

RESEARCH THAT RESONATES



Fall 2013
Literate Nation
Science Series

This *Literate Nation—Science Series, Research That Resonates* is designed to provide parents, educators, and legislators with a deeper understanding of the science that supports effective literacy policy. Literate Nation’s Literacy Policy’s objective is to declare that all students can learn to read for knowledge, to write accurately and coherently, and to think critically about printed material. This series, *Research that Resonates*, is also a tool for educators interested in providing the best instructional practices that are both driven by a deep understanding of pedagogy and guided by quality, formative assessments.

Reading Development and Literacy Instruction

Literacy Policy Section 4



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Ameliorating Children’s Reading Comprehension Difficulties: A Randomized Controlled Trial

Clarke, P., Snowling, M., Truelove, E., & Hulme, C. (2010). Ameliorating children’s reading comprehension difficulties: A randomized controlled trial. *Psychological Science, 21*, 1106–1116.

Abstract

Children with specific reading-comprehension difficulties can read accurately, but they have poor comprehension. In a randomized controlled trial, we examined the efficacy of three interventions designed to improve such children’s reading comprehension: text-comprehension (TC) training, oral-language (OL) training, and TC and OL training combined (COM). Children were assessed preintervention, midintervention, postintervention, and at an 11-month follow-up. All intervention groups made significant improvements in reading comprehension relative to an untreated control group. Although these gains were maintained at follow-up in the TC and COM groups, the OL group made greater gains than the other groups did between the end of the intervention and follow-up. The OL and COM groups also demonstrated significant improvements in expressive vocabulary compared with the control group, and this was a mediator of the improved reading comprehension of the OL and COM groups. We conclude that specific reading-comprehension difficulties reflect (at least partly) underlying oral-language weaknesses that can be effectively ameliorated by suitable teaching.

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The Science Of Reading: A Handbook

Snowling, M.J. & Hulme, C. (Eds.), (2005). *The Science of reading: A handbook*. Malden, MA: Blackwell Publishing.

Abstract

A state-of-the-art overview of scientific studies of reading. The book covers 7 major areas: Word recognition processes, Learning to read and spell; Reading comprehension, Reading in different languages, Disorders of reading and spelling; Biological bases of reading; Teaching reading.

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Fluency And Comprehension Gains As A Result Of Repeated Reading

Therrien, W. (2004). *Fluency and Comprehension Gains as a Result of Repeated Reading*. Remedial and Special Education, 25(4), 252-261.

Abstract

In an effort to determine the effectiveness of the repeated reading strategy, Therrien conducts a meta-analysis of studies. The answers to 3 questions were sought. First, study results determined if repeated reading increased reading fluency and comprehension in children. Second, Therrien analyzed prior studies to determine the components of the repeated reading strategy that were critical if the children were to be successful at increasing their reading fluency. Third, children with learning disabilities were included in the meta-analysis to determine if these children could also use the repeated reading strategy and find the same success. Findings from the meta-analysis show that repeated reading is an effective strategy for increasing the reading fluency of all children. Increased fluency was seen both with the text used for the repeated reading and with a new piece of text. This finding suggests that children are successful at transferring their fluency skills to an unknown text after opportunities to practice with a familiar text. Therrien also found that there are certain characteristics of an effective repeated reading session. Students should read aloud after being provided with a cue to increase speed and comprehension. Passages should be read 3 or 4 times, and the child should receive feedback after each read (Therrien, 2004).

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Effects Of Intensive Reading Remediation For Second And Third Graders

Blachman, B. A., Schatschneider, C., Fletcher, J. M., Francis, D. J., Clonan, S., Shaywitz, B., et al. (2004). Effects of intensive reading remediation for second and third graders.

Journal of Educational Psychology, 96, 444–461.

Abstract

Second- and 3rd-grade children with poor word-level skills were randomly assigned to 8 months of explicit instruction emphasizing the phonologic and orthographic connections in words and text-based reading or to remedial reading programs provided by the schools. At posttest, treatment children showed significantly greater gains than control children in real word and nonword reading, reading rate, passage reading, and spelling, and largely maintained gains at a 1-year follow-up. Growth curve analyses indicated significant differences in growth rate during the treatment year, but not during the follow-up year. Results indicate that research-based practices can significantly improve reading and spelling outcomes for children in remedial programs.

