



The Critical Pillars of Reading

Friends of Different Learners Panel

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National Institute for Literacy: *Put Reading First*

"While there are no easy answers or quick solutions for optimizing reading achievement, an extensive knowledge base now exists to show us the skills children must learn in order to read well. These skills provide the basis for sound curriculum decisions and instructional approaches that can help prevent the predictable consequences of early reading failure."

The National Reading Panel

2000 Report

Charged by Congress to:

- identify the key skills of proficient readers
- review research in reading instruction
 - reviewed of over 100,000 studies
- identify instructional methods and strategies that are central to reading achievement and have been proven effective – scientifically research based strategies and methods



What is Scientifically Based Research?

Using Research and Reason in Education

- Has the study been published in a **peer-reviewed** journal or approved by a panel of **independent experts** in the field?
- Have the results of the study been **replicated** by other scientists (researchers)?
- Is there **consensus** in the research community that the study's **findings** are **supported** by a critical mass of additional studies?

National Institute for Literacy, 2006

It's also important to ask:

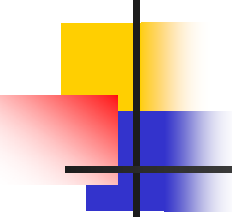
What is the population and what are the specific parameters of this study? Do these apply to my students?



The Critical Pillars of Reading

- **Phonological and Phonemic Awareness**
- Alphabetic Principle / Phonics
- Fluency
- Oral Language / Vocabulary
- Comprehension of text

What is phonological awareness?

- 
- Awareness of the **sound structure** of **language**
 - Ability to notice, discriminate, think about and manipulate the words, syllables and sounds in language
 - Knowledge that sentences are comprised of words and words are comprised of parts/syllables and sounds
 - Awareness of other aspects of sound, such as rhyming, alliteration and intonation
 - The “umbrella skill” - a broad concept that encompasses phonemic awareness



What is phonemic awareness?

- The ability to identify and manipulate the smallest unit of **sound** (phoneme) that makes a difference in the meaning of **spoken** words
- The ability to hear and feel how the sounds of our language (the vowel and consonant sounds) are produced in speech



What is phonemic awareness?

continued

- The ability to:
 - categorize words by their **sounds**
 - blend **sounds** into words
 - segment words into **sounds**
 - manipulate **sounds** in words

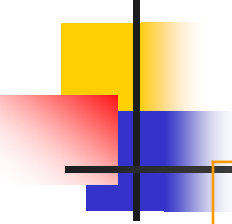


Examples of phonological and phonemic awareness

Let's try out our PA skills!

1. Rhyme recognition
2. Syllable counting
3. Initial sound discrimination
4. Initial phoneme isolation
5. Phoneme blending
6. Phoneme segmentation
7. Phoneme deletion
8. Phoneme substitution

PA skills develop sequentially between ages 4–9



Age	Skill Domain
4	rhyme, alliteration
5	rhyme, phoneme matching, syllables
5.5	onset-rime, initial consonant isolation
6	phoneme blending, segmentation (simple)
6.5	phoneme segmentation, blending, substitution
7	initial and final sound deletion
8	deletion with blends
9	longer and more complex sound manipulation tasks



Why PA Is So Important?

- Very well researched; most common and significant cause of early reading failure
- Powerful early predictor of reading achievement; Kindergarten PA is the best predictor of reading achievement in the 1st and 2nd grades (Stanovich, 1994); Goal is phoneme segmentation/blending by first grade
- PA instruction helps children learn to read and spell
- Necessary, but not sufficient, to become a proficient reader



Why is PA so important?

- PA development is not always a spontaneous and natural process
- PA skills can be taught and learned
 - 80% of students will learn PA skills in response to Core Instruction in PA
 - 20% of students will need more strategic and explicit instruction in PA

(Torgesen, 1994)



What the research says about phonemic awareness instruction

- PA instruction is most effective when
 - lessons are brief, distributed and frequent with practice following a developmental progression
 - words/sounds are produced orally
 - instruction focuses on only 2-3 PA skills/lesson using a multisensory approach (touch, move, say)
 - sounds are paired with the letters of the alphabet



Why PA Is So Important?



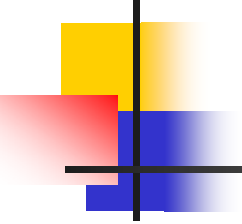
The **National Reading Panel** concluded that
“ . . . teaching children to manipulate phonemes in words was highly effective under a variety of teaching conditions with a variety of learners across a range of grade and age levels and that teaching phoneme awareness (PA) to children significantly improves their reading more than instruction that lacks any attention to PA.”



