

Evaluating Dysgraphia in the FIE

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Presentation Agenda

Outline

- Written Language
- Dysgraphia Overview
- Characteristics & Writing Samples
- Screening & Progress Monitoring
- Formal Evaluation
- Interpretation & Eligibility

Objectives

- To gain a deeper understanding of the academic challenges and underlying difficulties associated with dysgraphia
- To analyze characteristics of dysgraphia in the context of student writing samples
- To consider the importance of both qualitative and quantitative data in eligibility determinations
- To review the components of a comprehensive evaluation



Written Language

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National Writing Data

National Assessment of Educational Progress

Nation's Report Card (2011)
8th & 12th Grade Writing Assessments



<https://www.nationsreportcard.gov/>

➔ 27-28% students scored AT OR ABOVE *Proficient*

➔ 70% of 8th & 12th grade students scored *BELOW Proficient* on Writing Assessments (NAEP, 2011)

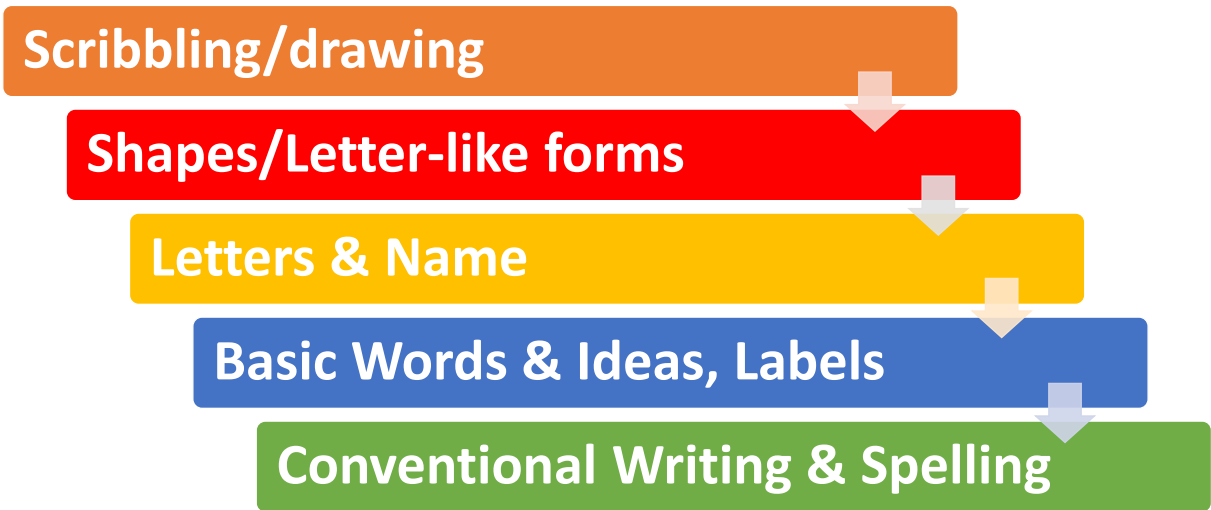
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Road to Literacy



Writing Milestones



Adapted from: <https://nspt4kids.com/parenting/developmental-milestones-pre-writing-writing-skills/> and <http://www.readingrockets.org/article/how-writing-develops>



Writing Milestones

Pre-Writing to Writing Skills

- 12-18 months: imitate spontaneous scribbles on paper with thick marker
- 19-24 months: imitate vertical and horizontal strokes & circles on paper
- 2 ½ -3 years: accurately copy vertical and horizontal strokes & circles on paper
- 4-5 years: copy a t, square, triangle, and x; write name (with model)
- 5 years: hand dominance established; letter writing developing
- 6 years: copy and write name and words independently; write alphabet in uppercase & lowercase independently
- 7 years: no longer reverse letters; apply spelling rules & use capital letters & basic punctuation when composing sentences
- 8 years and up: expressing ideas/feelings, summarizing information, sharing knowledge, and explaining thinking

Adapted from: <https://nsp4kids.com/parenting/developmental-milestones-pre-writing-writing-skills/> and <http://www.readingrockets.org/article/how-writing-develops>

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Dysgraphia Overview



Dysgraphia Defined

Dysgraphia is a word of Greek origin:

dys: difficulty

graph: to write/writing

ia: a condition, a state of



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Dysgraphia Defined in the Dyslexia Handbook (2018)

- Defined as a neurodevelopmental disorder manifested by illegible and/or inefficient handwriting due to difficulty with letter formation.



