

This chapter covers the following topics:

- Symptoms that are known to be indicative of dyslexia
- Characteristics of dyslexia in students from preschool through college
- Behaviors that are typical of students in each age group
- Strengths observed in students with dyslexia
- Online sources for more information

## CHAPTER 4

# Characteristics of Dyslexia by Age Group—Strengths and Weaknesses

Although it is common to say that someone either has or does not have dyslexia, it is important to realize that dyslexia exists on a continuum that ranges from a student being mildly affected to being severely impaired. Symptoms that are known to be indicative of dyslexia include the following characteristics:

- 1. Inability to sound out new words.** A characteristic feature of dyslexia is the inability to sound out unfamiliar words. A convenient way of assessing the ability to sound out unfamiliar words is to ask the individual to decode nonwords, which by definition are unfamiliar. It is important to assess fluency as well as accuracy of pseudo-word decoding to ensure that the skill is sufficiently developed to be useful in actual reading. Although nonword decoding can be assessed only when an individual has been taught to read, letter-sound knowledge is a rudimentary skill that is predictive of subsequent nonword decoding, and it can be assessed with standardized measures in children as young as age three.
- 2. Limited sight-word vocabulary.** If a sufficient number of words cannot be decoded relatively automatically (i.e., by sight), fluency for reading connected text can be limited to the point that comprehension is disrupted. A good measure of limited sight-word vocabulary is to assess the accuracy and fluency of decoding common words once children have begun to learn to read. A rudimentary skill that is predictive of subsequent word decoding but can be assessed before the onset of reading instruction is letter-name knowledge, which can be assessed using standardized measures in children as young as three years of age.
- 3. Listening comprehension exceeds reading comprehension.** Individuals who unexpectedly struggle at reading words on a page often are able to better comprehend material by listening to it rather than reading it. Determining that listening comprehension exceeds reading comprehension is a useful index of the extent to which poor decoding is unexpected (Badian 1999). It also has functional significance: If a student's listening comprehension is better than his reading comprehension, assistive technology programs

that convert text to speech can be a useful accommodation to help the student succeed in situations despite his decoding difficulty (see chapter 12 for related information). If a student's listening comprehension is not better than his reading comprehension, a program that converts text to speech will be of limited value.

**4. Inadequate response to effective instruction and intervention.** It is important to rule out the possibility that the observed poor reading is caused by a lack of opportunity to learn to read. Factors that need to be taken into account include the possibility of limited exposure to reading instruction because of extensive absences from school, or exposure to poor instruction. Documenting inadequate response to effective instruction and intervention can help rule out these possibilities.

## Signs of Dyslexia in Children by Age Group

Early intervention has proved to be highly beneficial for all types of disabilities. Although an official diagnosis of dyslexia may not be made until a student is reading and writing, there are many factors that parents and educators can observe, measure, and remediate long before kindergarten or first grade. For example, waiting until the student demonstrates a reading or spelling problem wastes precious time that could be spent building a foundation of oral language on which later literacy skills could be developed.

Educationally related difficulties associated with dyslexia can often manifest differently throughout a student's academic career and occur on a continuum of severity. As students are promoted through grade levels, academic demands increase, and different struggles arise that parents, teachers, and students can recognize. It is important to note that the lists included below are not exhaustive, and students with dyslexia may or may not exhibit these specific characteristics on the basis of their own unique patterns of language learning strengths and challenges.

The bulleted items shown below, which are organized by age group, list potential red flags that parents can use to monitor for dyslexia. These indicators were adapted from the University of Michigan's [Clues to Dyslexia](#) and the Yale Center for Dyslexia & Creativity's [Signs of Dyslexia](#).

### **Preschool-Age Children**

Indicators of dyslexia are apparent at an early age; research indicates that students exhibit difficulty with literacy skills as early as preschool. At this age, a child is actively developing phonological awareness through the language activities to which she is exposed. It is important to understand typical developmental benchmarks in the area of literacy. Children often meet some of these benchmarks and not others, especially depending on their exposure to books and literacy development activities. Preschool, frequent reading, and activities like

songs and rhymes all play a part in a child’s early literacy development. Children in preschool with dyslexia may show the following signs:

