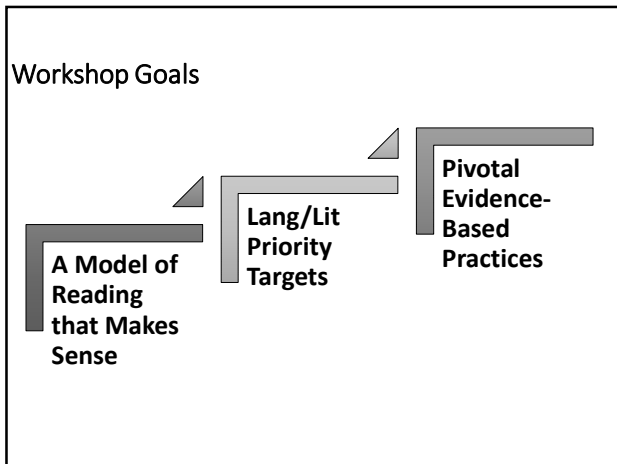


SUPPORTING LANGUAGE & LITERACY DEVELOPMENT IN THE 0-5 YEARS: PIVOTAL EVIDENCE-BASED TECHNIQUES

Laura M. Justice, CCC-SLP
EHE Distinguished Professor, Ohio State University
justice.57@osu.edu

1



2

Reading is a complex human behavior that does not emerge naturally as part of human development

(although for some children it may appear to!)

3

What is reading? Introducing the
“simple view” of reading



4

“Simple” View of Reading

$$D \times C = R$$

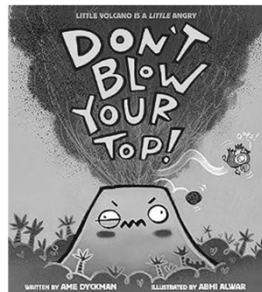
5

Read This:

It was a beautiful day in paradise. Big Volcano was happy. Little Volcano was happy. Until... something unexpected happened.

Question:

What is reading?



6

"Simple" View of Reading

$$D \times C = R$$

7

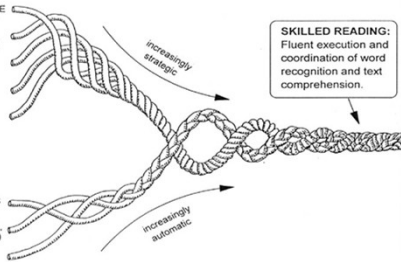
THE MANY STRANDS THAT ARE WOVEN INTO SKILLED READING

LANGUAGE COMPREHENSION

BACKGROUND KNOWLEDGE
(facts, concepts, etc.)
VOCABULARY
(breadth, precision, links, etc.)
LANGUAGE STRUCTURES
(syntax, semantics, etc.)
VERBAL REASONING
(inference, metaphor, etc.)
LITERACY KNOWLEDGE
(print concepts, genres, etc.)

WORD RECOGNITION

PHONOLOGICAL AWARENESS
(syllables, phonemes, etc.)
DECODING (alphabetic principle;
spelling-sound correspondences)
SIGHT RECOGNITION
(of familiar words)

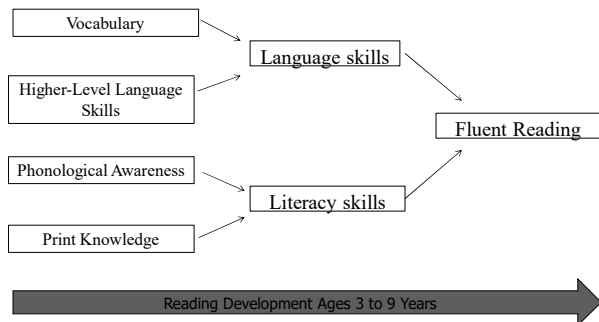


SKILLED READING:
Fluent execution and
coordination of word
recognition and text
comprehension.

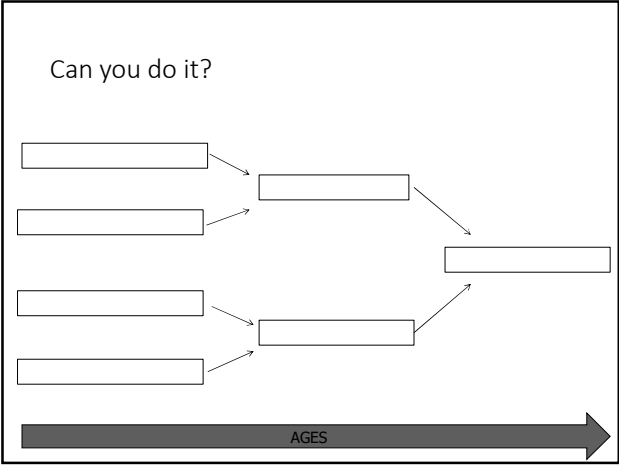
See Scarborough, H. S. in Neuman, S.B. & Dickinson, D. K. (2001).
Handbook of Early Literacy Research. New York: Guilford Press.

