Pearson's Dyslexia Toolkit: Related Topics

A series of resources that connect to your work in dyslexia

2025

Dysgraphia... and How It Relates to Dyslexia

Abstract

Dyslexia and dysgraphia are distinct, but commonly co-occurring, learning disabilities. Professionals benefit from a clear understanding of each disability and their relationship to support differential diagnosis and intervention/instruction planning. The authors present a framework for understanding the definition and scope of dysgraphia and provide answers to commonly asked questions. In addition, tools and resources that can be used to support individuals with dysgraphia are offered within the context of a dysgraphia workflow, including screening, assessment, intervention, and progress monitoring.

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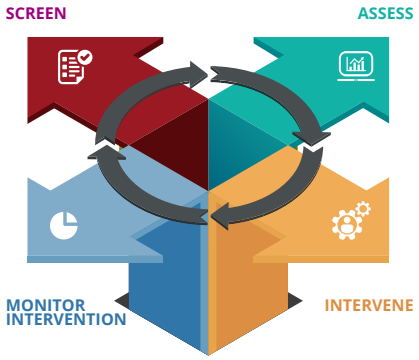


The term *dysgraphia* comes from the Greek "dys" meaning "impaired" and "graphia" meaning "making letter forms by hand." Dysgraphia, along with dyslexia and dyscalculia, are among the most prevalent specific learning disabilities (SLDs) in school-age populations.

Pearson's dysgraphia toolkit includes clinical and classroom resources for screening, diagnostic assessment, intervention, and progress monitoring (see Table 1). Included are tools that can be used across a wide range of professional groups and user qualification levels.

Table 1. Pearson's Dysgraphia Toolkit

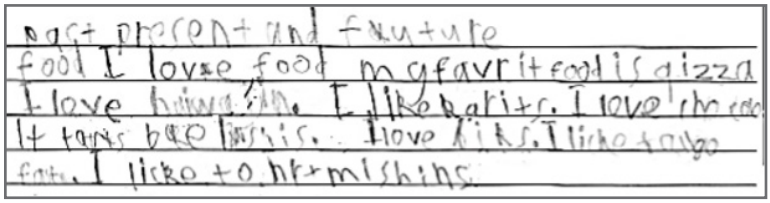
SCREEN	ASSESS	INTERVENE	MONITOR
Detailed Assessment of Speed of Handwriting (DASH-2) Copy Best and Copy Fast	DASH-2	Process Assessment of the Learner (PAL) intervention materials	aimswebPlus™ Spelling
Movement Assessment Battery for Children (3rd ed.; Movement ABC-3) Checklist	Kaufman Test of Educational Achievement™ (3rd ed.; KTEA™-3) Comprehensive Form	SPELL-Links™ Intervention and Training Products	aimsweb® Written Expression
Wechsler Individual Achievement Test® (4th ed.; WIAT-4) Alphabet Writing Fluency	Process Assessment of the Learner™ (2nd ed.; PAL™-II): Diagnostics for Reading and Writing	Intervention Guide for LD (Learning Disability) Subtypes	Growth scale values (GSVs)
	WIAT-4	KTEA-3 and WIAT-4 teaching objectives and intervention suggestions	Progress Monitoring Assistant™
	Beery-Buktenica Developmental Test of Visual-Motor Integration (6th ed.; Beery VMI-6)	WriteToLearn	Review360®
	Bruininks-Oseretsky Test of Motor Proficiency (3rd ed.; BOT-3)		
	Movement ABC-3		
	Tests of cognitive abilities and executive functions are also included		

Each resource in this toolkit shows strong empirical evidence on its own. The power of a toolkit comes from understanding the need for multiple tools and how they fit together to guide clear decision-making, giving the collective effort additional power. Clear data, a sufficient knowledge base, and team-based decision-making allow the best path forward.

