



Dyslexia: What is it, why is it important, and how can I help?

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Dyslexia




ADHD




Slidebooks

Check out the helpful information in these slidebooks which cover topics like ADHD and executive functioning



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THE DYSLEXIA HANDBOOK
2021 Update

Went into effect February 10, 2022.


https://tea.texas.gov/sites/default/files/19_0074_0028-1_2021.pdf

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“Dyslexia” - a disorder of constitutional origin manifested by a difficulty in learning to read, write, or spell, despite conventional instruction, adequate intelligence, and sociocultural opportunity.

- TEC §38.003(d)(1)-(2) (1995)




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Primary reading/spelling characteristics of dyslexia:

- Difficulty reading words in isolation
- Difficulty accurately decoding unfamiliar words
- Difficulty with oral reading (slow, inaccurate, or labored without prosody)
- Difficulty spelling

Individuals demonstrate differences in degree of impairment and may not exhibit all the characteristics listed above.



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Consequences of dyslexia may include the following:

- Variable difficulty with aspects of reading comprehension
- Variable difficulty with aspects of written language
- Limited vocabulary growth due to reduced reading experiences

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- Reading represents a code, the alphabetic code. About 70-80% of children are able to break the code after a year of instruction. For the rest, reading remains beyond their reach after one, two or even more years of schooling.
- Committee on Preventing Reading Difficulties in Young Children of the National Research Council concluded in 1998: "The educational careers of 25% to 40% of American children are imperiled because they don't read well enough, quickly enough, or easily enough."

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DYSLEXIA IS ...

NOT A VISUAL PROBLEM

NOT A LACK OF INTELLIGENCE

NOT DUE TO LACK OF EFFORT

NOT A DEVELOPMENTAL LAG

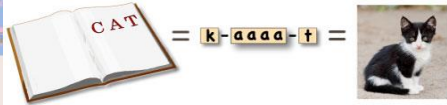
NOT UNCOMMON – 5–17.5 % OF POPULATION

NOT RESPONSIVE TO STANDARD READING INSTRUCTION

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But what IS the problem???

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When reading, your brain has to connect letters with sounds and put those sounds together in the right order.


Then it has to help you put letters, words, and paragraphs together in ways that let you read them quickly and understand what they mean.

It also has to connect words and sentences with other kinds of knowledge so – when you see "c-a-t" on a piece of paper, your brain doesn't just have to read the word "cat," it also has to make the connection that "cat" means a furry, four-legged animal that meows.

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- Before words can be identified, understood, stored in memory, or retrieved from it, they must first be broken down into phonemes by the neural machinery of the brain. Words must first be broken down into their underlying phonemes before they can be processed by the language system.
- This is crucial for both speaking and reading.


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Phoneme, you say??

- A phoneme is the smallest unit of sound in a language that makes a difference in its meaning.
- English has 44 phonemes
- Words are made up of strings of phonemes
- big dig bug bin
- Phonemic awareness is the ability to identify, think about, or manipulate the individual sounds in words


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English is hard! There are 1100 graphic representations for the 44 sounds. The /k/ sound for example has 5 different graphic representations:


- C (cat, elect, frolic)
- K (kiss, skim, crook)
- -ck (back, luck)
- -ch (Chemistry, chord)
- -que (opaque, mosquito)

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- BUT in children with dyslexia, the phonemes are less well developed. Think of such a phoneme as a child's carved letter block whose face is so worn that the letter is no longer prominent. As a consequence, such children when speaking may have a hard time selecting the appropriate phoneme and may instead retrieve a phoneme that is similar in sound:
- Ocean (oops) – meant lotion
- Emeny (oops) – meant enemy

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- Reading is the converse of spelling. In reading, we begin with the intact printed word on the page: The block representing phonemes are all lined up correctly. The reader's job is to convert the letters into their sounds and appreciate that the words are composed of smaller segments or phonemes.
- Dyslexics have difficulty developing an awareness that spoken and written words are comprised of these phonemes or building blocks.

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BUT.....

- Deficits in PA alone do not account for all cases of dyslexia
- Rapid automatized naming (RAN) deficits are also evident in a subset of individuals with developmental dyslexia
- RAN, sometimes referred to as naming speed or rapid naming, is the speed with which one can name visually-presented familiar stimuli such as letters, numbers, colors and objects out loud, and reflects the automaticity of processes which are also important for reading


Norton et al 2014

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- "Across every language tested to date, naming-speed tests represent one of the two best predictors of reading ability, along with tests for phoneme awareness"
- "These components of naming speed represent a miniversion or subset of the same processes and subprocesses found in reading, all of which must function smoothly and rapidly if the individual is to produce a verbal match for an abstract, visually represented symbol or word."


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➤ Students with both the naming speed deficit AND the phonological processing deficit are considered to have a "double deficit" and have more severe difficulties than those with just one of the two areas of weakness.




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Not all disorders of reading are dyslexia. Can have comprehension disorder, fluency disorder.

Not all learning disorders are dyslexia.

Not all who appear to struggle to read are dyslexic.