8

Conceptualizing Skilled Reading (Scarborough 1998)



9



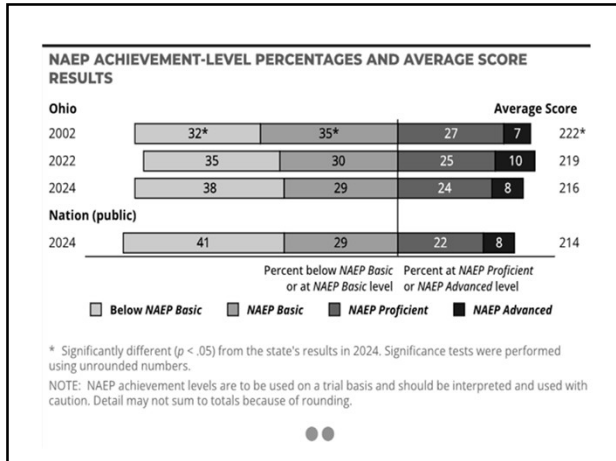
10

D	C	Reading Status
Good	Good	Typical Reader (Fluent and automatic by about 9 years)
Poor	Good	Decoding-specific reading disability (dyslexia)
Good	Poor	Comprehension-specific reading disability (poor comprehenders)
Poor	Poor	Globally impaired reader (garden variety poor reader)

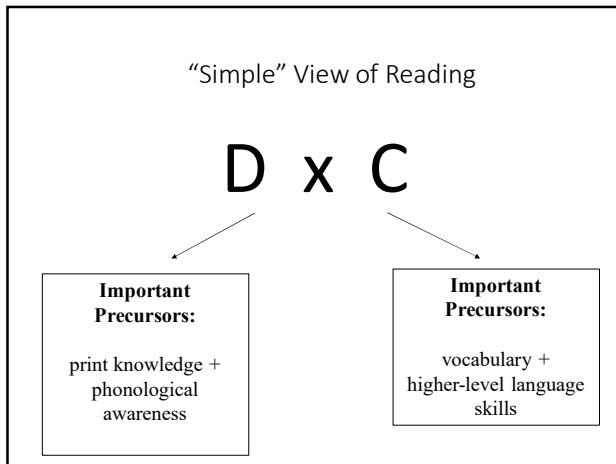
11

D	C	Reading Status	Clinical Relevance
Good	Good	Typical Reader (Fluent and automatic by about 9 years)	NA
Poor	Good	Decoding-specific reading disability (dyslexia)	Elevated rate of phonological difficulties; heightens risk for reading-comprehension problems
Good	Poor	Comprehension-specific reading disability (poor comprehenders)	Many children with language disabilities; many children with “sub-clinical” language problems
Poor	Poor	Globally impaired reader (garden variety poor reader)	High susceptibility for children with widespread developmental concerns