- Result of deficits in graphomotor function and/or storing and retrieving orthographic codes (Berninger, 2015)



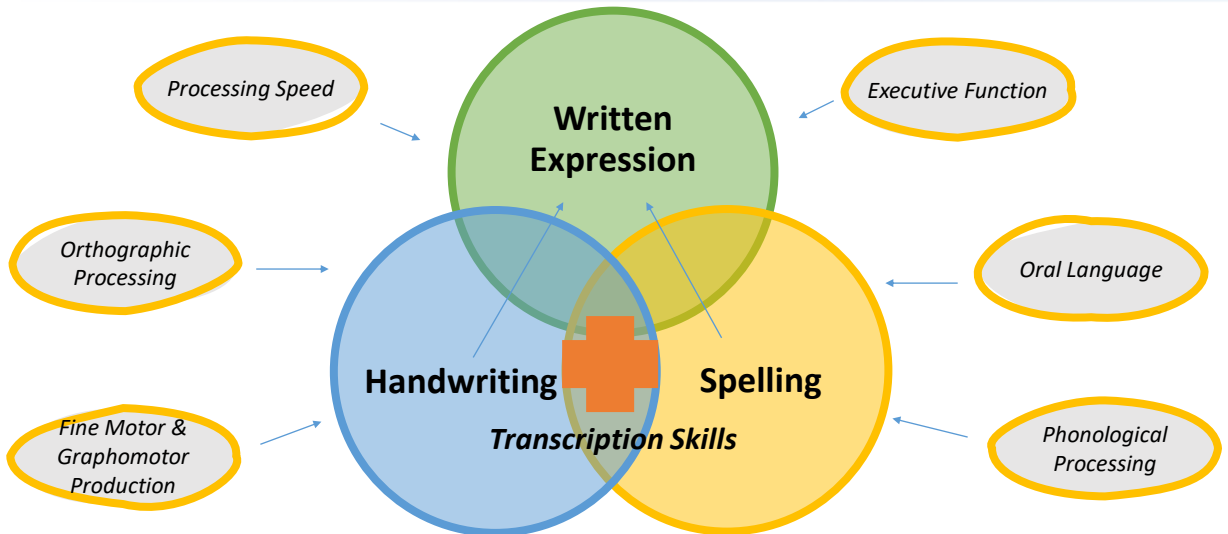
- Secondary consequences may include problems with spelling and written expression

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Dysgraphia: Primary Academic Challenges & Underlying Difficulties



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Associated Difficulties

Language

- Articulation
- Phonological Awareness
- Word Retrieval/Naming Deficit

Learning

- Dyslexia
- **Dysgraphia**
- Dyscalculia

Executive Function

- AD/HD

Students with dysgraphia often have comorbid language, learning, and attentional challenges.

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Characteristics & Writing Samples

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Characteristics

- | | |
|--|---|
| <ul style="list-style-type: none"> • Frustration/writing avoidance • Incomplete letter formation • Illegibility; poor handwriting • Unusual/dysfunctional pencil grip • Unusual writing speed (slow, fast, variable) • Hand/wrist fatigue • Unusual writing pressure (heavy or light) • Multiple spelling errors • Mixture of capital & lower-case letters within words | <ul style="list-style-type: none"> • Misuse of space between words & letters • Lack of letter anchoring on lines (swimming/floating letters) • Frequent erasures/crossing out • Simple word choice that does not reflect vocabulary abilities • Lack of punctuation, capitalization, and paragraph indentation • Written output does not match oral language skills |
|--|---|

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Initial Sample

Hi Rodyn asked me for a sample of my Hand writing because I have dysgraphia. Dysgraphia is a term for learning disabilities that affect spelling & handwriting. I should probably point out that ~~in~~ despite how my handwriting looks I'm 26 and have a business degree from UPST with a ~~major in~~ minor in economics.



