Today:
- Essential components of evidence-based reading instruction
- Basic understanding of the reading process
- Best practices for a comprehensive reading program
- Criteria for evaluating the quality of core-reading programs
- The best resources for further individual study on reading instruction and interventions

National reading crisis?
- Good news...
- Bad news:
  - 25% of population has severe reading problem
  - 7 of 8 poor 1st grade readers never catch up
  - African-American, ELL and disadvantaged children have 60-70% reading failure
  - Not just disadvantaged children though...

At-risk first grade readers
- Poor readers at the end of first grade are at very significant risk for long term academic difficulty.
  "The probability of remaining a poor reader at the end of fourth grade, given a child was a poor reader at the end of first grade, was .88 .... the probability of remaining an average reader in fourth grade, given an average reading ability in first grade, was .87." (Juel, 1988)
- Poor readers at the end of first grade are likely to require intensive instructional support to reach third grade reading outcomes.

Reading Trajectories are Remarkably Stable
Students on a poor reading trajectory are at risk for poor academic and behavioral outcomes in school and beyond.

Trajectories of Middle and Low Readers

National Institutes of Health reading research programs

- Over 20 years of research by educators, psychologists, pediatricians
- About 35,000 children involved
- Now: we have a science of reading instruction
- Research wasn’t supportive of some formerly popular methods of teaching reading

National Reading Panel

Mandated by Congress to establish “What Works” in reading
Reviewed 100,000 reading studies, but used only those that met these criteria:
- High quality research (reviewed and published)
- Generalizable to large populations
- Addressed achievement of one or more skills in reading
- Effectiveness of approaches were examined, e.g., comparisons between instructional approaches were made

National Reading Panel recommendations

- Effective reading programs must systematically teach:
  - Phonemic Awareness
  - Phonics
  - Fluency
  - Vocabulary
  - Comprehension

NIH publications

- A Child Becomes a Reader: Birth to Preschool
- Put Reading First: Helping Your Child Learn to Read
- Put Reading First: The Research Building Blocks for Teaching Children to Read
- Report of the National Reading Panel: Teaching Children to Read

Download or order free copies from www.nationalreadingpanel.org/

5 areas of Reading Instruction

1. Phonemic Awareness: The ability to hear and manipulate sounds in words.
2. Phonics: The ability to associate sounds with letters and use these sounds to read words.
3. Fluency: The ability to read text accurately and quickly.
4. Vocabulary: The ability to understand (listening vocabulary), express (oral vocabulary), read (reading vocabulary), and write (writing vocabulary) words to acquire and convey meaning.
5. Comprehension: The complex cognitive process involving the intentional interaction between reader and text to extract meaning.

Phonemes Matter
Phonemic Awareness Instruction

• Helps children learn to read
• Helps children learn to spell
• Most effective when paired with letters of the alphabet
• Most effective when it focuses upon 1-2 types of phoneme awareness
• Up to 20 hours of instruction can be effective

Phonological Awareness versus Phonemic Awareness

Phonological Awareness Continuum

➢ Segmenting sentences into words
➢ Segmenting words into syllables
➢ Identifying words that rhyme
➢ Segmenting words into onset and rime
➢ Phonemic awareness

Phonemic Awareness Easiest Level

➢ Phoneme identity and isolation
  • Find pictures that begin with a targeted sound. Then answer questions such as, What is the first sound in man? /m/
➢ Phoneme identity
  • What sound is the same in kite, can, and king? (/k/)
➢ Phoneme categorization
  • Which word doesn’t belong? Cat, car, or mop? (mop, it has a different beginning phoneme)

Phonemic Awareness Middle Level

➢ Phoneme segmentation
  • What are the sounds in the word dog? (/d/ /o/ /g/)
➢ Phoneme blending
  • Say the sounds /g/ /r/ /a/ /b/. What is the word? (grab)

Phonemic Awareness Hardest Level

➢ Phoneme addition
  • Say the word eye. Now say it again with /s/ at the beginning. (sigh)
➢ Phoneme deletion
  • Say the word spark. Now say it again without the /s/. (park)
➢ Phoneme substitution
  • Say the word cat. Now change the /c/ to /h/. What is the new word? (hat)
"Ha, ha, Biff. Guess What? After we go to the drugstore and the post office, I'm going to the vet's to get tutored."