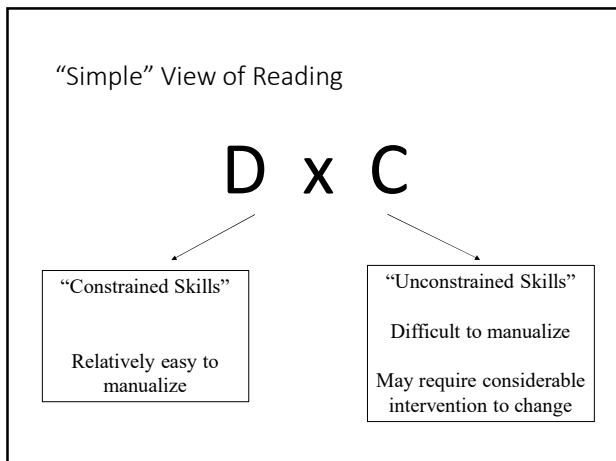
12



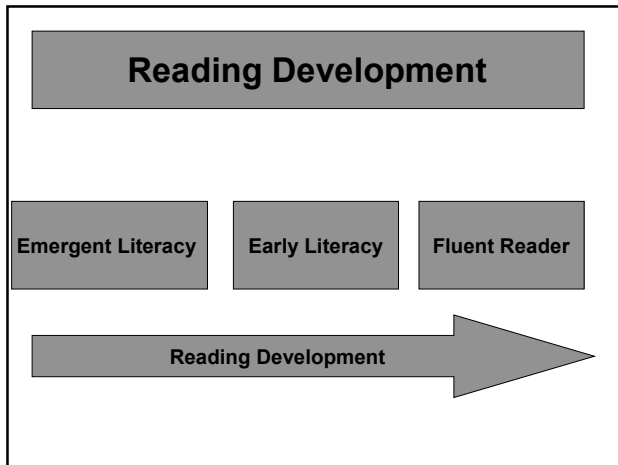
13



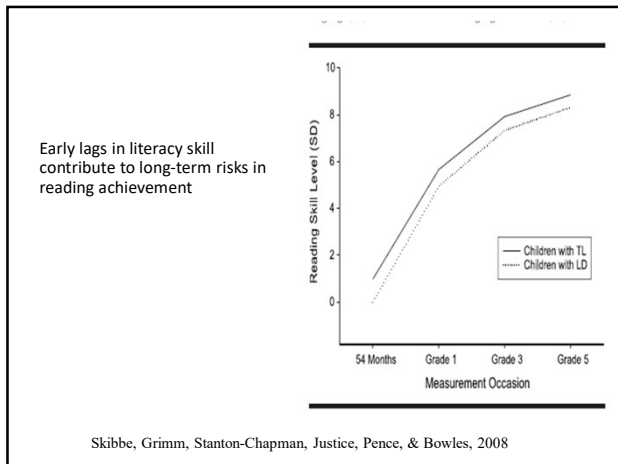
14



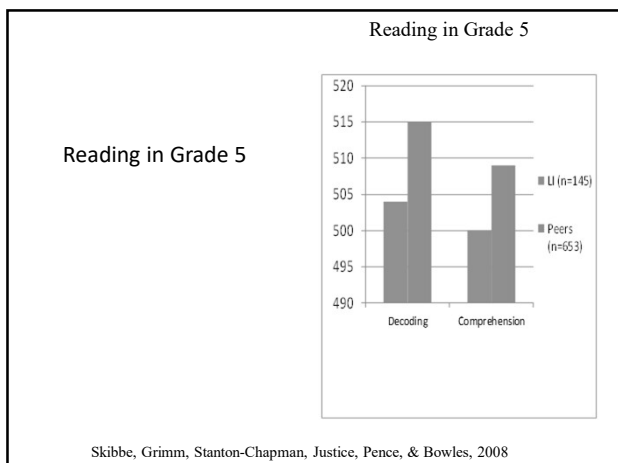
15



16



17



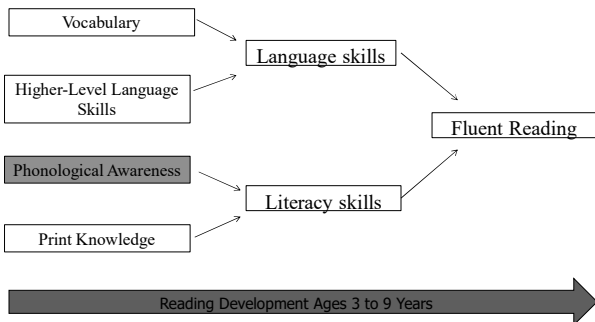
18

Am I teaching kids
to read?



19

Conceptualizing Skilled Reading (Scarborough 1998)



20

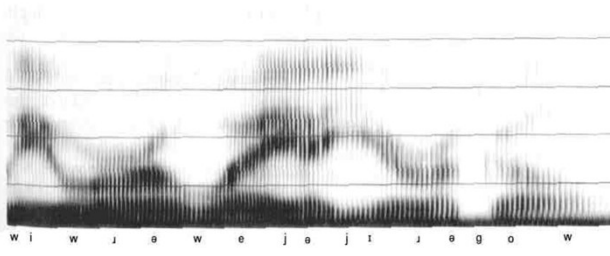
What is Phonological Awareness?

- an individual's *sensitivity* to the phonological – or sound – structure of spoken language, or speech
- necessary (but insufficient) for cracking the alphabetic code

21

Phonological Awareness

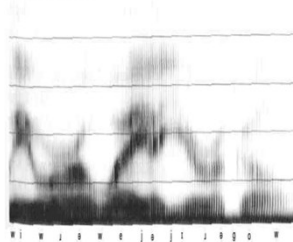
- Being aware of the small segments that make up the speech stream



22

Children who have phonological awareness....

- Can break a spoken word into its syllables
- Can produce and detect rhyme patterns
- Can identify the initial sound in a word or produce two words with same initial sound
- Can identify each of the individual sounds in a word



23

Why is Phonological Awareness So Important?

Early Childhood

Kindergarten

Early Primary

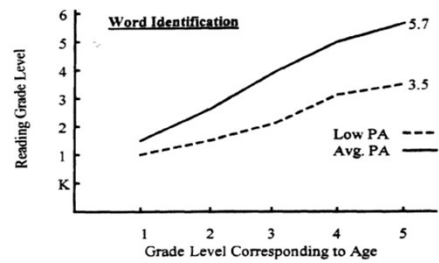
Phonological
AwarenessLetter-Sound
Relationships

Decoding

24

The language-to-literacy link

(Torgesen & Mathes, 2000)



28

Predicting Reading Difficulties (93% accuracy)

Catts et al., 2001)

- Grammar (sentence repetition) *
- Phonological awareness (deletion task) *
- Alphabet knowledge *
- Rapid automatic naming ("check engine light") *
- Maternal education

29

APPENDIX A. DELETION TASK

The child is shown a picture of a cow and a boy and asked to say "cowboy." After the child responds, the examiner covers the cow and says, "Now say cowboy without the cow." The procedure is repeated with the picture of a tooth and a brush (toothbrush) and a cup and a cake (cupcake). If the child fails a practice item, the examiner provides the appropriate response. After completing the practice items, the examiner asks the child to say each of the test items after deleting the portion that is underlined. In all cases, the portion to be deleted is referred to phonetically (e.g., "say seat without /s/"). No pictures are used for the test items and no feedback is provided. Testing is discontinued following six consecutive errors.

Test Items:

- | | |
|-------------|------------|
| 1. baseball | 11. baby |
| 2. haircut | 12. person |
| 3. Sunday | 13. monkey |
| 4. railroad | 14. fat |
| 5. sometime | 15. seat |
| 6. return | 16. shout |
| 7. around | 17. tall |
| 8. motel | 18. door |
| 9. almost | 19. few |
| 10. helpful | 20. snail |
| | 21. thread |

Catts, Fey, Zhang,
& Tomblin, 2001

30

How Do Children Develop Phonological Awareness?

Tasks and Activities: Syllables

- **Syllable blending**
 - What do you get when you say sis...ter together?
- **Syllable counting**
 - How many syllables are in the word elephant?
- **Syllable deletion**
 - Say batman without the bat.

31

How Do Children Develop Phonological Awareness?

Tasks and Activities: Rhymes

- **Rhyme detection**
 - Which words rhyme?: sail, boot, nail
 - Do sail and nail rhyme?
- **Rhyme production**
 - What rhymes with boat?

32

How Do Children Develop Phonological Awareness?

Tasks and Activities: Phonemes

- **Phoneme blending**
 - What word do sounds /b/.../l/.../t/... make?
- **Phoneme segmenting**
 - Tell me each of the sounds in the word bit.