Second Grade Samples

Hard highway icy road
 The Academy in the
 I put up with the winter
 The snow with I were the winter

MOY Second Grade sample (left)

EOY Second Grade Sample (below)

my tellu day
 brake it was fun
 I got three video
 games for my willu

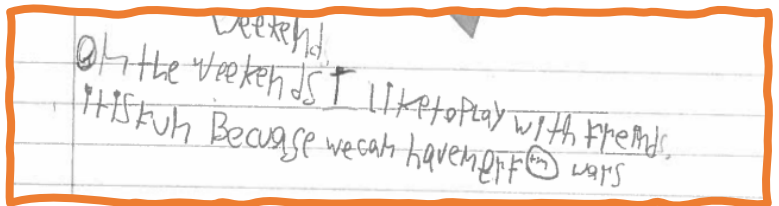


Intermediate Grade Samples



MOY Third Grade Sample
(left)

EOY Fifth Grade Sample
(below)



Screening & Progress Monitoring



Screening

Cost Effective

Brief

Valid &
Reliable

Trained
Personnel

- ➔ Defined as a universal measure administered to all students by qualified personnel to determine which students are at risk for learning difficulties
- ➔ Identifies predictive variables (**red flags**); students should not be rescreened for conditions already identified
- ➔ Not a formal evaluation

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Progress Monitoring & Data Collection

Progress monitoring data enables teachers and student support teams to make effective instructional decisions that drive student achievement.

<http://www.nctm.org/2014/04/23/progress-monitoring/>

Inform decision making teams

Estimate rates of improvement over time

Identify students who do not make adequate progress

Determine when an instructional change is needed

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Handwriting

Age/grade level expectations

Format

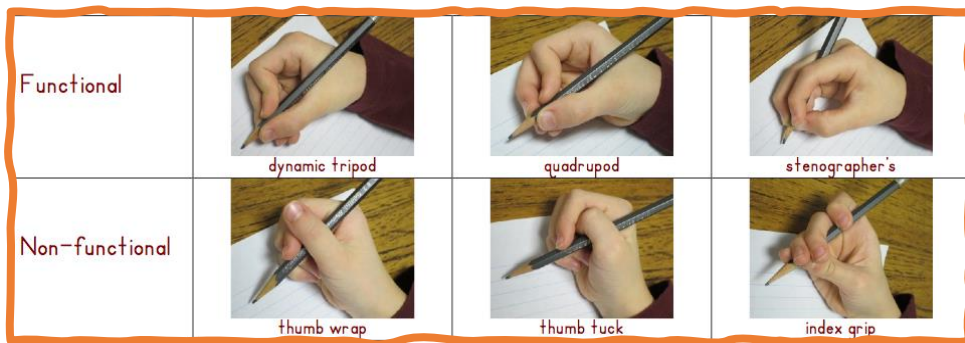
- Copy from model
- Independent composition
- Duration

Components

| | | |
|----------------|------------------|----------------|
| Posture | Pressure | Letter fluency |
| Handedness | Legibility | Slant |
| Pencil Grip | Letter formation | Reversals |
| Paper position | Approach stroke | Format |



Posture, Pencil Grip, & Paper Position



Picture retrieved from: <https://www.team4kids.com/graspgrasp-patterns-and-when-do-we-correct-them/>



Spelling



Age/grade level expectations



Format

- Isolated word writing
- Weekly assessments (spelling tests)
- Authentic writing assignments



Miscues

- Phonological miscues (camp as cap; slip as sip)
- Orthographic miscues (chick as chik; judge as juj)
- Semantic miscues (eight as ate; which as witch)
- Morphological miscues (camped as campt; vision as vishun)
- Mental orthographic representational miscues (said as sed; there as thare)

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Spelling Analysis

| Word | Student 1 | Student 2 |
|---------------|---------------|-----------|
| corn | corn | kn |
| shuttle | shuttel | shotl |
| here | hear | here |
| chomped | chompt | chupt |
| giraffe | giraff | juruf |
| determination | detirminashun | ditin |
| Score | 1 | 1 |

