The Challenge of Teaching All Children to Read: Lessons from Research

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I can see them standing politely on the wide pages that I was still learning to turn, Jane in a blue jumper, Dick with his crayon-brown hair, playing with a ball or exploring the cosmos of the backyard, unaware they are the first characters, the boy and girl who begin fiction.

Beyond the simple illustrations of their neighborhood, the other protagonists were waiting in a huddle: frightening Heathcliff, frightened Pip, Nick Adams carrying a fishing rod, Emma Bovary riding into Rouen.

But I would read about the perfect boy and his sister even before I would read about Adam and Eve, garden and gate, and before I heard the name Gutenberg, the type of their simple talk was moving into my focusing eyes.
It was always Saturday and he and she were always pointing at something and shouting, “Look!” pointing at the dog, the bicycle, or at their father as he pushed a hand mower over the lawn, waving at aproned mother framed in the kitchen doorway, pointing toward the sky, pointing at each other.

They wanted us to look but we had looked already and seen the shaded lawn, the wagon, the postman. We had seen the dog, walked, watered and fed the animal, and now it was time to discover the infinite, clicking permutations of the alphabet’s small and capital letters. Alphabetical ourselves in the rows of classroom desks, we were forgetting how to look, learning how to read.
Something almost everyone can agree on about reading

Our goal is to help all children acquire the skills and knowledge required to construct meaning from text: we also want them to read fluently and to value reading for pleasure and learning.

The best way to determine whether we have been successful in teaching all children to read is to assess their reading comprehension using reliable and valid tests.
What skills, knowledge, and attitudes are required for good reading comprehension?
What we know about the factors that affect reading comprehension

Proficient comprehension of text is influenced by:

- Accurate and fluent word reading skills
- Oral language skills (vocabulary, linguistic comprehension)
- Extent of conceptual and factual knowledge
- Knowledge and skill in use of cognitive strategies to improve comprehension or repair it when it breaks down.
- Reasoning and inferential skills
- Motivation to understand and interest in task and materials
In Florida, our measure to see how we are doing in teaching all children to be proficient readers is the FCAT.

What are the skills and knowledge that are required to perform well on the FCAT in third grade and higher?
How the study was conducted:

Gave 2 hour battery of language, reading, nonverbal reasoning, and memory tests to approximately 200 randomly selected children in each grade at 3 locations in Florida who had also taken the FCAT.

**Language** – Wisc Vocab and Similarities
  Listening comprehension

**Reading** – Oral reading fluency passages, TOWRE, Gray Oral Reading Test

**NV Reasoning** – Wisc Matrix Reasoning, Block Design

**Working Memory** – Listening span, Reading Span
Fluency

Verbal

Non Verbal

Memory

3rd Grade

Percent of variance accounted for

55

47

23

12
What skills are particularly deficient in level 1 and level 2 readers in 3\textsuperscript{rd} grade?

<table>
<thead>
<tr>
<th>Skill/ability</th>
<th>FCAT Performance Level</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>1</td>
</tr>
<tr>
<td>WPM on FCAT</td>
<td>54</td>
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<tr>
<td>WPM on DIBELS</td>
<td>61</td>
</tr>
<tr>
<td>Fluency percentile</td>
<td>6\textsuperscript{th}</td>
</tr>
<tr>
<td>Phonemic decoding</td>
<td>25\textsuperscript{th}</td>
</tr>
<tr>
<td>Verbal knowledge/reasoning</td>
<td>42\textsuperscript{nd}</td>
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</table>
The Surprise Party

My dad had his fortieth birthday last month, so my mom planned a big surprise party for him. She said I could assist with the party but that I had to keep the party a secret. She said I couldn’t tell my dad because that would spoil the surprise.

I helped mom organize the guest list and write the invitations. I was responsible for making sure everyone was included. I also addressed all the envelopes and put stamps and return addresses on them.....
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Fluency

Verbal

Non Verbal

Memory

7th Grade

Percent of variance accounted for

43
51
22
5
“Reading is thinking guided by print”  
(Perfetti, 1995)
1. The most important reading and skills that explain individual differences in performance on a widely used measure of reading comprehension are reading fluency and vocabulary/verbal reasoning. Motivation should also be very important.

2. Differences in reading fluency (accuracy and speed) are particularly important in explaining differences among children in performance at third grade, and vocabulary/verbal reasoning differences become increasingly more important as text becomes more complex.
Effective early reading instruction must build reading skills in five important areas by providing instruction that is both engaging and motivating.

- Phonemic Awareness
- Phonics
- Fluency
- Vocabulary
- Comprehension strategies

Taught by methods that are...