33

Integrating PA into Speech-Language Interventions



34

SLP Role

- **Directly provide intervention to children on caseload** (singular focus on PA or integrated with other goals)
- **Directly provide intervention to children at-risk** (Tier 2)
- **Work collaboratively with teachers to deliver PA instruction**

35

PA and Phonological Disorders

- Targeting phonological awareness (instead of directly 'teaching' certain sounds) may affect both PA and intelligibility



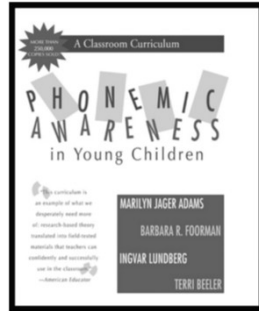
36

Many PA Resources Available

Scope of instruction

Sequence of instruction

Scaffolding supports



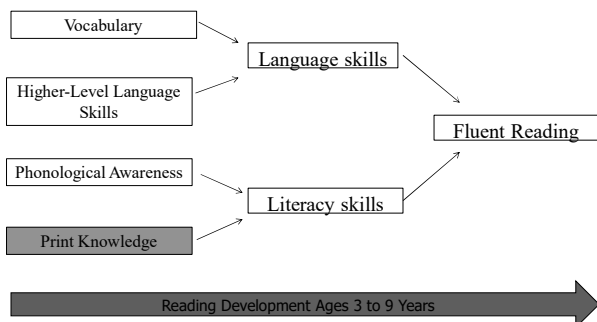
37

Many PA Programs “Work”



38

Conceptualizing Skilled Reading (Scarborough 1998)

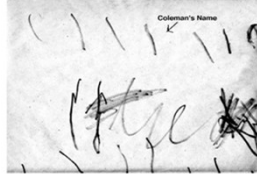


39

Young children's knowledge about print is very important:

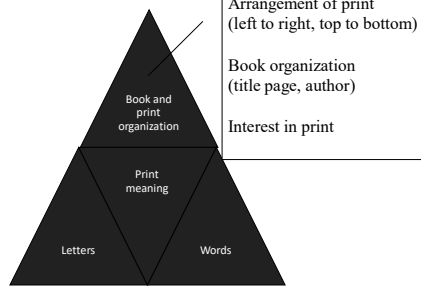
- Knowledge of the 'system of print and how it symbolically encodes spoken language' (Bialystok & Luk, 2007)
- Print is an **invariable representation** of spoken forms that follows specific rules

Figure 5. Coleman's Signature (January 11)



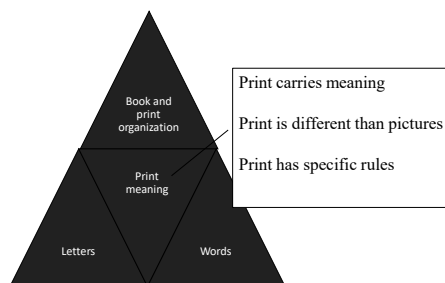
40

Key areas of understanding

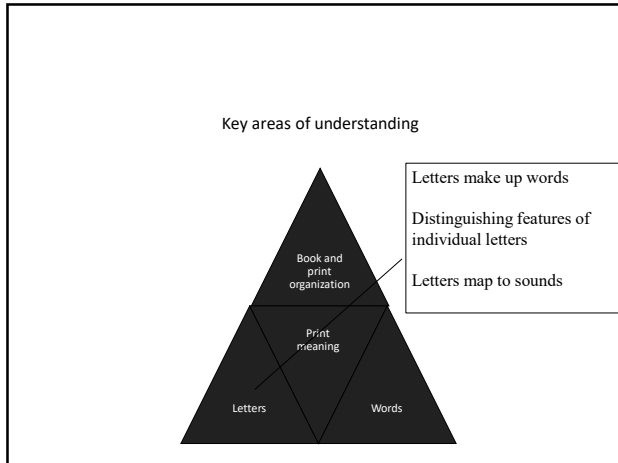


41

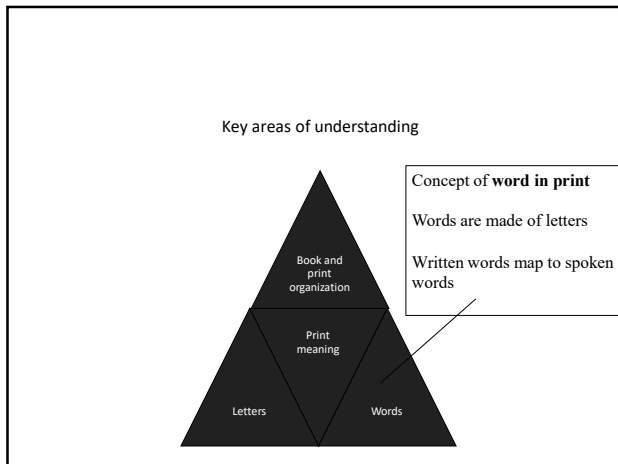
Key areas of understanding



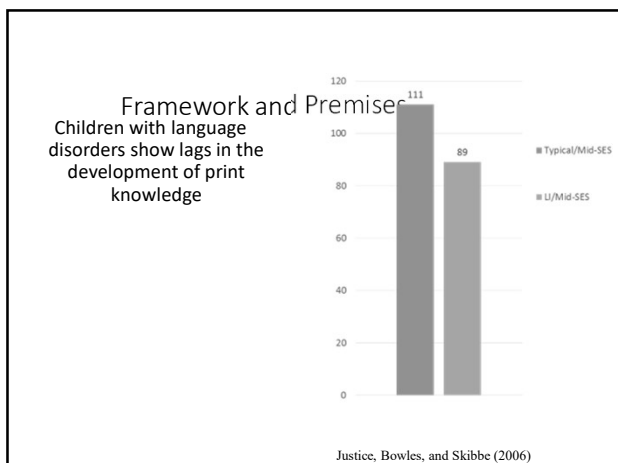
42



43



44



45

Improving young children's print knowledge can have significant improvements in their future reading skill

