

Voa English Learning - Which Makes the Better Writer: the Hand or the Keyboard? Age Is a Part

AA: I'm Avi Arditti with Rosanne Skirble, and this week on WORDMASTER: we talk with an expert on children and handwriting.

RS: Virginia Berninger is an educational psychology professor at the University of Washington in Seattle. She tells us about a study which found that children sometimes do a better job as writers when they compose the words by hand than when they type them on a keyboard.

VIRGINIA BERNINGER: "And this was a chance to follow over two hundred children -- it was about two hundred forty -- longitudinally, once a year for five years. And I looked comprehensively at writing development. And what we found, which was very surprising to us, is that they wrote longer essays, they wrote the words faster. And, in the paper just published, they wrote more complete sentences in fourth and sixth grade when they were writing in handwriting by pen than when writing on keyboard.

"And then a colleague of mine, Dick Hayes at Carnegie Mellon University, who kind of started the field of cognitive research and writing, he analyzed the data independently of me, and found out that the children expressed more ideas when they were writing by pen than [when] they were writing by keyboard."

RS: "What does that tell you about teaching and learning?"

VIRGINIA BERNINGER: "Now that we've done some brain research with writing, and we've found what other people have done, there's reason to believe that when you write by hand, handwriting, you engage the thinking parts of the brain differently than when you do the keyboarding.

"At least, and I want to make this very, very clear, we qualify our findings to the ages we studied, or the grade levels. We studied children in second, fourth and sixth grade. We think this may all change and even out during adolescence. But at least in the devel-

opmental stages of learning to write, there was this advantage of writing by pen.

"There's one other aspect to this: In five years of following these children who were normally developing, we discovered eight of them that would meet our research criteria for a specific writing disability. And, at least in the U.S., the focus is on reading disabilities, and they're not identifying and serving children with writing disabilities to nearly the same extent that they are with reading disabilities. So I have a lot of parents who e-mail me, leave voice mail, write, very concerned, and come see me."

AA: "And you're talking about, for example, dysgraphia, the inability to -- "

RS: "Dyslexia. Or is it conceptual?"

VIRGINIA BERNINGER: "Well, with writing disability, it can affect any aspect of the writing process. But when we talk about dysgraphia, those are the handwriting and spelling problems. And, yes, I would say those are the ones that are not getting identified and served, and parents are very frustrated about this. Because what the schools are doing, they see a child with a writing problem like handwriting or spelling, and they just give him a laptop as an accommodation.

"And what we're trying to educate them about is they have to do more. They still should help them with their handwriting. They can teach them how to use laptops. But they need to continue to teach them what we call the transcription process and also the transfer to composition. They need a comprehensive, explicit writing instruction where they learn to express ideas as well as spell words and have handwriting instruction and keyboarding instruction, even when they have those writing disabilities."

AA: "You know, I'm fascinated by this connection between, or apparent connection between handwriting and idea formation, the idea that if you're actually committing your ideas to paper the old-fashioned way with a pen -- or, I assume, a pencil -- that maybe you're actually thinking more deeply or more creatively than if you're just typing away, as we do, on a keyboard, on a computer."

VIRGINIA BERNINGER: "Right, and remember, we're not generalizing to adults. We

didn't study adults, and as a researcher I have to restrict my conclusions to the age of the children I studied. So we're just saying from approximately eight years to about twelve years -- or seven to twelve, let's say -- that these findings apply. And we're not saying we shouldn't be teaching keyboards or using computers. We're just saying we should still teach the handwriting."

RS: The findings appear in the journal *Learning Disability Quarterly*. We'll talk more next week with University of Washington educational psychologist Virginia Berninger. She's given us a list of instructional resources for writing which you can find at our Web site, voanews.com/wordmaster.

AA: We'd be glad to pass on your questions to Professor Berninger. Just click on the Contact Us link at the bottom of the page. And that's WORDMASTER for this week. With Rosanne Skirble, I'm Avi Arditti.

