Struggling Readers: What works for intermediate level students

Dr. Joseph K. Torgesen
Florida State University and
The Florida Center for Reading Research

Summer Reading Conference, Pennsylvania, June, 2004
The larger context for our efforts to improve our effectiveness:

The recently published report of the President’s Commission on Special Education indicated that:

Special education has become one of “the most important symbols of American compassion, inclusion, and educational opportunity….” However, it must be revitalized to produce better learning outcomes in the children it serves.
“The ultimate test of the value of special education is that, once identified, children close the gap with their peers.”
The Challenge we face:

1. How to help children who have not yet acquired efficient basic reading skills “close the gap” with their peers

2. How can we insure that all students grow in their literacy capabilities after early elementary school, even though they may not have fully mastered basic reading skills
What “gap” do we want to close?

We want children to close the gap and become proficient in reading comprehension.

“Acquiring meaning from written text”
Gambrell, Block, and Pressley, 2002

“the process of extracting and constructing meaning through interaction and involvement with written language”
Sweet and Snow, 2002

“thinking guided by print”
Perfetti, 1985
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
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
Why is reading fluency important for good reading comprehension?

To answer this question, it's important to understand what is involved in fluent reading.

The single most important skill required for fluent reading is being able to recognize large numbers of words accurately “at a single glance”
Eye fixations of a college student reading a scientific passage. Gazes within each sentence are sequentially numbered above the fixated words with the durations (in msec.) indicated below the sequence number.

Flywheels are one of the oldest mechanical devices known to man. Every internal-combustion engine contains a small flywheel that converts the jerky motion of the pistons into the smooth flow of energy that powers the drive shaft.
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.
<table>
<thead>
<tr>
<th>go</th>
<th>shop</th>
<th>chance</th>
<th>mountain</th>
</tr>
</thead>
<tbody>
<tr>
<td>dog</td>
<td>meat</td>
<td>instead</td>
<td>project</td>
</tr>
<tr>
<td>in</td>
<td>best</td>
<td>farmer</td>
<td>factories</td>
</tr>
<tr>
<td>at</td>
<td>then</td>
<td>spring</td>
<td>straighten</td>
</tr>
<tr>
<td>am</td>
<td>spell</td>
<td>present</td>
<td>clarify</td>
</tr>
<tr>
<td>it</td>
<td>come</td>
<td>strong</td>
<td>frequent</td>
</tr>
<tr>
<td>so</td>
<td>start</td>
<td>huge</td>
<td>mediate</td>
</tr>
<tr>
<td>big</td>
<td>green</td>
<td>believe</td>
<td>threshold</td>
</tr>
<tr>
<td>be</td>
<td>want</td>
<td>office</td>
<td>modulate</td>
</tr>
<tr>
<td>do</td>
<td>better</td>
<td>question</td>
<td>prudent</td>
</tr>
<tr>
<td>box</td>
<td>learn</td>
<td>contact</td>
<td>exercise</td>
</tr>
<tr>
<td>one</td>
<td>black</td>
<td>history</td>
<td>protect</td>
</tr>
<tr>
<td>look</td>
<td>train</td>
<td>invent</td>
<td>desperate</td>
</tr>
<tr>
<td>if</td>
<td>even</td>
<td>invoice</td>
<td>quantity</td>
</tr>
<tr>
<td>not</td>
<td>went</td>
<td>complete</td>
<td>wonderful</td>
</tr>
<tr>
<td>car</td>
<td>thing</td>
<td>custom</td>
<td>initiate</td>
</tr>
<tr>
<td>hot</td>
<td>other</td>
<td>inquire</td>
<td>spurious</td>
</tr>
<tr>
<td>this</td>
<td>fruit</td>
<td>natural</td>
<td>particular</td>
</tr>
<tr>
<td>have</td>
<td>wrong</td>
<td>purchase</td>
<td>emergency</td>
</tr>
<tr>
<td>some</td>
<td>watch</td>
<td>vacant</td>
<td>selection</td>
</tr>
<tr>
<td>now</td>
<td>truck</td>
<td>everyone</td>
<td>verbatim</td>
</tr>
<tr>
<td>need</td>
<td>stars</td>
<td>swollen</td>
<td>awkward</td>
</tr>
<tr>
<td>give</td>
<td>winter</td>
<td>fireplace</td>
<td>wilderness</td>
</tr>
<tr>
<td>sat</td>
<td>begin</td>
<td>together</td>
<td>grandiose</td>
</tr>
<tr>
<td>good</td>
<td>forest</td>
<td>horizon</td>
<td>ornament</td>
</tr>
<tr>
<td>here</td>
<td>street</td>
<td>embassy</td>
<td>penitent</td>
</tr>
</tbody>
</table>
“In fact, the automaticity with which skillful readers recognize words is the key to the whole system...The reader’s attention can be focused on the meaning and message of a text only to the extent that it’s free from fussing with the words and letters.”