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Written Expression



Age/grade level expectations



Format

- Word Choice
- Sentence Structure
- Paragraph Sequence
- Duration



Components

| | | |
|-------------|-----------------------|--------------------|
| Handwriting | Grammar | Purpose |
| Spelling | Generation of ideas | Clarity |
| Syntax | Organization of ideas | Voice |
| Mechanics | Fluency | Editing & Revising |



Written Expression Analysis

| Considerations | Sample 1: | Sample 2: |
|---------------------------|-----------|-----------|
| Transcription | | |
| • Handwriting | | |
| • Spelling | | |
| Written Expression | | |
| • Sentence Structure | | |
| • Topic Sentence | | |
| • Supporting Details | | |

Instructions: Briefly describe writing sample. Then, rate each component from 1-5 (1 impaired, 2 below average, 3 average, 4 above average, 5 superior)



Data Gathering/Ancillary Materials

| | |
|---------------------------|--|
| Sentence Copy | Graphomotor production, visual motor processing, working memory |
| Sentence Dictation | Graphomotor production, orthographic and phonological processing, auditory working memory, academic & oral language skills |
| Alphabet Sequence | Graphomotor production, working memory, phonological processing |
| Spelling | Graphomotor production, orthographic and phonological processing, working memory, academic and oral language skills |
| Written Expression | Graphomotor production, orthographic processing, working memory, academic and oral language skills |
| Teacher/Rater Information | Qualitative data on multiple components of assessment |

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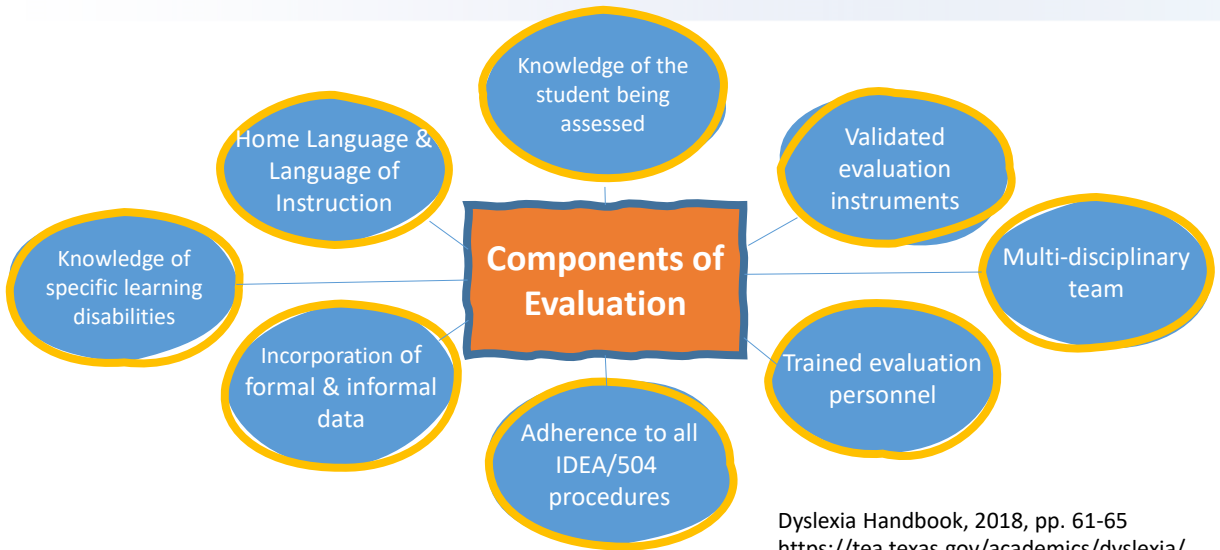
Formal Evaluation

