



## A Conversation with the Author

Dr. Richard Gentry, a preeminent spelling author, is an internationally acclaimed literacy expert with particular research focus in spelling, reading development, and dyslexia. After beginning his career as a classroom teacher, Dr. Gentry earned his PhD in reading education from the University of Virginia and served as professor of elementary education and reading, and director of the reading center at Western Carolina University. Dr. Gentry's research, writing, and extensive work with students and teachers for over thirty-five years have had a powerful impact on promoting literacy nationally and abroad.

In addition to writing popular books, such as *The Science of Spelling*, *Spel...Is a Four-Letter Word*, *Teaching Kids to Spell*, *My Kid Can't Spell!*, and recently co-authoring *Kid Writing in the 21st Century*, Dr. Gentry speaks at conferences and conducts staff development and workshops leading thousands of school districts to adopt better practices for spelling instruction.

### Why teach spelling in the 21st century?

This program is dedicated to the explicit, systematic, research-based teaching of spelling in the 21st century. More than 35 years of spelling research has contributed to the success and effectiveness of *Spelling Connections*. No other program offers the extensive research perspective outlined below.

Teaching spelling is now understood to be critical for the developing reading brain. Spelling matters not just for writing, but perhaps more importantly for the critical role spelling knowledge plays in reading (Abbott, Berninger, & Fayol, 2010; Gentry & Graham, 2010; Moats, 2005; Reed, 2012). Twenty-first century research in neuroscience and cognitive psychology makes the powerful spelling-for-reading connection with beginning readers in kindergarten and grade 1 (Ouellette & Sénéchal, 2008; Ouellette, Sénéchal, & Haley, 2013; Ouelette & Sénéchal, 2017), with elementary and middle-school students (Gentry, 2017; Graham & Herbert, 2011), and even with high-school students and college adults (Ouellette, Martin-Chang, & Rossi, 2017; Willingham, 2015).

As 21st century researchers have worked to map the development of reading circuitry in the brain, they have discovered what many successful teachers have known for decades—explicit spelling instruction is at the very core of the reading brain. As you read this page, you are matching the words with word representations using visual spelling images in your brain. Those spelling images ignite your reading circuitry. Yet for decades, too many schools put spelling on the back burner, creating a gap between what 21st

century research shows and what is practiced in many classrooms. *Spelling Connections* can help close that gap.

Scientists who have looked at the functional anatomy of reading refer to a “visual word form system” in the reading circuitry that stores and retrieves representations of spelling. In the words of renowned cognitive psychologist Daniel Willingham, children “develop an increasing number of mental representations that allow them to identify words...by their spelling.... As your child gains reading experience, there is a larger and larger set of words that he can read using the spelling, and so his reading becomes faster, smoother, and more accurate. That's called fluency” (Willingham, 2015). A principal goal of *Spelling Connections* is to build a dictionary of words in each student's brain that the child will use for a lifetime.

Building a dictionary of words in each student's brain has important implications for schools. After decades of de-emphasizing the importance of comprehensive, systematic, explicit, stand-alone spelling instruction, too many schools and districts have reported flat-lined reading scores. Today, many schools and districts are discovering *Spelling Connections* as the missing piece to overall literacy improvement for their students.

### The Dictionary in the Student's Brain: Word Permanency, Reading Fluency, and Transfer to Writing

Spelling, also called *encoding*, is a deeper level of phonics knowledge than *decoding* alone. It enables students to develop and enrich both their spoken and reading and writing vocabulary. Spelling includes the study of word meanings, phonics, morphology (prefixes, suffixes, and inflectional endings), word etymologies, including new word derivatives from Latin and Greek roots, as well as the study of words from other languages. *Spelling Connections* ensures a comprehensive and consistent word study and vocabulary curriculum across grades.

*Spelling Connections* enables students to develop complete and correct mental representations of words, or what some scientists call “word permanency.” Word permanency combats an age-old problem that teachers worry about—a lack of transfer from the Friday spelling test to use of correct spelling in everyday writing. Every time a student matches a word for reading, or spells a word for writing, the reading circuitry is engaged as that particular word is “re-presented” in roughly 250 milliseconds with the word's spelling, sound, and meaning. That's how correct mental representations of spelling, or word permanency, frees the brain for fluency and comprehension (Wolf & Stoodley, 2007).

