Phonemic Awareness

Jan Hasbrouck, Ph.D.
Phonemic Awareness
Components of Reading

Scarborough, 2001

Definitions

Phonological Awareness:
• an umbrella term that includes both awareness of words at the phoneme (or sound) level and awareness of larger units such as syllables and onset/rime in spoken words.

Phonemic Awareness:
• the conscious awareness of and ability to NOTICE, IDENTIFY & ultimately MANIPULATE the sequence of sounds in words in spoken language.
Definitions

Phonological “Sensitivity” (Brady, 2020):
• Awareness of the larger and more noticeable units of speech sounds in spoken words such as rhymes, onsets, and syllables. Generally acquired before phoneme awareness without explicit instruction. Often focus of Kindergarten practice.

Phonemic “Proficiency” (Kilpatrick, 2016)
• Emerging research suggests proficiency in phoneme awareness skills essential for building large and continuously expanding sight vocabulary (orthographic mapping).
Research

• Alvin & Isabel Liberman 1970s

• “Alphabetic principle” – symbols representing speech must be understood for skillful reading.

• Examined why reading is more difficult than speech perception. Discovered that children who fail to learn to read on schedule lack awareness of phonemes.

• Deaf vs blind children.
Patterns of brain activation change in response to instruction & intervention—Simos et al. (2002) *Neurology*

- 8 children with severe dyslexia
- 8 week intense phonological/phonemic intervention
- 2 hours a day = up to 80 hours of instruction
- Ages 7-17 years old
- Test + scan pre/post
Research

15 year-old

10 year-old

Right  Left

Right  Left
Purpose of Phonemic Awareness

• Reading print requires understanding that sound units in spoken language are represented by symbols.

• PA maximizes the ability to orthographically map words (create and store “sight words”).

• Sight words essential for reading fluency, which is essential for comprehension.
Purpose of Phonemic Awareness

• Reciprocal benefits of PA & phonics.

• Weak phoneme awareness is *the most common reason* students struggle with reading, writing, and spelling.

• Major indicator of possible dyslexia.
Skill Progression

• Continuum of typical skill development:
  – Age 4-5
    • Recognize rhyme
    • Clapping/counting syllables
  – Age 5 ½
    • Produce rhyme
    • Isolate beginning sounds

http://www.readingrockets.org/article/development-phonological-skills
Skill Progression

– Age 6
  • Blend and segment words with 2-3 phonemes
  • Syllable deletion

– Age 6½
  • Segment words with 3-4 phonemes including blends
  • Phoneme substitution to build new words
Skill Progression

–Age 7
  • Phoneme deletion initial & final positions
–Age 8
  • Phoneme deletion initial position including blends
–Age 9
  • Phoneme deletion (medial & final positions)
Assessing PA: Rationale

• Prediction of later reading success by both early PA & letter sound knowledge verified by several longitudinal studies.

• Skill weakness or deficits can be remediated.
Assessing PA: Process

• Yopp-Singer Test of Phoneme Segmentation 22 items; 2-3 phoneme words

• Phonological Awareness Screening Test (PAST)
  52 items; syllable, onset-rime, phoneme deletion & substitution (advanced)  www.thepasttest.com

• Comprehensive Test of Phonological 2nd Ed. (CTOPP-2)

• Test of Phonological Awareness in Spanish (TPAS)
Teaching PA

• “…gaining phoneme awareness appears to require instruction.” Brady, 2020 p. 21

• Focus instructional time & efforts on mastery PHONEME awareness over PHONOLOGICAL awareness or sensitivity.

• Systematic & explicit instruction:
  – Scope & sequence
  – I do/ we do/ you do
PA Instruction

• RHYMING  man can?  man mad?

• COMPARISON  man man?  sad Sam?

