

Early Reading Failure: Catch Them If We Can

Illinois CEC
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Topics

- A review of the factors that can affect the development of basic reading skills
- An overview of how basic reading skills develop
- The importance of matching the selection of interventions to the developmental levels

Many students who struggle with reading have poor phonological awareness and difficulty connecting sounds to print which results in slow word perception, a delay in developing instant word reading, and poor spelling.

The Two Most Important Phonological Awareness Abilities

- **Sound blending:** provides the basis for learning phonics
- **Segmentation:** provides the basis for sequencing sounds when spelling

Other Factors Besides Phonological Awareness Can Affect Reading Development

Attention

Orthography (recall of spelling patterns)

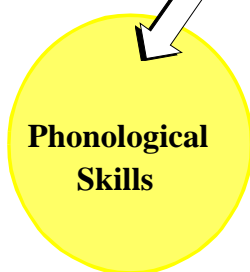
Rapid automatized naming (RAN) (quick naming of colors, objects, letters, digits)

Processing speed (visual scanning speed)

Working memory (recalling and rearranging stimuli)

Word retrieval (access to stored vocabulary)

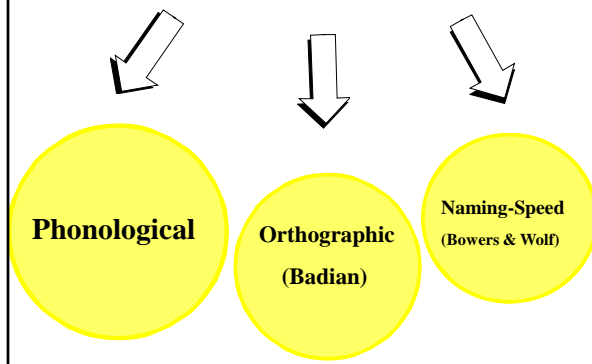
Double-Deficit Hypothesis



“The term, double deficit, emerged as a concrete metaphor to convey at once the critical blow that the combination of both deficits represents. Just as naming-speed skills predicted word identification, and phonological skills predicted word attack, deficits in both variables would impede both aspects of reading, leaving no compensatory route easily available.” (p.13)

Source: Wolf, M. (1999). What time may tell: Towards a new conceptualization of developmental dyslexia. *Annals of Dyslexia*, 49, 3-27.

Triple-Deficit Hypothesis



Phonology and Orthography

Phonology: the sounds of a language

Orthography: the marks of a writing system, including the spelling patterns

Dyslexia can be caused by problems in phonology or orthography or both.

Definitions

Orthographic: the visual representations specific to words (not visual-spatial skills)

Orthographic coding: Representing a printed word in memory and accessing the whole word, a letter cluster, or a letter.

Orthographic image: Representation of a specific written word in memory .

Source: Berninger, V. W. (1996). *Reading and writing acquisition: A developmental neuropsychological perspective*. Boulder, CO: Westview Press.

Poor Orthographic Processing

- Reverses letter and numbers
- Has difficulty learning how to form letters
- Has trouble copying
- Has trouble remembering sight words
- Confuses low-image words (e.g., of and for)
- Confuses similar-looking letters and words
- Spells phonetically and violates rules of English spelling
- Has a slow reading rate and poor spelling into adulthood



In describing an intelligent 14-year old boy:

“He seems to have no power of preserving and storing up the visual impression produced by words - hence the words, though seen, have no significance for him. His visual memory for words is defective or absent; which is equivalent to saying that he is what Kussmaul has termed “word blind.” I may add that the boy is bright and of average intelligence in conversation...The schoolmaster who has taught him for some years says that he would be the smartest lad in the school if the instruction were entirely oral.” (p. 94).

-Pringle Morgan (1896)

What is Rapid Automatized Naming (RAN)?