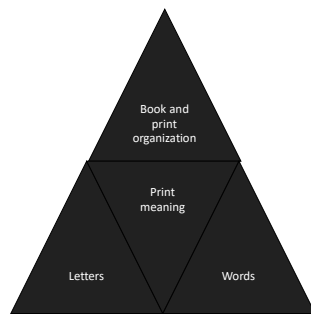


46

Increasing Children's Contact with Print at Early Ages

Increasing explicit attention to print during shared readings:

Print Referencing



47

30-week teacher-led reading program "Sit Together and Read" – a 30-week intervention



48

STAR Interventionxts with Targets

- 1 new book per week
- Read 4 X as whole-class activity
- Scope and sequence: 15 objectives cycled over 30 weeks

Objectives

- Title of book
- Page order
- Author of book
- Page organization
- Print directionality
- Print function
- Environmental print
- Concept of reading
- Upper vs. lower-case letters
- Names of letters
- Concept of letter
- Word identification
- Short vs. long words
- Letter vs. words
- Concept of word

49

49

Aligning Books to Texts

Week	Book Title	Print Knowledge Objectives
1	<i>My First Day of School</i>	Environmental print Concept of reading
2	<i>There's a Dragon at My School</i>	Print direction Concept of words in print
3	<i>I Like it When ...</i>	Author of book Function of print
4	<i>The Dandelion Seed</i>	Upper- and lower-case forms Page organization
5	<i>Down by the Cool of the Pool</i>	Title of book Word identification
6	<i>"More More More," Said the Baby</i>	Concept of letter Page organization
7	<i>Jamboree Day</i>	Page order Letter sounds
8	<i>Rumble in the Jungle</i>	Word identification Concept of letter
9	<i>David Gets in Trouble</i>	Author of book Letters and words
10	<i>The Way I Feel</i>	Short words and long words Function of print
11	<i>Spot Bakes a Cake</i>	Concept of letter Environmental print

(cont.)

50

word identification, concept of letter

51

word identification, concept of letter



52

FREE DOWNLOAD: <http://ccec.ehe.osu.edu/research/publications/books-chapters>**In the Small, Small Pond****TARGET: Concept of Word on Print****High Support Examples****1) RECOGNIZE: COOPERATION/TEAMWORK**

Teacher: "I want you to look at the page and point to all the words on the page with me."

2) RECOGNIZE: MINDFULNESS/FOCUS

Teacher: "I want you to look at the page and point to all the words on the page. Now, I want you to look at the page and point to all the words on the page."

Low Support Examples**1) RECOGNIZE: ENCOURAGEMENT**

Teacher: "I want you to look at the page and point to all the words on the page. I want you to look at the page and point to all the words on the page."

2) RECOGNIZE: MINDFULNESS/FOCUS

Teacher: "I want you to look at the page and point to all the words on the page. I want you to look at the page and point to all the words on the page."

3) RECOGNIZE: EXPLANATION

Teacher: "I want you to look at the page and point to all the words on the page. I want you to look at the page and point to all the words on the page."

4) RECOGNIZE: EXPLANATION

Teacher: "I want you to look at the page and point to all the words on the page. I want you to look at the page and point to all the words on the page."

TARGET: Print Direction**High Support Examples****1) RECOGNIZE: COOPERATION/TEAMWORK**

Teacher: "I want you to look at the page and point to all the words on the page. I want you to look at the page and point to all the words on the page."

2) RECOGNIZE: MINDFULNESS/FOCUS

Teacher: "I want you to look at the page and point to all the words on the page. I want you to look at the page and point to all the words on the page."

Low Support Examples**1) RECOGNIZE: ENCOURAGEMENT**

Teacher: "I want you to look at the page and point to all the words on the page. I want you to look at the page and point to all the words on the page."

2) RECOGNIZE: MINDFULNESS/FOCUS

Teacher: "I want you to look at the page and point to all the words on the page. I want you to look at the page and point to all the words on the page."

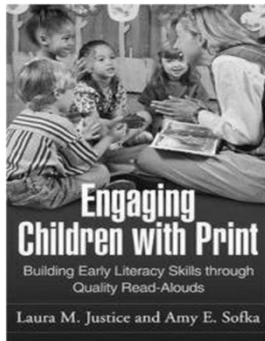
3) RECOGNIZE: EXPLANATION

Teacher: "I want you to look at the page and point to all the words on the page. I want you to look at the page and point to all the words on the page."

4) RECOGNIZE: EXPLANATION

Teacher: "I want you to look at the page and point to all the words on the page. I want you to look at the page and point to all the words on the page."

STAR: Sit Together and Read



53

Primary Outcome: Print Knowledge Composite

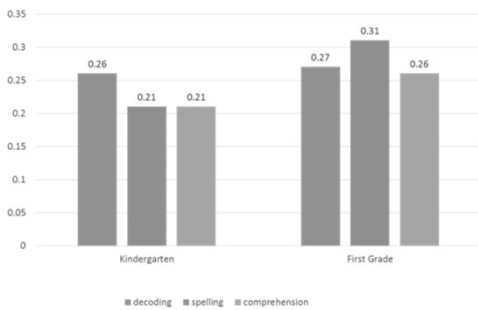
- Alphabet knowledge (PALS)
- Print concepts (PWPA)
- Name-writing (PALS)



54

Efficacy Research Head Start Study

Long-Term Effects
VIA (One and Two Year Follow-Up)
Referencing print has causal impacts on children's literacy skills



(Piasta, Justice et al., 2012)

55

Feasibility, Efficacy, and Social Validity of Home-Based Storybook Reading Intervention for Children With Language Impairment

Laura M. Justice,¹ Lori E. Skibbe,² Anko S. McGarity,² Shyrone B. Piasta,² and Stephen Powell³

Purpose: This study evaluated the feasibility, efficacy, and social validity of a parent-implemented intervention for promoting print knowledge in preschoolers with language impairment.