• BLENDING  sssssaaaaaaamm: Sam

  modeling continuous blending more effective

• SEGMENTING  Sam:  /s/  /a/  /m/
PA Instruction

• ISOLATION beginning? /s/ middle? /a/ end? /m/

• EARLY DELETION “Sam” without the /s/: am; “mat” without the /at/: /m/

• EARLY SUBSTITUTION cat → sat

• ADVANCED DELETION be(s)t → bet

• ADVANCED SUBSTITUTION li(f)t → li(s)t
PA Instruction

Sound Boxes
Draws attention to individual phonemes

Or fingers, popsicle sticks, pencils…
Say the sounds in “mad”
PA Instruction

Blending

/m/ /a/ /d/ = What word?
PA Instruction

Substitution

Change /d/ to /n/
PA Instruction

Tap it, Map it, Zap it

– Tap sounds in a word.
– Place a marker for each sound.
– Use finger to show blending sounds.
– Use bingo wand to zap up the markers/sounds, from left to right.

FROM: Fifty Nifty Activities  Judi Dodson
PA Intervention Materials

• Phonemic Awareness English & Spanish
  Michael Heggerty
  www.literacyresourcesinc.com

• Equipped for Reading Success
  David A. Kilpatrick

• Phonemic Awareness in Young Children
  Adams et al.
PA Intervention Materials

• Lindamood Phoneme Sequencing (LiPS)  
  www.listening-ears.com

• K-PALS & Grade 1 PALS  
  www.learningstore.org

• SPELL-Links to Reading & Writing
PA Intervention Materials

• Lindamood Phoneme Sequencing (LiPS)  
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  www.learningstore.org

• SPELL-Links to Reading & Writing
Thank you!

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Systematic Phonics

Jan Hasbrouck, Ph.D.
Components of Reading

The many strands that are woven into skilled reading include:

- **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 involves:

- Fluently executed and coordinated word recognition and text comprehension.

Scarborough, 2001

Definitions

Phonics:
• The relationship between the SOUNDS of SPOKEN language (phonemes), and the way those sounds are represented by SYMBOLS-- letters, groups of letters (graphemes), syllables in the WRITTEN language (orthography).

“Alphabetic Principle”– necessary for proficient reading
The Reading Ladder

The Ladder of Reading

© N. Young, 2012 (Updated 2020)
Artwork by Dean Stanton
Lyon, 1998; NRP, 2000; IDA, 2015; Hempenstall, 2016

www.nancyyoung.ca

Used with permission
Definitions

Systematic

- SCOPE of skills & content
- SEQUENCE useful skills first; easy-to-hard; separate confusions
- Frequent REVIEWS

Explicit

- DEMONSTRATION/MODELING “I do”
- GUIDED PRACTICE “We do”
- INDEPENDENT PRACTICE “You do”
Definitions

Synthetic

– Teaching *individual sounds*, graphemes directly; teaching blending directly. “Sound it out”.

Analogy

– Teaching via *patterns*: “This word has the same beginning sound as “moon” and “monkey” and the same ending sound as “sad” and “hid”. This word is “mud”.


Newer research: Synthetic better.
Definitions

Decodable Text

– High proportion of words with *phonetically regular relationships* between letters and sounds.

– Close match between the letter/sound relationships represented in text and those the reader has been taught.
“...human beings were never born to read.”

Dr. Maryanne Wolf
Reader Come Home (2018)
Research

- Decoding Processor
- Orthographic Processor
- Meaning Processor
- Phonological Processor
Research

• Beginning readers *taught* LETTER SOUND RELATIONSHIPS instead of trying to learn whole words as images, increase brain activity in the area best wired for reading.

• Brain responses to newly learned words influenced by HOW they were learned (systematic, explicit, synthetic)
Research

• Using DECODABLE text in early stages of learning to read provides opportunities for appropriate application/practice which STRENGTHENS NEURAL CONNECTIONS for automaticity and fluency.
Purpose of Phonics

• “Breaks the code” of the speech-to-print process.

• Connects “language comprehension” with “word recognition”.