- A delay in talking or speech that is difficult to understand or that sounds like “baby talk”
- Difficulty recognizing her own name in print
- Difficulty learning nursery rhymes or recognizing rhyming patterns
- A lack of interest in books
- Difficulty understanding directionality: turning books right-side up and turning pages in the correct direction
- Difficulty understanding that reading is from left to right. Some children who have had limited exposure to books, reading, or print will likely have delays here because of a lack of exposure.
- Difficulty remembering the names of letters in his name or some letters of the alphabet; difficulty with how to spell and write his name
- Delayed language and vocabulary development
- Difficulty reciting the alphabet and days of the week sequentially
- Difficulty naming things quickly or automatically
- Frustration with fine motor skills, such as coloring, pasting, and cutting with scissors
- Difficulty pronouncing familiar words
- Difficulty following multistep directions or routines
- A struggle to produce intelligible speech for an unfamiliar listener
- Difficulty learning numbers, days of the week, colors, and shapes
- Difficulty telling and retelling a story in the correct sequence
- Difficulty separating sounds in words and blending sounds to make words

It is still typical for children at this age to display the following signs and behaviors:

- Difficulty with articulating later-developing sounds, including *s*, *r*, *v*, *th*, *ch*, and consonant blends such as *sw*, *st*, and *str*
- Occasional lack of interest in reading with a preference for engaging in more active play
- Difficulty creating rhymes for many words
- Confusion over letter names, especially ones that look or sound similar

### ***Students in Kindergarten Through First Grade***

Formal reading instruction begins at this age. Students in kindergarten receive active instruction in developing phonemic awareness and in phonics. The ability to identify all letters

of the alphabet by name and sound at the end of the first semester of kindergarten is a key instructional goal. Simple “sounding out” instruction also begins in kindergarten. By first grade, students are actively reading longer sentences and learning more complex phonics rules. Concurrently, emphasis on standard spelling in writing is more prevalent. Students in kindergarten through first grade who have dyslexia may show the following signs:

- Inability to create a rhyme for a simple one-syllable word like “hot” or “cat”
- Inability to manipulate single sounds in words, such as in an exercise to replace the “n” sound in “can” with a “p” sound.
- Inability to separate a compound word into its two words (e.g., “rainbow” is formed with “rain” and “bow”)
- Inability to separate words into their individual sounds by the end of first grade (e.g., “dog” has 3 sounds: /d/, /o/, and /g/)
- Inability to remember the names of the letters of the alphabet or consistent confusion over the letters of the alphabet
- Difficulty with letter–sound correspondences (e.g., learning the sound “duh” goes with the letter “d”)
- A tendency to read words with no connection to the letters on the page
- Inability to track words with one’s finger when following along with oral reading
- A heavy reliance on the pictures in a story to “read”
- Difficulty remembering basic sight words like “to,” “the,” “look,” and “my”
- Difficulty sounding out one-syllable words (e.g., “dog,” “hop,” “bat”)
- Complains that the student does not like to read and finds it difficult to do, or active avoidance of reading
- A tendency to make reading errors that are not connected to the sounds of the letters on the page
- Difficulty understanding segmentation

It is still typical for students at this age to display the following signs and behaviors:

- Difficulty with some of these signs through the middle of kindergarten
- Difficulty with later-developing sounds, including *v*, *th*, *ch*, and consonant blends when speaking
- Confusion over the letters “b” and “d,” especially when writing
- Use of picture cues to help with unknown words when reading
- Use of phonetic spelling and a tendency to transpose letter positions in high-frequency words, such as “wiht” for “with”

- Use of consistent punctuation and difficulty making some letter formations correctly
- Boredom when listening to chapter books and a preference for picture books instead
- Preference for other activities over reading

### ***Students in Second Grade Through Third Grade***

Reading demands increase significantly during these grades. Passages and words become longer, and grammar and use of different verb tenses are more complicated; there is an increased focus on comprehending and responding to reading. Reading demands in other subjects, such as mathematics, also increase as students are expected to read directions and short word problems individually. At this age, students are expected to write one or more paragraphs with mostly standard spelling. Students in second through third grade who have dyslexia may show the following signs:

- Omission of grammatical endings in reading and writing (-s, -ed, -ing, and so forth)
- Trouble segmenting multisyllabic words or with use of segmentation strategies when reading
- Avoidance of reading aloud or frustration with reading tasks
- Difficulty applying “word attack” strategies and phonics rules to unknown words
- Use of wild guesses of words, especially words that are based on the initial letter sound and have little or no relationship to the rest of the word
- Ongoing difficulty with common high-frequency words such as “with,” “this,” and “for”
- Frequent confusion over words that look similar, such as “what/want” and “these/those”
- Difficulty remembering spelling words over time and learning spelling rules
- Misspellings of common high-frequency words
- Insertion of many pauses or hesitations when talking, or use of “repairs” by starting the sentence over frequently
- Trouble recalling specific words and use of many filler words, such as “stuff” or “things,” instead of the proper names of objects when talking
- Requirements of extra time to formulate sentences, answer questions, or finish tests
- Difficulty telling a story in sequential order
- Difficulty remembering dates, phone numbers, names, and random facts
- Confusion over words that sound alike when speaking
- Consistent reading and spelling errors, such as letter reversals, word reversals, inversions, transpositions, and substitutions
- Difficulty learning the connection between letters and sounds

- Difficulty decoding single words
- Confusion over small words
- Transposition of number sequences and confusion over arithmetic signs
- Difficulty in learning mathematical facts, especially multiplication tables
- Difficulty remembering facts
- Reliance on guessing and use of contextual cues when reading
- Difficulty learning new vocabulary
- Reliance on memorization without comprehension
- Difficulty planning, organizing, and managing time, materials, and tasks
- Poor penmanship and difficulty using a mature pencil grasp or use of space on the page
- Poor fine motor coordination and struggle to perform sequential motor tasks
- Difficulty understanding directions
- Difficulty telling time and understanding time concepts, such as “before” and “after”
- Strong comprehension of material that is read to the student as opposed to text that she tries to read
- Below-average acquisition of reading skills
- Mispronunciation of long, unfamiliar, or complicated words
- Difficulty learning a foreign language

It is still typical for students at this age to display the following signs and behaviors:

- The need to slow down or the need for help in sounding out multisyllabic words
- Use of imprecise language, especially when the subject matter is new
- Misspellings of words that are longer or not frequently used
- Occasional omission of a word or misreading of a word when reading longer passages aloud
- The need to wait to read chapter books until the middle of third grade

### ***Students in Fourth Grade Through Eighth Grade***

Reading demands increase dramatically starting in fourth grade as the school system transitions from teaching students how to read to using reading as a tool for students to learn new information. This transition is called the move from “learning to read” to “reading to learn.” Reading instruction tends to focus on comprehension strategies, fluency, and gaining new vocabulary. Writing demands also increase dramatically, and students are expected to compose multiparagraph essays. As students move into middle school, in-class reading

diminishes, and independence in reading activities is the basis of most assignments. Students with dyslexia who previously managed to struggle through reading demands often become overwhelmed by the amount of independent reading, the increase in complex vocabulary, and the speed at which reading takes place from fourth grade onward. Students in fourth through eighth grade who have dyslexia may show the following signs:

- A history of struggling to read or poor reading skills
- A demonstration of reading error patterns normally observed in younger children
- Consistent choices in independent reading that are below grade level
- Significant difficulty reading and spelling multisyllabic words, as well as frequent omissions of entire syllables and single sound errors
- A lack of awareness of word structure and knowledge of prefixes and suffixes to support reading
- Frequent errors in reading common sight words (e.g., “where,” “there,” “what,” “then,” “when,” “the,” and so forth)
- Lack of smoothness or fluency when reading aloud: the student’s reading is marked by pauses, a slow pace, multiple self-corrections, and monotone inflection
- Lack of attention to punctuation when reading aloud and the blending together of sentences or phrases without regard to meaning
- Difficulties with reading comprehension and learning new information from text because of underlying difficulties reading words
- Comprehension difficulties because the student’s reading speed is labored and the student does not recall information or is focused only on decoding words as opposed to the meaning of the text
- Difficulty learning new vocabulary
- Difficulty learning a foreign language
- Continued problems with spelling, using phonetic representation for longer words, and transposing letter places in common words
- Difficulties organizing ideas for writing
- Avoidance of reading for pleasure or reading aloud
- Poor performance on written, timed tests and better performance on oral exams
- Persistence of earlier oral language or word recall problems
- Weak decoding skills
- Below-average fluency when decoding multisyllabic words
- Difficulty with word problems in mathematics