Marilyn Adams
“One of the great mysteries to challenge researchers is how people learn to read and comprehend text rapidly and with ease. A large part of the explanation lies in how they learn to read individual words. Skilled readers are able to look at thousands of words and immediately recognize their meanings without any effort.”

Why is development of **accurate phonemic decoding skills** important to becoming a fluent reader?

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

Children must correctly pronounce words 5-10 times before they become “sight words”

Children must make accurate first guesses when they encounter new words, or the growth of their “sight word vocabulary” will be delayed—they will not become fluent readers
Facts about reading from scientific research:

The most efficient way to make an “accurate first guess” of 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 selecting a word with the right sounds in it, that also makes sense in the passage
The challenge of continuing growth in fluency becomes even greater after third grade.

4th, 5th, and 6th graders encounter about 10,000 words they have never seen before in print during a year’s worth of reading.

Furthermore, each of these “new” words occurs only about 10 times in a year’s worth of reading.

Unfortunately, it’s very difficult to correctly guess the identity of these “new words” just from the context of the passage.
If they are to continue growing in their ability to fluently read passages at higher levels of difficulty, children must add large numbers of words to their “sight vocabulary” every year.

Thus, it’s important to have reliable decoding strategies to improve the accuracy with which “new” words are identified when they are first encountered in text.
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
What do we mean by reading comprehension strategies?

They are mental activities that good readers do while they are reading to help monitor their comprehension, increase their comprehension, or repair it when it breaks down.

Monitoring – does what I just read makes sense in light of what I read in the last paragraph?

Increasing comprehension- adjusting reading rate, summarize in own words

Repairing- rereading, looking up words, asking questions
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
Word reading fluency and accuracy

Knowledge and Strategies for Linguistic comprehension

Motivation and interest

= Reading Comprehension
Do the abilities that are required on “high stakes” tests of reading comprehension stay the same across the grades?

A study of the factors influencing performance on the SAT9 at grades 3, 7, and 10
How the study was conducted:

Gave 2 hour battery of language, reading, nonverbal reasoning, and memory tests to approximately 200 children in each grade at 3 locations in the state who had also taken the SAT9 test.

**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
Fluency

Verbal

Non Verbal

Memory

3rd Grade

Percent of variance accounted for
Fluency
Verbal
Non Verbal
Memory

7th Grade

Percent of variance accounted for

50
40
30
20
10
0

43
51
22
5
Conclusions from study:

At third grade, there are still way too many children who haven’t become accurate and fluent in basic word reading skills.

We could drastically reduce the number of students who struggle on “high stakes” tests if we taught basic word reading skills more powerfully in K-3.

Unless we also effectively build verbal knowledge and reasoning skills, students will experience increasing difficulties on reading comprehension tests at higher grades.
The problems of our poorest readers:

1. Cannot decode novel words accurately because they are weak in phonics skills, and cannot read fluently because their “sight vocabulary” is restricted.

2. They frequently have relatively weak vocabularies because they have not been able to read widely during previous school years—broad knowledge deficits.

3. They have not practiced comprehension strategies because of limited reading experience, and because of their struggle with words.

4. They frequently have given up on the idea of ever becoming a good reader.
The problems of mid level readers (grades 4-6)

Can usually “sound out” short novel words with reasonable accuracy--frequently stumble on multi-syllable words

They are relatively dysfluent because they have not had enough reading practice

Vocabulary is frequently relatively low because of lack of broad and deep reading—other knowledge deficits as well

Comprehension strategies are usually inadequate because of lack of instruction and practice

They often say they “don’t like to read” because reading is still relatively difficult for them
The primary issues for children who are below grade level but not seriously behind (grade 6 and up)

1. Often have a somewhat restricted sight vocabulary which leads to mild lack of fluency in reading

2. Often fail to apply active comprehension strategies during reading. Haven’t learned to monitor their comprehension or engage in productive thinking while reading.
What are some of the Big Ideas from research on Adolescent literacy?