• Lays the cognitive foundation for “statistical learning” or “self-teaching”.

Phonics Instruction

• All phonemes (PA- auditory)

• Phoneme-grapheme representation (phonics)

• Orthographic (spelling) patterns

  ee   meet       ie chief
  e    me        ey    key
  ea   meat      ei   receive
  y    funny     eo   theory
  oe   Phoebe    ae  archaeologist
  ix   Grand Prix
  i    variation
Phonics Instruction

• All phonemes (PA).

• Phoneme-grapheme representation (phonics).

• Orthographic (spelling) patterns; connect decoding with encoding.

• Morphology (meaningful units of language: base, roots, affixes).
Assessing Phonics

• Letter names

• Letter sounds

• Decoding CVC real & nonsense

• Decoding more complex word types (blends, digraphs, multisyllable)

• Encoding (spelling)
Assessing Phonics: Process

• Screener
  • DIBELS 8th Edition
  • Acadience
  • easyCBM
  • AIMSweb
  • others

• Diagnostic
  • Quick Phonics Screener with spelling survey (QPS-3rd edition)
  • CORE Phonics Survey
  • others
Teaching Phonics

• Teach HIGH-UTILITY sounds; move from “sounds” to “words” quickly to support comprehension.

• Consider speech-to-print format.

• Teach sounds CORRECTLY (continuous blending; “clip” stop sounds). /mmmm//aaaaaa//t/ not /m/ /a/ /t/

• Systematic & explicit instruction.
Teaching Phonics

• Speech-to-print with multimodality practice

  – **ORAL**: Say “mug”

  – **MEANING**: What is a “mug”? etc.

  – **PA** with kinesthetic: How many syllables in “mug”? (students clap)

  – **SEGMENTING** oral with kinesthetic: (My turn; do it with me; your turn) How many sounds in “mug”? (students clap). Let’s say the sounds in “mug”. (hold up 3 fingers, popsicle sticks; sound boxes)
Teaching Phonics

• Speech-to-print, *continued*…

  – **BLENDING**: What word?

  – **PA ➔ PHONICS**: What SOUND do you hear at the beginning of “mug”? Last sound? Middle Sound? What LETTER represents the /m/ sound?

  – **KINESTHETIC**: Write a “m” on your whiteboard; “u”; “g”

  – **DECODING oral**: Read the word you wrote.

  – **ADVANCED PA**: Erase the “g” and write a “d”. Read the word.
Phonics Intervention Materials

AVOID “phonics patch”; COMPREHENSIVE Structured Literacy programs best

• K-PALS & Grade 1 PALS
• SPELL-Links to Reading & Writing
• Phonics for Reading (gr. 3-12+)
• many others
Thank you!

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Components of Reading

THE MANY STRANDS THAT ARE WOVEN INTO SKILLED READING

LANGUAGE COMPREHENSION
BACKGROUNDF 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.)

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

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

Scarborough, 2001

Acknowledgements

David Kilpatrick
• Essentials of Assessing, Preventing, and Overcoming Reading Difficulties (2015)

Lyn Stone (Lifelong Literacy; @lifelonglit)
• Spelling for Life: Uncovering the Simplicity and Science of Spelling (April 2021)

Linnea Ehri and David Share
Definitions

Sight Words

• Common usage:
  – Words spelled using irregular phoneme/grapheme patterns ("eye", "one", "have", "was", "of", etc.).
  – Words that must be learned by looking at the word and simply memorized as a whole.

• Research-grounded definition: Any previously learned word recognized instantaneously, precognitively by a reader.
Definitions

Sight Words

Lyn Stone:
Once a reader has a word in their sight word vocabulary, they cannot suppress its sound and possible meanings when they come to that word again.

Having a robust sight word vocabulary is necessary for fluent reading.
Definitions

Irregular word: The graphemes (letters) used to represent the phonemes (sounds) are not the most commonly-use…or not yet learned.