Understanding Dysgraphia

Dysgraphia refers to "an impairment in handwriting ability that is characterized chiefly by very poor or often illegible writing or writing that takes an unusually long time and great effort to complete."[29] Signs of difficulty typically emerge when handwriting and spelling are first explicitly taught in kindergarten or first grade.[8] Difficulty with letter formation is the result of deficits in graphomotor function (hand movements used for writing) and/or storing and retrieving orthographic codes (letter forms).[8] Secondary consequences may include problems with spelling and written expression.[8] Dysgraphia is not due to lack of instruction or lack of motivation or effort.

Figure 1. DASH-2 Free Writing Sample by a 9-year-old Boy Diagnosed with Dysgraphia and Dyslexia With Strong Verbal Comprehension and Vocabulary Abilities



[Past present and future. Food. I love food. My favorite food is pizza. I love Hawaiian. I like carrots. I love chocolate. It tastes delicious. I love bikes. I like to go fast. I like to hurt my shins.]

Table 2. Signs of Dyslexia and Dysgraphia

Signs of dyslexia[a]	Signs of dysgraphia[b]
• Signs of difficulty typically emerge in preschool or kindergarten when early literacy skills are introduced • Difficulty acquiring letter-sound knowledge and naming/writing letters • Difficulty with word reading, decoding, and oral reading fluency • Better comprehension while listening than reading • Difficulty with spelling and written expression • Poor response to literacy instruction • Avoidance of reading and writing tasks	• Signs of difficulty typically emerge in preschool or kindergarten when early letter formation skills are introduced • Poor and/or inefficient (slow and labored) handwriting • Variably shaped and poorly formed letters • Poor spacing between letters and words • Difficulty copying words and sentences • Excessive erasures and cross-outs • Inadequate, heavy, or variable pressure in handwriting • Awkward or inconsistent pencil grip • Hand fatigue • Difficulty with spelling and written expression (secondary impairment) • Avoidance of writing tasks • Low productivity in writing • Poor response to handwriting instruction

[a] Refer to the Dyslexia Toolkit white paper on www.PearsonAssessments.com for more information about dyslexia assessment.

[b] Signs of dysgraphia are described in practitioner handbooks.[18, 35]

Dyslexia and dysgraphia are distinct language-based disorders that can present concurrently or separately. Difficulty with spelling, which can also interfere with written composition, is a shared symptom of both dyslexia and dysgraphia. Key signs of dyslexia and dysgraphia are summarized in Table 2. Due to its interference with practical writing skills, a fundamental component of literacy development, dysgraphia can have detrimental effects in school, daily life, and in the workplace (see Table 3).[29, 30a, 18a]

Table 3. Potential Impacts of Dysgraphia in Daily Living

- Frustration, anxiety, and low self-esteem in an academic setting
- Emotional and behavioral concerns
- Difficulty taking notes or completing forms/paperwork by hand
- Embarrassment or anxiety when asked to write in public or social settings
- Avoidance of handwritten tasks
- Limitations in career opportunities or advancement

Dysgraphia can also co-occur with other conditions such as dyscalculia, developmental language disorder, attention-deficit/hyperactivity disorder (ADHD), and autism spectrum disorders.[18] Based on research showing a strong connection between ADHD and handwriting difficulties, practitioners are advised to screen or assess for co-occurring dysgraphia with students who have a diagnosis of ADHD or are being evaluated for attention and executive function problems.[9]

Differential Diagnosis

According to an evidence-based framework for differential diagnosis of SLDs, dysgraphia is an impairment at the subword level of language by hand (writing letters and word parts), dyslexia is a word-level language impairment (affecting word reading and spelling), and oral and written language learning disability, which is also commonly referred to as developmental language disorder[11], primarily involves impairments with syntax, morphology, and text-level discourse.[8, 34] A summary of this framework is provided in Table 4.

Table 4. SLD Impairments

SLD	Level of language impairment	Primary impairment(s)
Dysgraphia	Subword level	Handwriting
Dyslexia	Word level	Word reading Spelling
Developmental language disorder	Phrase/sentence level	Morphology and syntax Comprehension (listening and reading) Written expression

Note. **Although individuals with dyslexia have primarily word-level impairments, receptive vocabulary tends to be a relative strength; in addition, individuals with developmental language disorder tend to have weaknesses in vocabulary/word knowledge in addition to phrase/sentence-level impairments.**[1]

Dysgraphia is an impairment that is primarily symbolic in nature, which differentiates it from conditions that affect motor or spatial impairments unrelated to language such as developmental coordination disorder and dyspraxia.

