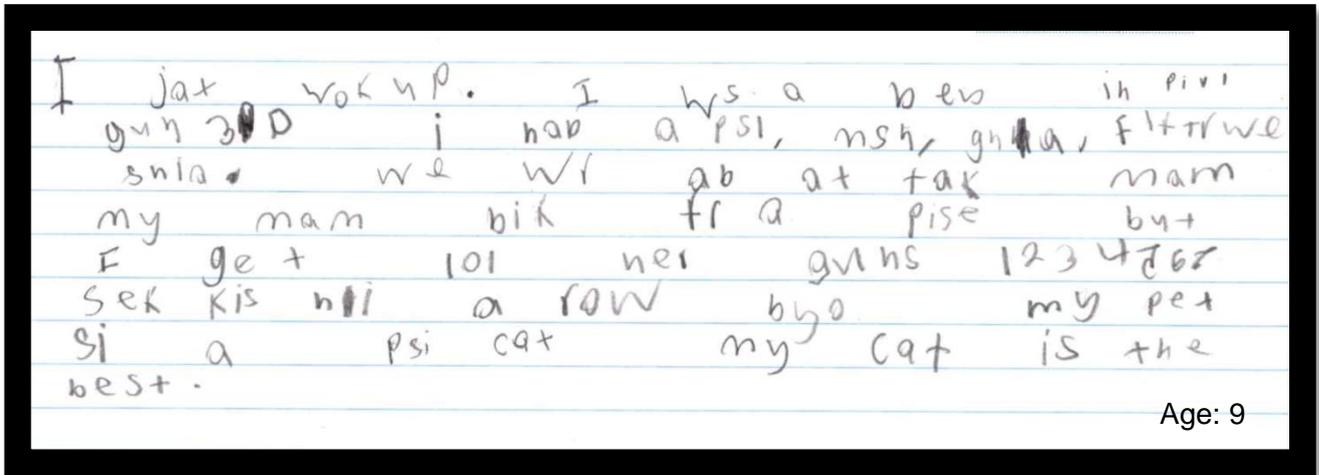


IS IT DYSLEXIA OR DYSGRAPHIA?



Why is a diagnosis of Dysgraphia and related learning disabilities important?

Without diagnosis, children may not receive early intervention or specialised instruction in all the relevant skills that are interfering with their learning of written language. Considering that many schools do not have systematic instructional programs in handwriting and spelling, it is important to assess whether children need explicit, systematic instruction in handwriting and spelling, in addition to word reading and decoding. Many schools offer accommodations in testing and teaching to students with Dysgraphia, but these students also need ongoing, explicit instruction in handwriting,



spelling, and composition. It is also important to determine if a child with Dysgraphia may also have Dyslexia and require special help with reading or Developmental Language Delay (DLD) and need special help with oral as well as written language.

What kinds of instructional activities improve the handwriting of children with Dysgraphia?

Initially, children with impaired handwriting benefit from activities that support learning to form letters:

- playing with clay to strengthen hand muscles
- keeping lines within mazes to develop motor control
- connecting dots or dashes to create complete letter forms
- tracing letters with index finger or eraser end of pencil
- imitating the teacher modelling sequential strokes in letter formation
- copying letters from models

Subsequently, once children learn to form legible letters, they benefit from instruction that helps them develop automatic letter writing, using the following steps to practise each of the 26 letters of the alphabet in a different order daily:

- studying numbered arrow cues that provide a consistent plan for letter formation
- covering the letter with a 3 x 5 card and imaging the letter in the mind's eye
- writing the letter from memory after an interval that increases in duration over the handwriting lessons

- writing letters from dictation (spoken name to letter form)
- writing letters during composing for 5 minutes on a teacher-provided topic



Students benefit from explicit instruction in spelling throughout K–12:

- initially in high-frequency Anglo-Saxon words
- subsequently in coordinating the phonological, orthographic, and morphological processes relevant for the spelling of longer, more complex, less frequent words
- at all grade levels in the most common and important words used for the different academic domains of the curriculum

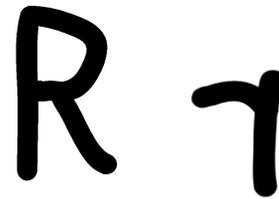
Throughout K-12, students benefit from strategies for composing:

- planning, generating, reviewing/evaluating, and revising compositions of different genres including narrative, informational, compare and contrast, and persuasive
- self-regulation strategies for managing the complex executive functions involved in composing

Do children with Dysgraphia make reversals or other letter production errors?