- Identifying words accurately and fluently
- Constructing meaning once words are identified
- engaging & motivating
Increasing the ability of classroom instruction to reach more children

1. Teach the essential skills and knowledge required for reading using explicit instructional strategies

2. Need a well designed scope and sequence so that instructional sequences are well coordinated

3. Need to include ample practice opportunities with high quality feedback and engaging applications

4. Student materials need to be well aligned with instruction so that practice and application helps to build skills systematically

5. Need to use assessments to differentiate instruction more effectively
Let’s talk about motivation a moment…

Detailed studies of effective teachers document that they are powerful motivators:

“Basically, we found that engaging primary-grades teachers do something every minute of every hour of every school day to motivate their students, using every conceivable motivational mechanism to do so …Pressley, 2004
Let's talk about motivation a moment…

Detailed studies of effective teachers document that they are powerful motivators:

“Less engaging teachers actually do much to undermine student motivation, including, for example, establishing a negative tone in the class, placing great emphasis on extrinsic rewards, calling attention to weak performances by students, providing ineffective or unclear feedback, and fostering competition among students. Engaging teachers never teach in ways that undermine students’ motivation. Pressley, 2004
What difficulties are many children in our most challenging schools Likely to experience on these tests?

Florida Data from Reading First Schools
Oral Reading Fluency – Assess4, Third Grade

35% moderate risk

22% high risk

Ave. WPM = 105
35th percentile

29,475 students

Assess 4 ORF

Std. Dev = 36.87
Mean = 105.3
N = 29745.00
Assess 4 OLV Percentile

- Ave percentile = 34th
- Std. Dev = 26.72
- Mean = 39.0
- N = 29,466

- 37% high risk
- 25% mod. risk
Collier County RF students are even less well prepared for reading comprehension

<table>
<thead>
<tr>
<th>Vocabulary</th>
<th>State level</th>
<th>Collier County</th>
</tr>
</thead>
<tbody>
<tr>
<td>Kindergarten</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>1st Grade</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>2nd Grade</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>3rd Grade</td>
<td></td>
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</tbody>
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- Kindergarten: State level 37%, Collier County 38%
- 1st Grade: State level 34%, Collier County 35%
- 2nd Grade: State level 17%, Collier County 16%
- 3rd Grade: State level 24%, Collier County 21%
We know how to help almost all children become accurate and fluent readers by third grade.
A model for preventing 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 very best teachers of children who have difficulties learning to read are Relentless in their pursuit of every child.
The very best teachers of children who have difficulties learning to read are relentless.

Let no child “escape” from first grade without being proficient in phonemic decoding skills.
Remember- "Phonics does not have to be boring"
Why is it important for children to acquire good phonemic decoding skills (phonics) early in reading development?

Because learning to read involves everyday encounters with words the child has never before seen in print.

Phonemic analysis provides the most important single clue to the identity of unknown words in print.
The most efficient way to make an “accurate first attempt” at the identity of a new word is:

First, do phonemic analysis and try an approximate pronunciation

Then, close in on the exact right word by finding one containing the right sounds, that also makes sense in the sentence.

(chapter 10, Preventing Reading Difficulties in Young Children (2000))
The connection to reading fluency:

To be a fluent reader, a child must be able to recognize most of the words in a passage “by sight”
These are interesting and challenging times for anyone whose professional responsibilities are related in any way to literacy outcomes among school children. For, in spite of all our new knowledge about reading and reading instruction, there is a widespread concern that public education is not as effective as it should be in teaching all children to read.
The report of the National Research Council pointed out that these concerns about literacy derive not from declining levels of literacy in our schools but rather from recognition that the demands for high levels of literacy are rapidly accelerating in our society.
The connection to reading fluency:

To be a fluent reader, a child must be able to recognize most of the words in a passage “by sight”

Children must correctly identify words 3-8 times before they become “sight words”

Children must make accurate first attempts when they encounter new words, or the growth of their “sight word vocabulary” will be delayed—they will not become fluent readers
<table>
<thead>
<tr>
<th>Words likely to be encountered for the first time in first grade</th>
<th>animal</th>
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<tbody>
<tr>
<td></td>
<td>faster</td>
</tr>
<tr>
<td></td>
<td>happy</td>
</tr>
<tr>
<td></td>
<td>never</td>
</tr>
<tr>
<td></td>
<td>time</td>
</tr>
<tr>
<td></td>
<td>sleep</td>
</tr>
<tr>
<td></td>
<td>rabbit</td>
</tr>
</tbody>
</table>
Words likely to be encountered for the first time in second grade

- amaze
- beach
- comfortable
- example
- interesting
- grease
- stiff
- sweep
the middle, it was the for a to wear his full set of whenever he in - even in times of! When a believed he was friends, he would his. This of showed that the felt and safe.
During the middle ages, it was the custom for a knight to wear his full set of armor whenever he appeared in public - even in times of peace! When a knight believed he was among friends, he would remove his helmet. This symbol of friendship showed that the knight felt welcome and safe.
The very best teachers of children who have difficulties learning to read are relentless.