Measures response time or rapid retrieval for a visual stimulus (objects, colors, letters, or numbers or a combination)

6 8 9 6 4 9 3 6 9 4

8 1 3 9 6 8 4 3 1 9

What Do Rapid Naming Tests Appear to Measure?

1. Ability to sustain attention to process and name the symbols.
2. Ability to name and discriminate among the symbols.
3. Ability to retrieve verbal labels rapidly.
4. Ability to articulate words rapidly.

What Do We Know about Rapid Naming?

1. Appears to be distinct from phonology.
2. Predicts word-reading accuracy and speed.
3. Predicts irregular word reading better than non-word reading.
4. Predicts poor reading across the lifespan.

Slow RAN performance is more related to reading speed than reading accuracy (Georgiou et al., 2008).

In a recent summary regarding RAN findings, Abu-Hamour (2009) reported that:

- (a) RAN letters and then numbers are the strongest predictors of both reading and spelling;**
- (b) RAN appears to be distinct from phonological awareness and accounts for independent variance in word reading;**

Abu-Hamour, B. (2009). The relationships among cognitive ability Measures and irregular word, non-word, and word reading. Unpublished doctoral dissertation, University of Arizona, Tucson.

- (c) the contribution of RAN is larger for younger readers and readers with more severe disabilities;**
- (d) pause time is significantly correlated with reading accuracy and fluency, whereas articulation time is not;**
- (e) RAN is most highly related to speeded measures of reading; and**
- (f) RAN is a good predictor of orthographic skills, but not non-word reading skills.**

“...this new conceptualization of reading disabilities was ironically, named too quickly. To be sure, double deficit captures the phenomenon of study--that is, the importance of understanding the separate and combined effects of two core deficits--but it fails miserably in redirecting our simultaneous attention as a field to the entire profile of strengths and limitations manifest in children with reading disabilities. Only when we develop truly multi- dimensional models of deficits and strengths will our diagnostic and remedial efforts be best matched to individual children” (p.23).

Source: Wolf, M. (1999). What time may tell: Towards a new conceptualization of developmental dyslexia. *Annals of Dyslexia*, 49, 3-27.

“The history of dyslexia research, the heterogeneity of our dyslexic children, and the very complexity of the reading process argue against any single-factor, two-factor, or even three-factor explanation (p. 5).”

Source: Wolf, M. (1999). What time may tell: Towards a new conceptualization of developmental dyslexia. *Annals of Dyslexia*, 49, 3-27.

People who study the correlates of reading must distinguish between predictors and requisite abilities (i.e., indispensable parts)

Hammill, 1999,
personal communication



Processing Speed

Involves the serial scanning of print

Can be related to poor attention, slow RAN, poor orthography, inefficient visual tracking

Appears related to the development of automaticity with basic skills

Strategies for Word Identification

- 1. By segmenting and blending sounds.**
- 2. By pronouncing common spelling units (e.g., syllables).**
- 3. By recognizing sight words from memory.**
- 4. By creating analogies to known words.**
- 5. By using context cues to predict words.**

Skilled Reading

The key to efficient text reading is automaticity (the ability to read words by sight automatically). Allows readers to process words in text quickly w/o conscious attention to words. All other cuing systems require conscious attention.

Ehri, L. C. (1998). Grapheme-phoneme knowledge is essential for learning to read words in English. In J. L. Metsala & L. C. Ehri (Eds.), Word recognition in beginning literacy (pp. 3-40). Mahwah, NJ: Lawrence Erlbaum.

Phases of Sight Word Development

Pre-Alphabetic Phase

Partial Alphabetic Phase

Full Alphabetic Phase

Consolidated Alphabetic Phase

Ehri, L. C. (1998). Grapheme-phoneme knowledge is essential for learning to read words in English. In J. L. Metsala & L. C. Ehri (Eds.), Word recognition in beginning literacy (pp. 3-40). Mahwah, NJ: Lawrence Erlbaum.