Historical and Alternative Perspectives

Consistent with the International Dyslexia Association[21] and the framework provided by Berninger,[7] we are using the term *dysgraphia* for this paper and our toolkit of resources to refer to handwriting difficulties at the subword level of language. However, given the lack of professional consensus on the definition and diagnostic criteria for dysgraphia, this section explains how alternative definitions of dysgraphia fit within the framework we are using.

Dysgraphia was originally understood as a visual-motor apraxia, a disorder resulting from a disturbance in visual-motor integration for written language—but without defects in either the visual or motor systems.[22] Since then, the term has been used to refer to any number of writing difficulties. Three types of dysgraphia were described by Deuel[17] and more recently by Chung et al.[16]:

> *Language-based dysgraphia refers* to an SLD with an impairment in written expression, which may include deficits in spelling, grammar, and clarity or organization of written expression. Copying text is typically intact. Also referred to as a disorder of written expression or SLD in written expression.

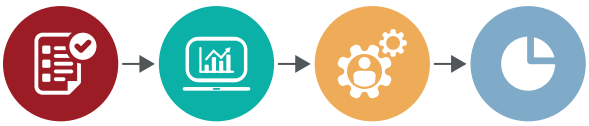
Spatial dysgraphia involves problems with spatial perception, difficulty with spacing of letters, copying or composing text, and drawing ability.

Motor dysgraphia involves problems with the fine motor skills needed to produce letters or numbers; finger tapping is a primary impairment and indicators may include poor pencil grasp, poor posture, and slow and illegible handwriting.

Some practitioner guidelines simplify classification into motor-based dysgraphia, which includes motor or spatial difficulties at the subword level of language impairment, and language-based dysgraphia, which includes word-level and connected text levels of impairment.[18]

However, within the evidence-based framework for differential diagnosis of SLDs described by Berninger and colleagues, language-based dysgraphia is not consistent with a dysgraphia diagnosis because the impairments are not at the subword level of language.[8, 34] Rather, impairment with syntax, morphology, and text-level discourse are referred to as oral and written language learning disability or developmental language disorder. In addition, motor dysgraphia and spatial dysgraphia are not differentiated as subtypes within this framework.

Pearson Dysgraphia Toolkit



The Pearson dysgraphia toolkit includes clinical and classroom resources for screening, assessment, intervention, and progress monitoring. To assist the varied groups of professionals who support individuals with dysgraphia, these tools can be used across professional groups and user qualification levels (B and C).

In addition to the products listed in the dysgraphia toolkit, other tools may be helpful to consider. A complete list of writing tools for screening, assessment, intervention, and progress monitoring from Pearson is available here.

Screening Tools

Screening measures do not diagnose a condition. Rather, individuals who show risk on a screener typically require further assessment and/or early intervention.

The Pearson toolkit for dysgraphia screening includes the following measures:

- Copy Best and Copy Fast measures from the DASH-2[3]
- Checklist from Movement ABC-3[19]
- Alphabet Writing Fluency from WIAT-4[30]

The **DASH-2** is a measure of handwriting that is used to identify handwriting difficulties, provide information relevant to planning intervention, and support accommodations for students ages 8–25. A growing body of research supports the use of the DASH Copy Best and Copy Fast tasks for dysgraphia screening and subsequently to contribute to a more in-depth diagnostic assessment.

For more information about the research conducted using the DASH to identify dysgraphia, a Technical Report is available here. For individuals who score poorly on Copy Best and/or Copy Fast, a more in-depth assessment will be important for differentiating between clinical conditions.

