Ensure that all children in America learn to read well by the end of third grade so they are well prepared to achieve their full academic potential.
Taking a Closer Look at What We Do:

- Develop and enhance teachers' knowledge of SBRR and SBRI
- Facilitate teachers' use of assessment data to inform instruction
- Guide and support teachers in the delivery of effective reading instruction

Key Ideas:
- It is important for Reading First coaches to have a solid understanding of scientifically based research.
- It is important to know the five essential components of scientifically based reading instruction.

- Facilitate teachers use of assessment data to inform instruction
- Guide the support of teachers in the delivery of effective reading instruction
Ensure that all children in America learn to read well by the end of third grade so they are well prepared to achieve their full academic potential.

Helping students acquire the skills, knowledge, and attitudes required for proficiency in comprehension of text is the most important goal of reading instruction.

What skills and knowledge and attitudes are required for good reading comprehension?
We know about the factors that effect 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.
How does vocabulary contribute to the acquisition of reading comprehension?

How many words do children need to know?

What do we know from research about the best instructional practices?
**What is Vocabulary?**

Knowledge of words and word meanings

<table>
<thead>
<tr>
<th>Vocabulary Structures</th>
<th>Oral</th>
<th>Print</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Receptive</strong></td>
<td><strong>Listening</strong></td>
<td><strong>Reading</strong></td>
</tr>
<tr>
<td><strong>Expressive</strong></td>
<td><strong>Speaking</strong></td>
<td><strong>Writing</strong></td>
</tr>
</tbody>
</table>

- **Meaning/Oral Vocabulary**
- **Literate/Written Vocabulary**
Levels of Word Knowledge

(Dale & O’Rourke, 1986; Stahl, 2003)

• I never saw it before
• I’ve heard of it but I don’t know what it means
• I recognize it in context—it has something to do with…
• I know it.
One of the most persistent findings in reading research is the extent to which students’ vocabulary knowledge relates to their reading comprehension.

(Anderson & Freebody, 1981; Anderson & Nagy, 1991; Baumann, Kame’enui & Ash, 2003; Becker, 1977; and others)
How does vocabulary contribute to the acquisition of reading comprehension?

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

Other probable less obvious ways...

Vocabulary contributes to the development of phonemic awareness (Metsala & Whalilly, 1998)

Vocabulary contributes more accurate decoding of words whose printed form is unfamiliar (Ehri, 2002)

Vocabulary contributes to reading fluency because it leads to more accurate reading practice.
Knowing a Word’s Meaning Facilitates Accurate Decoding

<table>
<thead>
<tr>
<th>Knowing the Meaning</th>
<th>“a farm animal with pink skin”</th>
</tr>
</thead>
<tbody>
<tr>
<td>Knowing the Sound/Spellings</td>
<td>/p/-/i/-/g/ pig</td>
</tr>
</tbody>
</table>
Land of Comprehension

Land of Fluency, Phonics, and Phonemic Awareness

Vocabulary Development

...is the bridge between word reading and comprehension.
How many words do children need to know?

This is what constitutes an “extensive” vocabulary.

LITTLE EDGAR
STUDIES HARD,
HOPING ONE DAY
TO BECOME A
THESAURUS,
The Challenge of Measuring Vocabulary

There are many ways of knowing a word

- Recognition vocab > Productive vocab
- Literate vocab > oral vocab (if literate)
- Reading vocab > writing vocab (if literate)

What all this means… knowing a word is a matter of degree rather than an all-or-nothing proposition. The degrees of knowing a word are reflected in the precision with which we use a word, how quickly we understand a word, and how well we understand and use words in different vocabulary modes (productive, expressive etc.) and for different purposes (formal and informal)
Nagy and Anderson (1984) grouped words into distinct or unique words into word families.

Word families – group of words related in meaning. Laugh, laughed, laughter

88,500 distinct word families in printed school English and that an average 12th knows 40,000 of them.

Biemiller (2005) used root words
-A single word that cannot be broken into smaller words
-17,500 root word meanings in The Living Word Vocabulary
--15,000 known well by Grade 12.

Note: Since one word family is equivalent to one root word (and its related forms), the approach is essentially the same for both.
One estimate found that “Printed School English” contains roughly 88,000 different words.

The average child, by the end of high school, may know about half or 45,000 different words.

If a child enters 1st grade knowing about 6,000 words, then they must learn about 3,000 new words per year.