Temporary ("much") vs permanent irregular words ("was")

High-frequency word: Those words that appear most commonly in everyday usage. Some are irregular but most are not.

Dolch, Fry
# Definitions

<table>
<thead>
<tr>
<th>Word</th>
<th>Dolch Frequency Rank</th>
<th>Fry Frequency Rank</th>
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<tbody>
<tr>
<td>the</td>
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<td>4</td>
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<td>of</td>
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<td>2</td>
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</table>
Definitions

“Irregular” and “high frequency” are characteristics of the WORD.

A word is (or is not) a “sight word” for an INDIVIDUAL READER.

Glomerulonephritis
Purpose of Sight Words

The many strands that are woven into skilled reading

Language Comprehension
1. Background Knowledge (facts, concepts, etc.)
2. Vocabulary (breadth, precision, links, etc.)
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4. Verbal Reasoning (inference, metaphor, etc.)
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Skilled Reading: Fluent execution and coordination of word recognition and text comprehension.

Word Recognition
1. Phonological Awareness (syllables, phonemes, etc.)
2. Decoding (alphabetic principle, spelling-sound correspondences)
3. Sight Recognition (of familiar words)

Scarborough, 2001

Research

• Linnea C. Ehri


Orthographic mapping: MENTAL PROCESS used to STORE words for immediate, effortless retrieval. Facilitated by strong PA and decoding skills and vocabulary.
Research

• David L. Share


Theory that the process of *sounding out unfamiliar* words directs attention to the word’s spelling pattern. The brain takes note of recurring PATTERNS and applies that to future word analysis. 1st identified in human infant language acquisition. “Statistical learning.”
Research

• David A. Kilpatrick (“pulling back the curtains”)
  
  (2015). *Essentials of Assessing, Preventing, and Overcoming Reading Difficulties*  
  
  Chapter 4: Understanding Word Recognition Difficulties  

(2016). *Equipped for Reading Success: A Comprehensive, Step-by-Step Program for Developing Phoneme Awareness and Fluent Word Reading*
Assessing Sight Words

• Check knowledge of Fry or Dolch lists.
• San Diego Quick (Graded lists of words from early Gr. 1 to Gr. 11).
• Oral passage reading: patterns of errors, hesitations.

WEAK / BELOW BENCHMARK? Diagnostic assessments
PA, basic phonics, language
Teaching “Sight Words”

Linda Farrell, Michael Hunter, Tina Osenga, Readsters LLC
Teaching “Sight Words”

https://www.readingrockets.org/article/new-model-teaching-high-frequency-words

“Flash Words”: High-frequency words that are regularly spelled and thus decodable—over time.

138 words (63%) on Dolch 220 List are decodable after common spelling patterns have been taught:

- VC [am], CVC [cat; dog], digraphs [ship; that], blends [slap; frog], -ng/-nk [sink; long]
Teaching “Sight Words”

https://www.readingrockets.org/article/new-model-teaching-high-frequency-words

60 single-syllable words with more advanced vowel spelling patterns:

- r-controlled [cart];
- CV long vowel [so, me];
- VCe [ride];
- Vowel teams (long vowels) [greet; boat];
- Vowel teams (other) [how; new]
Teaching “Sight Words”

https://www.readingrockets.org/article/new-model-teaching-high-frequency-words

17 two-syllable words and 1 three-syllable word
Teaching “Sight Words”

https://www.readingrockets.org/article/new-model-teaching-high-frequency-words

“Heart Words”

Some PART of the word must be “learned by heart” [said, one, where]

Dolch 220 List:

82 Heart Words (37%); 37 not grouped by spelling pattern
### Teaching “Sight Words”

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<th>Word</th>
<th>Frequency</th>
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<td>what</td>
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<td>their</td>
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</tbody>
</table>

The word **said** is missing from the table.
Components of Reading

Scarborough, 2001


Scarborough, 2001
Thank you!

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