Some children do make reversals (reversing direction letter faces along a vertical axis), inversions (flipping letters along a horizontal axis so that the letter is upside down), or transpositions (sequence of letters in a word is out of order). These errors are symptoms rather than causes of handwriting problems. The automatic letter writing

instruction described earlier has been shown to reduce reversals, which are less likely to occur when retrieval of letters from memory and production of letters have become automatic.



What kind of instructional strategies improves the spelling of children with Dysgraphia?

If children have both handwriting and spelling problems, the kinds of handwriting instruction described earlier should be included along with the spelling instruction.

Are there research-supported assessment tools for diagnosing Dysgraphia?

Yes. See Berninger (2007a) and Milone (2007) for assessing handwriting problems associated with Dysgraphia. Also, see Berninger (2007b) and Berninger, O'Donnell, and Holdnack (2008) for using these tests and other evidence-based assessment procedures in early identification, prevention, and diagnosis for treatment planning and linking them to evidence-based handwriting and spelling instruction (also see Troia, 2008).



References

- Berninger, V. (2007a). *Process Assessment of the Learner*, 2nd Edition. Diagnostic for Reading and Writing (PAL-II RW). San Antonio, TX: The Psychological Corporation.
- Berninger, V. (2007b). *Process Assessment of the Learner II User's Guide*. San Antonio, TX: Harcourt/PsyCorp. (CD format) ISBN 0158661818. Second Edition issued August, 2008.
- Berninger, V. (2007). Evidence-based written language instruction during early and middle childhood. In R. Morris & N. Mather (Eds.), *Evidence-based interventions for students with learning and behavioural challenges*. Philadelphia: Lawrence Erlbaum Associates.
- Berninger, V., O'Donnell, L., & Holdnack, J. (2008). Research-supported differential diagnosis of specific learning disabilities and implications for instruction and response to instruction (RTI). In A. Prifitera, D. Saklofske, & L. Weiss (Eds.), *WISC-IV Clinical Assessment and Intervention*, Second Edition (pp. 69–108). San Diego, CA: Academic Press (Elsevier).
- Berninger, V., & Wolf, B. (in press-a). Teaching students with Dyslexia and Dysgraphia: Lessons from teaching and science.
Baltimore: Paul H. Brookes.
- Berninger, V., & Wolf, B. (in press-b). Helping students with Dyslexia and Dysgraphia make connections: Differentiated instruction lesson plans in reading and writing.
Baltimore: Paul H. Brookes. [Spiral-bound book with teaching plans from University of Washington Research Program.]
- Graham, S., Harris, K., & Loynachan, C. (1994). The spelling for writing list. *Journal of Learning Disabilities*, 27, 210–214.
- Henry, M. (2003). *Unlocking literacy. Effective decoding and spelling instruction*.
Baltimore: Paul H. Brookes Publishing.
- Milone, M. (2007). *Test of Handwriting Skills- Revised*. Novato, CA: Academic Therapy. Distributed by ProEd, Austin, TX.
- Moats, L. C. (Winter, 2005/2006). How spelling supports reading: And why it is more regular and predictable than you think. *American Educator*, 12–22, 42–43.
- Troia, G. (Ed.). (2008). *Instruction and assessment for struggling writers: Evidence-based practices*. New York: Guilford.
- Yates, C., Berninger, V., & Abbott, R. (1994). Writing problems in intellectually gifted children. *Journal for the Education of the Gifted*, 18, 131–155.

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