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A Building-Based Case Study Of Evidence-Based Literacy Practices

Greenwood, C.R., Tapia, Y., Abbott, M., & Walton, C. (2003). *A building-based case study of evidence-based literacy practices. The Journal of Special Education, 37(2), 95-110.*

Abstract

A longitudinal, sequential-cohort design is used by the researchers in order to determine the results of a literacy reform project in a Title I school. Thirty-six students total from grades kindergarten thru third are studied. School personnel participate in a project with the researchers through a series of professional development opportunities and continued monitoring of implementation through in class events. Researchers hypothesized that teachers would be more likely to implement new strategies with a mentoring model in place. In addition, the researchers believed that teacher behavior would lead to increased student achievement in reading. Data on effectiveness is collected quantitatively, through the use of a reading fluency measure, and qualitatively, through the use of classroom observations. The researchers found that teachers were successful in the implementation of new strategies over the course of the study, implementing 13 evidence-based strategies. Measures of reading fluency showed positive gains for the students, increasing at an average of 3.1 new words per month over the three-year study. Analysis of silent reading and oral reading led to mixed results (Greenwood et al., 2003).

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Perspective: Schools That Beat The Odds. Implications For Reading Instruction

Denton, C.A., Foorman, B.R., & Mathes, P.G. (2003). *Perspective: Schools that Beat the Odds. Implications for reading instruction. Remedial and Special Education, 24(5), 258-261.*

Abstract

In response to the debate over best practices in reading instruction, Denton, Vaughn, and Fletcher summarize the practices from schools that demonstrate high rates of achievement in literacy. Five schools are highlighted, and similarities among the schools are described. Common practices in the schools include a commitment to teaching every child to read with a sense of no time to waste and a no excuses attitude, leadership that plays a central role in improving instruction and analyzing students' reading data with teachers, and assessments that are conducted for initial student information with continued testing for checking the progress of students. In addition, the effective schools have a system in place for providing interventions to all students not reading at level (Denton, Foorman, & Mathes, 2003).

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The Keys to Literacy (2nd ed.)

Beck, I. L., Fletcher, J. M., Foorman, B. R., Francis, D. J., Lyon, G. R., McKeown, M. G., Moats, L. C., & Whitehurst, G. J. (2002). S. Patton & M. Holmes (Eds.), *The Keys to Literacy (2nd ed.)*. Washington, D. C.: Council for Basic Education.

Abstract

The Keys to Literacy addresses the responsibility we have to understand what it takes to teach children to read and to implement this in our schools. Covers proven elements of sound reading instruction. Chapters include an overview of reading research, development of pre-reading skills, teachers as a key to good reading instruction, preventing reading failure through effective reading instruction and reading comprehension.

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How Psychological Science Informs The Teaching Of Reading

Rayner, K., Foorman, B. R., Perfetti, C. A., Pesetsky, D., & Seidenber, M. S. (2001). *How psychological science informs the teaching of reading. Psychological Science in the Public Interest, 2(2), 31-74.*

Abstract

This monograph discusses research, theory, and practice relevant to how children learn to read English. After an initial overview of writing systems, the discussion summarizes research from developmental psychology on children's language competency when they enter school and on the nature of early reading development. Subsequent sections review theories of learning to read, the characteristics of children who do not learn to read (i.e., who have developmental dyslexia), research from cognitive psychology and cognitive neuroscience on skilled reading, and connectionist models of learning to read. The implications of the research in findings for learning to read and teaching reading are discussed. Next, the primary methods used to teach reading (phonics and whole language) are summarized. The final section reviews laboratory and classroom studies on teaching reading. From these different sources of evidence, two inescapable conclusions emerge: (a) Mastering the alphabetic principle (that written symbols are associated with phonemes) is essential to becoming proficient in the skill of reading, and (b) methods that teach this principle directly are more effective than those that do not (especially for children who are at risk in some way for having difficulty learning to read). Using whole-language activities to supplement phonics instruction does help make reading fun and meaningful for children, but

ultimately, phonics instruction is critically important because it helps beginning readers understand the alphabetic principle and learn new words. Thus, elementary-school teachers who make the alphabetic principle explicit are most effective in helping their students become skilled, independent readers.

