Teaching all students to read in Florida: Issues at the school and classroom level

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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.
Florida’s improvement on the 4th grade NAEP since 1998

Improvements since 1998 on the NAEP

- Florida
- Nation

1998 2005
Florida’s improvement 4th Grade FCAT since 2001

mandatory retention
Percent of students at grade level or above from grades 3 through 10 in 2005
Comparison of Performance on FCAT and NAEP at 4th and 8th Grades

![Bar chart showing comparison between FCAT GL or above and NAEP basic and above at 4th and 8th grades.](chart.png)

- **4th Grade**: FCAT GL or above - 71, NAEP basic and above - 65
- **8th Grade**: FCAT GL or above - 44, NAEP basic and above - 66
A study of the Florida Comprehensive Assessment Test (FCAT) at grades 3, 7, and 10

What types of reading and language/knowledge factors are most important for good performance on the FCAT at grades 3, 7, and 10

What reading and language/knowledge factors are most deficient in students who perform below grade level on the FCAT?
The FCAT has some important characteristics.

It was specifically created to place high demands on vocabulary and reasoning/inferential skills.

“FCAT demands an in-depth understanding and application of information that is not typical of most standardized tests.” (Lessons Learned, 2002)

Design specifications call for “application of skills in cognitively challenging situations.”

Proportion of questions requiring “higher order” thinking skills increases from 30% in grade three to 70% in grade 10.
The FCAT has some important characteristics

The FCAT may also place special demands on reading fluency, as opposed to “labored accuracy”

Passage length at different levels

3rd grade – 325 words

7th grade – 816 words

10th grade – 1008 words
How the study was conducted:

Gave 2 hour battery of language, reading, nonverbal reasoning, and memory tests to approximately 200 children in each grade (3rd, 7th, and 10th) at 3 locations in the state.

- **Language** — Wisc Vocab and Similarities
  - Listening comprehension with FCAT passage

- **Reading** — Oral reading fluency, TOWRE, Gray Oral Reading Test

- **NV Reasoning** — Wisc Matrix Reasoning, Block Design

- **Working Memory** — Listening span, Reading Span
What skills are particularly deficient in level 1 and level 2 readers in 3rd grade?

<table>
<thead>
<tr>
<th>Skill/ability</th>
<th>FCAT Performance Level</th>
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<td>WPM on FCAT</td>
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<tr>
<td>Verbal knowledge/reasoning</td>
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What skills are particularly deficient in level 1 and level 2 readers at 7th grade?

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<tr>
<td>Fluency percentile</td>
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<tr>
<td>Phonemic decoding</td>
<td>27th</td>
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<tr>
<td>Verbal knowledge/reasoning</td>
<td>34th</td>
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</table>
The chart shows the percent of variance accounted for in Verbal and Non-Verbal Fluency for 10th Grade students.

- Verbal Fluency: 32% individually
- Non-Verbal Fluency: 28% individually
- Memory: 5% individually
What skills are particularly deficient in level 1 and level 2 readers at 10th grade?

<table>
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<tr>
<td>WPM on FCAT</td>
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<tr>
<td>Fluency percentile</td>
<td>8th</td>
</tr>
<tr>
<td>Phonemic decoding</td>
<td>18th</td>
</tr>
<tr>
<td>Verbal knowledge/reasoning</td>
<td>30th</td>
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</table>
Our challenges in reading instruction are the same in Florida as most other places in the country—perhaps a bit more than some. A central problem in reading instruction arises, not from the absolute level of children’s preparation for learning to read, but from the diversity in their levels of preparation.

(Olson, 1998)
What are the most important ways children are diverse—when it comes to learning to read?

1. They are diverse in their talent and their preparation for learning to read words accurately and fluently.
The language abilities required for learning to read words are normally distributed in the population.

Children can be strong in this talent-like my grandson Andrew.

Percentile Ranks

Standard Scores
The language abilities required for learning to read words are normally distributed in the population. Children can be moderately weak in this talent-like David.
David
What are the most important ways children are diverse—when it comes to learning to read?