1. Word attack and recognition plateau about the 3rd to 5th grade level for many
   Direct, systematic, intensive instruction with emphasis on word level skills (phonemic analysis, structural analysis) works

   This instruction needs to be active, engaging, and will be most effective if done in small groups

   Powerful instruction is motivating – the students can sense that they are becoming more capable readers
What are some of the Big Ideas from research on Adolescent literacy?

1. Word attack and recognition plateau about the 3rd to 5th grade level for many
   Direct, systematic, intensive instruction with emphasis on word level skills (phonemic analysis, structural analysis) works

2. Comprehension plateaus at about the 5th to 6th grade level for many more
   Direct, systematic, intensive instruction in learning strategies works

3. Attention to vocabulary and background knowledge is needed
   Progress, transfer, and maintenance significantly increases when instruction is provided across settings

4. Students must be able to use literacy to solve problems and meet demands across settings if they are to become motivated to develop literacy skills
What we know about the effectiveness of most remedial interventions provided in public schools for students who are still struggling to master basic reading skills.

We know that it tends to stabilize the relative deficit in reading skill rather than remediate it.

Most remedial and special education interventions do not “close the gap” for older very poor readers.
Change in Reading Skill for Children with Reading Disabilities who Experience Growth in Reading of .04 Standard Deviations a Year

- Average Readers
- Disabled Readers

Grade Level

Standard Score in Reading

Grade 3, Grade 4, Grade 5, Grade 6

70, 71.8
Characteristics of interventions in many remedial settings that limit their effectiveness

1. Insufficient intensity -- teachers carrying too large a case load to allow sufficient instructional time.

2. Weak instruction in phonemic awareness and phonemic decoding skills--often consisting of “phonics worksheets” -- not enough direct instruction and application of appropriate reading strategies in text

3. Little or no direct instruction in comprehension strategies
Examine outcomes from five clinical or experimental studies of remedial interventions with children from 10-12 years of age experiencing reading difficulties.

One sample of mildly impaired children with beginning word level skills around the 30th percentile.

Two samples of moderately disabled children with beginning word level skills around the 10th percentile.

Two samples of severely disabled children with beginning word level skills around the 2nd percentile.
Instructional Effectiveness Measured by Outcomes in Four Areas

Phonemic Decoding Accuracy -- skill at using sound-letter relationships to decode novel words

Text reading accuracy -- Accuracy with which individual words are identified in text

Text reading fluency -- speed of oral reading of connected text

Reading Comprehension -- accuracy with which meaning is constructed during reading

Outcomes measured in standard scores. An improvement in standard score means that a child is improving his/her reading skills compared to average readers. On all the measures used here, 100 is average.
A Brief Description of the Spell/Read P.A.T. program

Distribution of activities in a typical 70 minute session:
40 minutes -- Phonemic awareness/phonics
20 minutes -- shared reading
7 minutes -- writing about what was read
3 minutes -- wrap up

Systematic instruction in phonic elements beginning with mastery of 44 phonemes at single syllable level through multi-syllable strategies. Fluency oriented practice from beginning of instruction. Discussion and writing to enhance comprehension.
A Clinical Sample of 48 Students aged 8-16

Middle and upper-middle class students
Mean Age 11 years
79% White, 67% Male
Received 45-80 hours (mean=60) hours of instruction
Intervention provided in groups of 2-4
Remedial Method: Spell Read P.A.T.
Mean beginning Word Identification Score = 92
Children with word level skills around the 30th percentile
Outcomes from 60 Hours of Small Group Intervention with upper middle class students--Spell Read

<table>
<thead>
<tr>
<th>Standard Score</th>
<th>Word Attack</th>
<th>Text Reading Accuracy</th>
<th>Reading Comp.</th>
<th>Text Reading Rate</th>
</tr>
</thead>
<tbody>
<tr>
<td>114</td>
<td>93</td>
<td>90</td>
<td>86</td>
<td>71</td>
</tr>
<tr>
<td>113</td>
<td>90</td>
<td></td>
<td>86</td>
<td></td>
</tr>
<tr>
<td>108</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>99</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

30%
A Middle School Sample of 14 Students aged 11-14

Working class students
Mean Age 12 years
39% White, 64% Male
Received 37-58 hours (mean=51.4) hours of instruction
Intervention provided in groups of 2-4
Remedial Method: Spell Read P.A.T.
Mean Word Identification Score = 80
Children with word level skills around the 10 percentile
Outcomes from 50 Hours of Small Group Intervention with working class students--Spell Read