Most estimates suggest that active teaching can cover 6-10 words per week, or about 400 per year.
Findings of the National Reading Panel

- Explicit instruction
- Multiple exposures and rich contexts
- Restructuring of tasks
- Active engagement
- Potential use of computer technology
- Incidental learning
- Effective assessment
- No one single instructional method is sufficient for optimal learning.

Effective instruction includes both incidental word learning and intentional word teaching.
Individual differences in vocabulary are definitely related to differences in performance on tests of reading comprehension.

The most effective methods of teaching vocabulary so that it influences reading comprehension involves a balance of definitional information and repeated exposure to words in multiple contexts.

Vocabulary instruction, by itself can be expected to have a modest impact on comprehension.

To address the large differences in vocabulary size associated with differences in SES, we also have to employ methods that provide at least brief instruction of the meaning of many words.

We must find ways to devote more time to vocabulary instruction if we are to “close the achievement gap”.

Joseph Torgeson, 2007
What words should be taught in grades K-3?

Can high rates of word learning be sustained over time?

Does brief teaching of large numbers of word meanings in primary grades produce increased reading comprehension in grades 3 and 4?

What are the best methods of vocabulary instruction for students of different ages and abilities?

What are the best ways to measure vocabulary growth?
Biemiller and Boote recommended teaching many words briefly in K-2 for three reasons:

Different children know different meanings.

Initial explicit learning may allow students to extend word knowledge as they encounter taught words in other contexts – profit from context

Other methods, involving more intensive instruction, do not begin to address the size of the gap.
Effective Instruction

Incidental Vocabulary Teaching

Rich Oral Language Experiences

Wide Reading
  Teacher read-alouds
  Independent reading

Intentional Vocabulary Teaching

Specific Word Instruction
  Rich and robust instruction of word in text
  Word-Learning Strategies
    Dictionary use
    Morphemic analysis
    Contextual analysis
    Cognate awareness (ELL)

Word Consciousness
Adept Diction • Word Play • Word Origins
Importance of Independent Reading

Research has shown that children who read even ten minutes a day outside of school experience substantially higher rates of vocabulary growth between second and fifth grade than children who do little or no reading.

Anderson & Nagy, 1992
If Jacob, a 5th grader, reads for one hour each day, five days a week (both in and out of school) at a fairly conservatives rate of 150 words per minute, he will encounter 2,250,000 words in his reading over a school year.

If 2 to 5 percent of the words Jacob encounters are unknown to him, he will encounter from 45,000 to 112,500 unknown words.

If, as research has shown, students can learn between 5 and 10 percent of previously unknown words from a single reading, Jacob will learn, at minimum 2,250 new words each year from his reading.
Once students are \textit{reading on their own}, the amount of time they spend reading is one of the best predictors of their vocabulary size. Research indicates:

Students should read for various purposes and at various levels of difficulty.

Students should read some text simply for enjoyment and some text that challenges them. Teachers should direct students to books at an appropriate reading level.

Teachers should set aside time for students to talk with each other about what they read.
Struggling readers do not read well enough to make wide reading an option. Wide reading requires:

- Decoding Skills
- Ability to recognize that a word is unknown
- Ability to extract meaningful information about the word from word learning strategies
• Children with reading problems read less than proficient readers.
• Children with reading problems read less challenging texts than proficient readers.
• The result is that children with reading problems read even less and even less challenging materials.
• The more words a child knows, the more complex text that child will be able to read.
• The more complex texts a child can read, the more words they will learn.
• The reverse is also true.
• Thus, the “rich get richer and the poor get poorer.”
Matthew Effects

• The result is that the vocabulary gap between children with reading problems and proficient readers grows wider every year!!!
“Children learn the meaning of most words indirectly, through everyday experiences with oral and written language…Although a great deal of vocabulary is learned indirectly, some vocabulary should be taught directly.”

CIERA, 2001, Learning First Alliance, 2001
Specific Word Instruction

• Important words, contextualized, related words
• Accessible student-friendly explanations
• Active engagement
• Multiple exposures
• Rich in-depth knowledge
Specific Word Instruction

Selecting Word to Teach

The Three Tier System

Sequence of Word Acquisition

For English Language Learners
Instruction for ELLs

• The types of vocabulary instruction that benefit first-language learners also help English-language learners.