1. They are diverse in their talent and their preparation for learning to read words accurately and fluently

2. They are diverse in their oral language knowledge and abilities—vocabulary and world knowledge

3. They are diverse in their abilities to manage their learning behaviors and their motivation to apply themselves to learning to read
The challenge of diversity in talent and preparation for learning to read

Diversity in talent and preparation

Diversity of educational response
The challenge of diversity in talent and preparation for learning to read

Diversity in talent and preparation

Diversity of educational response

Interventions and differentiated instruction in the classroom
What are the key ingredients at the classroom and school level needed to prevent reading difficulties in young children?
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 prevention of reading difficulties is a school-level challenge
The continuum of instructional power within the model for preventing reading failure

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

If lots of students in the school are at risk, the first level of intervention is spending more time and improving quality of initial instruction-everyone gets this –

90 minute block is an intervention
120 minute block is a stronger intervention

The intervention continuum begins with differentiated instruction offered by the classroom teacher during the 90 minute block
A common structure for the total time spent teaching reading

Initial, systematic, explicit instruction in essential skills and knowledge – 30-60 minutes

To the extent time for this is increased, and instruction is more powerful, it is an “intervention for the whole group”

Differentiated instruction in small groups targeted to the needs of individual students – 60-90 minutes

This is the beginning of intervention continuum (time and focus and power) based on individual student need
Classroom organization should be related to teaching objectives
Classroom Organization: Learning Centers for differentiated groups

- **Teacher-Led Center**
  - Small group instruction
    - Teaching “on purpose”
    - Careful observation of individual students
    - Addresses particular individual needs
    - Opportunities for responsive scaffolding

- **Student Centers**
  - Academically engaged
  - Accountability
  - Group, Pair, Cooperative, Individual
Differentiated instruction in small groups
Classroom Organization: Learning
Centers for differentiated groups

Points of vulnerability with this system

Students waste time at independent learning centers because they are not engaged and centers are not focused and leveled properly.
Effective independent student learning activities...
Classroom Organization: Learning
Centers for differentiated groups

Points of vulnerability with this system

Students waste time at independent learning centers because they are not engaged and centers are not focused and leveled properly

To download up to 240 independent student learning activities for K-1 classrooms, go to http://www.fcrr.org/activities/

Can also download instructions on classroom management during small group instruction, and soon, up to 70 minutes of video training
Tier II Interventions

Tier II is almost always given in small groups.

Tier II should always increase the intensity of instruction.
The Logic of Instructional Intensity

If a child performs below grade level targets on a screening or progress monitoring measure, they are already substantially behind in required development.

To achieve the grade level standard by the end of the year, these students must learn critical skills faster than their grade level classmates.
Correct words per minute

Sept | Dec | Feb | May
--- | --- | --- | ---
32 | 48 | 64 | 96

Expected Progress
Screening or Progress monitoring assessment

Expected Progress:

<table>
<thead>
<tr>
<th>Month</th>
<th>Correct words per minute</th>
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</thead>
<tbody>
<tr>
<td>Sept</td>
<td>32</td>
</tr>
<tr>
<td>Dec</td>
<td>32</td>
</tr>
<tr>
<td>Feb</td>
<td>48</td>
</tr>
<tr>
<td>May</td>
<td>96</td>
</tr>
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</table>
The Logic of Instructional Intensity

If a child performs below grade level targets on a screening or progress monitoring measure, they are already substantially behind in required development.

To achieve the grade level standard by the end of the year, these students must learn critical skills faster than their grade level classmates.

The most direct way to increase learning rate is by increasing the number of positive, or successful, instructional interactions (pii) per school day.
What is a Positive Instructional Interaction (Pii)

Teacher explains a concept clearly at the right level, and the child is actually attending-processing the information.

Teacher models a correct response and the child attends to the model.

Teacher corrects students error in a way that increases the chance for the student to respond correctly the next time.

Teacher reinforces a correct response in way that increases probability child will respond correctly on future occasions.
“School based preventive efforts should be engineered to maintain growth in critical word reading skills at roughly normal levels throughout the elementary school period”

(Torgesen, 1998)
There are serious consequences that follow from getting a slow start in learning to read….