Method: This trial involved 62 children and their parents. Each child participated in a 12-week intervention program. Parents in the treatment group implemented print-focused reading activities in two comparison groups: treatment (print-focused) or control (phonological concepts [sound-focused] condition).

Results: Study parents reported the program was acceptable, but children were high (25% of families dropped out of the program). Children who participated in the treatment group demonstrated significantly greater gains on 1 of 2 measures of print knowledge compared with those in the picture-focused condition but not

the sound-focused condition. Parents generally reported favorable impressions of the program, although several aspects of the program received higher ratings from parents in the treatment group.

Conclusions: Study results raise questions about the feasibility of home-based interventions for young children. Future research that examines the characteristics of families that may affect compliance are needed. The causal effects of print-focused reading activities are promising for enhancing children's print concept knowledge but not alphabet knowledge. Home-based reading interventions have considerable social validity as a therapeutic approach.

Key Words: emergent literacy, language impairment, intervention

A s improved understanding of specific early indicators of reading problems has been a major scientific breakthrough of the last decade. Individual study results (e.g., Bowles, 1990; Catts et al., 1999; Snow & Whitehurst, 2002) as well as a meta-analysis (e.g., Hatcher, 2004; National Early Literacy Panel, 2008) have provided convincing evidence regarding the importance of children's early achievement in emergent literacy, including print knowledge and phonological awareness, to their later proficiency in reading acquisition and to academic success generally. Consequently, children who exhibit underdeveloped skills in emergent

literacy development in the years just prior to receipt of formal reading instruction face increased risks for having problems with acquiring skilled reading (Catts, Fey, Tomblin, & Pilling, 2002; Catts et al., 1999). By extension, these children are good candidates for early interventions designed to promote literacy development (e.g., Byrne & Fielding-Barker, 1991; Justice & Kraft, 2002; Lonigan & Whitehurst, 1998; Shaul & Bond, 2001). Nevertheless, research aimed at identifying approaches for intervening in the case of emergent literacy has lagged behind developmental research on this topic, most notably with numerous children who exhibit extreme vulnerability to emergent literacy development, such as children with language impairment (L.I.).

The present study contributes to a developing research literature concerned with identifying efficacious approaches for enhancing the emergent literacy skills of young children with L.I. Although intervention research that is focused on other aspects of emergent literacy is increasingly well-developed, particularly regarding phonological awareness (e.g., Gillis, 2000; Justice, Kaderavek, Bowles, & Catts, 2000; Rogers & Verhoeven, 2004), very few studies have focused on other key areas of

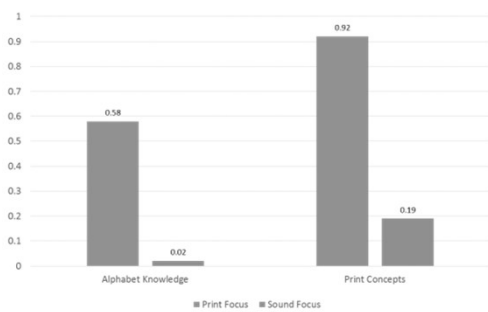
¹The Ohio State University, Columbus
²Michigan State University, East Lansing
³University of Virginia, Charlottesville
Correspondence to: Laura M. Justice, justice.97@osu.edu
Editor: James Osting
Associate Editor: Carol Klee
Received July 27, 2009
Revision received January 4, 2010
Accepted July 3, 2010
DOI: 10.1044/1093-4553(2010)010101.1

Journal of Speech, Language, and Hearing Research • Vol. 54 • 1–10 • April 2011 • © Association for Speech-Language and Hearing • 1

56

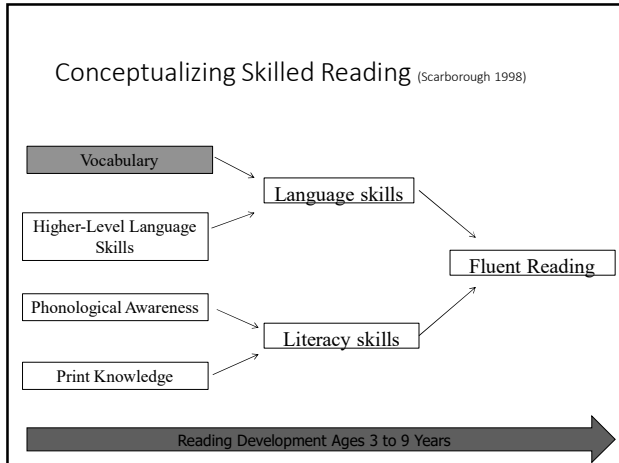
Efficacy Research Head Start Study

effect-size estimates
(relative to control)
Referencing print has causal impacts on children's literacy skills



Justice & Ezell, 2002

57



58

Supporting Children's Vocabulary Skills

Children's developing depth and breadth of word knowledge

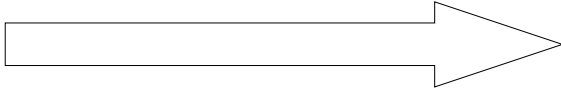
59

The Mental Lexicon

A central circle labeled "Blah" is surrounded by five components of a word: Meaning, Sound, Print, Grammar, and Morphology.