<table>
<thead>
<tr>
<th></th>
<th>Standard Score</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Word Attack</strong></td>
<td>102</td>
</tr>
<tr>
<td><strong>Text Reading Accuracy</strong></td>
<td>90</td>
</tr>
<tr>
<td><strong>Reading Comp.</strong></td>
<td>94</td>
</tr>
<tr>
<td><strong>Text Reading Rate</strong></td>
<td>78</td>
</tr>
</tbody>
</table>

- **Word Attack**: 102
- **Text Reading Accuracy**: 90
- **Reading Comp.**: 94
- **Text Reading Rate**: 78
A School-based, treatment control study of 40 students

60% Free and reduced lunch
Mean Age 12 years (range 11-14)
45% White, 45% Black, 10% other
53% in special education
Received 94-108 hours (mean=100) hours of instruction
Intervention provided in groups of 4-5
Remedial Methods: Spell Read P.A.T.
Mean Word Identification Score = 83
Children begin with word level skills around 10th percentile
Outcomes from 100 Hours of Small Group Intervention--Spell

Word Attack: 111
Text Reading Accuracy: 96
Reading Comp.: 96
Text Reading Rate: 79

Standard Score

30%
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
Outcomes from 67.5 Hours of Intensive LIPS Intervention

- **Word Attack**: 96
- **Text Reading Accuracy**: 89
- **Reading Comp.**: 86
- **Text Reading Rate**: 75

Standard Score

- 30%
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>Passage</th>
<th>Pretest</th>
<th>Posttest</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Most difficult passage</strong></td>
<td>38 WPM, 10 errors</td>
<td>101 WPM, 2 errors</td>
</tr>
<tr>
<td><strong>Next most difficult passage</strong></td>
<td>42 WPM, 6 errors</td>
<td>104 WPM, 1 error</td>
</tr>
</tbody>
</table>
Follow-up study of intensive intervention with 60 children who have severe reading disabilities - preliminary results

Children were between 8 and 10 years of age
All are currently receiving or were identified for special education services
Nominated as worst readers: at least 1.5 S.D’s below grade level
Average Word Attack= 72, Word Identification= 72, Verbal IQ=87

Randomly assigned to two instructional conditions that both taught “phonics” explicitly, but contained different emphasis on fluency oriented practice
Children in both conditions received 83 hours of one-on-one and 50 hours of small group instruction, 2 hours a day for 16 weeks
Preliminary results for 45 children in both conditions combined
Major differences between Accuracy and Accuracy + Fluency Groups

<table>
<thead>
<tr>
<th></th>
<th>Accuracy</th>
<th>Accuracy + Fluency</th>
</tr>
</thead>
<tbody>
<tr>
<td>First 33 Hrs. 1:1</td>
<td>LIPS</td>
<td>LIPS</td>
</tr>
<tr>
<td>Next 50 Hrs. 1:1</td>
<td>LIPS</td>
<td>70% LIPS, 30% Fluency</td>
</tr>
<tr>
<td>Next 50 Hrs. Sm. Grp.</td>
<td>Extended LIPS</td>
<td>Comprehension--V V</td>
</tr>
<tr>
<td></td>
<td>Comprehension V V</td>
<td>Repeated reading practice</td>
</tr>
<tr>
<td></td>
<td>Accuracy Oriented</td>
<td>with text and word drills</td>
</tr>
<tr>
<td></td>
<td>Text practice</td>
<td></td>
</tr>
</tbody>
</table>
Outcomes from 133 Hours of Intensive LIPS + Fluency+ Comprehension Intervention

- **Word Attack**: 96
- **Text Reading Accuracy**: 85
- **Reading Comp.**: 87
- **Text Reading Rate**: 73

**Standard Score**
Summary and Conclusions:

1. For many older children with word level reading skills around the 30th percentile, a relatively brief (60hrs) dose of appropriate small group instruction can bring their skills in phonemic decoding, text reading accuracy and fluency, and comprehension solidly into the average range.

2. For many older children with word level reading skills around the 10th percentile, a more substantial dose (100hrs) of appropriate small group instruction can bring their skills in phonemic decoding, text reading accuracy, and reading comprehension solidly into the average range. Although the gap in reading fluency can be closed somewhat, reading fluency is likely to remain substantially impaired.