Poor readers get less reading practice from the beginning of first grade

Mean words read by each child in reading sessions at three points in the year

Biemiller, 1977-78
TIER II Interventions

Tier II is almost always given in small groups.

Tier II should always increase the intensity of instruction.

Tier II must be precisely targeted at the right level on student’s most critical learning needs.

Tier II must increase the explicitness of instruction.
Explicit Instruction

• Nothing is left to chance; all skills are taught directly..
• Student practice activities are carefully guided with “instructive” error correction
• Practice activities are carefully engineered to produce mastery
• Development of critical skills is carefully monitored—instruction is focused on mastery.
An Example of an Effective Intervention
Design of Study

1. Most “at risk” first graders from five elementary school—PPVT above 70

2. Instruction provided in 45 min. sessions every day from October through May in groups of 3 or 5 by experienced teachers or well-trained paraprofessionals

3. Used a structured (scripted) reading program that contained instruction and practice in phonemic awareness, phonics, fluency, and comprehension

4. Used a number of methods to achieve fidelity of implementation
   - 3 days of initial training
   - Weekly supervisory visits
   - Monthly inservice (3 hours)
Work on phonemic awareness
Blending sounds into words
Directly building sight recognition of high utility words
Comprehension-story grammar...
Growth in Word Reading Ability

National Percentile

October January May
Growth in Correct Words Per Minute on First Grade Level Passages

Comprehension on SAT9 = 50th percentile
Tier II interventions across the grade levels

Kindergarten – 20 minutes, small group, push in

First grade – 30-45 minutes, small group, push in or additional instruction outside the block
One important way to enhance the power of instruction during the 90 minute block is to have some of the small group instruction provided by another teacher or paraprofessional.
Tier II interventions across the grade levels

Kindergarten – 20 minutes, small group, push in

First grade – 30-45 minutes, small group, push in or additional instruction outside the block

2-3 grades – 30-45 minutes, small group, push in plus another 30-45 minutes outside of reading block

or

2nd and 3rd Grade – an “intervention” core, smaller class for 90 minutes—“walk and read”
Four Second Grade Classes
Orderly movement between classes

Intervention teacher
Possible schedule for a 90 minute intervention class in 2\textsuperscript{nd} and 3\textsuperscript{rd} grade

2 teachers -- 30 minute rotations

Group of 5 – decoding and fluency- low, mid, hi

Group of 5 – fluency, comp, vocab – low, mid, hi

Group of 5 – technology-learning center
Screening or Progress monitoring assessment

Correct words per minute

- Sept
- Dec
- Feb
- May

Expected Progress

96
80
64
48
32
16
Tier III is intensive, strategic, instruction specifically designed and customized small-group or 1:1 reading instruction that is extended beyond the time allocated for Tier I and Tier II.
What are the critical elements of effective interventions?

Ways that instruction must be made more powerful for students “at-risk” for reading difficulties.

More powerful instruction involves:

- More instructional time
- Smaller instructional groups
- More precisely targeted at right level
What are the critical elements of effective interventions?

Ways that instruction must be made more powerful for students “at-risk” for reading difficulties.

More powerful instruction involves:

- More instructional time
- Smaller instructional groups
- More precisely targeted at right level
- Clearer and more detailed explanations
- More systematic instructional sequences
- More extensive opportunities for guided practice
- More opportunities for error correction and feedback

resources

skill
Another resource for teachers and schools to improve differentiated instruction and interventions:

To find objective, teacher-written reviews of commercially available intervention programs and materials, go to: [http://www.fcrr.org/FCRRReports/](http://www.fcrr.org/FCRRReports/)

About 70 supplemental/intervention program reviews are available
What about interventions for older students?

There are really two problems to address...

1. We have many students with reading disabilities in late elementary, middle and high school right now, who did not receive the benefit of powerful preventive instruction and continue to struggle with basic skills...