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Progress In Understanding Reading: Scientific Foundations And New Frontiers

Stanovich, K. E. (2000). *Progress in Understanding Reading: Scientific Foundations and New Frontiers*. New York: The Guilford Press.

Abstract

This book provides an overview and synthesis of the fundamental research base for reading. The book's seven sections are: The Role of context effects in models of reading; Phonological sensitivity and the phonological core deficit model; Matthew effects in reading; The Importance of word recognition in models of reading; The Cognitive consequences of literacy; Discrepancy definitions of reading disability; The Reading instruction debate: Comments on the 'reading wars'. In the closing section, Stanovich reminds us that in science disputes are answered empirically, and with a scientific attitude, agreements will be arrived at "without the use of ad hominem attacks' ending amicably "because their end will be dictated by the data."

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Learning to read: Basic research and Its implications

Rieben, L. & Perfetti, C. A. (Eds.), (1991). *Learning to read: Basic research and Its Implications*. Hillsdale, NJ: Lawrence Erlbaum Associates

Abstract

This concise volume covers the crucial role of orthography and phonological awareness in the beginning processes of learning to read and implications for reading instruction. The book is divided into 4 sections: Principles and theories; Starting to learn to read; Phonological abilities; Reading skill and reading problems.

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Beginning to read: Thinking and Learning About Print

Adams, M. J. (1990). *Beginning to read: Thinking and Learning About Print*. Cambridge, MA: The MIT Press.

Abstract

Often viewed as an updated version of Jeanne Chall's *Learning to Read: The Great Debate*, this book provides a review of research regarding basic perceptual and reading processes along with early reading instruction up to 1989. The book is organized in 6 parts: Introduction; Why Phonics?; What Needs to be Taught? Hints from Skilled Readers; Thinking, Learning, and Reading; Learning How to Read; Summary and Conclusion.

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Research Support for the Components of Reading

The following scientific sources, among many others, provide support for the "simple view of reading" (i.e., the importance of both word-reading skills and oral comprehension in learning to read), as well as for five key components of reading for children learning to read English (and other alphabetic languages as well, such as Spanish): phonemic awareness, phonics, fluency, vocabulary, and oral/reading comprehension.

Adams, M. J. (1990). *Beginning to Read: Thinking and Learning About Print*. Cambridge, MA: MIT Press.

Cain, K., & Oakhill, J. (2008). *Children's Comprehension Problems in Oral and Written Language: A Cognitive Perspective*. New York: Guilford.

Carver, R. P., & David, A. H. (2001). "Investigating Reading Achievement Using A Causal Model." *Scientific Studies of Reading*, 5, 107-140.

Catts, H.W., Adlof, S.M., & Weismer, S.E. (2006). "Language Deficits In Poor Comprehenders: A Case For The Simple View Of Reading." *Journal of Speech, Language, and Hearing Research*, 49(2), 278-293.

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Research Support for the Importance of Explicit, Comprehensive K-3 Reading Instruction

The following are examples of sources that provide support for the importance of a comprehensive program of reading instruction in the primary grades that emphasizes explicit teaching of all of the important components of reading. These sources generally also note the importance of integration of components. For example, in the early grades, phonemic awareness instruction should be integrated with phonics instruction, and it is important that children have opportunities to apply their developing phonics skills in reading texts that contain a reasonable proportion of word patterns that they have learned to decode. The emphasis on individual components of reading also varies by grade; typically developing kindergartners and beginning first graders need the most attention to phonemic awareness, whereas beyond first grade, usually only certain struggling decoders need attention to phonemic awareness in instruction.