### Spelling Connections Builds Word Permanency with Research-Proven Practices

Moving far beyond simple rote memorization, *Spelling Connections* surpasses other spelling programs by drawing from one of the most influential research reports of this decade, “Improving Students' Learning With Effective Learning Techniques: Promising Directions From Cognitive and Educational Psychology” (Dunlosky et al., 2013). *Spelling Connections* incorporates the following in each weekly unit:

1. **Self-Testing.** Students take a self-test (or pretest) as part of the program's research-backed pretest/study/posttest methodology. This test-study-test cycle is an example of self-testing, which the study by Dunlosky found to be the most effective learning technique.
2. **Self-Explanation.** In each unit lesson, students use “How do I know?” questions and relate the new unit concept to what they already know. For example, having previously learned six syllable type patterns such as the closed syllable pattern for spelling *hop* and the CVCe long-vowel syllable pattern for spelling *hope*, they self-explain how to apply these two familiar six syllable patterns to spell words at their current grade level. Asking “How do I know?” questions moves students beyond simply memorizing.
3. **Elaborative Interrogation.** Each week, *Spelling Connections* has students “interrogate” themselves with “why” questions, which is the crux of elaborative interrogation. In a new lesson introducing homophones appropriate for their grade level, students explain why English spellings such as *great* and *grate* must match the word's meaning and not simply be spelled the way the word sounds. Self-explanation using “how” questions and elaborative interrogation using “why” questions grew out of two separate lines of cognitive psychological research.
4. **Distributed Practice.** The five-day lesson plan distributes practice across the week by providing activities for students to practice their words in different ways. Students can choose from the five practice pages within a unit, self-testing with a buddy, using the multi-modal flip folder, or playing the digital spelling games included with the program.
5. **Interleaved Practice.** Each unit contains efficient daily practice activities; the student revisits the words every day. This “leave it and come back to it” approach is an effective learning technique.

## Spelling Connections Highlights Six Syllable Types

Word permanency is also attained by building upon what students already know, while making it fresh, new, and distinctive. This provides the connective tissue that integrates a comprehensive spelling curriculum. That's why *Spelling Connections* highlights the Six Syllable Types, which teach students six highly reliable syllable patterns that are used both within and across grade levels: open syllables, closed syllables, vowel-consonant-e (VCe) syllables, vowel-r syllables, vowel teams (including diphthongs), and consonant-le (C-le) syllables. These newly researched, easy-to-understand categories save time and engage children in more powerful learning (Moats, 2009; Weakland, 2017).

*Spelling Connections* maintains the tried-and-true traditional practices newly supported by 21st century research. Steve Graham outlined five time-honored, research-based principles that continue to be supported by contemporary research (Graham 1983, cited in Allal, 1997):

### 1. Use word lists, but not arbitrary lists.

Construct lists to reflect words and patterns likely to be used by writers at developmentally appropriate grade levels, and teach a few key rules (Graham, 1997; Gentry, 2004; Wallace, 2006).

### 2. Pretest and have students self-correct (Wallace, 2006).

3. **Teach students to use a research-based word study technique.** *Spelling Connections'* look-say-see-write-check technique is directly based on a classic method Ernest Horn validated (Horn, 1954; Gentry 2004).

4. **Use the "test-study-test" cycle** (Graham, 1997; Gentry, 2004; Wallace, 2006).

5. **Take advantage of the social context of learning.** Use spelling games, including interactive digital resources, scavenger hunts for words that fit the weekly unit pattern or rule, and buddy work at spelling centers, to increase motivation (Weakland, 2017).

Each of these research-based strategies has been built into *Spelling Connections* in order to enable students to build a deep and wide word-specific knowledge base to support the reading, writing, and communication skills needed for language proficiency.

## Teach the Right Words at the Right Time

Research provides clear evidence that spelling should be taught systematically (Horn, 1969; Joshi et al., 2009). The right words and patterns must be presented at the right time. New information is built upon previous lessons and what children already know (Ganske, 2000). The *Spelling Connections* word lists are organized according to principles set forth by linguistic, cognitive, and developmental research. The program incorporates the massive research

evidence for teaching letter recognition, the alphabetic principle, and phonics (Adams, 1990; National Reading Council, 1998; National Reading Panel, 2000). The curriculum is informed by phase observation and developmental research on the development of sound, pattern, and meaning (Ehri, 1997; Gentry, 2007; Templeton & Morris, 2000).

## Authentic Integrated Language Arts Plus Time-Saving Tips

Real integrated spelling takes place all day long. The spelling concept, rule, or pattern in a weekly unit is constantly *retrieved, practiced, applied, built upon, and expanded* throughout the day in everyday reading and writing activities. Whether you are teaching whole group or small group, or making use of buddy or team practice, *Spelling Connections* provides you with flexible resources, including self-practice games, self-testing activities, small-group scavenger hunts, and other time-saving practice routines. The days of work-intensive preparation by teachers and single-system strategies, such as cutting and sorting the same words again and again based on complex developmental leveling, are over. Our research-based, grade-by-grade program is full of recommendations for time-saving options.