3. For older children with word level reading skills around the 2nd percentile, intensive interventions can have a strong effect on phonemic decoding, text reading accuracy, and reading comprehension, but they are likely to leave the fluency gap essentially unaffected.
Disparity in outcomes for rate vs. accuracy in five remediation studies

Beginning level of Word Identification Skill

Accuracy
Rate
Standard Score

2nd 2nd 10th 10th 30th
Our current hypothesis about the difficult fluency gap

Children who struggle initially in learning to read miss out on many hundreds of thousands of opportunities to learn to recognize individual words because they read inaccurately and they don’t read very much.

By the time they reach 3-4 grade, their “sight word vocabulary” is severely restricted compared to good readers of their same age.

After they become more accurate readers, there is still a huge gap in the number of words they can recognize by sight. They can’t catch up with their peers because 4th and 5th grade good readers are continuing to add words to their sight vocabulary at a very fast rate.
Projected growth in “sight vocabulary” of normal readers and disabled children before and after remediation.
## Time x Activity Analyses for the Two Intervention Approaches

<table>
<thead>
<tr>
<th>Activity</th>
<th>LIPS</th>
<th>EP</th>
</tr>
</thead>
<tbody>
<tr>
<td>Phonemic Awareness and Phonemic Decoding</td>
<td>85%</td>
<td>20%</td>
</tr>
<tr>
<td>Sight Word Instruction</td>
<td>10%</td>
<td>30%</td>
</tr>
<tr>
<td>Reading or writing connected text</td>
<td>5%</td>
<td>50%</td>
</tr>
</tbody>
</table>
Growth in Total Reading Skill Before, During, and Following Intensive Intervention

Interval in Months Between Measurements
Growth in phonemic decoding during intervention & follow-up
Growth in text reading accuracy during intervention & follow-up

Standard Score

Pretest  posttest  1 year  2 years

LIPS  EP

- The graph shows the growth in text reading accuracy for two groups, LIPS and EP, during intervention and follow-up.
- The y-axis represents standard scores, ranging from 60 to 100.
- The x-axis represents time points: Pretest, posttest, 1 year, and 2 years.
- The graph lines for LIPS and EP indicate improvements after the intervention.
- At 1 year follow-up, LIPS shows a slight decrease, while EP remains stable.
- The graph highlights the effectiveness of the intervention in improving reading accuracy.
Growth in comprehension during intervention & follow-up

Standard Score

Pretest  posttest  1 year  2 years

EP  LIPS
Growth in fluency during intervention & follow-up

Standard Score vs. Time:

- Pretest
- Posttest
- 1 year
- 2 years

LIPS
EP

Scores:
- Pretest: 70
- Posttest: 75
- 1 year: 75
- 2 years: 70
Our current hypothesis about the difficult fluency gap

Children who struggle initially in learning to read miss out on many hundreds of thousands of opportunities to learn to recognize individual words because they read inaccurately and they don’t read very much.

By the time they reach 3-4 grade, their sight word vocabulary is severely restricted compared to good readers of their same age.

After they become more accurate readers, there is still a huge gap in the number of words they can recognize by sight. They can’t catch up with their peers because 4\textsuperscript{th} and 5\textsuperscript{th} grade good readers are continuing to add words to their sight vocabulary at a very fast rate.

A very important factor in determining how fluently a child will read a passage involves the proportion of words in the passage the child can recognize 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.
Our current hypothesis about the difficult fluency gap

Children who struggle initially in learning to read miss out on many hundreds of thousands of opportunities to learn to recognize individual words because they read inaccurately and they don’t read very much.

By the time they reach 3-4 grade, their sight word vocabulary is severely restricted compared to good readers of their same age.

After they become more accurate readers, there is still a huge gap in the number of words they can recognize by sight. They can’t catch up with their peers because 4th and 5th grade good readers are continuing to add words to their sight vocabulary at a very fast rate.

A very important factor in determining how fluently a child will read a passage involves the proportion of words in the passage the child can recognize by sight.

Unless poor readers who have received strong remediation can add words to their “sight vocabulary” at a faster rate than their peers, the “fluency gap” will continue.
The Story of Alexis
What happens to accuracy and fluency of reading scores when children receive powerful preventive instruction?
Disparity in outcomes for rate vs. accuracy in remediation and prevention studies

Beginning level of Word Identification Skill

Standard Score

Accuracy

Rate

4th grade

2nd grade

2nd

10th

10th

Prev 1

Prev 2

30th

70

80

90

100
Summary and qualification:

After problems with reading accuracy have been substantially remediated through intensive instruction, children remain dysfluent readers relative to age peers primarily because there are too many words in grade level passages that they still cannot recognize as sight words.