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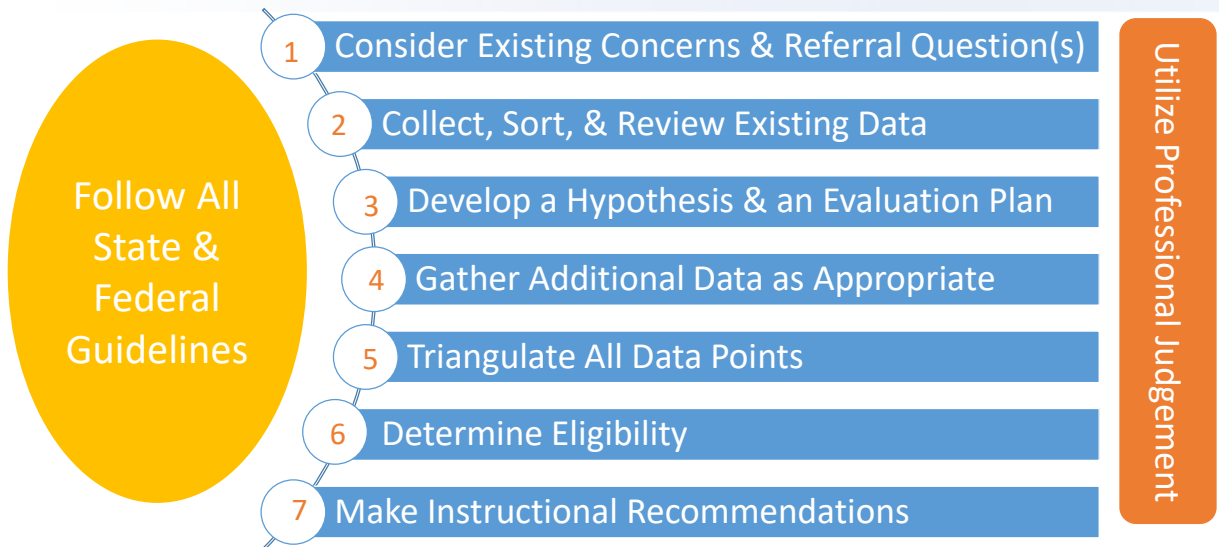
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Components of a Comprehensive Evaluation



Evaluation Process



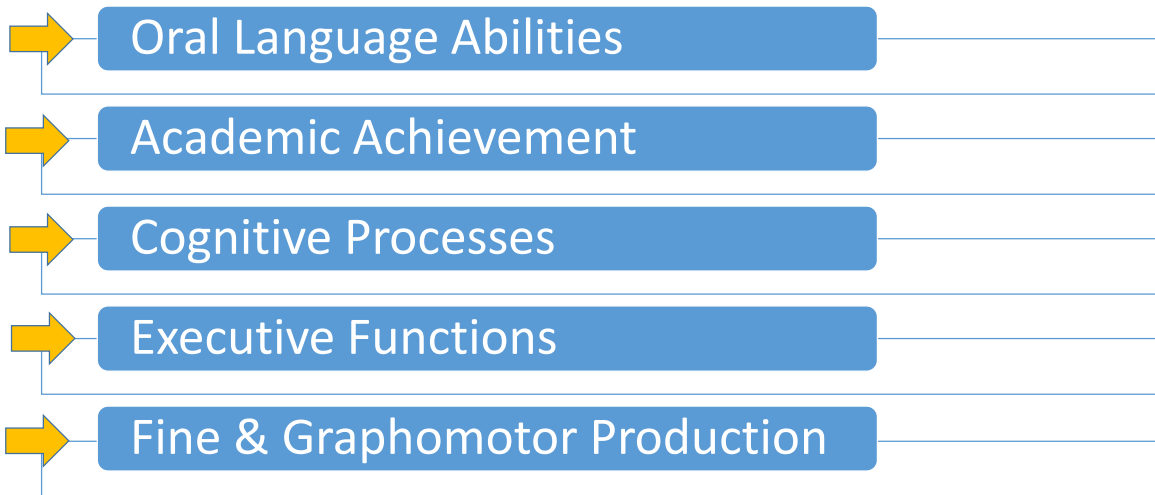


Multiple Sources of Data

| | | | | |
|--|---|-----------------------------|---------------------------------|--------------------------|
| Parent & Student Input | Medical History | Family History | Authentic Work Samples | Vision & Hearing Reports |
| Norm Referenced Assessments | Home Language & Language of Instruction | Grades & Report Cards | Standardized Assessment Results | Teacher Reports |
| Rtl/Progress Monitoring Data, CBA/CBM Data | Observations | Attendance & School History | Previous Evaluation | Behavior Inventories |



