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- Dyslexia and dysgraphia are seen as <u>distinct disorders</u> that can exist together or separately. They have different brain mechanisms and identifiable characteristics.
- <u>Both are language-based disorders</u>. 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 <u>not only motor</u> <u>skills but also language skills</u>—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 <u>individuals with only</u> <u>dysgraphia do not have difficulty with reading</u> (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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The characteristics of dysgraphia:

- · Variably shaped and poorly formed letters
- Excessive erasures and cross-outs
- Poor spacing between letters and words
- Letter and number reversals beyond early stages of writing
- Awkward, inconsistent pencil grip
- Heavy pressure and hand fatigue
- Slow writing and copying with legible or illegible handwriting

(Andrews & Lombardino, 2014)



Additional consequences of dysgraphia may also include:

- · Difficulty with unedited written spelling
- Low volume of written output as well as problems with other aspects of written expression



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)



Dysgraphia can be due to:

- Impaired feedback the brain is receiving from the fingers
- Weakness using visual processing to coordinate hand movements and organize the use of space
- Problems with motor planning and sequencing
- Difficulty with storage and retrieval of letter forms

(Levine, 1999)

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"Despite the widespread beliefs that handwriting is purely a motor skill or that only multisensory methods are needed to teach handwriting, multiple language processes are also involved in handwriting. Handwriting draws on language by hand (letter production), language by ear (listening to letter names when writing dictated letters), language by mouth (saying letter names), and language by eye (viewing letters to be copied or reviewing for accuracy the letters that are produced from memory) (Berninger & Wolf, 2016)."

(p 61 of the 2021 handbook)

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Characteristics of dysgraphia:

- 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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- "b" and "d" reversals beyond developmentally appropriate time [most children outgrow by 7]
- Inability to copy words accurately
- Inability of stuents 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.

Writing requires an inordinate amount of energy, stamina, and time. Interferes with the student's ability to express ideas, keep up with note taking, copy of the board, answer questions on tests, etc.... What should be automatic is effortful.



So, what can a "parent" do to help?





1. Secure an evaluation you trust and understand.

The Handbook offers a lot about the evaluation process! Ask if your evaluator is familiar with Dysgraphia and evaluation as defined by the Texas Handbook! (members of IDA?)

Strengths? Weaknesses? Recommendations for school and home? Names of people the evaluator trusts.

Ask questions. Ask for recommendations. And if reading is hard for you, ask the evaluator to provide a detailed feedback and ask to record it and bring a trusted friend.

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

You need to get it in order to advocate for your child. AND you need to get it in order to not reprimand them or let others do so.

Understanding Dysgraphia - International Dyslexia Association (dyslexiaida.org)

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3. Work with school to secure accommodations and interventions.

- Be sure the teacher "gets it" watch for "simple" assignments or "little" in class writing tasks.
- Impacts note taking!!!
- Perhaps involve OT if appropriate
- Many factors to address posture, grip, feet on floor, etc. BUT BUT BUT...remember this isn't about motor functioning. But still look at variables you might have some control over. Things they may look at in the evaluation.

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When considering accommodations for the student with dysgraphia, consider the following:

- The rate of producing written work
- The volume of the work to be produced
- The complexity of the writing task
- The tools used to produce the written product
- The format of the product

(Texas Scottish Rite Hospital for Children, 2018, p. 5) From the Handbook





Possible classroom 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

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- 4. Accommodate all writing at home.
- Don't make them write thank you cards, etc. Type them and have them sign or you start them. Avoid valentines – print labels with their names, use stamps.
- Grocery lists make a checklist? Text you?
- Scribe when possible and allowed for assignments.
- Make writing a comfortable. Give them graph paper and pens/pencils with gripping aids.
- Teach them computer skills early. Instead of writing, allow them to use computers for typing. Talk to text.
- · Do not criticize them for their bad handwriting.
- Lower the volume of writing. Advocate for non-writing so assignments or a limit.



- 5. Monitor social-emotional well being.
- Changes in eating, sleeping, desire to do what they used to enjoy
- Praise Praise Praise effort; relish effort
- Be sure they have balance do NOT withhold from sports, scouts, etc because of grades, etc.
- DO NOT keep in from recess to finish work
- DO NOT compare to siblings or others in class
- Lighten load! Homework, classes, etc
- https://dyslexiaida.org/dyslexia-and-resilience-inadults-a-psychologists-perspective/

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an 1 State	
6. Address comorbidities	
Working memoryAttentionOther language issuesDyslexia	
If dysgraphia is "all you are left with," it is much more manageable.	

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