- Difficulty recalling facts
- Below-average sight-word vocabulary
- Difficulty in learning spelling strategies, such as root words, affixes, and spelling patterns
- Reading skills that are below grade level
- A tendency to reverse letter sequences
- A tendency to spell the same word differently on the same page
- Illegible handwriting or a tendency to avoid writing
- Difficulty with nonliteral language
- Difficulty with written composition
- Difficulty with planning, organizing, and managing time, materials, and tasks

It is still typical for students at this age to display the following signs and behaviors:

- A tendency to stumble when reading new vocabulary words
- The need for explicit instruction in subject matter for full comprehension
- The need to reread a passage with a lot of information or new terms to understand it
- A tendency to forget new vocabulary, especially vocabulary associated with an academic subject
- A tendency to misspell new or multisyllabic words
- The need to use graphic organizers to develop writing ideas
- The need for adult assistance with organizing ideas in a multiparagraph essay
- The need for support to manage and organize time

### ***Students in High School Through College***

Many individuals with dyslexia go undiagnosed or are diagnosed only once in high school or college. The following items are common signs of dyslexia in young adults who have not been previously identified:

- A childhood history of reading and spelling difficulties, many of which persist
- A tendency to read with great effort and at a slow pace, although reading skills have developed over time
- An avoidance of reading for pleasure and of reading aloud
- Difficulty with notetaking in lecture-based classes
- A tendency to pause or hesitate often when speaking and the use of imprecise language, such as “stuff” and “things”



- Frequent mispronunciation of the names of people and places
- Difficulty remembering names of people and places and confusion over names that sound alike
- A tendency to struggle to retrieve words; the student has the “It was on the tip of my tongue” moment frequently
- A spoken vocabulary that is smaller than the student’s listening vocabulary
- An avoidance of saying words that might be mispronounced
- The persistence of earlier oral language difficulties
- A self-image of being dumb, or a concern that the students’ peers think he is dumb despite the fact that he has good grades
- Difficulty with multiple-choice tests
- Frequent sacrificing of social life for studying
- Extreme fatigue when reading
- An inability to perform rote clerical tasks well
- Difficulty with organizing projects and time management

It is still typical for students at this age to display the following signs and behaviors:

- The need for guidance on developing higher-level concepts in all areas
- The need for extra review for new, content-specific vocabulary
- The need for extra time for reading material that is informationally dense
- The need for guidance in determining good sources of information

## **Strengths Observed in Students with Dyslexia**

Despite possible academic difficulties, individuals with dyslexia may also be gifted and talented in various areas. Dyslexia often exists in persons with aptitudes, talents, and abilities that enable them to be successful in many other domains. They often find alternative ways of gathering knowledge and innovative strategies to learn, work, and achieve in life (Yale Center for Dyslexia & Creativity 2016). For example, individuals with dyslexia may show special aptitude in certain kinds of visual spatial thinking or three-dimensional awareness and may excel in professions requiring those abilities. They may also have strong technical and mechanical aptitude. In fact, individuals with dyslexia have succeeded in a broad range of careers, including law, medicine, writing, and science (Shaywitz 2003). Listed below are strengths that students with dyslexia may exhibit (Shaywitz 2003). Again, it is important to note that the following list is not exhaustive, and students with dyslexia may or may not exhibit these specific characteristics:

- Curiosity
- An advanced maturity level
- An eagerness to embrace new ideas
- A talent at building objects
- A strong imagination
- Problem-solving abilities
- Enjoyment and skill in solving puzzles
- Ability to replicate models or three-dimensional objects
- Strong thinking skills: conceptualization, imagination, and reasoning
- Good listening comprehension
- Strength in areas that do not rely on reading
- The ability to read and to understand practiced words in a special area of interest
- A strong understanding of vocabulary through listening comprehension
- Experiential learning
- Ability to understand the “big picture” or “gist” of things

### **MORE INFORMATION**

- The International Dyslexia Association’s [Dyslexia Basics](#) provides an overview of dyslexia, including its characteristics and demographics.
- The Centers for Disease Control and Prevention (CDC) offers a [Milestone Moments](#) resource to help parents watch for important markers in their child’s growth and development.
- Both the University of Michigan’s [Clues to Dyslexia](#) and the Yale Center for Dyslexia & Creativity’s [Signs of Dyslexia](#) provide information about the signs and strengths of dyslexia in children and students.