The Urgency and the Challenge of Teaching All Students to Read: Lessons from Research

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“Current difficulties in reading largely originate from rising demands for literacy, not from declining absolute levels of literacy”
Rising needs for high levels of literacy in our society demand that schools break the mold of past performance—we clearly must do better than has ever been done before for all students.
Even students who complete high school successfully at present are not prepared for many post secondary options.

Comparing the difficulty of typical 11th and 12th grade texts with those encountered in college and other post secondary environments.

Estimates based on average Lexiles of text.
When all of this data is brought together, it is apparent that society in general and the workplace in particular demand higher levels of reading proficiency than schools. Moreover, many students are barely meeting those minimal education requirements.

(p. 3) -- Pennsylvania Department of Education (2004)
This study calculates the financial costs incurred by Michigan business and institutions of higher learning when students leave high school without learning basic skills. … The best estimate … is $601 million per year. Extrapolating to the entire United States, the lack of basic skills costs a total of approximately $16.6 billion each year.

--Greene (2000)
In fall 2000, 28 percent of entering freshmen enrolled in one or more remedial reading, writing, or mathematics courses. (p. iv)

Negative outcomes associated with low reading skills

Lower levels of literacy have been linked to:

- Higher drop out rates from school
- Higher rates of juvenile delinquency
- Higher rates of underemployment
- Higher levels of imprisonment
Why do such high numbers of students struggle in learning to read?

Many students come to school poorly prepared for learning to read because of reduced learning opportunities in their pre-school environment.
Development of Phonological Sensitivity

Cross-sectional study comparing the performance of 250 children from higher income families to 170 children from lower income families.

Children were between two- and five-years of age.
Blending Task

- Middle-Income
- At-Risk

Adjusted Average Score

AGE GROUP

2-Yr-Old 3-Yr-Old 4-Yr-Old 5-Yr-Old
Language

Meaningful Differences
in the Everyday Experience of Young American Children

Betty Hart & Todd R. Risley

Foreword by Lois Bloom
Hart and Risley (1995) conducted a longitudinal study of children and families from three groups:

- Professional families
- Working-class families
- Families on welfare
Hart & Risley compared the mean number of interactions initiated per hour in each of the three groups.

![Bar chart showing interactions per hour for Welfare, Working, and Professional groups.]

- **Welfare**
- **Working**
- **Professional**
Hart & Risley also compared the mean number of minutes of interaction per hour in the three groups.
Cumulative Language Experiences

Cumulative Words Per Hour

- Welfare
- Working
- Professional
Why do such high numbers of students struggle in learning to read?

Many students come to school poorly prepared for learning to read because of reduced learning opportunities in their pre-school environment.

Other students have biologically based, specific language disabilities that interfere with reading.
Diversity exemplified in the lives of three children

Differences in talent and preparation for learning to read words
Talent and preparation for learning to read words varies enormously among young children.

Children can be strong in this talent-like my grandson Andrew.
Talent and preparation for learning to read words varies enormously among young children.

Percentile Ranks

Children can be moderately weak in this talent-like David.
Talent and preparation for learning to read words varies enormously among young children. Serious difficulties—probably require special interventions and a lot of extra support—like Alexis.
Alexis....
The challenge of diversity in talent and preparation for learning to read

**Diversity in talent and preparation**

1 \[\begin{array}{c} 100 \end{array} \]

**Diversity of educational response**

30 \[\begin{array}{c} 70 \end{array} \]
The challenge of diversity in talent and preparation for learning to read

Diversity in talent and preparation

Diversity of educational response
Why do such high numbers of students struggle in learning to read

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New literacy standards and expectations may require much more powerful instruction in knowledge and thinking than has ever been provided before
Reading is a multifaceted skill, gradually acquired over years of instruction and practice.
An examination of one state’s accountability measure in reading

What is the relative contribution of verbal knowledge and reasoning vs. reading fluency and accuracy to performance on the FCAT at 3rd, 7th, and 10th grade levels?
How the study was conducted:

Gave a 2 hour battery of tests that measured

• Verbal Knowledge and reasoning
• Reading fluency and accuracy
• Nonverbal Reasoning ability
• Working Memory