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Signs of dyslexia




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Preschool

- Delay in learning to talk
- Difficulty with rhyming
- Difficulty pronouncing words (e.g., "pusgetti" for "spaghetti," "mawn lower" for "lawn mower")
- Poor auditory memory for nursery rhymes and chants
- Difficulty adding new vocabulary words
- Inability to recall the right word (word retrieval)
- Trouble learning and naming letters and numbers and remembering the letters in his/ her name
- Aversion to print (e.g., doesn't enjoy following along if a book is read aloud)




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Kindergarten and First Grade

- Difficulty breaking words into smaller parts, or syllables (e.g., "baseball" can be pulled apart into "base" "ball" or "napkin" can be pulled apart into "nap" "kin")
- Difficulty identifying and manipulating sounds in syllables (e.g., "man" sounded out as /m/ /ɑ/ /n/)
- Difficulty remembering the names of letters and recalling their corresponding sounds
- Difficulty decoding single words (reading single words in isolation)
- Difficulty spelling words the way they sound (phonetically) or remembering letter sequences in very common words seen often in print (e.g., "sed" for "said")




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Second Grade and Third Grade

(Many of the previously described behaviors remain problematic along with the following:)

- Difficulty recognizing common sight words (e.g., "to," "said")
- Difficulty decoding single words
- Difficulty recalling the correct sounds for letters and letter patterns in reading
- Difficulty connecting speech sounds with appropriate letter or letter combinations and omitting letters in words for spelling (e.g., "after" spelled "effr")
- Difficulty reading fluently (e.g., reading is slow, inaccurate, and/or without expression)
- Difficulty decoding unfamiliar words in sentences using knowledge of phonics
- Reliance on picture clues, story theme, or guessing at words
- Difficulty with written expression



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4th Grade

Fourth Grade through Sixth Grade

(Many of the previously described behaviors remain problematic along with the following:)

- Difficulty reading aloud (e.g., fear of reading aloud in front of classmates)
- Avoidance of reading (particularly for pleasure)
- Difficulty reading fluently (e.g., reading is slow, inaccurate, and/or without expression)
- Difficulty decoding unfamiliar words in sentences using knowledge of phonics
- Acquisition of less vocabulary due to reduced independent reading
- Use of less complicated words in writing that are easier to spell than more appropriate words (e.g., "big" instead of "enormous")
- Reliance on listening rather than reading for comprehension

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4th Grade

Middle School and High School

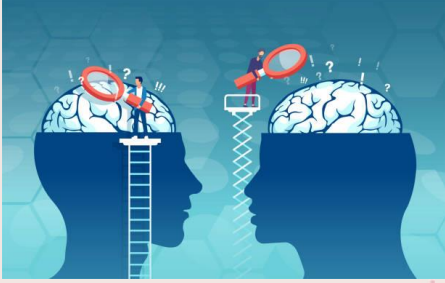
(Many of the previously described behaviors remain problematic along with the following:)

- Difficulty with the volume of reading and written work
- Frustration with the amount of time required and energy expended for reading
- Difficulty reading fluently (e.g., reading is slow, inaccurate, and/or without expression)
- Difficulty decoding unfamiliar words in sentences using knowledge of phonics
- Difficulty with written assignments
- Tendency to avoid reading (particularly for pleasure)
- Difficulty learning a foreign language

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4th Grade

So, what do we do about it??



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4th Grade

First and foremost – EFFECTIVE LITERACY INSTRUCTION!

"...reading skills can be increased with the right early intervention and prevention programs...It is clear from the consensus of scientifically based research that the nature of the educational intervention for individuals with reading disabilities and dyslexia is critical."

- Birsh, J.R., Connecting Research and Practice, 2018

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4th Grade

Accommodations

.....accommodations provide the student with dyslexia effective and equitable access to grade-level or course instruction in the general education classroom. **Accommodations are not one size fits all; rather, the impact of dyslexia on each individual student determines the necessary accommodation....**

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4th Grade

- Copies of notes (e.g., teacher- or peer-provided) or teacher outlines.
- Note-taking assistance
- Permission to record classes (evernote)
- Additional time on class assignments and tests
- Reduced/shortened assignments (chunking assignments into manageable unites, fewer items given on a classroom test or homework assignment without eliminating concepts, or student planner to assist with assignments)
- Alternative test location that provides a quiet environment and reduces distractions
- Priority seating assignment

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4th Grade

- Oral reading of directions or written material
- Word banks
- Text to speech
- Speech to text
- Electronic spellers
- Electronic dictionaries
- Formula charts
- Adaptive learning tools and features in software programs
- Audiobooks
 - <http://www.tea.state.tx.us/index2.aspx?id=2147487109>



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4th Grade

A child who reads printed text at 60 words a minute may jump to 300 words a minute with a device that allows her to hear text as she reads.