• Other strategies that can be effective with ELL students:
  – Take advantage of first language
  – Teach the meaning of basic words
  – Provide review and reinforcement
Specific Word Instruction

Text talk: Read aloud Method
Concept Picture Sort
Semantic Maps
Semantic Feature Analysis
Possible Sentences.
Word Map
Keyword Method
Vocabulary Hotshot Notebook.
Children’s books are where the words are

<table>
<thead>
<tr>
<th>Source of Language</th>
<th>Average Rank Difficulty of Words in Text</th>
<th>Average Number of Rare Words per 1000</th>
</tr>
</thead>
<tbody>
<tr>
<td>Newspapers</td>
<td>1690</td>
<td>68.3</td>
</tr>
<tr>
<td>Adult Books</td>
<td>1058</td>
<td>52.7</td>
</tr>
<tr>
<td>Comic Books</td>
<td>867</td>
<td>53.5</td>
</tr>
<tr>
<td>Children’s Books</td>
<td><strong>627</strong></td>
<td><strong>30.9</strong></td>
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<tr>
<td>Children’s TV</td>
<td>543</td>
<td>20.2</td>
</tr>
<tr>
<td>Adult TV</td>
<td>490</td>
<td>22.7</td>
</tr>
<tr>
<td>Mr. Rogers</td>
<td>413</td>
<td>2.0</td>
</tr>
<tr>
<td>Cartoon Shows</td>
<td>598</td>
<td>30.8</td>
</tr>
<tr>
<td>Conversation between</td>
<td>496</td>
<td>17.3</td>
</tr>
<tr>
<td>Two College-educated</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Adults</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

*From Hayes & Ahrens (1988)*
sensible: In the story, Fred said “very sensible” when Monty thought the sign said “Help prevent forest fires.” Preventing forest fires would be sensible. If something is sensible, it is the right thing to do; it makes sense.

Let’s say the word together: sensible

Something sensible is safe to do or good to do. Like it would be sensible to make a list of what you need before going shopping.
Sheepish Tale cont...

• Let’s say it’s raining out--what would be sensible to do?
• If I said we were going on a long, long walk and you should wear sensible shoes, what kind of shoes would those be?
• What kind of shoes would not be sensible for a long walk?
Text Talk

Rich Vocabulary Instruction

Each word is contextualized for its role in the story.

The word's meaning is provided through student-friendly explanations.

Examples beyond the story context are provided.

Children are asked to think about examples and to provide their own examples.
Rich Instruction for immense

*(Amos and Boris)*

- Word contextualized for its role in the story.
- Meaning of the word explained.
- Examples in contexts other than the one in the story were provided.

Children are asked to think about examples.
• What might be good about having an immense book bag? What might be a problem about having an immense book bag?

• Why might someone describe a basketball player’s shoes as immense?

• Which new word does supersize make you think of?
<table>
<thead>
<tr>
<th>1st Grade</th>
<th>Question Yes</th>
<th>Question No</th>
<th>Definition Yes</th>
<th>Definition No</th>
</tr>
</thead>
<tbody>
<tr>
<td>Amos &amp; Boris</td>
<td>If you missed going to a party because you had the flu… would you feel miserable?</td>
<td>If your team won its first game… would you feel miserable?</td>
<td>Does miserable mean feeling very unhappy?</td>
<td>Does miserable mean feeling very excited?</td>
</tr>
<tr>
<td>miserable</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Immense</td>
<td>What if you saw something the size of an elephant… would it be immense?</td>
<td>What is you saw something the size of an ant… would it be immense?</td>
<td>Does immense mean very big?</td>
<td>Does immense mean very happy?</td>
</tr>
</tbody>
</table>
Language Development AND Language Learning

• Interactionist views of children as “spontaneous apprentices” (Miller, 1977), of “scaffolding” (Bruner & Wood, 1978), and the “language instinct” (Pinker, 1994)

• Quality of teacher talk, vocabulary environment, and curriculum predict K outcomes above and beyond home variables (Dickinson & Sprague, 2001)
Central behaviors were:

- Rare word use
- Ability to listen to children and to extend their comments
- Tendency to engage children in cognitively challenging conversations about non-present topics
Three principles of effective vocabulary instruction

• Include both definitional and contextual information
• Have children actively process the information
• Provide multiple exposures

Stahl.
Definitional approaches

• Synonyms
• Antonyms
• Explaining definitions in your own words
• How are two words similar? How are they different?
Making distinctions

• How is a villain like an embezzler? How are they different?
• How is crimson like scarlet? How are they different?
• Explanations
  – Putting meaning of word into one’s own words

If something is **dazzling**, that means that is so bright that you can hardly look at it.

