Research Points

Winter 2009 | Volume 6, Issue 1

Essential Information for Education Policy

Ensuring Early Literacy Success

Ensuring early literacy success is a wise investment because literacy skills are essential to success in all school subjects — literature, social sciences, natural science, and mathematics. There is a strong research base for how children learn to read, how to prevent failure, and how to intervene when reading difficulties occur.

The Basics and Beyond: Aspects of a Successful Literacy Policy

A popular view of what is required to teach children to read is known as the *Simple View of Reading*, which states that reading comprehension is the product of the interaction of decoding with listening comprehension.[1] Many people believe that once a child has mastered the way the alphabetic principle works to spell out words, understanding written language is not so different from understanding spoken language. This view suggests that early reading teachers should focus on teaching children how to "decode" letters to form spoken words — and that the ability to understand what is written will occur naturally because almost all children already know how to understand spoken words and sentences.

However, research over the past three decades has provided a more complex view of how to ensure reading competence. Decoding is important, but we now know that systematic early attention must be paid to developing oral language skills if children are to be assured a "right to reading competence." Children will also need extensive practice in reading texts of increasing complexity for initial reading skills to blossom into full competence.

Beginning To Read

Cumulating research over several decades has now made it clear that all skilled readers of English have mastered the following three key elements of alphabetic writing systems.[2]

Knowledge of phonological structures. Skilled readers are able to segment speech into its underlying *phonological structures* — the individual sounds that make up words. For example, we can recognize that "sat" consists of three speech segments, or phonemes, by contrasting it with "bat," "sit," and "sad."

Knowledge of the alphabetic principle. Skilled readers know how written symbols connect with spoken units. In English, the majority of these correspondences are one to one, but many are not so transparent, such as the "long *a*" sound in "lake," "rain," "great," "baby," and "vein."

Published by the American Educational Research Association

Fluency in decoding. Students must be able to quickly map letters to sounds, and then into words, extremely fluently so they do not forget the early words in a sentence before they have gotten to the end of the sentence. This fluency is essential for understanding and becomes more important as sentences become longer.

Many students who struggle with reading have difficulty with the basic elements of the alphabetic principle.[3] This difficulty is the defining characteristic of the majority of students identified with reading disabilities (often called "dyslexia"), a large group of students in special education.[4]

Effective interventions for very young struggling readers usually consist of explicit instruction in the alphabetic principle with scaffolded practice in reading connected text and instruction in vocabulary and writing.[5] When problems are identified and addressed in the early grades, the vast majority can be successfully remediated.[6]

Developing Oral Language

The assumption that most students have oral language skills they can transfer into print understanding is — according to current research — not accurate. There are large differences in the extent and type of oral language experience that children have outside school.

A classic study by Betty Hart and Todd Risley in 1995 documents how early the gap in oral language skills begins. The researchers made monthly home visits to 42 children from 10 months old until 3 years old. Three types of families were included: professional, working class, and welfare. During each visit, the researchers videotaped the interaction between the child and the adults for one hour and transcribed and coded the data.[7]

By age 3, children from professional families heard a total vocabulary of more than 30 million words compared to 10 million for children from welfare families. Working class children heard about 20 million words. Thus, students enter school with different exposure to language upon which to build literacy teaching and learning.

One way to close this gap is to provide language-intensive preschool programs aimed at mitigating the language gap created by poverty in the home.[8] However, it is not just the amount but also the kind of oral language instruction in preschool that is important.

Catherine Snow and her colleagues studied 80 children from preschool to high school and found three distinguishing characteristics of preschool classrooms that predicted vocabulary and emergent literacy skills in kindergarten. What's more, kindergarten word reading and vocabulary skills predicted reading outcomes in the primary grades as well as reading comprehension skills through middle and high school.[9] The critical characteristics are:

- Preschool teachers' unfamiliar word usage,
- Teachers' ability to listen to children and extend the conversation, and
- Teachers' ability to engage children in cognitively challenging talk.