Pre-Alphabetic Phase

Makes connection between salient visual cues and word meaning

Does not use letter-sound relations to aid in word identification

Partial Alphabetic

Makes connections between some of the letters and sounds

Relies more on first and final sounds

Lacks full knowledge of alphabetic system, particularly vowels

Reads same word inconsistently and confuses words with similar letters (e.g., cap and camp)



Full Alphabetic

Has complete connections between letters and phonemes

Can decode words never read before by segmenting and blending letters

Remembers how to read sight words

Consolidated Alphabetic

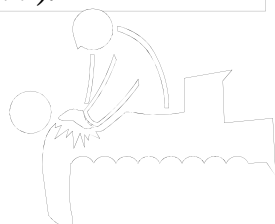
Recognizes larger letters units instantly
(e.g., morphemes, syllables, onset/rimes)

Has consolidated units in memory
(e.g., -est, -tion, -ing, -le)

Is sensitive and recalls spelling patterns
observed in words

Reads words rapidly and easily

*“...lower level language mastery is as essential for the literacy teacher as anatomy is for the physician”
(Moats, 1994, p. 99).*



As teachers we need to know...

How an alphabetic orthography represents our language.

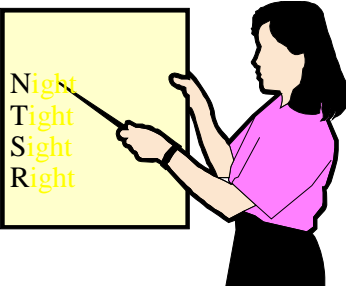
Why beginning readers need to understand how phonological structure relates to orthography.

Why it is hard for some children to achieve this Understanding.

-Lieberman, Shankweiler, & Liberman (1990)

Formal Reading Instruction

- Direct
- Structured
- Systematic
- Repetitious
- Controlled
- Intensive



The illustration shows a female teacher in a pink shirt and black skirt pointing with a stick to a yellow board. The board lists four words: Night, Tight, Sight, and Right, each with a different letter highlighted in yellow to show phonics.

“Decoding is at once the least and yet the most important aspect of reading...”

-Gerald Glass, 1973

The most effective instruction includes:

- Activities to build phonemic awareness
- Instruction in letter-sound correspondences (phonics)
- Guided oral reading (reading aloud with feedback)
- Strategies for vocabulary acquisition
- Application of reading comprehension strategies

www.nationalreadingpanel.org

National Reading Panel

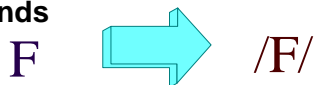
1. teach children how to manipulate the sounds in words (phonemic awareness)
2. teach them how these sounds can be written with letters and then blended together to form words (phonics)
3. have them read aloud with guidance and feedback (guided oral reading)
4. teach vocabulary and how to apply reading comprehension strategies

National Reading Panel Conclusions about Phonemic Awareness

Can be taught explicitly
No more than 20 hours of instruction per year (5-18 hours)
Focus on one skill at a time
Most effective when combined with letters
Most effective with instruction in small groups

The Alphabetic Principle

The systematic use of alphabetic letters to represent speech sounds






grapheme

phoneme

How speech sounds map to print

Adapted Elkonin Procedure (Pre-Alphabetic)

1. Select a simple line drawing. 
2. Place a rectangle for a word under the drawing divided into squares equal to number of phonemes. 
3. Say the word slowly and push a marker forward for each sound. 
4. Color-code markers for vowels and consonants.



5. Progress to letter tiles.



Talk-to-Yourself Chart

(Adapted from Benchmark School, Gaskins)

1. The word is _____.
2. When I stretch the word, I hear _____ sounds.
3. There are _____ letters because _____.
4. The spelling pattern is _____.
5. This is what I know about the vowel: _____.
6. Another word I know with the same vowel sound is: _____.
7. Other words that share this same spelling pattern are: _____.

