



The Science of Reading - What's Does It All Mean?

Pre-Workshop Survey

1. Literacy is a secondary system that depends on what primary system?

- motivation
- oral language
- visual cues
- fine and gross motor skills

2. Asking students to identify the number of syllables in the word *wrinkle* or the number of sounds in the word *flag* engages what language system?

- phonology
- morphology
- semantics
- syntax

3. Having students explore the base element meaning 'to build' in the words *construct*, *instruction*, and *destructive* engages what language system?

- semantics
- morphology
- phonology
- syntax

4. Asking students to provide a synonym for the word *thin* or to discuss the multiple meanings of the word *run* engages what language system?

- pragmatics
- syntax
- morphology
- semantics

5. Asking students to combine two simple sentences into one complex sentence engages what language system?

- phonology
- pragmatics
- semantics
- syntax

6. Orthography is the _____ system of a language.

- oral language or speech sound
- grammar
- written language or spelling
- pragmatic or social language

7. Which equation accurately represents the Simple View of Reading?

- word recognition + vocabulary = reading comprehension
- background knowledge x vocabulary = reading comprehension
- word recognition x language comprehension = reading comprehension

8. The National Reading Panel identified critical areas for effective reading instruction. Check all that apply:

- phonemic awareness
- phonics
- fluency
- vocabulary
- text comprehension

9. What is explicit instruction?

- instruction that explains concepts clearly and directly
- instruction that addresses a range of student needs
- instruction that follows a cumulative sequence
- instruction driven by student interests

10. During what phase of reading development do readers progress from slow, conscious decoding to more efficient sight recognition?

- pre-alphabetic
- partial alphabetic
- full alphabetic
- consolidated alphabetic



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Why focus on teacher knowledge?

- Every child has the right to read
- How we read affects perception of intelligence
- Educators have a responsibility to know how to teach reading
- Building a teacher knowledge base dependent on the science of reading is essential



**As teachers, we cannot teach
what we do not know.**



“... it might also be the case
that teachers do not know what they
do not know.”

- Cunningham, A. E., Perry, K. E., Stanovich, K. E., & Stanovich, P. J. (2004). Disciplinary knowledge of K-3 teachers and their knowledge calibration in the domain of early literacy. *Annals of Dyslexia*, 54, 139-167.



Specialized knowledge is necessary
for teaching
reading effectively



Specialized knowledge in areas such as...

- the developmental progression of word reading as well as all of the complexities of reading and language comprehension
- the structure of the English language
- the factors at play in both typical and atypical reading development
- effective instructional practices for each stage of reading development





Oral Language Provides the Foundation



Oral Language Systems

- Oral language provides the foundation for written language
- Literacy development depends on language competence at all levels
- Literacy is a secondary system, dependent on oral language as the primary system
- It is vitally important that teachers know a good deal about language

“Language is a human instinct, but written language is not... Children are wired for sound, but print is an optional accessory that must be painstakingly bolted on. This basic fact about human nature should be the starting point for any discussion about how to teach our children to read and write.”

- Pinker, foreword to McGuinness' *Why Children Can't Read And What We Can Do About It*, 1999



Orthography

Written or spelling system of a language

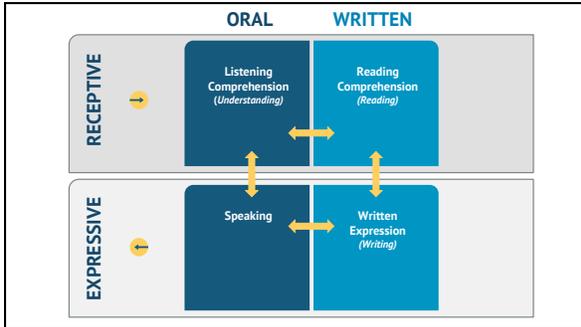


“There is a high correlation between overall language abilities and reading achievement.”