The **Movement ABC-3 Checklist,** completed by parents/caregivers, teachers, and/or others who know the child well, provides a means for assessing movement in everyday situations and identifies, describes, and guides treatment of motor impairment in children ages 5–12.[19] Research supports use of the Movement ABC-2 Checklist with parents as part of a screening process for dysgraphia (and other SLDs) to facilitate early intervention and foster literacy learning; in a study with the prior edition, the dysgraphia group differed from the control group on items within Scale A (Movement in a Static and/or Predictable Environment) and Scale C (Nonmotor variables such as executive functions, cognitions related to self-efficacy, and affect), but not on items within Scale B (Movement in a Dynamic and/or Unpredictable Environment).[31] Administering the full checklist is recommended.

The **Alphabet Writing Fluency** subtest from the WIAT-4 has been shown to measure handwriting fluency.[24] The WIAT-4 manual reports a moderate effect size (.70) for Alphabet Writing Fluency in differentiating students with Disorder of Written Expression from matched controls.[13] This clinical sample was not specific to dysgraphia and included students with a range of writing difficulties; however, these data support the clinical utility of Alphabet Writing Fluency among students with a writing disorder that includes poor handwriting fluency. WIAT-4 Alphabet Writing Fluency was designed for individual or small-group administration among students in Grades PK–4.

Ongoing and future research is expected to provide additional clinical validity evidence to support use of the DASH-2, Movement ABC-3 Checklist, and WIAT-4 Alphabet Writing Fluency in an overall process for dysgraphia screening.

Writing Screener vs. Dysgraphia Screener

Test developers must provide data that support the use of a test for each intended use (Standard 12.2).1 Data that support the use of a test as a dysgraphia screener include AUC, sensitivity/specificity, and clinical effect size. A test that only provides validity evidence for predicting or estimating writing skills is a writing screener. Writing measures vary in how well they detect risk for dysgraphia. As part of a dysgraphia screening process, individuals who perform poorly on a writing screener should also be given an empirically validated dysgraphia screening test.

Diagnostic Assessment Tools

The diagnostic process for SLD identification typically involves three steps:

Step 1: Rule out other potential causes of learning difficulties, including pervasive or specific developmental disabilities, intellectual disability (intellectual developmental disorder), vision or hearing difficulties, socioemotional or cultural/linguistic factors, etc.

Step 2: Assess learning profiles for SLDs and common comorbid conditions

Step 3: Make a differential diagnosis

Due to its heterogeneous nature, a rigorous process approach to the diagnosis of dysgraphia is especially important, in addition to general best practices in assessment. A process approach involves making inferences about possible cognitive deficits and relies upon error analysis to test inferences and identify patterns of performance.

Assessment of Handwriting and Written Expression

To support this process, the Pearson dysgraphia toolkit includes the following assessments of handwriting, and written expression skills:

- DASH-2[3]
- KTEA-3[23]
- PAL-II[6]
- WIAT-4[30]

The key features of each of these assessments are summarized in Table 5.

Table 5. Key Features of Diagnostic Writing Assessments

Test	Publication	Grade/age	Form	Admin./scoring options
DASH-2	2024	Ages 8–25	1 form	Hand score
KTEA-3	2014	Grades PK–12/ Ages 4–25	2 forms	Hand score Q-global® Q-interactive®
PAL-II	2007	Grades K–6	1 form	Hand score
WIAT-4	2020	Grades PK–12/ Ages 4–50	1 form	Hand score Q-global Q-interactive

Assessment of Writing-Related Skills and Abilities

The Pearson dysgraphia toolkit includes several suggested tests of motor abilities, cognitive abilities, and executive functions for practitioners with varying qualification levels (qualification criteria are provided at www.PearsonAssessments.com):

Qualification Level C

- KABC-II NU[23a]
- NEPSY (2nd ed.; NEPSY-II)[25]
- WAIS-5[36c]
- WISC-V[36b]
- WPPSI-IV[36a]

Qualification Level B

- Beery-Buktenica Developmental Test of Visual-Motor Integration (6th ed.; Beery VMI-6)[5]
- Brown Executive Function/Attention Scales™ (Brown EF/A Scales™)[14a]
- BOT-3[15]
- DASH-2
- Delis-Kaplan Executive Function System (D-KEFS)[16b]
- Delis-Kaplan Executive Function System™ (D-KEFS™) Advanced[16c]
- Delis Rating of Executive Functions (D-REF)[16a]
- Movement ABC-3[19]
- PAL-II

A diagnosis of dysgraphia is based on a convergence of evidence gathered from multiple sources, including observation, review of completed work, and norm-referenced assessment data.