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Is phonemic awareness the same as phonics?...No!



■ Phonemic Awareness

- Involves **sounds** and **sound** relationships
- Children begin to develop sound awareness as they develop language - long before they learn letters

■ Phonics

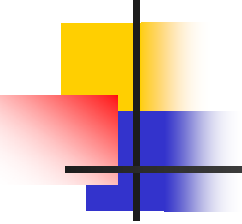
- **Sound-symbol** associations; **phoneme-grapheme** correspondences
- Mapping of each sound to a letter or group of letters; using phonics and word analysis knowledge to accurately decode / read words



The challenges of phonics

- The alphabetic principle (systematic and predictable relationships between written letters and spoken sounds) can be challenging because of:
 - co-articulation of speech sounds
 - lack of one-to-one correspondence between letters and sounds: 44 phonemes/ 26 letters in English
 - 1 sound may be represented by more than 1 letter
 - /sh, ch, th/
 - /f/ can be spelled "f," "ff," "ph," "gh"
 - 1 letter can be represented by more than 1 sound
 - "a" as in apple, ate, bananaa

English has a complex sound structure



<u>Language</u>	<u>Phonemes</u>	<u>Spellings</u>
■ ENGLISH	44	1200
■ ITALIAN	25	29
■ FRENCH	32	250
■ SPANISH	28	32
■ GERMAN	34	39

Firth

PA: The Anchor for Phonics

/b/ /ē/ /ch/ /ə/ /z/

b ea ch e s

A diagram illustrating the phonics anchors for the words 'beach' and 'bes'. The phonics anchors are written in italics above the words: /b/ /ē/ /ch/ /ə/ /z/. Red arrows point from each phonics anchor to its corresponding letter or letter combination in the words below: /b/ points to 'b', /ē/ points to 'ea', /ch/ points to 'ch', /ə/ points to 'e', and /z/ points to 's'.

/sh/ /ā/ /p/

sh a p e

A diagram illustrating the phonics anchors for the word 'shape'. The phonics anchors are written in italics above the word: /sh/ /ā/ /p/. Red arrows point from each phonics anchor to its corresponding letter or letter combination in the word below: /sh/ points to 'sh', /ā/ points to 'a', and /p/ points to 'p'. The letter 'e' is present in the word but has no phonics anchor above it.

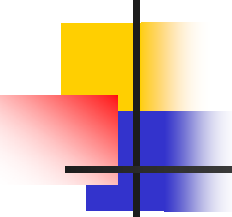
Differences between Phonics & Phonemic Awareness

Phonics

- > Artificial Code
- > Left + Right Brain
- > Letters
- > Visual
- > Rule-based
- > Taught
- > Memory Intense

Phonemic Awareness

- > Natural Speech
- > Left Cortex
- > Phonemes / Sounds
- > Auditory
- > Brain-based
- > Developed through language exposure
- > Low memory load



What the research says about phonics instruction

- Phonics instruction is most effective when it is *systematic* and *explicit*
 - *Systematic* – the plan of instruction includes a carefully selected set of letter-sound relationships that are organized and taught in a logical sequence; children learn to use these relationships to automatically decode words that contain them
 - *Explicit* – the programs provide teachers with precise directions for the teaching of these relationships



Systematic and explicit phonics instruction ...

- is more effective than indirect / incidental instruction or no phonics instruction at all
- is most effective when introduced early; significantly improves word recognition and spelling in kindergarteners and 1st graders
- must provide ample practice applying skills in reading / writing of words, sentences and text



Systematic and explicit phonics instruction ... (continued)

- is effective for children from various social and economic levels
- is particularly beneficial for children who are having difficulty learning to read or are at-risk for developing future reading problems
- improves reading comprehension
- is only one part of a balanced reading program (“word study”)



Beyond basic phonics

- Advanced decoding skills and instruction are often needed to facilitate continued reading fluency and vocabulary development
 - teach quick recognition of the 6 basic syllable types
 - teach students to read multisyllabic words
 - teach morphographs gradually and cumulatively



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Definition of oral reading fluency

- Oral reading fluency (ORF) is the ability to read a text quickly (rate), accurately and with phrased expression

Phrasing is conveyed through prosodic cues such as intonation, inflection and pauses

- Fluency is “accurate reading at a minimal rate with appropriate prosodic features (expression) and deep understanding”