Assessment Domains





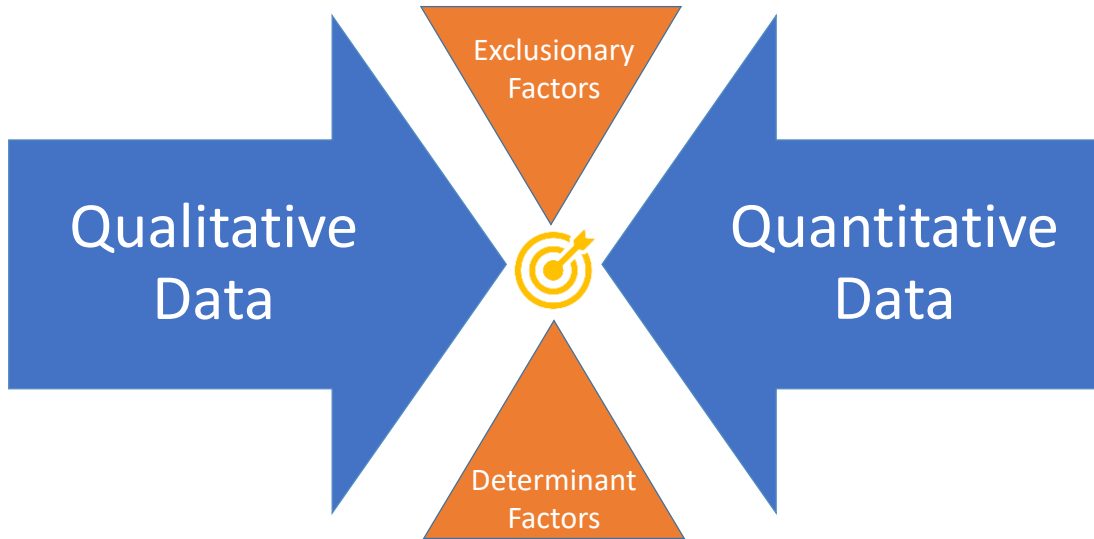
Interpretation & Eligibility Considerations

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Triangulation of Data



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| Considerations | Impaired | Below Average | Average | Above Average | Excellent |
|--------------------|----------|---------------|---------|---------------|-----------|
| Legibility | | | | | |
| Pencil Grip | | | | | |
| Spelling | | | | | |
| Writing Speed | | | | | |
| Written Expression | | | | | |
| Other: | | | | | |

| Subtests | Limited ≤79 | Below Av 80-89 | Average 90-110 | Above Av 111-120 | Excellent 121 + |
|--------------------------|----------------|-------------------|-------------------|---------------------|--------------------|
| Spelling | | | | | |
| Spelling of Sounds | | | | | |
| Writing Samples | | | | | |
| Sentence Writing Fluency | | | | | |
| Editing | | | | | |
| Other: | | | | | |

Woodcock Johnson-IV: <https://www.hmhco.com/programs/woodcock-johnson-iv>



Questions to Determine the Identification of Dysgraphia (Dyslexia Handbook, 2018)



- Do the data show a pattern of low writing and spelling ability that is unexpected for the student in relation to the student's other cognitive abilities and provision of effective classroom instruction?
- Does the pattern indicate the student has dysgraphia?
- Does the student meet eligibility as a student with a disability under Section 504 or IDEA?



Improving Reliability in SLD Identification

Gather/collect/consider multiple data points

Fletcher, J., & Miciak, J. (2019). The Identification of Specific Learning Disabilities: A Summary of Research on Best Practices. The University of Texas System/Texas Education Agency.