J. Richard Gentry, PhD

## References

- Abbott, R. D., Berninger, V. W., & Fayol, M. (2010). Longitudinal relationships of levels of language in writing and between writing and reading in grades 1 to 7. *Journal of Educational Psychology*, 102(2), 281-298.
- Adams, J. J. (1990). *Beginning to read: Thinking and learning about print*. Cambridge, MA: MIT Press.
- Allal, L. (1997). Learning to spell in the classroom. In C. A. Perfetti, L. Rieben, & M. Fayol (Eds.), *Learning to spell: Research, theory, and practice across the languages* (pp. 129-150). Mahwah, NJ: Erlbaum.
- Dunlosky, J., Rawson, K. A., Marsh, E. J., Nathan, M. J., & Willingham, D. T. (2013). Improving students' learning with effective learning techniques: Promising directions from cognitive and educational psychology. *Psychological Science in the Public Interest*, 14(1), 4-58.
- Ehri, L. C. (1997). Learning to read and learning to spell are one and the same, almost. In C. A. Perfetti, L. Rieben, & M. Fayol (Eds.), *Learning to spell: Research, theory, and practice across the languages* (pp. 237-269). Mahwah, NJ: Erlbaum.
- Ganske, K. (2000). *Word journeys: Assessment-guided phonics, spelling, and vocabulary instruction*. New York: NY: Guilford.
- Gentry, J. R. (2017, July 13). Lousy spelling—Why Americans can't read or think well. *Psychology Today*. Retrieved from <https://www.psychologytoday.com/blog/raising-readers-writers-and-spellers/201707/lousy-spelling-why-americans-can-t-read-or-think>
- Gentry, J. R. (2007). *Spelling connections: Words into language*. Columbus, OH: Zaner-Bloser.
- Gentry, J. R. (2004). *The science of spelling: The explicit specifics that make great readers and writers (and spellers!)*. Portsmouth, NH: Heinemann.
- Gentry, J. R., & Graham, S. (2010). *Creating better readers and writers: The importance of direct, systematic spelling and handwriting instruction in improving academic performance* [White paper]. Columbus, OH: Saperstein.
- Graham, S. (1997). *Effective language learning: Positive strategies for advanced level language learning*. Clevedon, UK: Multilingual Matters.
- Graham, S., & Herbert, M. A. (2011). Writing to read: A meta-analysis of the impact of writing and writing instruction on reading. *Harvard Educational Review*, 81(4), 710-744.
- Horn, E. (1954). *Teaching spelling*. Washington, DC: American Educational Research Association.
- Horn, T. D. (1969). *Spelling. Encyclopedia of educational research* (4th ed.). New York: NY: Macmillan.
- Joshi, M., Treiman, R., Carreker, S., & Moats, L. C. (2009). How words cast their spell: Spelling is an integral part of learning the language, not a matter of memorization. *American Educator*, 32(4), 6-16, 42-43.
- Moats, L. C. (2005/2006). How spelling supports reading: And why it is more regular and predictable than you may think. *American Educator*, 29(4), 12, 14-22, 42-43.
- Moats, L. C. (2009). Knowledge foundations for teaching reading and spelling. *Reading and Writing*, 22(4), 379-399.
- National Reading Council (1998). *Preventing reading difficulties in young children*. Washington, DC: National Academy Press.
- National Reading Panel (2000). *Report of the National Reading Panel: Teaching children to read* (NIH Publication No. 00-4754).
- Ouellette, G., & Sénéchal, M. (2008). Pathways to literacy: A study of invented spelling and its role in learning to read. *Child Development*, 79(4), 899-913.
- Ouellette, G., & Sénéchal, M. (2017). Invented spelling in kindergarten as a predictor of reading and spelling in grade 1: A new pathway to literacy, or just the same road, less known? *Developmental Psychology*, 53(1), 77-88.
- Ouellette, G., Martin-Chang, S., & Rossi, M. (2017). Learning from our mistakes: Improvements in spelling lead to gains in reading speed. *Scientific Studies of Reading*, 21(4). doi: 10.1080/10888438.2017.1306064
- Ouellette, G., Sénéchal, M., & Haley, A. (2013). Guiding children's invented spellings: A gateway to literacy learning. *The Journal of Experimental Education*, 81(2), 261-279.
- Reed, D. K. (2012). *Why teach spelling?* Portsmouth, NH: RMC Research Corporation, Center on Instruction.
- Templeton, S., & Morris, D. (2000). Spelling. In M. Kamil, P. Mosenthal, P. D. Pearson, & R. Barr (Eds.), *Handbook of reading research: Vol. 3* (pp. 525-543). Mahwah, NJ: Erlbaum.
- Wallace, R. R. (2006). Characteristics of effective spelling instruction. *Reading Horizons*, 46(4), 267-278.
- Weakland, M. (2017). *Super spellers*. Portland, ME: Stenhouse.
- Willingham, D. T. (2015). *Raising kids who read*. San Francisco, CA: Jossey-Bass.
- Wolf, M., & Stoodley, C. J. (2007). *Proust and the squid: The story and science of the reading brain*. New York, NY: HarperCollins.