- Adams, M. J. (1990). *Beginning to Read: Thinking and Learning About Print*. Cambridge, MA: MIT Press.
- Beck, I. L., McKeown, M. G., & Kucan, L. (2002). *Bringing Words to Life: Robust Vocabulary Instruction*. New York: Guilford Press.
- Biemiller, A. (1999). *Language and Reading Success*. Cambridge, MA: Brookline Books.
- Biemiller, A. (2005). "Size and Sequence in Vocabulary Development: Implications for Choosing Words for Primary Grade Instruction." In E. H. Hiebert and M. L. Kamil (Eds.), *Teaching and learning vocabulary: Bringing research to practice*. Mahwah, NJ: Erlbaum.
- Carlisle, J., & Rice, M. S. (2003). *Reading Comprehension: Research-Based Principles and Practices*. Baltimore: York Press.
- Christensen, C. A., & Bowey, J. A. (2005). "The Efficacy of Orthographic Rime, Grapheme-Phoneme Correspondence, and Implicit Phonics Approaches to Teaching Decoding Skills." *Scientific Studies of Reading*, 9, 327-349.
- Connor, C. M., Morrison, F. J., & Underwood, P. S. (2007). "A Second Chance In Second Grade: The Independent and Cumulative Impact of First- and Second-Grade Reading Instruction and Students' Letter-Word Reading Skill Growth." *Scientific Studies of Reading*, 11, 199-233.
- Foorman, B. R., Francis, D. J., Fletcher, J. M., Schatschneider, C., & Mehta, P. (1998). "The Role of Instruction in Learning to Read." *Journal of Educational Psychology*, 90, 37-55.
- Foorman, B. R., & Torgesen, J. K. (2001). "Critical Elements of Classroom and Small-Group Instruction Promote Reading Success in All Children." *Learning Disabilities Research & Practice*, 16, 203-212.
- Mathes, P. G., Denton, C. A., Fletcher, J. M., Anthony, J. L., Francis, D. J., & Schatschneider, C. (2005). "The Effects of Theoretically Different Instruction and Student Characteristics on the Skills of Struggling Readers." *Reading Research Quarterly*, 40, 148-182.

Hoover, W. A., & Gough, P. B. (1990). "The Simple View of Reading." *Reading and Writing: An Interdisciplinary Journal*, 2, 127-160.

Hulme, C., & Snowling, M. (2011). "Children's Reading Comprehension Difficulties: Nature, Causes, and Treatments." *Current Directions in Psychological Science*, 20, 139-142.

Nation, K. (2005). "Children's Reading Comprehension Difficulties". In M. J. Snowling & C. Hulme (Eds.), *The science of reading: A handbook* (pp. 248-266). Oxford, UK: Blackwell.

National Reading Panel. (2000). *Teaching Children to Read: an Evidence-Based Assessment of the Scientific Research Literature On Reading and Its Implications for Reading Instruction*. Washington, DC: National Institutes of Health.

Rupley, W.H., Willson, V.L., & Nichols, W.D. (1998). "Exploration Of The Developmental Components Contributing To Elementary School Children's Reading Comprehension." *Scientific Studies of Reading*, 2(2), 143-158.

Scarborough, H. S. (2005). "Developmental Relationships Between Language and Reading: Reconciling a Beautiful Hypothesis With Some Ugly Facts." In H. W. Catts & A. Kamhi (Eds.), *The Connections Between Language and Reading Disabilities* (pp. 3-24). Mahwah, NJ: Erlbaum.

Stanovich, K. E. (2000). *Progress In Understanding Reading: Scientific Foundations and New Frontiers*. New York: Guilford Press.

Tilstra, J., McMaster, K. van den Broek, P., Kendeou, P., & Rapp, D. (2009). "Simple But Complex: Components of the Simple View of Reading Across Grade Levels". *Journal of Research in Reading*, 32, 383-401.

Vellutino, F. R., Tunmer, W. E., Jaccard, J. J., & Chen, R. (2007). "Components Of Reading Ability: Multivariate Evidence For A Convergent Skills Model Of Reading Development." *Scientific Studies of Reading*, 11(1), 3-32.

Wolf, M. (2007). *Proust and the Squid: the Story and Science of the Reading Brain*. New York: HarperCollins.

McCardle, P., & Chhabra, V., Eds. (2004). *The voice of evidence in reading research*. Baltimore: Brookes Publishing.

McKeown, M.G., Beck, I.L., & Blake, R.K. (2009). "Rethinking Reading Comprehension Instruction: A Comparison of Instruction for Strategies and Content Approaches." *Reading Research Quarterly*, 44, 218–253.

Menon, S., & Hiebert, E., (2005). "A Comparison of First Graders' Reading with Little Books or Literature-Based Basal Anthologies." *Reading Research Quarterly*, 40, 12-38.

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