**Strange** describes something different from what you are used to.

**Exhausted** means feeling so tired that you can hardly move

When someone is a **nuisance**, he or she is bothering you.

From Beck, McKeown, & Kucan (2003)
"A synonym is a word you use when you can't spell the word you first thought of."

Burt Bacharach
Definitional Information is not enough

- Smoke (v.t. to inhale burning matter)

- The same word means something different in different contexts.
Contextual Approaches

• Contextual Information
  – How a word’s meaning changes in different contexts

• Scenarios
• Comparing what the word means in two different sentences.
• Generating sentences
• Silly sentences
Providing Contextual Knowledge

• Generating sentences
  – Make sure the sentences really tell about the word

• Generating scenarios

• Silly questions

• Describe, draw

• Possible sentences
Engage children in meaningful analysis

• Merely memorizing definitions (or seeing a word in context) is not enough for a child to learn a word
  – 217-244-9896

• Instead we need to engage children in meaningful learning
  – debris
Efficient Vocabulary Teaching

• Anticipation
  – Sets up children to look for words in the story

• Pre-reading
  – Uses word meanings to set the themes of the story

• Point of contact teaching
  – Simple words
    • Provides synonym
  – Goldilocks words
    • Provides efficient teaching

• Consolidation
  – Provides review and secures the meanings of the words
Anticipation

• Anticipation Guide
  • Given day before
  • 8-10 words (including nonsense words)
  • Know well (can define, write good sentence)
  • Know something about
  • Never seen
Pre-reading

• Theme-based mapping
  – Semantic map developed by teacher and student
  – Must strongly relate to theme of the story
  – No Birdwalking!!!!
  – Brainstorming (5-10 minutes) about theme of story (not general knowledge)
  – Teacher and students develop a map together
  – Not fill in blank of map
Pre-reading

• Possible sentences
  – Teacher provides 8-10 words on board
  – Of these words, 6 are unknown or not well known (from anticipation guide) and 2-4 are well known
  – Children write sentences containing two of the words from the list, which might be found in the story.
Pre-reading

• Picture Walk
  – Teacher does a short review of pictures in the story
  – As teacher encounters a picturable word, teacher stops and gives a brief explanation or a sentence containing that word
Pre-Reading

• Story Impressions
  – Teacher makes an ordered list of words from a story that is about to be read
  – Children are given words, discuss new words
  – Children are to make a story of their own (in group or individually) using those words
  – Words in children's story must be in the same order as on list. (Other sentences can intervene.)
  – After reading, children re-read their stories and discuss how they are the same and how they are different.
Story Impressions

• sail better than anyone
  • gust
  • boom
• caught the sail
• hit the boy’s head
• on a beach
• two boats
• sailing above the water
• sailor

learn to sail
• new sails
• took the till
• fly
• evening wind
• bow
• began to lift
• over the village
• fell to the ground
Venn Diagrams

• Venn diagrams are useful to show two contrasting categories.
• Again, use these only if the theme suggests them.
Venn Diagrams

Pets  Mammals
From a unit on the origins of the American Revolution
Point of Contact Teaching

• For “simple words”
  – Teacher mentions synonym or cognate
    • “amble” is a kind of walk
    • “blouse” is a loose-fitting shirt

• ‘truly” means that the _______ is true.
Point of Contact Teaching

• For “Goldilocks” words
  – Teacher provides definition.
  – Asks what the sentence means with the word
  – Asks students for other sentences that the word could fit into. (2-3)
  – Asks students to put the definition in their own words.
Consolidation

• Class reviews anticipation guide
• These words should have been the words from the theme teaching, possible sentences, or picture walk as well as the Goldilocks words in the point of contact teaching.
Consolidation

• For theme-mapping, add other words to the map from the story
• For possible sentences, review children’s sentences
• For picture walk, have class review the walk in writing, using the words in the list
Silly Questions

- Can a giraffe cough?
- Can a pig swim?
- Can a rooster swim?
- Can a mouse waddle?
- Does a horse canter?
- Does a gosling have feathers?
- Does a cygnet swim?
- Does a sow run?
Silly Questions

- Can an actuary add?
- Is an actuary amorous?
- Can an actuary be a philanthropist?
- Can a hermit be an actuary?
- Can a hermit be a philanthropist?
- Can a hermit be amorous?
Complex words