60

Words are learned in bits and pieces...



**I've never
heard it
before...**

**I've heard of it,
but I don't
know what it
means...**

**I recognize it,
it has
something to
do with...**

**I know it, it
means...**

61

	(1) I've never heard it before...	(2) I've heard of it, but I don't know what it means...	(3) I recognize it, it has something to do with...	(4) I know it, it means...
Variegated				
Apostle				
Malapropism				
Aesthetic				

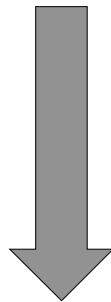
62

To Know A Word

- Shallow Knowledge
 - Fragile state – you don't have it yet!

(incremental)

- Deep Knowledge
 - Non-fragile state – you got it!



63

Robust Vocabulary Instruction

Repeated opportunities +

Highly informative encounters +

Targeting the “right” words

64

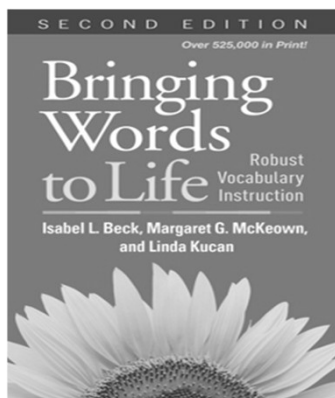
What words should we target for depth?

Many words
are **acquired**

Some words
should be
taught

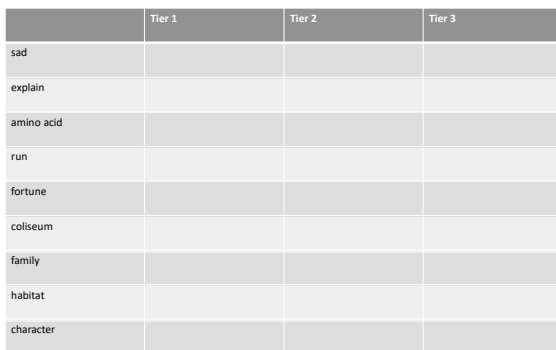
High-Utility Academic Words

65



66

What Tier?



- Power words
- Sparkle words
- Magic words
- General all-purpose academic words
- 50 center words

Finding Tier 2 Words

It was a beautiful day in paradise. Big Volcano was happy. Little Volcano was happy. Until... something unexpected happened.

(from *Don't Blow Your Top*)

70

SLP Targets for Vocabulary

first
second
third
last

hare
small
large
medium
sleigh

milk
toothbrush
coat
ketchup
thank you
spoon
ice cream

quarter
dime
penny
nickel
few
a lot
cents

bed
candles
sand castle
moon
umbrella
raft
towel

71

Research Report

The 'robustness' of vocabulary intervention in the public schools: targets and techniques employed in speech-language therapy

Laura M. Justice, Mary Beth Schmitt, Kimberly A. Murphy, Amy Pratt and Tricia Biancone
Ohio State University, Columbus, OH, USA

(Received May 2013; accepted October 2013)

Abstract

This study examined vocabulary intervention—in terms of targets and techniques—for children with language impairment receiving speech-language therapy in public schools (i.e., non-fee-paying schools) in the United States. Vocabulary treatments and targets were examined with respect to their alignment with the empirically validated practice of rich vocabulary intervention. Participants were forty-eight 5-7-year-old children participating in kindergarten or the first-grade year of school, all of whom had vocabulary-specific goals on their individualized education programmes. Two therapy sessions per child were coded to determine what vocabulary words were being directly targeted and what techniques were used for each. Study findings showed that the majority of words directly targeted during therapy were lower-level basic vocabulary words (87%) and very few (1%) were academically relevant. On average, three techniques were used per word to promote deep understanding. Interpreting findings against empirical descriptions of rich vocabulary intervention indicates that children were exposed to some but not all aspects of this empirically supported practice.

Keywords: vocabulary intervention, language impairment, speech-language therapy.

72

Integrating 'robust vocabulary instruction'
into speech-language interventions

73

Active ingredients:

1. Target several tier 2 words
2. Provide highly informative
elaborations of these words
in context
3. Ensure opportunities to
revisit/repeat

74

Robust Vocabulary Instruction: Guide

- Describe the story context for the word.
- Present the meaning in student-friendly wording.
- Ask students to say the word initially and several times across the remaining steps.
- Provide an example or two of the word in contexts other than the original context

Develop prompts for students to provide examples.

Now and then, do a spot check by asking "What's this word mean?"