To conduct a differential diagnosis, a comprehensive assessment is recommended and may be required in some settings. For example, U.S. federal legislation (Individuals with Disabilities Education Improvement Act [IDEA] of 2004[20]) allows for use of the term *dysgraphia* if it is supported by a comprehensive assessment for an SLD.[38] A single test score is not sufficient to identify or diagnose dysgraphia, or even to identify every child with a handwriting difficulty.[32] Avoid using stringent cut points and consider evidence gathered from multiple sources to determine whether a student shows a persistent pattern of difficulties characteristic of dysgraphia. A diagnosis of dysgraphia is based on a convergence of evidence gathered from multiple sources, including observation, review of completed work, and norm-referenced assessment data.

Table 6 lists key skill areas relevant to a dysgraphia assessment and the suggested corresponding measures. Although the list of measures is not exhaustive, it is intended to provide practitioners with suggested tests and subtests to consider. A comprehensive assessment will include additional skills and abilities beyond the hallmark indicators of dysgraphia shown in Table 6.

Table 6. Content Coverage of Dysgraphia Assessment Tools

Writing skills	DASH-2	PAL-II	Additional assessments
Letter writing from memory	Alphabet Writing	Alphabet Writing	WIAT-4 Alphabet Writing Fluency
Copying text	Copy Best Copy Fast	Copying A and B (Sentence and Paragraph Copying)	
Spontaneous handwriting	Free Writing		
Written spelling			WIAT-4 Spelling KTEA-3 Spelling
Written expression		Narrative Compositional Fluency	WIAT-4 Sentence Composition KTEA-3 Written Expression
Text writing fluency			WIAT-4 Essay Composition WIAT-4 Sentence Writing Fluency KTEA-3 Writing Fluency
Writing-related skills and abilities			
Executive functions			Brown EF/A Scales D-REF D-KEFS Color-Word Inhibition; Tower; Trail-Making Test NEPSY-II Animal Sorting; Clocks; Design Fluency; Auditory Attention and Response Set; Inhibition
Auditory verbal working memory		Verbal Working Memory	WPPSI-IV and WAIS-5 Working Memory Index WISC-V Auditory Working Memory Index KABC-II NU Word Order; Number Recall
Motor functioning			Movement ABC-3
Orthographic coding		Receptive Coding Expressive Coding Word Choice	WIAT-4 Orthographic Choice WIAT-4 Orthographic Fluency
Sequential finger movements		Finger Sense	NEPSY-II Fingertip Tapping
Visual-motor coordination	Graphic Speed		BOT-3 Fine Motor Precision BOT-3 Fine Motor Integration Beery VMI-6 NEPSY-II Design Copying

Intervention Tools

The Pearson dysgraphia toolkit includes the following intervention resources:

- PAL intervention materials[6, 10]
- SPELL-Links Intervention and Training Products[26, 27, 28]
- Intervention Guide for Learning Disability (LD) Subtypes[12]
- KTEA-3 and WIAT-4 teaching objectives and intervention suggestions
- WriteToLearn

The PAL intervention materials include a series of resources for reading and writing, including handwriting. The PAL intervention materials can be accessed via **Mimeo**.

> **Guides for Intervention—Revised** highlights conceptual foundations of reading, writing, and assessment-to-intervention links and the underlying research. Following these foundations, Part II outlines a step-by-step, detailed approach to designing intervention plans with 10 case examples.
>
> **Research-Based Reading and Writing Lessons—Revised** includes an instructional manual and a second volume of reproducible materials. Fifteen lesson sets include five sets for Tier 1/early intervention, five sets for Tier 2/curriculum modification, and five sets for Tier 3/tutorials for dyslexia and dysgraphia.
>
> **Handwriting Lessons—Revised** encompasses two sets of 24 lessons, several of which are used in connection with the Reading and Writing Lessons. Each set presents all 26 letters of the English alphabet in two different writing styles.
>
> **Talking Letters—Revised** focuses on spelling-sound and sound-spelling correspondences as well as the alphabetic principle. Student teaching materials for consonants and vowels organized by syllable type are included.