1. Their early practice deficits leave them just ‘too many words behind” in the growth of their sight vocabulary.

2. Some dyslexic children may also have special difficulties acquiring sight words for neurobiological reasons.
Instructional methods that are likely to be effective in remedial settings if applied with sufficient intensity and skill

Lindamood Phoneme Sequencing Program for Reading, Spelling, and Speech (www.lblp.com/)

Wilson Reading System (www.wilsonlanguage.com/Coursesatglance.html)

Phonographix (www.readamerica.net/)

SpellRead P.A.T. (www.spellread.com/)

Language! (www.sopriswest.com)

Corrective Reading (www.sra-4kids.com/teacher/directin/corread.html)
What about students that have acquired reasonably good skills in word level reading, but still really struggle with comprehension in content areas?

First, need to be sure they are reasonably fluent readers.

Along with lack of fluency, the most likely culprits are:

- Underdeveloped academic vocabulary
- Low levels of content-specific background knowledge
- They are not actively thinking and working to create meaning from what they read
If fluency is not a large issue, the biggest short-term impact on reading comprehension is likely to come from instructional procedures that teach strategies and stimulate more active thinking while reading.

**Methods:**

Techniques like those found in Isabel Beck’s “Questioning the Author” materials.
Increasing comprehension and critical examination of meaning in every child

“Questioning the Author”

Done with whole classes or in small groups

Done by every subject matter teacher or by specialists

Done consistently throughout the year, not necessarily every day or throughout the entire lesson
The basic purpose of Questioning the Author is to make public the processes of comprehension.

**Essential features:**

1. It treats text as the product of a fallible author, as “someone’s ideas written down.”
2. It deals with text through general teacher-posed questions such as “What is the author trying to say?” or “What do you think the author means by that?”
3. It takes place on-line, in the context of reading as it initially occurs.
4. It encourages discussion in which students are urged to grapple with ideas in the service of constructing meaning.
Queries are the device the teacher uses to guide the discussion to show how meaning is constructed during reading.

### Questions vs. Queries

<table>
<thead>
<tr>
<th>Questions</th>
<th>Queries</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Assess student comprehension of text information after the fact</td>
<td>1. Assist students in grappling with text ideas toward constructing meaning</td>
</tr>
<tr>
<td>2. Evaluate individual student responses to teacher questions</td>
<td>2. Facilitate group discussion about an author’s ideas</td>
</tr>
<tr>
<td>3. Are used before or after reading</td>
<td>3. Are used during initial reading</td>
</tr>
</tbody>
</table>
What teachers must do in preparing for a “Questioning the Author Lesson”

1. Identify the major understandings students should construct from a text and anticipate problems

2. Segment the text: decide where to stop reading and initiate a discussion to construct meaning on-line.

3. Develop queries: formulate initiating and follow-up queries that will promote student construction of meaning
Effects of using “Questioning the Author” in the classroom

1. Teachers and students contributions changed from mainly retrieving information directly from the text to focusing on the meaning of ideas expressed in the text.
2. Teachers responded to students in ways that extended the conversation rather than simply evaluating or repeating the responses.
3. Talk in the classrooms changed from strongly teacher-dominated to more shared between teachers and students.
4. Students began to initiate their own questions and to build on the contributions of their peers.
5. Comprehension and interpretation of complex narratives improved in comparison to the Junior Great Books discussion approach.
References about “Questioning the Author”


4. District or school-wide training in use of “Questioning the Author” can be obtained from the Wright Group (www.WrightGroup.com)
If fluency is not a large issue, the biggest short-term impact on reading comprehension is likely to come from instructional procedures that teach strategies and stimulate more active thinking while reading.

**Methods:**

Techniques like those found in Isabel Beck’s “Questioning the Author” materials

Instruction to build active and generalized use of well defined reading comprehension strategies during reading.
Explicit Instruction in Comprehension Strategies

Strategies used to construct meaning while reading

- Put the author’s words into our own words
- Figure out what new words mean from how they are used in text
- Think about how what we are reading compares to what we already know
- Keep on reading even when a little confused in hope that understanding will emerge with further reading
- Look back to clarify something that was confusing
- Reread parts of the text
- Predict what the author will say next
- Pick out the main idea and summarize it
- Visualize what is being read
- Ask clarifying questions
- Disagree with the author based on personal experience
The “Paragraph Shrinking” activity