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4th Grade

- Clarify or simplify written directions
- Present a small amount of work at a time
- Block out extraneous stimuli
- Highlight essential information
- Provide a glossary in content areas
- List of commonly misspelled words

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4th Grade

- Use teaching procedures such as advanced organizers, guided practice, corrective practice
- Simplify and repeat directions
 - In their own words
 - Break down steps
 - Read directions to/with students
 - Try picture directions or lists
- Provide students with graphic organizers
- Use step-by-step instruction
- Simultaneously combine verbal and visual info
- Write key points and words on the "chalkboard"
- Emphasize daily review

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4th Grade

- Accommodations involving student performance:
 - Change response mode
 - Provide an outline of the lecture
 - Encourage use of graphic organizers
 - Place the student close to the teacher
 - Encourage use of an assignment book or calendar
 - Reduce copying by including information or activities on handouts or worksheets
 - (more next slide)

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4th Grade

- Accommodations involving student performance (continued):
 - Have students turn lined paper vertically for math
 - Use cues to denote important items
 - Allow use of instructional aids (letter strips)
 - Display work samples
 - Use peer-mediated learning
 - Encourage note sharing
 - Use flexible work times
 - Use assignment substitution or adjustments

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<https://dyslexiaida.org/accommodations-for-students-with-dyslexia/>

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address comorbidities.....

- Working memory
- Attention
- Other language issues
- Dysgraphia

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Dysgraphia



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Dyslexia and dysgraphia are seen as *distinct disorders* that can exist together or separately. They have different brain mechanisms and identifiable characteristics.

Both are language-based disorders. In dyslexia, the impairment is with word-level skills (decoding, word identification, spelling). Dysgraphia is a written language disorder in the serial production of strokes to form a handwritten letter. This involves **not only motor skills but also language skills**—finding, retrieving and producing letters, which is a subword-level language skill.

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The impaired handwriting may interfere with spelling and/or composing, but individuals with only dysgraphia do not have difficulty with reading (Berninger, Richards, & Abbott, 2015).


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Dysgraphia is a **neurodevelopmental** disorder manifested by illegible and/or inefficient handwriting due to difficulty with **letter formation**. This difficulty is the result of deficits in **graphomotor function** (hand movements used for writing) and/or storing and retrieving **orthographic codes** (letter forms).

neurodevelopmental – how the brain develops
letter formation – writing letters; not *all* fine motor
graphomotor functioning - hand movements used for writing
orthographic codes – letter forms

(Berninger, 2015).


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Characteristics of dysgraphia:


- Variably shaped and poorly formed letters
- Excessive erasures and cross-outs
- Poor spacing between letters and words
- Awkward, inconsistent pencil grip
- Heavy pressure and hand fatigue
- Slow writing and copying with legible or illegible handwriting
- Difficulty with unedited written spelling
- Low volume of written output as well as problems with other aspects of written expression
- Letter and number reversals (b, d) beyond early stages of writing (beyond around age 7)

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- Slow or labored written work
- Poor formation of letters
- Improper letter slant
- Poor pencil grip
- Inadequate pressure during handwriting (too hard or too soft)
- Excessive erasures
- Poor spacing between words
- Poor spacing inside words
- Inability to recall accurate orthographic patterns for words [letter positions, combinations, and sequences that make a word]

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- Inability to copy words accurately
- Inability of students to read what was previously written
- Overuse of short familiar words such as "big"
- Avoidance of written tasks
- Difficulty with visual-motor integrated sports or activities
- Impaired or illegible handwriting that is unexpected for student's age/grade
- Impaired handwriting that interferes with spelling, written expression, or both that is unexpected for the student's age/grade

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Dysgraphia is not:

- Evidence of a damaged motor nervous system
- Part of a developmental disability that has fine motor deficits (e.g., intellectual disability, autism, cerebral palsy)
- Secondary to a medical condition (e.g., meningitis, significant head trauma, brain trauma)
- Associated with generalized developmental motor or coordination difficulties (Developmental Coordination Disorder)
- Impaired spelling or written expression with typical handwriting (legibility and rate)


(Berninger, 2004)

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****One cannot tell with certainty if someone suffers with dysgraphia strictly by a writing sample!****


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Learn about it. Understand it. It is NOT laziness, sloppiness, rushed.....

[Understanding Dysgraphia - International Dyslexia Association \(dyslexiaida.org\)](https://dyslexiaida.org)



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Accommodations



- Allow more time for written tasks including note taking, copying, and tests
- Reduce the length requirements of written assignments
- Provide copies of notes or assign a note taking buddy to assist with filling in missing information
- Allow the student to audio record important assignments and/or take oral tests
- Assist student with developing logical steps to complete a writing assignment instead of all at once

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- Allow the use of technology (e.g., speech to text software, etc.)
- Allow the student to use cursive or manuscript, whichever is most legible and efficient
- Allow the student to use graph paper for math, or to turn lined paper sideways, to help with lining up columns of numbers
- Offer an alternative to a written project such as an oral report, dramatic presentation, or visual media project
- Allow parent to scribe/reduce homework load

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Address comorbidities.....

- Working memory
- Attention
- Other language issues
- Dyslexia

If dysgraphia is "all you are left with," it is much more manageable.

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