Reading a Lot Begets Reading Skill

Written language usually is not just a print transcription of everyday oral speech; it is typically more formal than spoken language. The written language of school is often called "academic language" to emphasize the importance of learning the specific vocabulary, grammar, and text structures required for academic success.[10] Special techniques of teaching vocabulary that embed words in important academic content produce gains in academic English as measured by state and standardized tests.[11]

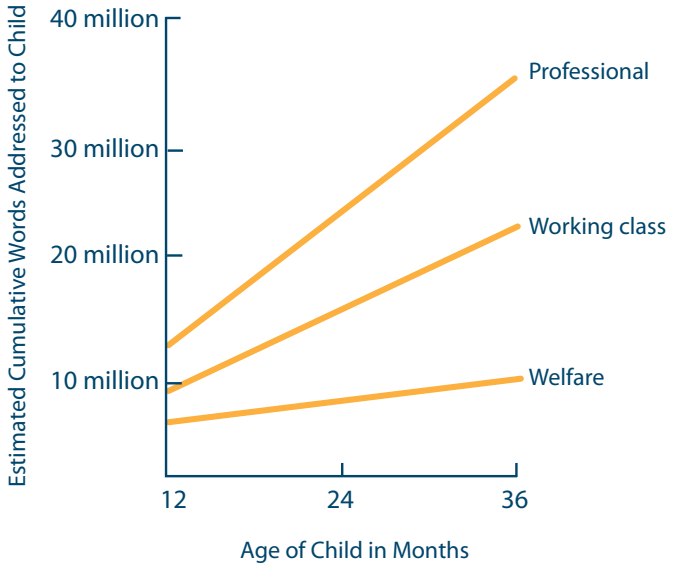
Another important way to learn academic language is to have children do a lot of reading. A classic study by Richard Anderson and colleagues in 1988 described the number of minutes per day that fifth graders reported spending on a wide range of out-of-school activities. The activity that related most strongly to reading proficiency and growth in reading from second to fifth grade was book reading.[12] Average students, those who scored at about the 50th percentile on tests of reading achievement, read less than five minutes a day — roughly 282,000 words per year. In contrast, students at the 90th percentile read a little more than 20 minutes a day — about 1.8 million words per year. Top-level readers, in other words, read five times more words than students in the middle of the pack — and almost 30 times more than students in the lowest group, who read for little more than one minute a day — about 106,000 words per year.

Thus, the amount of reading children do really matters in developing their skills as readers. Anderson's 1988 study showed that time spent reading books was the best predictor of a child's growth as a reader from the second to the fifth grade. This finding was confirmed by Cunningham and Stanovich a decade later using a somewhat different methodology.[13]

Reading begets reading skill. And reading skill produces more reading practice. Scholars have termed this snowballing the Matthew Effect in reading after a quote

Wide Differences in Early Exposure to Oral Language

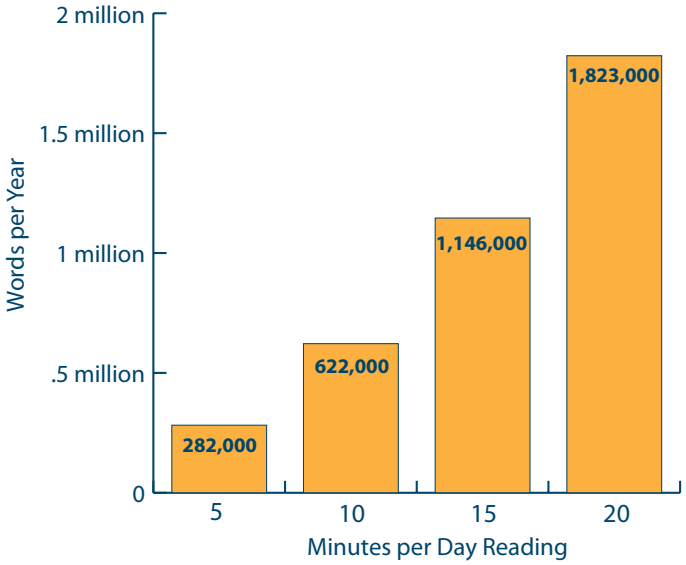
Large differences in the extent of oral language experiences can affect students' literacy skills.