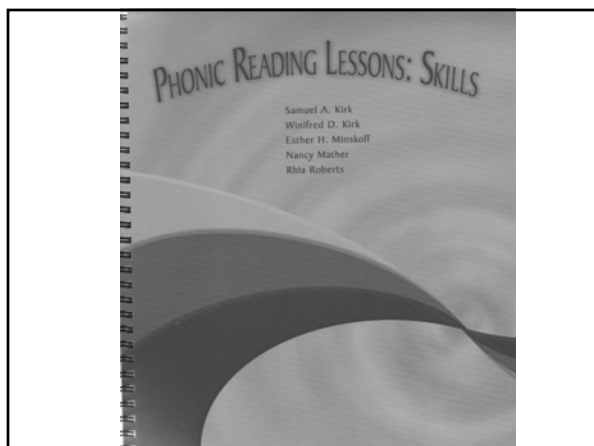
1. The word is *right*.
2. When I stretch the word, I hear 3 sounds.
3. There are 5 letters because it takes *i-g-h* to represent the *i* sound.
4. The spelling pattern is *ight*.
5. This is what I know about the vowel: the vowel is the only vowel in the word and it says its own name.
6. Another word that I know with the same vowel sound is: *ride*.
7. Other words that share this same spelling pattern are: *light, fight, flight, right, night, might, tight, sight, fright, plight, height*

National Reading Panel review concluded that Synthetic Phonics approaches are the most effective for students with reading disabilities

- Teach sounds in isolation
- Provide practice blending sounds into words
- Introduce graphemes, place emphasis on learning how to blend and break words into their basic parts

Examples of Effective Synthetic Phonics Programs

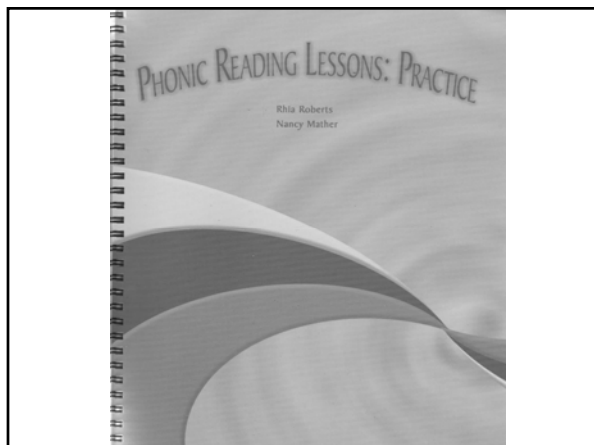
- Wilson Reading System, Foundations Just Words
- Stevenson Language Program
- Phonic Reading Lessons
- Spalding Method
- Corrective Reading
- Lindamood Phonemic Sequencing Program for Reading, Spelling, and Speech
- Slingerland
- Orton-Gillingham



Scope and Sequence of Phonic Reading Lessons

- Unit I: Short vowels, CVC words
- Unit II: CVCe and consonant digraphs
- Unit III: Consonant blends and digraphs
- Unit IV: R-controlled vowels, vowel digraphs
- Unit V: Common word endings and spelling rules
- Unit VI: Alternative pronunciations and spellings
- Unit VII: Prefixes
- Unit VIII: Suffixes
- Unit IX: Latin roots
- Unit X: Greek roots

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Principles of Effective Phonics Instruction

- 1. Emphasis on phonological awareness activities.**
- 2. Instruction in decoding (grapheme to phoneme)**
- 3. Instruction in encoding (phoneme to grapheme)**
- 4. Application of strategies to decodable text.**

Characteristics of Decodable Text

Can pronounce the words accurately by applying phonics.

New sounds are introduced systematically with careful review of previously learned sounds.

Exception words are introduced slowly with considerable review.