Avoid use of cut points and age/grade norms

Utilize confidence intervals

Use tests normed on the same population

When unsure, provide academic interventions

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Writing Style Guide



Writing Tips



- Report findings succinctly
- Avoid generalization
- Consider the narrative format and readability
- Use qualitative data to support and describe quantitative data
- Provide recommendations for supports and instruction
- Recommend additional assessment as appropriate

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Summarize Findings

4th grader - MOY

Student wrote in print using his right hand. He demonstrated a functional tripod pencil grip with an open web space. He used his left hand to anchor the paper to the desk. Even so, his handwriting was mostly illegible. Many letters were floating above the line and he used a mixture of upper and lowercase letters within words (inappropriately). He wrote slowly and without automaticity. He reversed the lowercase letters g, b, d, and p and uppercase letters B and P which affected readability and spelling accuracy.

Student made many spelling errors on common, one and two syllable words. Spelling errors included morphological miscues (camp~~t~~ for camped and flys for flies) and phonological miscues (sot for salt and sip for slip). Student also made articulation errors (/th/ pronounced /s/) in the final position of words which were reflected in his spelling (/bath/ spelled as /bas/ and /math/ spelled as /mas/).

Student was able to verbally describe a recent school fieldtrip with clarity but was unable to convey the information similarly when asked to write about the experience. Although he wrote without hesitation, three out of five of his sentences did not begin with capital letters and two of his sentences lacked subject-verb agreement.

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Summarize Findings

6th grader - EOY

Student wrote in print using her left hand. She utilized an unusual quadropod pencil grip with a wrapped thumb grasp and closed web space. Student demonstrated a hooked wrist position when writing. Writing stamina appeared compromised due to impaired grip and flexed wrist position. She asked to take breaks during the writing portions of testing noting, "My hand is feeling tired and stressed out." Student wrote letters in isolation and words slowly and without automaticity. Although her handwriting was legible, she made many erasures that also affected written output. On a timed alphabet task, student appeared overwhelmed and requested additional time to complete writing the letters in sequence. She sub-vocalized the alphabet song when writing the letters of the alphabet and sub-vocalized letter sounds when spelling.

Student made many spelling errors on both high frequency and decodable words. Spelling errors included orthographic miscues (tite for tight and sheap for sheep) and semantic miscues (ate for eight and there for their).

When asked to write a paragraph about her dog, student said she preferred to use the computer because it was easier for her to spell words correctly. On a timed writing test, student produced more words per minute and spelled more words accurately when keyboarding as compared to writing by hand.

Teacher and parent reports corroborate assessment performance.

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SLD Identification through IDEA



IDEA Regulations

A State must adopt, consistent with 34 CFR 300.309, criteria for determining whether a child has a specific learning disability as defined in 34 CFR 300.8(c)(10). In addition, the criteria adopted by the State:

- Must not require the use of a severe discrepancy between intellectual ability and achievement for determining whether a child has a specific learning disability, as defined in 34 CFR 300.8(c)(10);
- Must permit the use of a process based on the child's response to scientific, research-based intervention; and
- May permit the use of other alternative research-based procedures for determining whether a child has a specific learning disability, as defined in 34 CFR 300.8(c)(10).

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Federal Guidance



Individuals with Disabilities Education Act (IDEA) defines a specific learning disability (SLD) as “a disorder in one or more of the basic psychological processes involved in understanding or in **using language**, spoken or **written**, that may manifest itself in the imperfect ability to listen, think, speak, read, **write, spell**, or to do mathematical calculations.” <https://sites.ed.gov/idea/regs/b/a/300.8>



According to Section 504 of the Rehabilitation Act, to be eligible for services, accommodations, and protection against discrimination, a student must be determined, as a result of an evaluation, to have a physical or mental impairment which *substantially limits* one or more major life activities.

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Specific Learning Disabilities

Dyslexia

- SLD Basic Reading Skills
- SLD Reading Fluency

Dysgraphia

- SLD Written Expression

Dyscalculia

- SLD Math Calculation
- SLD Math Problem Solving

The US Department of Education, Office of Special Education and Rehabilitative Services provided clarification in a "[Dear Colleague](#)" letter dated October 23, 2015 which states, "There is nothing in the IDEA that would prohibit the use of the terms dyslexia, dyscalculia, and dysgraphia in IDEA evaluation eligibility determinations, or IEP documents."