**Phonics Instruction**
- Systematic & explicit is more effective
- Has greatest impact when started in K & first grade- Need 2 years of instruction
- Significantly improves reading comprehension
- Beneficial for all children

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In order to begin to use the alphabetic principle in reading, children must have knowledge and skill in three areas:

1. Basic phonological awareness
2. Letter-sound knowledge
3. Ability to use context to help identify words once they are partially decoded phonetically.

**Fluency Instruction**
Repeated and monitored oral reading improves reading fluency & overall reading achievement

*Effective strategies include:*
- Model fluent reading, then have students reread text on their own
- Have students repeatedly read passages aloud with guidance
- Tape assisted reading
- Partner reading

**Fluency: The Bridge between Word Recognition & Comprehension**

**Fluent readers:**
- are able to identify words accurately and automatically
- can focus most of their attention on comprehension,
  can make connections among the ideas in the text and between the text and their background knowledge.
- Fluent readers can recognize words and comprehend at the same time.

**Less Fluent Readers:**
- must focus much of their attention on word recognition
- The result is that non-fluent readers have little attention to devote to comprehension

> Osborn, Lehr, and Hiebert, 2003

**When should fluency instruction begin?**

Strong indicators that students need fluency instruction:
- On an unpracticed text, student makes more than 10% errors
- Student can not read orally with expression
- Comprehension is low for text read orally

Vocabulary Instruction

- Children learn most vocabulary words indirectly
  - Oral language
  - Listening to adults read
  - Reading on their own
- Some vocabulary should be taught directly
  - Specific word instruction
  - Teach word learning strategies

Consider this:

Relationship between Vocabulary Score (PPVT) measures in early grades versus later reading comprehension

- End of Grade One -- .45
- End of Grade Four -- .62
- End of Grade Seven -- .69

The relationship of vocabulary to reading comprehension gets stronger as reading material becomes more complex and the vocabulary becomes more extensive (Snow, 2002)

How does vocabulary contribute to the acquisition of reading comprehension?

The obvious way – knowing the meanings of the words in text is necessary to understand the message being conveyed.

Less obvious ways...

- Vocabulary contributes to the development of phonemic awareness
- Vocabulary contributes more accurate decoding of words whose printed form is unfamiliar
- Vocabulary contributes to reading fluency because it leads to more accurate reading practice

Comprehension Instruction

“Comprehension strategies are procedures that guide students as they attempt to read and write” (Report of the National Reading Panel, 2000)

- Strategies that improve text comprehension
  1. Monitoring comprehension
  2. Graphic & semantic organizers
  3. Answering questions
  4. Generating questions
  5. Recognizing story structure
  6. Summarizing
- Effective comprehension instruction is explicit, or direct

What we know about the factors that affect reading comprehension

Proficient comprehension of text is influenced by:

- Accurate and fluent word recognition 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

Steppingstones to Literacy

Reading

- Oral Reading Fluency
- Alphabetic Principle
- Phonemic Awareness

NonReading
Changing Emphasis of Big Ideas

<table>
<thead>
<tr>
<th></th>
<th>K</th>
<th>1</th>
<th>2</th>
<th>3</th>
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<tbody>
<tr>
<td>Phonological Awareness</td>
<td></td>
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<tr>
<td>Alphabetic Principle</td>
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<tr>
<td>Automaticity and Fluency with the Code</td>
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<td>Vocabulary</td>
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School-wide System of Instruction and Support: Three Levels

- All Students 80%
- Students Who Need More 15%
- Small Number of Students Who Need Most 5%

Core Curriculum (Open Court)

Targeted Support

Intensive Support

Design and Delivery

Features of well-designed programs include:

- Explicitness of instruction for teacher and student
- Systematic & supportive instruction
- Opportunities for practice
- Modeling and practicing the skill
- Cumulative review
- Revisiting and practicing skills to increase strength
- Integration of Big Ideas
- Linking essential skills

Instruction should be organized in tiers

Layers of intervention responding to student needs
Each tier provides more intensive and supportive intervention
Aimed at preventing reading disabilities

Tier II: Supplemental Instruction

<table>
<thead>
<tr>
<th>Focus</th>
<th>For all students in K through 3</th>
</tr>
</thead>
<tbody>
<tr>
<td>Program</td>
<td>Scientific-based reading instruction and curriculum emphasizing the five critical elements of beginning reading</td>
</tr>
<tr>
<td>Grouping</td>
<td>Multiple grouping formats to meet student needs</td>
</tr>
<tr>
<td>Time</td>
<td>90 minutes per day or more</td>
</tr>
<tr>
<td>Assessment</td>
<td>Benchmark assessment at beginning, middle, and end of the academic year</td>
</tr>
<tr>
<td>Interventionist</td>
<td>General education teacher</td>
</tr>
<tr>
<td>Setting</td>
<td>General education classroom</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Focus</th>
<th>For students identified with marked reading difficulties, and who have not responded to Tier I efforts</th>
</tr>
</thead>
<tbody>
<tr>
<td>Program</td>
<td>Specialized, scientifically based reading program(s) emphasizing the five critical elements of beginning reading</td>
</tr>
<tr>
<td>Grouping</td>
<td>Homogeneous small group instruction (e.g., 1:3, 1:4, or 1:5)</td>
</tr>
<tr>
<td>Time</td>
<td>Minimum of 30 minutes per day in small group in addition to 90 minutes of core reading instruction</td>
</tr>
<tr>
<td>Assessment</td>
<td>Progress monitoring twice a month on target skill to ensure adequate progress and learning</td>
</tr>
<tr>
<td>Interventionist</td>
<td>Personnel determined by the school (e.g., a classroom teacher, a specialized reading teacher, an external interventionist)</td>
</tr>
<tr>
<td>Setting</td>
<td>Appropriate setting designated by the school, may be within or outside of the classroom</td>
</tr>
</tbody>
</table>
Tier III: Intensive Instruction

<table>
<thead>
<tr>
<th>Focus</th>
<th>For students with marked difficulties in reading or reading disabilities and who have not responded adequately to Tier I and Tier II efforts</th>
</tr>
</thead>
<tbody>
<tr>
<td>Program</td>
<td>Sustained, intensive, scientifically based reading program(s) emphasizing the critical elements of reading for students with reading difficulties/disabilities</td>
</tr>
<tr>
<td>Grouping</td>
<td>Homogeneous small group instruction (1:1 - 1:3)</td>
</tr>
<tr>
<td>Time</td>
<td>Minimum of two 30 minute sessions per day in small group or 1:1 in addition to 90 minutes of core reading instruction.</td>
</tr>
<tr>
<td>Assessment</td>
<td>Progress monitoring every month on target skills to ensure adequate progress and learning</td>
</tr>
<tr>
<td>Interventionist</td>
<td>Personnel determined by the school (e.g., a classroom teacher, a specialized reading teacher, an external interventionist)</td>
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<tr>
<td>Setting</td>
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The Four most important recommendations for reading instruction in K-3

1. Essential knowledge and skills for learning to read should be taught systematically and explicitly in grades K-3. This instruction should encompass at least the areas of phonological awareness, phonics, fluency, vocabulary, and comprehension.

2. Students should be encouraged, and provided engaging opportunities to read for practice, information, and pleasure as much as possible. Extensive reading practice is essential.

(Florida Center for Reading Research)

What is meant by explicit instruction?

“Explicit instruction is instruction that does not leave anything to chance, and it does not make assumptions about skills and knowledge that children will acquire “on their own.” (Torgesen, 2004)

What is meant by systematic instruction?