Learning to identify and state the main idea

1. Name the who or what (the main person, animal, place, or thing the selection is about)

2. Tell the most important thing about the who or what

3. Say the main idea in 10 words or less
Suggestions for using the Paragraph Shrinking activity

1. Small groups, with oral discussion -- children are asked to respond to one another’s summaries and answers

2. Larger group -- with summaries written after each paragraph is read, and then selected summaries are read to the class

3. Can be done using peers as tutors -- pairing more and less able students together
Putting it all together in a “whole school” model to “leave no child behind” in the intermediate grades

Need to remember that reading comprehension in the higher grades requires thinking skills and knowledge in addition to word reading ability and comprehension strategies.
The Content Literacy Continuum
http://smarttogether.org/clc/index.html

1. More powerful instruction in the content areas so that all children learn essential content

2. Embedded instruction in strategies for learning and performance

3. Intensive remedial work for students with serious reading difficulties
The Content Literacy Continuum
http://smarttogether.org/clc/index.html

1. More powerful instruction in the content areas so that all children learn essential content

2. Embedded instruction in strategies for learning and performance

3. Intensive remedial work for students with serious reading difficulties
Insuring content mastery

What students do: Students learn critical content required in the core curriculum regardless of literacy levels.

What teachers do: Teachers compensate for limited levels of literacy by using Content Enhancement Routines to promote content mastery and by making the necessary modifications for students with learning problems.

What it looks like: For example, the history teacher introduces a unit on "Causes of the Civil War" by co-constructing with students a Unit Organizer that depicts the critical content demands of the unit. The organizer is used throughout the unit to link students' prior knowledge to the new unit and to prompt learning strategies such as paraphrasing and self-questioning. Other routines are used to ensure that critical vocabulary is developed.
The SMARTER Planning Process

- Shape the Critical Questions.
- Map the Critical Content.
- Analyze Difficulties
- Reach Enhancement Decisions.
- Teach Strategically
- Evaluate Mastery
- Reevaluate Critical Questions
• **Shape the critical questions.**

“What would be three or four questions that represent the heart and soul of this unit? If students could answer these, you could say that they would do well on the test.”
Unit: Causes of the Civil War

What was sectionalism as it existed in the U.S. of 1860?

How did the differences in the sections of the U.S. in 1860 contribute to the start of the Civil War?

What examples of sectionalism exist in the world today?
• **Map the critical content**

“If I stopped one of your students in the hallway as they left your class after taking the unit test and asked, “What was that unit about?” What would you want them to say?”
Unit: *Causes of the Civil War*

This unit is about

**Sectionalism**

- Areas of the U.S.
- Differences between the areas
- Events
- Leaders

was based on

was caused by

became greater

was influenced by
• **Analyze difficulties**

“What would make this unit hard for some, most, or all of my students?”
This unit would be hard because:

There is too much information
Some students have the background knowledge.
The text is poorly organized.
Major concepts are very abstract.
Students are required to frequently compare and conclude.
Many students have poor question exploration skills.
Many students are not independent readers.
Some students have difficulty identifying important from unimportant information.
• **Reach enhancement decisions**

“How can I enhance the critical content and reduce the difficulty of learning the information in this unit?”

“How can I enhance the critical content by the routines that I can use and the learning strategies that I can teach?”
Thinking About Critical Content

Knowledge
Thinking About the Curriculum...

Knowledge
Thinking About the Curriculum...

Knowledge

Critical Content

Course
Unit

ALL

MOST

SOME
Content Enhancement Teaching Routines

**Planning and Leading Learning**
- Course Organizer
- Unit Organizer
- Lesson Organizer

**Teaching Concepts**
- Concept Mastery Routine
- Concept Anchoring Routine
- Concept Comparison Routine

**Explaining Text, Topics, and Details**
- Framing Routine
- Survey Routine
- Clarifying Routine

**Increasing Performance**
- Quality Assignment Routine
- Question Exploration Routine
- Recall Enhancement Routine
“If it weren’t for students impeding our progress in the race to the end of the term, we certainly could be sure of covering all the content.”

However, the question should not be whether we are covering the content, but whether students are with us on the journey.”  Pat Cross

“Give me a fish while you’re teaching me how to catch my own. That way I won’t starve to death while I’m learning to tie flies.”
The Content Literacy Continuum

http://smarttogether.org/clc/index.html

1. More powerful instruction in the content areas so that all children learn essential content

2. Embedded instruction in strategies for learning and performance

3. Intensive remedial work for students with serious reading difficulties
Teaching strategies to enhance learning and performance

**What students do:** Students are introduced to and learn to use key learning strategies for increasing literacy across their core curriculum classes.