As children become accurate and independent readers, encourage, cajole, lead, beg, support, demand, reward them for reading as broadly and deeply as possible.
Becoming a fluent reader—from the bottom up

1. Students who acquire proficient phonemic decoding skills in first grade become accurate and independent readers by the middle or end of first grade.

2. Students who read accurately, and read a lot, acquire larger and larger vocabularies of words they can read “by sight.”

3. Fluent readers in third grade are those who can read almost all of the words in third grade text “by sight.”
How are we doing in Reading First Schools in teaching these critical early skills?

Reading First is already beginning to make a difference in the early grades.
Achievement in 1st year vs. 2nd year - Collier

1st Grade
All Students

03-04 low risk
04-05 low risk
03-04 high risk
04-05 high risk

LNF
PSF
NWF
ORF

18%
116%
83%
60%

25%
43%
54%
73%
Achievement in 1st year vs. 2nd year - Collier

- 03-04 low risk
- 04-05 low risk
- 03-04 high risk
- 04-05 high risk

2nd Grade

All Students

- NWF
  - 2004 low risk: 75%
  - 2005 low risk: 52%
  - 2004 high risk: 46%
  - 2005 high risk: 39%

- ORF
  - 2004 low risk: 32%
Achievement in 1\textsuperscript{st} year vs. 2\textsuperscript{nd} year - Collier

- 03-04 low risk
- 04-05 low risk
- 03-04 high risk
- 04-05 high risk

3\textsuperscript{rd} Grade
All students

ORF

-16% decrease
-10% decrease
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 systematic and explicit 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.
Hartsfield Elementary Progress over five years

Proportion falling below the 25th percentile in word reading ability at the end of first grade

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<tbody>
<tr>
<td>Proportion</td>
<td>31.8</td>
<td>20.4</td>
<td>10.9</td>
<td>6.7</td>
<td>3.7</td>
</tr>
</tbody>
</table>

Average Percentile for entire grade (n=105)

- 1995: 48.9
- 1996: 55.2
- 1997: 61.4
- 1998: 73.5
- 1999: 81.7

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

Average Percentile

1995: 48.9  
1996: 55.2  
1997: 61.4  
1998: 73.5  
1999: 81.7

Proportion falling below the 25th Percentile

Average Percentile

1996: 58.2  
1997: 67.1  
1998: 74.1  
1999: 81.5

Hartsfield Elementary Progress over five years
Why the disparity between early word-level outcomes and later comprehension of complex texts?

Demands of vocabulary in complex text at third grade and higher place stress on the remaining SES related “vocabulary gap”

More complex text demands reading comprehension strategies and higher level thinking and reasoning skills that remain “deficient” in many children.
The Challenge of the “vocabulary gap”

This gap arises because of massive differences in opportunities to learn “school vocabulary” in the home.

The gap must be significantly reduced in order to enable proficient reading comprehension of complex texts by third grade.
Big ideas from “Bringing Words to Life”

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

A “robust” approach to vocabulary instruction involves directly explaining the meanings of words along with thought-provoking, playful, interactive follow-up.
The very best teachers of children who have difficulties learning to read are

**Relentless**

Beginning in Kindergarten, teach vocabulary and thinking skills as intensely, and robustly as possible
What must students learn to maintain strong literacy growth after 3rd grade?

Must continue to learn new words so they can remain fluent at increasing levels of difficulty.

Must expand their conceptual and factual knowledge.

Must acquire many thousands of new vocabulary words.

Must acquire increasingly sophisticated inferential skills and strategies for reading with comprehension.

Must maintain motivation to read so they read broadly and deeply.
How do we help students after third grade meet the increasing challenge of higher-level comprehension?

Content area teachers must teach and encourage students to use more effective reading and text study strategies.

Content area teachers must teach content in science, social studies, history, etc. more powerfully so that even struggling readers are able to learn the essential core content.

Intensive reading classes must be available for students who are not yet accurate and fluent readers of grade level material.
Said a slightly different way – the big three

1. Every school must have capacity to deliver **more intensive instruction** to build accuracy and fluency in students more than 1 to 1.5 years behind.

2. Work to build vocabulary/comprehension skills must be spread to all teachers (e.g. social studies, history, etc.) as well as intensive work for some.

3. **Content teachers** must use “content enhancement routines” to insure that all students master the most important content in every class, regardless of reading level.
Conclusions:

We know how to prevent problems in reading accuracy and fluency in almost all children—whether we do it or not depends most on “how we feel about the fact we haven’t done it so far”

We have some promising new techniques for teaching vocabulary in a way that will generalize to reading comprehension. **We must incorporate these techniques into our instruction in a very powerful way.**

We are **just beginning to learn** what instructional conditions are required to accelerate reading growth in older students
A final concluding thought....

There is no question but that “leaving no child behind in reading” is going to be a significant challenge...

It will involve professional development for teachers, school reorganization, careful assessments, and a relentless 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
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