2. Many students with reading disabilities need continued support for the development of more advanced reading skills as they encounter increasingly complex text in middle and high school ....
A comprehensive model for reading instruction in late elementary, middle, and high school

1. Intensive Reading Classes for struggling readers—taught by reading specialists

2. More effective instruction in content knowledge and understanding—made accessible for weaker readers

3. Content teachers provide instruction that helps students improve their skills in how to learn from reading—reading strategies

4. Ongoing formative assessments as well as end of year outcome assessments

http://smarttogether.org/clc/index.html
What is currently known about the effects of intensive remedial interventions for older students with serious reading difficulties
Change in Reading Skill for Children with Reading Disabilities who Experience Growth in Reading of .04 Standard Deviations a Year

Hanushek, Cain, & Rivkin, 1998
A study of intensive, highly skilled intervention with 60 children who had severe reading disabilities

Children were between 8 and 10 years of age

Had been receiving special education services for an average of 16 months

Nominated as worst readers: at least 1.5 S.D’s below grade level

Average Word Attack=69, Word Identification=69, Verbal IQ=93

Randomly assigned to two instructional conditions that both taught “phonics” explicitly, but used different procedures with different emphasis

Children in both conditions received 67.5 hours of one-on-one instruction, 2 hours a day for 8 weeks

Children were followed for two years after the intervention was completed
Time x Activity Analyses for the Two Intervention Approaches

- Phonemic Awareness and Phonemic Decoding:
  - LIPS: 85%
  - EP: 20%

- Sight Word Instruction:
  - LIPS: 10%
  - EP: 30%

- Reading or writing connected text:
  - LIPS: 5%
  - EP: 50%

Growth in Total Reading Skill Before, During, and Following Intensive Intervention

<table>
<thead>
<tr>
<th>Standard Score</th>
<th>P-Pretest</th>
<th>Pre</th>
<th>Post</th>
<th>1 year</th>
<th>2 year</th>
</tr>
</thead>
<tbody>
<tr>
<td>LIPS</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>EP</td>
<td></td>
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Interval in Months Between Measurements
Growth in phonemic decoding during intervention & follow-up

![Graph showing growth in phonemic decoding with standard scores for LIPS and EP over pretest, posttest, 1 year, and 2 years.](image)

- LIPS line starts below 90 at pretest, rises sharply to above 90 at posttest, then decreases slightly but remains above 90 at 1 year and 2 years.
- EP line starts above 90 at pretest, remains stable around 90 at posttest, 1 year, and 2 years.

**Standard Score**
- Pretest: 90
- Posttest: Above 90
- 1 year: Above 90
- 2 years: Above 90

**X-axis**
- Pretest
- Posttest
- 1 year
- 2 years
Growth in text reading accuracy during intervention & follow-up

- LIPS
- EP

Standard Score

Pretest  posttest  1 year  2 years
Growth in comprehension during intervention & follow-up

- **EP**
- **LIPS**

Standard Score

- Pretest
- Posttest
- 1 year
- 2 years
Growth in fluency during intervention & follow-up

![Graph showing growth in fluency during intervention and follow-up with standard scores ranging from 60 to 100. The graph includes data points for LIPS and EP at pretest, posttest, 1 year, and 2 years.]
Oral Reading Fluency was much improved on passages for which level of difficulty remained constant.

Absolute change in rate from pretest to 2-year follow-up.

<table>
<thead>
<tr>
<th></th>
<th>Pretest -- 38 WPM, 10 errors</th>
<th>Posttest -- 101 WPM, 2 errors</th>
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<tr>
<td>Most difficult passage</td>
<td></td>
<td></td>
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<tr>
<td>Next most difficult passage</td>
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</table>
Disparity in outcomes for rate vs. accuracy in five remediation studies

Accuracy
Rate

Standard Score

Beginning level of Word Identification Skill
The challenge of fluent reading at grade level:

It depends critically on being able to recognize most of the words in the passage at a single glance.

In other words...

To read grade level passages fluently, a student must be able to recognize most of the words “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.
Projected growth in “sight vocabulary” of normal readers and struggling readers before and after remediation.
Alexis....
Conclusions about interventions with older students:

We know how to do much better in remediating reading difficulties in older students than we are frequently doing in our schools.

However, we do not yet have research demonstrations of all the conditions that need to be in place to completely close the reading gap for older students after they have struggled in reading for several years.
A final concluding thought....

There is no question but that providing the right kind of interventions for students who need them is a very difficult 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 Section