(Hudson, Mercer, and Lane, 2000)



Fluent reading

- is not a stage of development at which readers can read all words quickly and easily
- fluency changes depending on the text
- automatic word recognition in isolation is not the same as reading words in sentences in connected text; it is one step in the process of building fluency



Fluent reading

- allows the reader to focus his attention on making connections among the ideas in a text and between these ideas and his background knowledge
- provides a bridge between word recognition and comprehension



Less fluent readers

- focus their attention primarily on decoding/reading individual words
- often effortful, slow, inaccurate, no expression/phrasing ; not automatic
- may have little attention or “cognitive energy” left for comprehending or making meaning of what they are reading

Oral Reading Fluency Benchmarks (cwpm)

1. Fluency: correct words per minute grade level benchmarks

Grade Level	Established	Instructional	Deficit
1	40+	20 - 39	< 20
2	90+	44 - 89	< 44
3	110+	77 - 109	< 77
4	113+	84 - 112	< 84
5	129+	100 - 123	< 100
6	140+	117 - 139	< 117
7	140+	118 - 139	< 118
8	141+	123 - 140	< 123

Tindal & Hasbrouk, 2006

2. Accuracy: percent of words read correctly (words correct/total words read)

Performance Descriptor	Accuracy
Independent	97-100%
Instructional	93-96%
Frustration	≤ 92%



Effective fluency instruction: What the research supports

- Repeated oral reading (4x) paired with modeling, guidance and/or specific feedback
- Reading in appropriately leveled text
 - Independent level text, for student independent practice
 - 97-100% accuracy
 - Instructional level text, if scaffolded by teacher
 - 93-96% accuracy
- Use relatively short passages (50-200 words)
- Use a variety of reading materials
- Add systematic, explicit instruction on specific phonics skills, as needed



Options for oral text rereading

- Student-adult reading
- Choral reading
- Tape or computer-assisted reading
- Partner reading
- Readers' theatre
- Silent, independent reading – not effective instructional strategy for struggling readers



The goal of fluency is meaning

Oral reading fluency is NEVER an end in and of itself!

- Speed is not the goal
 - pleasurable, engaged reading for meaning is the goal!
- Reading fluency is just **one** prerequisite for comprehension to occur



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Oral Language / Vocabulary

- Vocabulary knowledge
 - word meanings / definitions
 - word relationships
 - determining word meanings from text
- Syntax knowledge
- Prior knowledge from experience and language usage



Vocabulary: What is it?

- The storehouse of known word meanings in a person's mental dictionary (lexicon) that is drawn upon to:
 - comprehend what is said
 - express thoughts verbally and in writing
 - decode and interpret what is read
- Recognition vocabulary (for listening and reading) is greater than productive vocabulary (for speaking and writing) in most people

Types of vocabulary

1. **Listening:** The words we need to know to understand what we hear and listen.
2. **Speaking:** The words we use in speaking.
3. **Reading:** The words we need to know to understand what is presented to us in text.
4. **Writing:** The words we use when writing.





Why is vocabulary important?

- Learning is fundamentally and profoundly dependent on oral language and vocabulary knowledge
- Beginning readers use their oral language and vocabulary knowledge to make sense of the words they see in print
- Readers must know what most of the words mean before they can understand what they are reading
- Knowledge of a word's meaning also facilitates accurate word recognition (reciprocal relationship)



Why is vocabulary important?

- If a word is decoded and pronounced but the meaning is not recognized, comprehension will be impaired
- Before the middle grades, children can read many fewer words than they comprehend through listening
- After the middle grades, vocabulary knowledge expands as a function of reading itself; more words are learned from reading than from listening to spoken language



Vocabulary can be developed

- **Indirectly**

- when students engage daily in oral language, listen to adults read to them, read extensively on their own, and foster word consciousness (awareness of and interest in words)

- **Directly**

- when students are explicitly taught both individual words and word-learning strategies



What research says about vocabulary instruction

- Children learn the meanings of most words **indirectly** through everyday experiences with oral and written language by:
 - engaging in conversation with adults
 - listening to adults read to them
 - reading extensively on their own



What the research says about vocabulary instruction

- Children learn vocabulary **directly** when they are explicitly provided **specific word instruction** of **important, useful** and/or **difficult** words in the text by:
 - teaching specific words from the text *before* reading
 - repeated exposure to vocabulary in many contexts