75

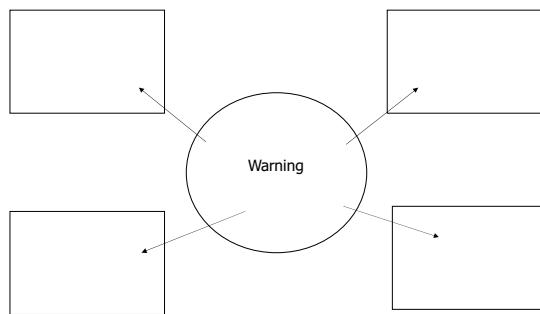
Elaborated Exposure: Target Deepened Knowledge

- **Tier 2 Word**
 - Transplant
 - Sprout
 - Uproot
- **Elaborated Exposure**
 - Identify the word
 - Define the word
 - Discuss related words
 - Use it in another sentence or context
 - Have children say the word

- **Meaning of the word**
- **Connections to other words**
(synonyms, related words)
- **Morphological inflections**
- **Syntactic role (part of speech)**
- **Phonological representation**
(how it sounds, related words)

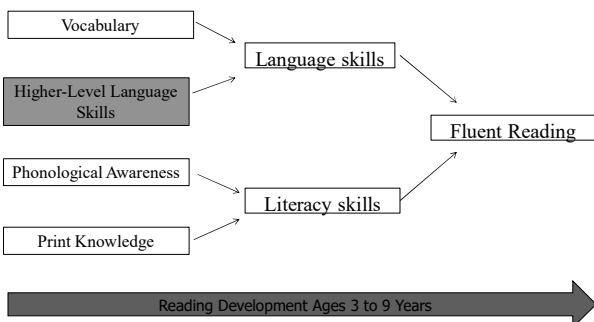
76

Graphic Organizers for Word Work



77

Conceptualizing Skilled Reading (Scarborough 1998)



78

Language Skills, Mental Models, &
Reading Comprehension

*Jacinta and Troy went to their
grandmother's house. They were at the
front door, when....*

Describe your **mental model** of
"grandmother's house"

79



80

Higher-Level Language Skills that Enrich
Mental Models & Reading Comprehension

✓ **Comprehension Monitoring**

✓ Inferencing

✓ Text Structure Knowledge

81

Comprehension Monitoring

- Active and ongoing assessment of the integrity of one's understanding
- Implementing repair (fix-up) strategies when comprehension is clunky



82

Scenario

- Student reading: *Leonardo was a terrible monster. ... He couldn't scare anyone.*
- SLP: *Who was Leonardo?*
- Student: *I don't know.*
- SLP: *Why was Leonardo a terrible monster?*
- Student: (no answer)

83

Explicit Teaching: Clicking and Clunking

- Is everything clicking right now? (Make sense?)
- Is anything clunking right now? (Doesn't make sense?)

Teaching Techniques

Read to Me – Comprehension Monitoring

TEACHING TECHNIQUES INTRODUCTION

Comprehension monitoring is the process by which skilled readers identify when they don't or can't understand something (e.g., a novel word, an idea presented by the author) and then attempt to "fix-up" that understanding.

SEQUENCE OF TEACHING SEQUENCE

I Do:

- 1) Model comprehension monitoring. Remind students to pay attention to the story elements (who the characters are, the inciting event, what the characters' goals are, and so on) or to the text structure of an expository text, as these will help them make sense of what they read.
- 2) Begin to read a text, stop periodically to model, asking yourself, "Is everything making sense? What doesn't make sense about what I just read?"
- 3) Model specific fix-up strategies that students can employ when the text doesn't make sense. Fix-up strategies could include the following:
 - Using pictures and content clues
 - Asking questions (younger children can ask the teacher)
 - Rereading a sentence that did not make sense
 - Rereading the sentence before and after the sentence that didn't make sense
 - Finding the meaning of a word or studying a word for clues to its meaning
 - Using graphic organizers to organize what is known

We Do:

- 4) Students should be encouraged to use signs or signals when they don't understand what is being read. The fix-up strategies can be displayed on a poster with reminders to students of different ways to address the gaps in understanding. Practice using these tools with students as you read together.

You Do:

- 5) As the students become more skilled in applying the strategy independently, they can work with peers to use the strategy or apply it on their own.

Close:

Remind students to stop periodically and ask themselves, "Does this make sense?" Encourage them to practice using fix-up strategies when parts of a text do not make sense.

(Reprinted/Reproduced)

84

Explicit Teaching: Clicking and Clunking

(Klingner & Vaughn, 1998)

Before Reading

- Preview
 - Brainstorm: What do we already know about the topic?
 - Predict: What do we think we will learn about the topic when we read the passage?

R E A D (the first paragraph or section)

During Reading

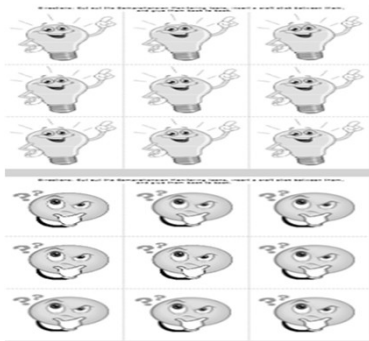
- Click and Clunk
 - Were there any parts that were hard to understand (clunks)?
 - How can we fix the clunks? Use fix-up strategies.
 - Reread the sentence and look for key ideas to help you understand the word.
 - Reread the sentence with the clunk and the sentences before or after the clunk looking for clues.
 - Look for a prefix or suffix in the word.
 - Break the word apart and look for smaller words.
- Get the Gist
 - What is the most important person, place, or thing?
 - What is the most important idea about the person, place, or thing?

R E A D (Do Steps 2 and 3 again, with all the paragraphs or sections in the passage.)

After Reading

- Wrap Up
 - Ask questions: What questions would show we understand the most important information? What are the answers to these questions?
 - Review: What did we learn?

85



Language and Reading Research Consortium

86

Explicit Teaching: Fix-Up Strategies

LET'S KNOW!

Fix-Up Strategies

Reread

Ask questions

Use picture clues

Ask what a word means

LARRC

87

Direct Teaching of Comp Monitoring

- 766 prek to grade 3 students
- Comprehension monitoring directly taught (among others)
- Most consistent, strong effect on comprehension monitoring (all grades)



88

THANK YOU! QUESTIONS?

Justice.57@osu.edu

89