Instruction guided by a comprehensive scope and sequence.
Instruction in all critical skills and knowledge.
Careful and systematic review to insure mastery and retention.

Top 5 myths about interventions for struggling readers

1. If a child is a “visual” learner, they should be taught to read using a visual, not an auditory strategy.

2. If a child has not learned “phonics” by the end of first grade, they need to be taught to read in some other way.

3. Children who struggle with phonemic awareness, vocabulary, or phonics in kindergarten and first grade will frequently “catch up” if given time.

4. We should take guidance from theories of “multiple intelligences” or “learning styles” to help us adapt our reading instruction for different children.

5. A little quality time with an enthusiastic volunteer tutor can solve most children’s reading problems.
Scientific Based Reading Instruction

- Directly teaches all decoding skills
- Provides daily time to practice reading skills
- Controls level of independent reading
- Directly teaches reading comprehension skills
- Enhancement of comprehension with vocabulary building related to literature or content material
- Continuous assessment; Allows teachers to tailor instruction to meet individual needs
- High rates of teacher-student interaction

What accounts for the range of diversity in learning to read?

- Oral language, vocabulary knowledge, prior experiences & knowledge, reasoning & inference making
- Preparation for accurate & fluent decoding
- Ability to manage their learning behaviors and their motivation to apply themselves to learning to read

Language

Hart & Risley (1995) conducted a longitudinal study of children and families from three groups:

- Professional families
- Working-class families
- Families on welfare

Interactions

Hart & Risley compared the mean number of interactions initiated per hour in each of the three groups.

Interactions

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

The roots of reading
1. Oral language development
2. Print & book awareness
3. Learning about the sounds of spoken language (phonological awareness)

How children learn new words
- Conversation, though good, is not a substitute for reading to children
- More new words are learned from print
- Background knowledge important in reading
- Matthew Effect

Why have the NAEP results for reading from 1992-2005 remained relatively stable?
4th graders rated proficient or better
1992: 29%
2005: 31%
“Despite the scientific evidence, despite the flat-line reading score on NAEP, many teachers and school systems continue to embrace whole-language approaches.”
Dr. Louisa Moats

“Balanced Literacy”
- “The fig leaf” that conceals the true nature of whole-language approaches
- Pseudo-SBRR programs abound
- Some large districts --NYC, Denver, Salt Lake City continue to use “balanced approaches” or pick and choose as if from a menu
Barbara Foorman, 2006

The Reasons:
- Over simplification of the National Reading Panel report
- Federal Dollars
- Administrators often accept claim that teachers should be able to invent instruction
- Teachers/administrators misunderstand the science of reading instruction & empirical distinctions
- Teacher training programs continue to teach whole language methodology (15% of education schools trained teachers in basics of scientifically-based reading research)

Popular, but scientifically unsupported practices
- Use of memorization, picture cues, & context for teaching word recognition
- Reliance on “leveled” books & trade books to organize instruction
- Confusion of phonemic awareness with phonics
- Rejection of systematic decoding, spelling & grammar instruction
- Substitution of “teacher modeling” & reading aloud for explicit organized instruction
- Guided reading, novel studies

A Summary
- Explicit and systematic instruction in the critical knowledge and skills required for proficient reading
- Extensive practice activities that are both supervised and independent as well as engaging
- Reliable and valid assessments beginning in Kindergarten
- Resources devoted to increasing intensity and power of instruction for students lagging behind

Recommended Resources
- Maryland Reading First website: Report summarizes Evidence Based reading programs
- Oregon Reading First: Reviews reading programs: http://reading.oregon.edu/curriculum_rf_reviews_2.php
- Hall, S. (2008), I’ve DIBEL’d, Now What?: Designing Interventions with DIBELS Data, Sopris West
Recommended Websites

- Reading Rockets
  - http://readingrockets.org/
- Florida Center for Reading Research
  - http://www.fcrr.org
- Oregon Reading First
  - http://oregonreadingfirst.oregon.edu
- Vaughn Gross Center for Reading and Language Arts
  - http://vgrc.org