The following was prepared by V. W. Berninger, Ph.D., director of the University of Washington Literacy Trek Write Stuff Intervention Project and Longitudinal Study, and the Multidisciplinary Learning Disabilities Center:

Books on Evidence-Based Writing Instruction

1. Graham, S., MacArthur, C., & Fitzgerald, J. (2007). "Best practices in writing instruction." NY: Guilford.
2. Berninger, V. (2007). "Process Assessment of the Learner II User's Guide." San Antonio, TX: Harcourt/PsyCorp. (CD format) ISBN 0158661818 Second Revision issued August 2008. Contains lists of resources for writing instruction and explains how to link writing assessment and writing intervention. Has published writing lessons from the UW research program that can be downloaded. Is in the "PAL II Test Battery for Reading and Writing."
3. Morris, R. & Mather, N. (Eds.) (2008). "Evidence-based interventions for students with learning and behavioral challenges" (pp. 215-235). Lawrence Erlbaum Associates (LEA).

4. Troia, G. (Ed.) (2008). "Writing Instruction and Assessment for Struggling Writers From Theory to Evidence Based Practices." New York: Guilford.

Book on Evidence-Based Issues in Motivation for Writing (Social/Emotional Issues)

S. Hidi, & P. Boscolo (Eds). "Motivation in writing" (pp. 159-179). Originally Amsterdam, Elsevier, now Emerald, Australia.

Integrating Transcription (Handwriting/Spelling) With Composition

Berninger, V., & Abbott, S. (2003) Lesson Sets 3, 4, 5, 7, 8, and 9 in "PAL Research-Supported Reading and Writing Lessons," Harcourt: San Antonio.

Integrating Writing and Reading in Motivating, Authentic Contexts

1. Berninger, V., & Abbott, S. (2003). Lesson Sets 13 and 14 in "PAL Research-Supported Reading and Writing Lessons," Harcourt: San Antonio. Lesson Sets 8, 9, and 10 for composition only.

2. Berninger, V., & Wolf, B. (2009a). "Teaching students with dyslexia and dysgraphia: Lessons from teaching and science." Baltimore: Paul H. Brookes.

3. Berninger, V., & Wolf, B. (2009b). "Helping students with dyslexia and dysgraphia make connections: Differentiated instruction lesson plans in reading and writing." Baltimore: Paul H. Brookes. Spiral book with teaching plans from University of Washington Research Program.

Self-Regulated Writing Strategies (Handwriting, Spelling, Composing)

1. Graham, S., & Harris, K. (2005). "Writing Better. Effective Strategies for Teaching Students with Learning Difficulties." Baltimore, MD: Paul H. Brookes.

2. Harris, K. R., Graham, S., Mason, L., & Friedlander, B. (2008). "Powerful writing

strategies for all students." Baltimore, MD: Brookes.

Web Site with Resources for Students Learning Written English

Web address for the software English Discoveries. Once you reach the Web site, you can navigate it by clicking on one of the menu items on the left hand side of the page.

<http://techno-ware-esl.com/engdisc.html>

Overview of Writing Skills and Instruction for Parents and Teachers:

Carter, A., Carroll, S., Page, L., & and Romero, I. (Eds.) (2008). "Helping Children at Home and School: Handouts for families and educators." Bethesda, MD: National Association of School Psychologists. (2008). See Handout by Berninger and Dunn for Writing in Intermediate and Secondary Grades. Also for the Preschool and Elementary grades.

Resources for Teaching Handwriting

1. Zaner-Bloser Zaner-Bloser handwriting programs for use in general education. See www.zaner-bloser.com/fresh/handwriting-overview.html

2. Slingerland www.slingerland.org or phone 425 453 1190 Slingerland, B. & Aho, M. (1985a) "Manual for Learning to Use Manuscript Writing" Bellevue, WA: Slingerland Institute for Literacy. Details how to teach and review letters of the alphabet, usually used in Kindergarten, first and second grades.

Slingerland, B. & Aho, M. (1985b) "Masters for Learning to Use Manuscript Writing" Bellevue, WA: Slingerland Institute for Literacy

Slingerland, B. & Aho, M. (1985c) "Manual for Learning to Use Cursive Writing" Bellevue, WA: Slingerland Institute for Literacy

Slingerland, B. & Aho, M. (1985d) "Masters for Learning to Use Cursive Writing" Belle-

vue, WA: Slingerland Institute for Literacy.

Slingerland Institute for Literacy. (2008) "Binder Size Handwriting Charts" Bellevue, WA: Slingerland Institute for Literacy. Manuscript and Cursive upper and lower case letter patterns for easy student reference. (1998) "Slingerland Masters for Lined Handwriting Paper" Bellevue, WA: Slingerland Institute for Literacy. Reproducible masters for various sizes of handwriting paper.