What the research says about vocabulary instruction

- Children also learn vocabulary **directly** when they are explicitly provided **word-learning strategies**, such as:
 - how to use information about word parts to figure out the meanings of words in text
 - how to use context clues to determine word meanings
 - how to use dictionaries and other reference aids to learn word meanings and deepen knowledge of word meanings



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Reading comprehension

*"Comprehension is the **reason** for reading. If readers can read the words but do not understand what they are reading, they are not really reading. As they read, good readers are both **purposeful** and **active**."*



Comprehension = application of strategies and skills

Comprehension Strategies

- Uses strategies before, during and after reading
- Monitors meaning and uses “fix up” strategies as needed
- Selective attention to text & text structure
- Adjusts for task difficulty
- Connects text to prior knowledge
- Summarizes

Enabling Skills

- Phonological/Phonemic awareness
- Phonics/Decoding/Sight vocabulary
- Fluency & automaticity in text reading
- Oral Language
 - Vocabulary
 - Syntax
 - Prior Knowledge

Reading comprehension strategies

Comprehension strategies -

- are plans or procedures that readers use and apply before, during, and after reading
- are under the control of the reader, who makes decisions about which strategies to use, and when to use them (metacognitive)



Effective research based comprehension strategies

- Self monitoring and fix up strategies
- Using graphic and semantic organizers
- Generating questions
- Answering questions



Effective research based comprehension strategies

- Recognizing and understanding story / text structure
- Summarizing
- Making use of prior knowledge
- Using mental / visual imagery

Other useful comprehension strategies

- Establishing a purpose for reading
- Previewing/predicting
- Think-alouds – thinking aloud about the text while reading
- Identifying the main idea/gist
- Making inferences and draw conclusions





Comprehension strategies can be taught

- through explicit instruction
 - direct explanation
 - modeling – “I do it”
 - guided practice – “we do it”
 - application – “you do it”
- through cooperative learning
- by helping readers use strategies flexibly and in combination



Proficient Reading Depends On:

- **Phonological Awareness/Phonemic Awareness** – awareness of the sound structure of language
- **Phonics** – knowledge of sound-symbol associations and using phonics to decode accurately; word structure analysis
- **Fluency** - recognizing/reading words automatically and accurately in connected text
- **Oral Language/Vocabulary** - knowing what words mean; word relationships; oral language syntax / structure
- **Comprehension** - constructing meaning from text and connecting the text with prior knowledge; monitoring comprehension and repairing miscomprehension, if necessary



Dominant Features of Struggling and Disabled Readers

- Poor phonological awareness skills
 - Difficulty hearing word parts and sounds in words
 - Poor segmenting and blending skills
- Poor decoding skills
 - Poor attention to the details of print
 - Over reliant on contextual guessing
- Dysfluent, slow, and/or laborious reading rate
- Poor comprehension secondary to weak language and vocabulary development



Dominant Features of Struggling and Disabled Readers cont.

- Poor comprehension of what is read secondary to poor word reading
- Poor spelling
- Few reading opportunities outside of school
- Avoidance behavior due to reading failure
- Lack of interest and motivation for reading and learning that involves reading



Reading Next

Carnegie Corporation, 2004

- Focused on middle and high school literacy - adolescent literacy
- Identified two categories of elements
 - Instructional Improvements (9)
 - Intrastructure Improvements (6)



Instructional Improvements

1. Direct, explicit comprehension instruction
2. Effective instructional principles embedded in content
 - Language Arts
 - Content/Subject Areas
3. Motivation and self-directed learning
4. Text-based collaborative learning



Instructional Improvements

continued

5. Strategic tutoring
6. Diverse texts
7. Intensive writing
8. A technology component
9. Ongoing formative assessment of students



Infrastructure Improvements

1. Extended time for literacy
2. Professional development
3. Ongoing summative assessment of students and programs / strategies
4. Teacher teams
5. Leadership
6. A comprehensive and coordinated literacy program / plan

FCRR website

- Gives reports on reading materials
- Includes the research on many methods, strategies and programs
- Indicates strengths/weaknesses
- Gives grade levels reviewed
- www.fcrr.org for Teachers (left) FCRR reports (top) FCRR reports first paragraph near end- Summary table



Strategies vs. Programs

- **Strategies:**
 - Instructional approaches, methods, techniques
- **Programs:**
 - Compiled set of materials and tools
 - Usually based on a developmental scope and sequence of skills taught
 - Often incorporates proven strategies and techniques, ie. direct instruction, repeated reading, etc.