• For concepts, children need examples, non-examples, “criss-crossing the landscape” of the word’s meaning

• Immune system
  – What it is: part of the body which protects against disease
  – What is in it: antibodies, white blood cells (including T-cells)
Complex concepts

- Examples, non-examples, categories, contrasting it to other concepts
Concept Map

- What is it?
- Examples
- What is it like?
- Friendship
- Non-Examples
ISA

- ISA
- LIKEA
- LOOKSLIKEA
- NOTA
- HASA
- DOES
- TYPES
Cancer

- Contagious
- Often fatal
- Cells grow without control
- Breast, Lung, Colon
- Types
- Does
- ISA
- Isa
- Nota
Semantic Mapping

• Brainstorm words that go with a central concept
  – Write on board
  – Add words to be taught, discussing as you go

• Create a map, linking concepts to categories
Meteorology

Global

Precipitation
- rain
- snow
- sleet
- fog
- hail

Patterns
- fronts
- high pressure
- low pressure
- jet stream

Instruments
- barometer
- thermometer
- rain gauge
- anemometer

Storms
- thunderstorm
- tornado
- hurricane
- tsunami

World-wide
Semantic Feature Analysis

- Use a grid
- Add features (descriptions) along the top
- Name objects in a category along the rows
<table>
<thead>
<tr>
<th></th>
<th>2 wheeled</th>
<th>4 wheeled</th>
<th>Land</th>
<th>Sea</th>
<th>Air</th>
</tr>
</thead>
<tbody>
<tr>
<td>bicycle</td>
<td>+</td>
<td>-</td>
<td>+</td>
<td>-</td>
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</tr>
<tr>
<td>Airplane</td>
<td>-</td>
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<td>-</td>
<td>-</td>
<td>+</td>
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<tr>
<td>Velocepede</td>
<td>+</td>
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<td>+</td>
<td>-</td>
<td>-</td>
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<tr>
<td>biplane</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>+</td>
</tr>
<tr>
<td>cruiser</td>
<td></td>
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</tbody>
</table>
Modeling In-Depth Knowledge Through Examples/Nonexamples

Is this an example of vista?
• From our campsite, we could see snow-covered mountains.
• From our campsite, we could see the snack bar.

Is this an example of coordinate?
• My team is going to meet at the park at exactly 6:00.
• No one told me where or when our team is going to meet.
Synonym

impressive

scenery in Alaska

Example

Antonym

ordinary

small parking lot

Nonexample

AWESOME
Word-Learning Strategies

- **Dictionary Use**: to confirm and deepen knowledge of word meanings
- **Morphemic Analysis**: to use for information about word parts to derive the meanings of words
- **Cognate Awareness**: to associate meanings of cognates in the first language with its complement in English
- **Contextual Analysis**: to infer the meanings of words in texts
Word-Learning Strategies

Using the dictionary

PAVE

Concept of definition

Lesson models:

Compound words
Word families
Word parts: prefix, suffix, roots,
Cognate awareness
Types of context clues
Word consciousness is an awareness of, and interest in, words and their meanings.
Word Consciousness

Word consciousness is an awareness of and interest in words, their meanings, and their power. Students who develop word consciousness:

• are aware of words and use them skillfully
• enjoy word play, including using figurative language
• appreciate the subtleties of word meanings
• are eager to learn new words
• are interested in the origins and histories of words
• take satisfaction in using words well
Effective methods to promote word consciousness include:

• a rich context in which to learn words
• active student participation
• repeated exposures to words
• Word wizard or Vocabulary hot shot.
Word Wizard

- Jamel
- Eric
- Brittney
- Alex
- Charlie
- Laqueeshah
Explicit vocabulary instruction “can deepen students’ knowledge of word meanings” to help them “understand what they are hearing or reading” as well as “help them use words accurately in speaking and writing.”

National Institute for Literacy, 2001, p. 36
Adept Diction is the skillful use of words in speech and writing

Quiz: What part of vocabulary knowledge does speech and writing represent?
What do we need to do?

• Increase the instructional intensity of the vocabulary taught in core programs.

• Add structure if need for other areas of vocabulary instruction.

• Increase the amount of words learned through incidental learning.

• Read alouds, text talk. Engaging the students ….
Outcome

1. Have students learned the words taught? (vocabulary outcome)
2. Do these word meanings transfer to new contexts? (near transfer)
3. Has vocabulary size been increased such that reading comprehension on a standardized test increases (far transfer)?