3. Rubel, B. (1995). "Big strokes for little folks." Tucson, AZ: Therapy Skill Builders.
4. Benbow, M. (1990). "Loops and groups: A kinesthetic writing system." San Antonio, TX: Therapy Skill Builders.
5. Olsen, J. (2004). "Handwriting without tears." Cabin John, MD.

Resources for Teaching Typing

1. Fry. "Keyboarding for Beginners." Teachers' Creative Materials, Inc. www.teachercreated.com
2. "Ten Thumbs Typing Tutor" (tenthumbstypingtutor.com)

Resources for Teaching Spelling

1. Masterson, J., Apel, K., & Wasowicz, J. (2006). SPELL 2 Spelling Performance Evaluation for Language and Literacy (Spelling assessment software for grade 2 through adult.) Learning by Design. Also, SPELL-Links to Reading & Writing - A Word Study Program for K-Adult. (Assessment linked to instruction.) Learning By Design, Inc. <http://www.learningbydesign.com/>
2. Fry, E. (1996). " Spelling book. Level 1-6. Words most needed plus phonics." Westminster, Calif.: Teacher Created Materials, Inc. www.teachercreated.com. Contains lessons with words and strategies for teaching children to spell high-frequency words alone and in dictated sentences and apply phonics knowledge to spelling. Provides placement test

for placing children at their instructional level.

3. Dixon, R., & Englemann, S. (2001). "Spelling through morphographs." DeSoto, TX: SRA/McGraw-Hill. Excellent program once students have mastered Fry program.
4. McGraw Hill: "Spelling Connections and Spelling Mastery."
5. Henry, M. (2003). "Unlocking literacy. Effective decoding and spelling instruction." Baltimore: Paul H. Brookes Publishing. Explains how to teach decoding of words of Anglo Saxon, Latinate and Greek origin based on the phonological, orthographic and morphological units in words.
6. Gentry, J. (2004). "The science of spelling. The explicit specifics that make great readers and writers (and spellers!)" Heinemann: www.heinemann.com
7. Bear, D. Ivernezzi, M., Templeton, S., & Johnston, F. (2000). "Words their way: Word study for phonics, vocabulary, and spelling instruction" (2nd ed.). Upper Saddle River, NJ: Merrill.
8. "Effective Decoding, Spelling, and Vocabulary Instruction." <http://alternativeed.sjsu.edu> Click on "training modules" on left side of screen. Then choose Module 13 or the numbered one for major prefixes and suffixes for Latin roots and Greek combining forms.
9. Berninger, V., & Abbott, S. (2003). PAL Research-Supported Reading and Writing Lessons. San Antonio, TX: Harcourt. Lesson Sets 4, 5, and 7: Phonological Stage of Spelling Development.

Resources for Teaching Composing

1. Wong, B., & Berninger, V. (2005). Cognitive processes of teachers in implementing composition research in elementary, middle, and high school classrooms. In B. Shulman, K. Apel, B. Ehren, E. Silliman, & A. Stone (Eds.), "Handbook of Language and Literacy Development and Disorders." New York: Guilford. (This chapter shows teachers how to

apply the cognitive processes model of writing to teaching composing explicitly -- making instructional plans, implementing them in practice, reviewing student progress on a regular basis, and revising instructional approach when necessary. It also illustrates Wong's model for integrated lessons for using the computer in the instructional program in writing with middle school and high school students. It calls attention to the importance of teaching students explicit strategies for managing time in completing assignments outside class.)

Resources for Teaching Sentence Construction

1. Farbman, E. (1989). "Sentence sense. A writer's guide." Boston: Houghton Mifflin.

Resources for Teaching Discourse Composition

1. Carlisle, J. (1996). "Models for writing, Levels A, B, and C." Novato, CA: Academic Therapy Publications. also www.highnoonbooks.com reproducibles for classroom use.
2. Auman, M. (2003). Step up to writing (2nd ed.). Longmont, CO: Sopris West.
3. Traits of Good Writing (gr. 1-2, 3-4, or 5-6). Remedia Scottsdale, AZ 1-800-826-4740
4. Nelson, N., Bahr, C., & Van Meter, A. (2004). "The Writing Lab Approach to Language Instruction and Intervention." Baltimore, MD: Paul H. Brookes. Offers practical suggestions for teachers to use in scaffolding instruction for students with language learning disability and for using software to support the composing.