**What teachers do:** Teachers directly teach and then embed instruction in selected learning strategies in core curriculum courses. Teachers use direct explanation, modeling, and group practice to teach the strategy and strategy steps and then prompt student application and practice in content-area assignments throughout the year.
What it looks like: At the beginning of the year, the history teacher explains that being able to paraphrase the history text is important because paraphrasing is required to write reports, answer questions, and discuss ideas. The teacher shares the steps of the Paraphrasing Strategy (RAP) with students and models how to paraphrase history text to complete different types of learning tasks. This strategy is reinforced and practiced in multiple contexts, in both reading and writing assignments across the year, and across classes.
Paraphrasing

• **Read a paragraph**

• **Ask yourself what is the main idea and what are important supporting details**

• **Put the main idea and supporting details into your own words**
<table>
<thead>
<tr>
<th>Acquisition</th>
<th>Storage</th>
<th>Expression of Competence</th>
</tr>
</thead>
<tbody>
<tr>
<td>Word Identification</td>
<td>First-Letter Mnemonic</td>
<td>Sentences</td>
</tr>
<tr>
<td>Paraphrasing</td>
<td>Paired Associates</td>
<td>Paragraphs</td>
</tr>
<tr>
<td>Self-Questioning</td>
<td>Listening/Notetaking</td>
<td>Error Monitoring</td>
</tr>
<tr>
<td>Visual Imagery</td>
<td>LINCS Vocabulary</td>
<td>Themes</td>
</tr>
<tr>
<td>Interpreting</td>
<td></td>
<td>Assignment Completion</td>
</tr>
<tr>
<td>Visuals</td>
<td></td>
<td>Test-Taking</td>
</tr>
<tr>
<td>Multipass</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
The Content Literacy Continuum

http://smarttogether.org/clc/index.html

1. More powerful instruction in the content areas so that all children learn essential content

2. Embedded instruction in strategies for learning and performance

3. Intensive remedial work for students with serious reading difficulties
**Intensive instruction in reading for students with serious difficulties**

**What students do:** Students develop decoding skills and increase reading fluency through specialized, direct, and intensive instruction in reading.

**What professionals do:** Teachers, reading specialists, special education teachers, speech-language pathologists, and other support staff team develop intensive and coordinated instructional experiences designed to address severe literacy deficits. Reading specialists and special education teachers often deliver these services. They also assist content teachers in making appropriate modifications in content instruction to accommodate severe literacy deficits.
Intensive instruction in reading for students with serious difficulties

What it looks like: Small group or 1:1, everyday for 45-60 minutes, instruction is systematic and explicit, focuses on phonemic decoding, reading accuracy, and building fluency

One way to do this is to use research-based programs to support and guide the instruction:

- Corrective Reading
- Spell Read P.A.T.
- Wilson Reading System
- Lindamood-Bell Programs
- Failure Free Reading
A different model for improving reading skills in middle and high school

Every professional in the school teaches reading/literacy for 45-60 minutes a day.

Children with the lowest reading skills are taught in the smallest groups—4-6 students.

Instruction is provided to different groups/classes based on need—word level skills, advanced decoding/fluency, comprehension strategies, critical thinking/analysis in reading and writing.
A different model for improving reading skills in middle and high school

Children with skills below 4th grade level—Groups of 4-6—focus on word level skills building accuracy and fluency—corrective reading

Children with mid level skills (4th-6th grade) — advanced decoding—group reading practice with comprehension and work to build fluency

Children with more advanced skills—focus on critical reading and writing strategies
Still another model for improving reading skills in middle and high school

Adopt a comprehensive literacy/language arts program like Language! that has been written for older children

Create classes of 15-20 students based on entering levels of skill

Be prepared to keep most students in this program for 2-3 years
What can we reasonably expect from effective interventions with older students:

We can expect to have a relatively strong effect on their reading accuracy.

We can expect a relatively strong effect on reading comprehension in situations where the passages are not too long, or there are not significant time constraints.

We should not expect a dramatic effect on relative fluency over the short-term.
Because reading in middle and high school is “thinking guided by print,” helping students meet grade level standards in reading is a job for all teachers, not just “reading teachers.”
It's at least as much about building content knowledge, vocabulary, and thinking skills as it is about helping struggling readers learn to read accurately and fluently.
A concluding thought....

There is no question but that improving literacy skills in adolescent struggling readers is a significant challenge...

It will involve intensive professional development for teachers, school reorganization, 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...
The End

www.fcrr.org

Science of reading section