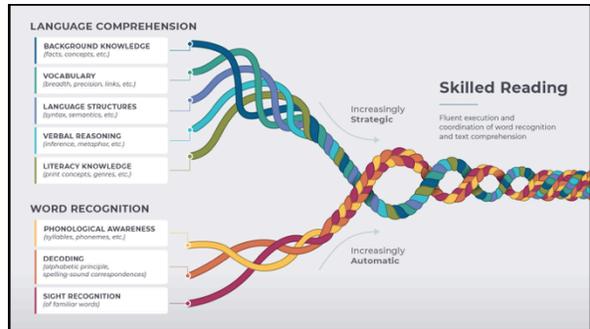
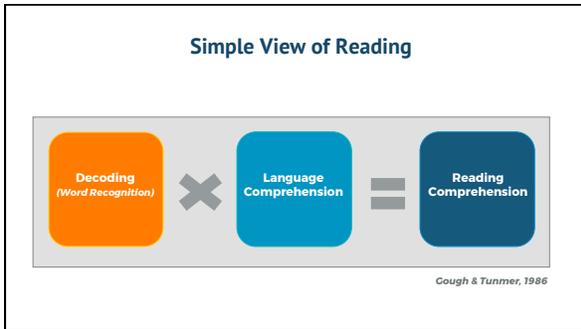
- Mehta et al., 2005



Connections Between Oral and Written Language




Theoretical Models of Reading




**The Principles of Structured Literacy
 Across the Phases of Reading Development**

What We Teach	How We Teach
<ul style="list-style-type: none"> Phonemic Awareness Phonics Fluency Vocabulary Comprehension 	<ul style="list-style-type: none"> Explicit Instruction Systematic & Cumulative Curriculum Differentiation Opportunities for Practice & Feedback Effective Instructional Strategies

Ehri's Phases of Word Reading Development

- Pre-Alphabetic Phase
- Partial Alphabetic Phase
- Full Alphabetic Phase
- Consolidated Alphabetic Phase



Pre-Alphabetic Phase



Partial Alphabetic Phase



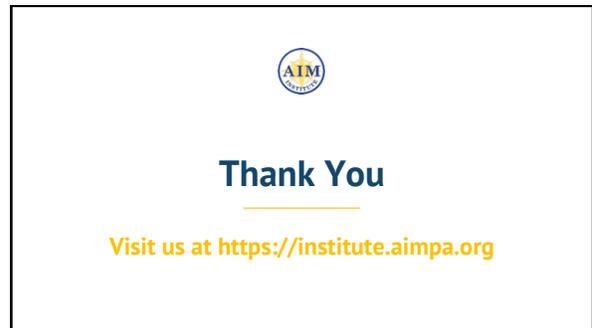
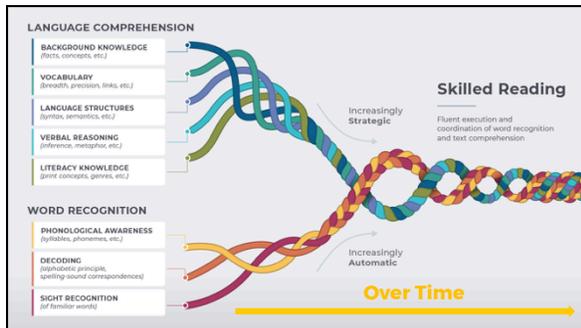
Full Alphabetic Phase



Consolidated Alphabetic Phase



PRAGMATICS	READING COMPREHENSION & WRITTEN EXPRESSION audience participation, use of dialogue, coherence cues, referential pronouns in text
SYNTAX	READING COMPREHENSION & WRITTEN EXPRESSION sentence comprehension and composition
SEMANTICS	READING COMPREHENSION vocabulary, figurative language
MORPHOLOGY	READING COMPREHENSION vocabulary WORD RECOGNITION morphological awareness, decoding, spelling
PHONOLOGY	WORD RECOGNITION phonological awareness, decoding, spelling
ORTHOGRAPHY (WRITTEN)	WORD RECOGNITION alphabetic principle, decoding, spelling patterns, syllable patterns



RECOMMENDED READING:

- Adams, M. J. (1990). *Learning to read: Thinking and learning about print*. Cambridge, MA: MIT Press.
- Birsh, J. R. (2011). *Multisensory Teaching of Basic Language Skills*. Baltimore: Paul H. Brookes Publishers.
- Dehaene, S. (2013). *Reading in the brain: The new science of how we read*. New York, NY: Penguin Books.
- Hougen, M. C. & Smartt, S. M. (2012). *Literacy instruction & assessment*. Baltimore, MD: Brookes Publishing.
- Kilpatrick, D. A. (2012). *Essentials of assessing, preventing, and overcoming reading difficulties*. Hoboken, NJ: J. Wiley,
- Moats, L. C. (2011). *Speech to print*. Baltimore, MD: Brookes Publishing.
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- Wolf, M. & Stoodley, C. J. (2007). *Proust and the squid: The story and science of the reading brain*. New York, NY: HarperCollins.