Source: Adapted from Hart, B., Risley, T.R. (1995).* Meaningful Differences in the Everyday Experience of Young American Children. *Baltimore, MD: Brookes Publishing Co.

The Matthew Effect: More Time → More Words Read → Greater Reading Skill

More reading per day produces better reading skill. Children who read about five minutes per day scored at the 50th percentile on reading proficiency measures. Children who read about 20 minutes per day scored at the 90th percentile.



Source: Adapted from Anderson, R.C., Wilson, P.T., Fielding, L.G. (1988). "Growth in Reading and How Children Spend Their Time Outside of School,"* Reading Research Quarterly, *23(3), pp. 285–303.

Facts at a Glance

- Time spent reading books increases children's reading skill.
- Developing oral language skills is important for developing children's literacy abilities.

from the Book of Matthew in the Bible (25:29),[14] often paraphrased as "The rich get richer, and the poor get poorer."

Reading more has a large payoff, but few children will read more on their own. Schools will need to directly encourage and find time for increased reading during the school day. Indeed, as Stephen Raudenbush suggests, inequality in academic achievement can be reduced only by increasing the amount and quality of schooling.[15]

An important step in providing the reading experience children need is to move beyond the assumption that difficulties in upper grades require more phonics and fluency instruction. For those who need such help, provide remedial work. For others, possibilities include:

- Provide an hour or more in each school day, or in structured after-school programs, for students to read materials that challenge them but are "within range" of what they can understand with effort and some help.
- Directly teach students to infer the author's meaning as they read.[16]
- Include Internet and other new media reading.
- Set up incentives for out-of-school reading and visibly keep track of and celebrate the amount of reading each child does.
- Use classroom time to *discuss* readings under teacher guidance. Many programs have shown the effectiveness of such discussions.[17]
- Use improved readability formulae, measures of semantic complexity, and measures of coherence to help teachers match readers to text.[18]

Research Points

Editor: Lauren B. Resnick

Managing Editor: Elizabeth S. Rangel

Issue Writer: Elizabeth S. Rangel

Issue Researcher: Barbara R. Foorman

Issue Reviewers: Isabel Beck, Charles Perfetti, Catherine Snow

Editorial Board: Eva Baker, David Cohen, Susan Fuhrman, Edmund Gordon, Lorrie Shepard, Catherine Snow

AERA Executive Director: Felice J. Levine

American Educational Research Association
1430 K Street, NW, Suite 1200
Washington, DC 20005

phone (202) 238-3200

fax (202) 238-3250

ResearchPoints@aera.net

www.aera.net/publications

Research Points is published in accordance with AERA review standards; its contents do not necessarily reflect the views and positions of the Association.

What Should Policymakers Do?

First, establish policies in which schools are encouraged to organize primary grade instruction with a target of 90 percent of children being fluent decoders by third grade. Help schools use formative and diagnostic assessment to place K–2 children who are not on track in early interventions taught by qualified teachers.

Second, from third grade forward, focus instruction on comprehension, writing, and continued language development.

Third, treat oral language development and vocabulary enhancement as major functions of preschool, elementary, and middle school literacy development.

Fourth, ensure that school leaders, working with their communities, set up programs in which children read more and read increasingly challenging materials on a daily and weekly basis.

Bibliography

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

2) Rayner, K., et al. (2001). "How Psychological Science Informs the Teaching of Reading," *Psychological Science in the Public Interest*, 2(2), pp. 31–74.

3) National Research Council (1998). *Preventing Reading Difficulties in Young Children.* Committee on the Prevention of Reading Difficulties in Young Children, Committee on Behavioral and Social Science and Education, C.E. Snow, M.S. Burns, and P. Griffin, eds. Washington, DC: National Academy Press.

4) Fletcher, J.M., et al. (2006). *Learning Disabilities: From Identification to Interventions.* New York, NY: Guilford Press.