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Wording in Evaluation & IEP Documents

A student with dysgraphia would likely be described in the IEP as having a specific learning disability in written expression with the condition of dysgraphia; Another way to describe a student with dysgraphia could read:

Brant has dysgraphia and qualifies for special education with a specific learning disability in written expression. He struggles to write legibly and spell words accurately.

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Wording in Evaluation & IEP Documents

➔ A student with **dyslexia** would likely be described in the IEP as having a specific learning disability in basic reading skills and/or reading fluency with the condition of dyslexia. Another way to describe a student with dyslexia in the IEP or evaluation documents could read: *Josie has dyslexia, a specific learning disability in basic reading skills, with primary impairments in single word decoding, orthographic awareness, and rapid naming.*

➔ A student with **dyscalculia** would likely be described in the IEP as having a specific learning disability in math calculation and/or math problem-solving. A statement to describe a student with dyscalculia could read: *Diego has dyscalculia, a specific learning disability in math calculation; he struggles to solve basic math facts with adequate speed and accuracy.*

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Final Considerations

Evaluation Guidelines

Adhere to ethical guidelines and follow all federal, state, and local policies

Utilize reliable and validated instruments
Evaluation personnel should be highly trained

Professional Judgement

Collect, sort, organize, & review both qualitative and quantitative data

Base decisions on multiple data points utilizing professional judgement

Reporting Recommendations

Report findings clearly and accurately
Use plain language

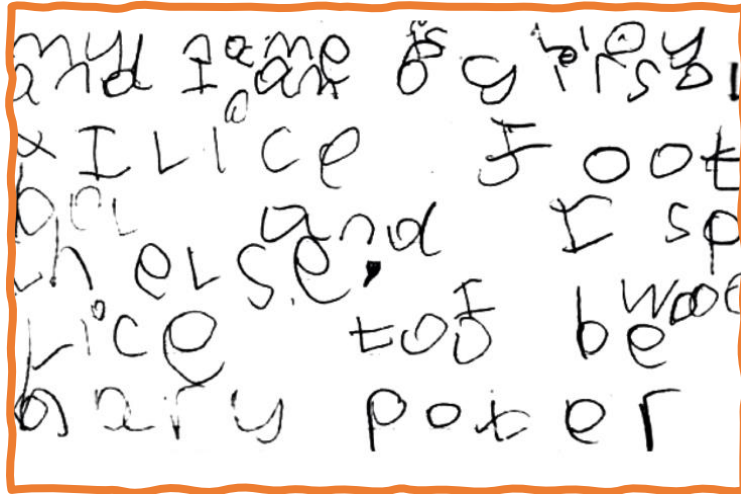
Make instructional recommendations to inform instruction and support students

Schultz, E.K., & Stephens, T.L. (2009)

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Reflection



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Resources

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Websites

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- <https://www.ncl.org/>
- https://sites.ed.gov/idea/files/Identification_of_SLD_10-4-06.pdf
- <https://sites.ed.gov/idea/regs/b/a/300.8>
- <https://www2.ed.gov/policy/speced/guid/idea/memosdcltrs/guidance-on-dyslexia-10-2015.pdf>
- <https://www.hmhco.com/programs/woodcock-johnson-iv>
- http://www2.milwaukee.k12.wi.us/portal/Elementary_Narrative_Writing_Guide4of4.pdf
- <https://www.nationsreportcard.gov/>
- <https://nspt4kids.com/parenting/developmental-milestones-pre-writing-writing-skills/>
- <http://www.readingrockets.org/article/how-writing-develops>
- <https://tea.texas.gov/>
- https://tea.texas.gov/sites/default/files/2018-Dyslexia-Handbook_Approved_Accommodated_12_11_2018.pdf
- <https://www.team4kids.com/grasprip-patterns-and-when-do-we-correct-them/>
- <https://www.understood.org/en/school-learning/special-services/504-plan/the-difference-between-ieps-and-504-plans>



Thank-you!

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