To 200 children at 3rd, 7th, and 10th grade level who also took the FCAT, a demanding test of reading comprehension
Fluency

Verbal

Non Verbal

Memory

3rd Grade

Percent of variance accounted for

55

47

23

12
Fluency

10

20

30

40

Non Verbal

Memory

Percent of variance accounted for

7th Grade
Fluency

Verbal

Non Verbal

Memory

Percent of variance accounted for

10th Grade

32  52  28  5
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Until relatively recently, we have not understood reading skill well enough to develop consensus about the best methods for teaching struggling readers
What we must do to reading failure in grades K-3: The big Ideas

1. Increase the quality, consistency, and reach of instruction in every K-3 classroom

2. Conduct timely and valid assessments of reading growth to identify struggling readers

3. Provide more intensive interventions to “catch up” the struggling readers

The prevention of reading difficulties is a school-level challenge
Evidence from one school that we can do substantially better than ever before.

School Characteristics:

70% Free and Reduced Lunch (going up each year)

65% minority (mostly African-American)

Elements of Curriculum Change:

Movement to a more balanced reading curriculum beginning in 1994-1995 school year (incomplete implementation) for K-2

Improved implementation in 1995-1996
We can teach even “high risk” children to read
Evidence from one school that we can do substantially better than ever before

**School Characteristics:**

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**Elements of Curriculum Change:**

- Movement to a more balanced reading curriculum beginning in 1994-1995 school year (incomplete implementation) for K-2
- Improved implementation in 1995-1996
- Implementation in Fall of 1996 of screening and more intensive small group instruction for at-risk students
Proportion falling below the 25th percentile in word reading ability at the end of first grade

Average Percentile for entire grade (n=105)


Average Percentile

Screening at beginning of first grade, with extra instruction for those in bottom 30-40%
Proportion falling below the 25th Percentile

Average Percentile

31.8 20.4 10.9 6.7 3.7

14.5 9.0 5.4 2.4

Hartsfield Elementary Progress over five years

Average Percentile

48.9 55.2 61.4 73.5 81.7

58.2 67.1 74.1 81.5
Even though the impact of preventive programs at Hartsfield were powerful, why did so many children still read below “grade level” on the FCAT?

It is much more difficult to “close the gap” in broad knowledge and verbal skills than it is in word reading skills.

Tests of reading comprehension at third grade and up are increasingly sensitive to individual differences in verbal knowledge and reasoning.
Percentile scores on Peabody of 29,000 students at each grade level in RF schools

Median Percentile

Bottom 20%
First-grade children from higher SES groups know about twice as many words as lower SES children.

Poor children, who enter school with vocabulary deficiencies have a particularly difficult time learning words from “context”.

Research has discovered much more powerful ways of teaching vocabulary than are typically used in classrooms – generalization to reading comprehension.

A “robust” approach to vocabulary instruction involves directly explaining the meanings of words along with thought-provoking, playful, interactive follow-up.
Four Critical Elements for More Robust Vocabulary Instruction

Select the right words to teach – Tier 2 words

- absurd
- fortunate
- ridiculous

Develop child-friendly definitions for these words

Engage children in interesting, challenging, playful activities in which they learn to access the meanings of words in multiple contexts

Find a way to devote more time during the day to vocabulary instruction
What are the biggest challenges to preventing reading difficulties in all students?

1. Although we are beginning to do better, most schools at this point are not doing what we know how to do—prevent word reading difficulties in almost all students.

2. Discover the conditions that must be in place to rapidly accelerate the development of verbal knowledge and reasoning skills in preparation for the demands of reading comprehension at third grade and higher.
A final concluding thought....

Because of the large diversity among children in their talent and preparation for learning to read...leaving no child behind is an enormous challenge...

It will require powerful professional development for teachers, school reorganization, careful assessments, and a relentless intervention focus on the individual needs of every child...

But, its not the most difficult thing we could be faced with...
Consider this task for example...
Thank You

www.fcrr.org

Science of Reading Section

Presentations of faculty and staff