5) Foorman, B.R., Torgesen, J.K. (2001). "Critical Elements of Classroom and Small-Group Instruction Promote Reading Success in All Children," *Learning Disabilities Research and Practice*, 16(4), pp. 202–211.

6) Foorman, B.R., Al Otaiba, S. (2009). "Reading Remediation: State of the Art." In K. Pugh, P. McCardle (Eds.), *How Children Learn to Read: Current Issues and New Directions in the Integration of Cognition, Neurobiology and Genetics of Reading and Dyslexia Research and Practice* (pp. 257–275). New York, NY: Psychology Press.

7) Hart, B., Risley, T.R. (1995). *Meaningful Differences in the Everyday Experience of Young American Children.* Baltimore, MD: Brookes Publishing Co.

8) National Institute for Literacy (2008). *Developing Early Literacy: Report of the National Early Literacy Panel.* Jessup, MD: ED Pubs.; Foorman, B.R., Connor, C.M. (in press). "Primary Grade Reading." In M. Kamil, P.D. Pearson, E. Moje (Eds.), *Handbook on Reading Research*, 4. New York, NY: Longman.

9) Snow, C.E., et al. (2007). *Is Literacy Enough? Pathways to Academic Success for Adolescents.* Baltimore, MD: Brookes Publishing Co.

10) Snow, C.E. (1991). "Language Proficiency: Towards a Definition." In H. Dechert, G. Appel (Eds.), *A Case for Psycholinguistic Cases* (pp. 63–89). Amsterdam, The Netherlands: John Benjamins Publishing Co.

11) Beck, I., McKeown, M., Kucan, L. (2002). *Bringing Words to Life: Robust Vocabulary Instruction.* New York, NY: Guilford; Snow, C.E., Lawrence, J., White, C. (in press). "Generating Knowledge of Academic Language among Urban Middle School Students," *Journal of Research on Educational Effectiveness.*

12) Anderson, R.C., Wilson, P.T., Fielding, L.G. (1988). "Growth in Reading and How Children Spend Their Time Outside of School," *Reading Research Quarterly*, 23(3), pp. 285–303.

13) Cunningham, A.E., Stanovich, K.E. (1997). "Early Reading Acquisition and Its Relation to Reading Experience and Ability 10 Years Later," *Developmental Psychology*, 33(6), pp. 934–945.

14) Walberg, H., Tsai, S. (1983). "Matthew Effects in Reading," *American Educational Research Journal*, 20(3), pp. 359–373; Stanovich, K.E. (1986). "Matthew Effects in Reading: Some Consequences of Individual Differences in the Acquisition of Literacy," *Reading Research Quarterly*, 21(4), pp. 360–407.

15) Raudenbush, S.W. (2009). "The *Brown* Legacy and the O'Connor Challenge: Transforming Schools in the Images of Children's Potential," *Educational Researcher*, 38(3), pp. 169–180.

16) Beck, I., McKeown, M. (2002). "Questioning the Author: Making Sense of Social Studies," *Educational Leadership*, 60(3), pp. 44–47.

17) Lipman, M. (1985). "Thinking Skills Fostered by Philosophy for Children." In J.S. Segal, S.F. Chipman, R. Glaser (Eds.), *Thinking and Learning Skills: Relating Instruction to Research*, 1. Mahwah, NJ: LEA; Feiertag, J., Chernoff, L. (1987). "Inferential Thinking and Self-Esteem: Through the Junior Great Books Program," *Childhood Education*, (63)4, pp. 252–52; Resnick, L.B., Michaels, S., O'Connor, C. (in press). "How (Well Structured) Talk Builds the Mind." In R. Sternberg, D. Preiss (Eds.), *From Genes to Context: New Discoveries about Learning from Educational Research and Their Applications.* New York, NY: Springer.

18) Foorman, B.R. (2009). "Text Difficulty in Reading Assessment." In E.H. Hiebert (Ed.), *Reading More, Reading Better: Solving Problems in the Teaching of Literacy* (pp. 231–247). New York, NY: Guilford.