SPELL-Links Intervention and Training Products use a speech-to-print word study approach that leverages the brain's innate, biological wiring and organization for oral language. Students first learn how to attend to the sound structure of spoken English words and then how to connect and combine sounds (phonology), letter patterns (orthography), and meanings (semantics, morphology) to read and spell words.

> **SPELL-Links to Reading & Writing** is a word study curriculum for Grades K–12 that delivers all components of assessment and instruction identified by the U.S. Department of Education-funded Center on Instruction as crucial for developing reading and spelling skills in every student. This program is appropriate for Tier 1, 2, and 3 students as well as students receiving services for dyslexia/special education, speech/language impairment, English language learners, or Title I.[26]
>
> **SPELL-Links Class Links for Classrooms**, based on SPELL-Links to Reading & Writing, provides everything needed to deliver a year of high-quality Tier 1/Tier 2 classroom instruction for kindergarten and early Grade 1 to meet educational development standards for spelling, word decoding, reading fluency, vocabulary, reading comprehension, and writing. The curriculum includes quick and easy lesson plans for word study to improve reading and writing success and downloadable mini books that help students apply taught skills.[27]

SPELL-Links Wordtivities features a variety of engaging activities and materials for use with whole class, small group, and 1:1 instruction for Grades K–12. Students will improve spelling; build depth and breadth of vocabulary; advance word decoding, reading fluency, and reading comprehension; and enhance writing performance. It can be used as a stand-alone word study program within an existing language-arts curriculum or in conjunction with SPELL-Links to Reading & Writing.[28]

The Intervention Guide for LD Subtypes, accessible through Q-global, compares an examinee's skill level profile with the theoretical profiles of various types of reading difficulties, including those with comorbid dysgraphia. The report provides tailored, research-supported intervention suggestions. Examinees may benefit from the interventions provided in the report regardless of whether they have been identified or diagnosed with dyslexia or dysgraphia. Information about the examinee's cognitive processing, language, and achievement skills may be obtained from assessments in Q-global; however, other test results as well as qualitative data are also considered.

The **KTEA-3 and WIAT-4 score reports** in Q-global and Q-interactive include customizable teaching objectives and intervention suggestions based on error analysis results. The KTEA-3 provides customizable teaching objectives and intervention suggestions, and the WIAT-4 provides customizable intervention goal statements. These statements include instructional recommendations for writing annual goals and short-term objectives to improve performance in particular skill areas.

WriteToLearn provides tools to build writing skills (including spelling, grammar, content and organization) via typing and tools to develop reading comprehension for students in Grades 4–12. With automated scoring and reporting and immediate feedback, the web-based tool keeps students engaged. Teachers can adjust scoring parameters and tailor assistance levels to each student's needs.

Progress Monitoring Tools

The Pearson dysgraphia toolkit includes the following progress monitoring tools:

- aimswebPlus Spelling and aimsweb Written Expression
- GSVs
- Progress Monitoring Assistant
- Review360

GSVs are designed to measure growth over extended periods of time, such as annually. aimswebPlus and Review360 progress monitoring measures are designed to be sensitive to growth over shorter periods of time.

aimswebPlus offers two measures that may be used to assess students' writing skills for benchmark screening and tracking growth across the school year (benchmark periods: Fall, Winter, and Spring).

aimswebPlus Spelling provides forms for assessing spelling skills (i.e., writing spelling words from dictation) in Kindergarten through Grade 12, and includes the Pattern Inventory and Analysis Tool.

aimsweb Written Expression provides a standardized way to assess written expression fluency (i.e., writing a story for three minutes based on an age-appropriate prompt after one minute of planning) in Grades 1–12. Writing samples may be scored according to three separate metrics: Total Words Written, Words Spelled Correctly, or Correct Writing Sequence.