Glass Analysis Method

Easier to Learn, Box 329, Garden City, NY 11530

- Identify the whole word and the letters and sound of the target cluster
- Give the sound(s) and ask for the letter or letters
- Give the letter or letters and ask for the sound(s)
- Take away letters and ask for the remaining sound
- Say the whole word

Steps in Glass Analysis

1. The word is carpenter.
2. What letters make the /er/ sound? The /ar/ sound? The /car/ sound?
3. What sound does the letters "ar" make? "ter"? "en"?
4. Say carpenter without the /c/ sound. Say carpenter without the /ter/ sound.
5. The word is carpenter.

How Fast is Fluent Reading?

- End of first grade: 60 wpm
- End of second grade 85-100 wpm
- End of third grade 100-120 wpm
- End of fourth grade 105-130 wpm
- End of fifth grade 130-140 wpm

Interventions for Reading Fluency

- Rapid Word Recognition Chart
- Speed Drills
- Repeated Readings
- Books on CD
- Great Leaps

Great Leaps Reading (Mercer & Campbell, 1997)

Divided into three major areas:
Phonics: sounds in isolation to cvc, cvvc, cvce patterns

Sight Phrases

Stories
K-2 has a Sound Awareness section

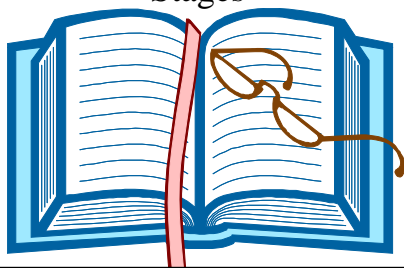
Daily timing (one-minute) and charting

Source: 1-877-GRLEAPS or www.greatleaps.com

Students who struggle to learn to read need methods that provide...

- structure
- explicit teaching
- feedback
- repetition
- practice

Different People require
Different Approaches at
Different Developmental
Stages



Instructional Activities:
Developmental Levels

- Prealphabetic: phonological awareness, Elkonin boxes, letter/sound activities
- Partial alphabetic: phonics, word building activities
- Full alphabetic: structural analysis, chunking by syllables
- Consolidated alphabetic: fluency and rate

Move from Phonological Awareness to Print

Teach segmentation (necessary for spelling) and blending (necessary for reading).

Teach sounds and then how the sounds are spelled with letters (e.g., Elkonin boxes, phoneme-grapheme matching).

Progress from regular patterns (e.g., CVC) to more complex patterns.

Introduce and review words with irregular elements.

Moving from Partial to Full Alphabetic

Methodologies:

Phonics Approach

Multisensory Approach (e.g., Fernald)

Multisensory Phonics Approach (e.g., Orton-Gillingham)

Examples of Phonics Methods that Were Designed for Struggling Readers

Orton-Gillingham

Slingerland

Recipe for Reading

Spalding Approach

Lindamood Phoneme Sequencing Program (LIPS)

Wilson Reading System (Foundations K-2)

Phonic Reading Lessons

Moving from Full Alphabetic to Consolidated
Emphasis is on structural analysis
Glass-Analysis Approach
Six Syllable Types
REWARDS (Archer, Gleason, & Vachon, Sopris West) (multisyllabic words and reading fluency).
Intermediate and secondary www.sopriswest.com

Morphology (Henry & Redding, PRO-ED)
[Patterns for success in reading and spelling](http://www.proedinc.com)
www.proedinc.com

Elements of Effective Reading Instruction

Provide systematic, explicit instruction
Move from phonological awareness to phonics to fluency
Ensure mastery of high frequency and irregular words
Employ multisensory techniques when needed
Provide emotional support

Conclusions Regarding Early Reading Instruction

Effective instruction plays a critical role in development
Early, intensive interventions are important
Instruction must be adjusted based upon a student's needs

Training in processes without academic content is ineffective
The most effective methods are explicit and intensive
No single approach works with all students
Even “evidence-based” methods fail to work with certain students.

Adapted from:

Fletcher, J. M., Lyon, G. R., Fuchs, L. S., & Barnes, M. A. (2007). *Learning disabilities: From identification to intervention*. New York: Guilford Press.
