

In other words, students are born with dyslexia, often with a genetic base. Dyslexia is caused by differences in brain structure or brain functioning that are present at birth but become evident only as students are learning to read. These differences lead to problems in processing, storing, or producing information and should not be confused with mental retardation, autism, deafness, blindness, or behavioral disorders.

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.

This section of the definition highlights the importance of primary difficulties in automatic word recognition due to weaknesses in underlying phonological processing abilities, such as phonemic awareness. Phonemic awareness is directly linked to a student's ability to learn phonics, or the associations of letters and sounds, which is necessary to decode unfamiliar words.

It is important to note that many students with dyslexia show **unexpected strengths or talents**, such as strong underlying oral language abilities (other than phonological awareness), unusual visual spatial abilities (e.g., talents in landscape architecture), and notable entrepreneurial or mechanical abilities, and may excel in areas such as music, art, drama, sports, creative writing, math, and social skills (e.g., sales).

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

The definition also stresses that, although students with dyslexia often have reading comprehension problems, these are due to problems in “cracking the code” and reduced fluency rather than language comprehension issues. However, reduced reading efficiency can interfere with the acquisition of information typically learned through reading. It can also impact the comprehension of complex syntactic structures and the acquisition of academic vocabulary found primarily in written text. Students with dyslexia may also have difficulties with listening and speaking that affect reading comprehension, but these language comprehension issues are not directly related to their dyslexia.

Common difficulties accompanying dyslexia

Students with dyslexia may also experience difficulties with attention, organization, and executive function (e.g., beginning and completing homework assignments, maintaining focus on tasks, keeping track of supplies and materials), left/right confusion, concepts related to time and space, math (memorizing math facts and reading/understanding word problems), handwriting, learning foreign languages or English as a second language, and social skills (making or keeping friends). Individuals with dyslexia usually struggle with spelling and writing; these difficulties are often referred to as dysgraphia. Although dyslexia and dysgraphia frequently occur together, problems with spelling and writing can occur when reading skills are intact.

How dyslexia impacts the reading process

According to the Simple View of Reading (Gough & Tunmer, 1986; Hoover & Gough, 1990), reading comprehension is the product of *decoding* and *language comprehension*. Decoding is the ability to recognize the words on a printed page. Language comprehension involves the skills and processes needed to understand language, such as vocabulary, background knowledge, attention, and memory. The two components of reading comprehension work together in an interdependent balance; both are necessary, and inefficiency in one of the components can lead to overall reading failure. The reader who has difficulty decoding will not be able to derive meaning from a text, while the reader who has difficulty comprehending spoken language will receive little reward for their effortless decoding.

A student with adequate language comprehension but inadequate decoding may be diagnosed with dyslexia. This student's inadequate reading comprehension is unexpected in relation to their adequate oral language comprehension, which may be at or even well above grade level. The cause of poor reading comprehension is most likely the student's slow and often inaccurate recognition of words, which makes it difficult to pay attention to meaning. Explicit and systematic instruction in the reliable reading and spelling patterns of written language should improve reading comprehension to at least the level of listening comprehension.

Identifying signs of dyslexia at different grade levels

The specific behavioral characteristics of students with dyslexia change somewhat as these individuals move up through the grades.

Pre-K

Students may have difficulty with:

- Recognizing and producing rhymes, resulting in reduced interest in nursery rhymes
- Remembering rote, non-meaningful information such as letter names (also phone number and address)

Grades K–2

Students may have difficulty with:

- Segmenting words into individual sounds and blending sounds to form words
- Learning the relationships between sound and letters
- Confusing letters that sound similar (e.g., d and t, b and p, f and v)
- Confusing letters that look similar (e.g., bdp, wm, hnu, ft)
- Omitting grammatical endings in reading and/or writing (e.g., -s, -ed, -ing)
- Learning basic sight vocabulary
- Remembering spelling words over time and applying spelling rules

Grades 3–8

Students may have difficulty with:

- Reading and spelling multisyllabic words, often leaving out entire syllables as well as single sounds
- Recognizing meaningful word parts related to structure (e.g., prefixes, roots, suffixes)
- Mixing up common sight words (e.g., where, there, what, then)
- Understanding and learning new information from text because of underlying word recognition difficulties
- Taking notes in class
- Learning across the subject matter areas (social studies, math, science, etc.)

- Slow rate of reading related to word recognition and fluency requiring extended time on tasks involving reading and writing
- Spelling and written composition

High school, college, and adult

Older students and adults may have difficulty with:

- Word recognition, fluency and rate affecting the ability to analyze text and need for extended time
- Taking notes, spelling and written composition
- Learning a foreign language

How to provide effective intervention

Reviews of the research on reading acquisition have consistently suggested that more explicit instructional approaches have the strongest impact on the reading growth of children at risk for reading disabilities such as dyslexia (Snow, Burns, & Griffin, 1998). The most commonly used interventions appropriate for students with dyslexia are often referred to as structured literacy approaches. These approaches share the following characteristics (Moats & Dakin, 2007):

- Explicit presentation of skills and concepts
- Structured and sequential order of presentation
- Multimodal stimulation (visual, auditory and tactile/kinesthetic modalities)
- Intensive review and practice

Early identification makes a critical difference in achieving success because lack of intervention often leads to loss of self-esteem and anxiety. Unfortunately, a large percentage of students who continuously struggle and never receive the proper interventions eventually drop out of school, and many end up in the prison system.

Another important issue in reading instruction for students with dyslexia involves the intensity of intervention. Because of the need for more explicit and direct guidance, students with dyslexia often need more time-intensive instruction (Torgesen et al., 2001). The intensity of instruction

should differ depending on the student's skill level and rate of progress; teaching for the student with dyslexia needs to be strategic with systematic progress monitoring to determine whether a student should remain at their current intensity level or move to a more or less intensive level.

Summary

Dyslexia is a lifelong disorder that often occurs in families and affects an individual's ability to acquire skills related to reading, specifically automatic word identification. If not addressed, it can significantly affect self-esteem, achievement, and confidence. The most common characteristic of individuals with dyslexia is difficulty with phonemic awareness (the ability to hear and manipulate sounds in words). Present in around 90 percent of students with dyslexia, this underlying phonological processing problem interferes with the development of word recognition skills. In addition, students with dyslexia often struggle with automatic retrieval of words and memory for non-meaningful symbols such as letters and letter patterns.

Whether a student will succeed often depends on the severity of the problem, the specific pattern of strengths and weaknesses, and the timeliness and appropriateness of intervention. The good news is that with appropriate intervention, students like Henry can often compensate well and become effective readers, although perhaps somewhat slower than average. In addition to providing strong intervention, it is also important to foster interests and talents that do not require reading in order for the student to develop confidence and a strong sense of self-worth.

The International Dyslexia Association full definition:

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.

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