GSVs, which are provided for the BOT-3, KTEA-3, and WIAT-4, are preferred over standard scores and percentile ranks for measuring growth because GSVs reflect the examinee's absolute (rather than relative) level of performance. GSVs are useful for comparing an examinee's performance on a particular subtest or composite relative to their own past performance, whereas standard scores and percentile ranks are useful for comparing performance relative to peers. A significant increase in GSV scores indicates that the examinee has demonstrated significant progress. For the KTEA-3, which has Forms A and B, GSVs obtained on one form are directly comparable to GSVs obtained on the other form. However, GSVs are not comparable across tests or subtests.

A **Progress Monitoring Assistant**[14] software application is provided for the WIAT-4 to analyze changes in an examinee's GSVs and standard scores over time. An example of an interpretive statement that might be provided for the WIAT-4 Alphabet Writing Fluency subtest: *These results suggest that the student's alphabet writing fluency skills improved relative to personal performance but at a similar rate relative to peers.*

Review360 provides several progress monitoring plans within the application. The Academic Progress Plan, Speech-Language Pathology, and Student Support Team plans allow detailed progress monitoring for general and special education settings.

Common Questions

What causes dysgraphia?

Dysgraphia is related to inefficiencies in the graphomotor loop of verbal working memory in one direction: mapping phonological information onto orthographic words and word parts produced by hand; the executive functions most likely to be impaired include planning, reviewing/updating, revising, and supervisory attention for motor output.[7]

Is the term *dysgraphia* synonymous with an SLD in written expression?

No. Individuals can meet criteria for SLD in written expression for a variety of reasons with heterogeneous symptoms and levels of impairment. The classifications provided by the Individuals with Disabilities Education Act,[20] the *Diagnostic and Statistical Manual of Mental Disorders* (5th ed., text rev.; DSM-5-TR),[2] and *International Statistical Classification of Diseases and Related Health Problems* (11th ed.; ICD-11)[37] are helpful for determining eligibility for services and for guiding high-level decisions about placement or scope of intervention; however, the pseudo-categories established by these classification systems are flawed and lack classification rigor.[33] Although some classification systems permit use of the term *dysgraphia* when referring to SLD in written expression, practitioners are strongly encouraged to define how terms are being used when communicating with families, educators, and other professionals. At its broadest definition (or when referencing language-based dysgraphia), dysgraphia has been used to refer to difficulty with writing at any level, including handwriting, writing fluency, spelling, syntax, and composition. However, narrower definitions of dysgraphia (or when referencing motor/spatial dysgraphia) call for greater specificity.

U.S. federal law (IDEA)[20] specifies written expression as one of the areas in which students with learning disabilities may be affected, and the term *dysgraphia* can be used when identifying students with writing impairments.[38] However, the IDEA criteria do not specify that transcription problems (impaired handwriting and/or spelling) are the causal factors in dysgraphia for impaired written expression of ideas.[21] Similarly, the DSM-5-TR does not mention transcription or handwriting under SLD with impairment in written expression; rather, the category acknowledges problems with accuracy of spelling, grammar and punctuation, or clarity/organization of written expression. To provide a specific treatment plan, it is necessary to understand the individual's overall learning profile and the factors contributing to the impairments.

Is poor handwriting synonymous with dysgraphia?

No, not all individuals with handwriting difficulties have dysgraphia. Handwriting problems, which manifest in a variety of ways and for different reasons,[36] are associated with many developmental disorders, including ADHD, developmental coordination disorder, and language disorder.[32] A comprehensive diagnostic assessment that includes a range of measures is recommended to fully understand handwriting profiles and differentiate conditions that impact handwriting production.[32]

Is keyboarding/typing an effective accommodation for dysgraphia?

The underlying impairments that contribute to dysgraphia (e.g., weaknesses in orthographic coding and sequential finger movements), can affect typing as well as handwriting; for this reason, accommodations such as keyboarding do not diminish the need or importance of explicit instruction in handwriting and spelling for students with dysgraphia.[8]

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