

The Cart vs. the Horse: How Phonological Awareness and Phonics Lay the Foundation for Proficient Reading

Laura S. Tortorelli
Michigan State University

Assistant Professor of Elementary Literacy at Michigan State University



Introducing myself



Research interests

- alphabet knowledge
- phonological awareness
- early writing
- word study
- reading fluency

Teaching and professional development partnerships in:

- East Lansing
- Grant
- Flint
- Ottawa ISD
- Muskegon ISD
- Oakland ISD

How do children learn to read and write?

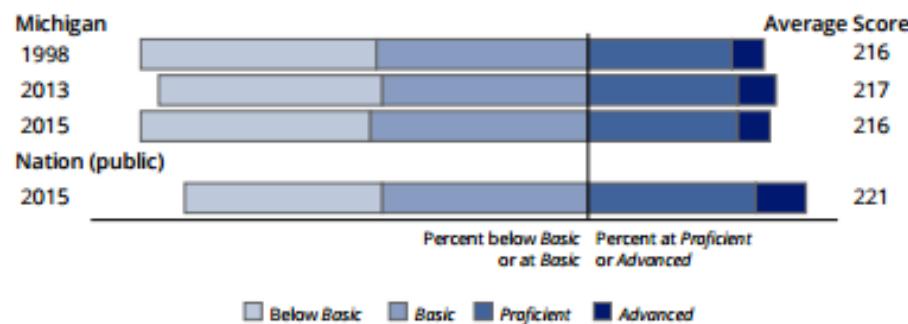


A black outline map of the state of Michigan, showing both the Upper and Lower Peninsulas. The map is positioned in the background of the slide.

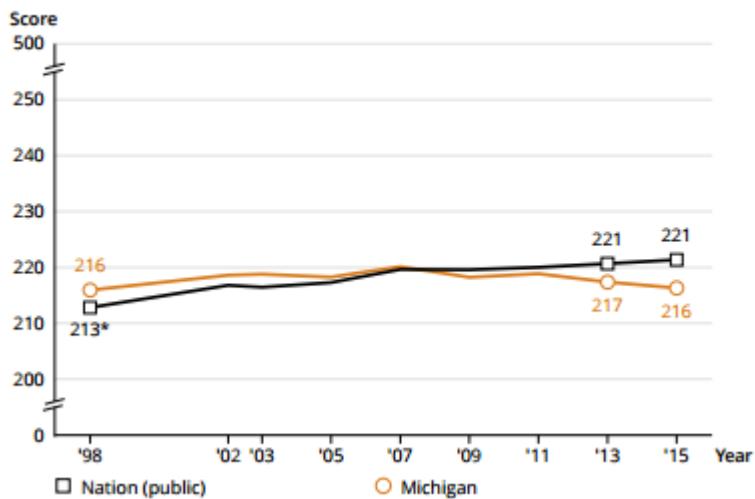
The State of Reading in Michigan

2015 NAEP Results

Achievement-Level Percentages and Average Score Results



Average Scores for State/Jurisdiction and Nation (public)



The Third Grade Reading Bill

- Early screening assessments in K-3
- Individualized intervention for struggling readers K-3
- Support from early literacy coaches



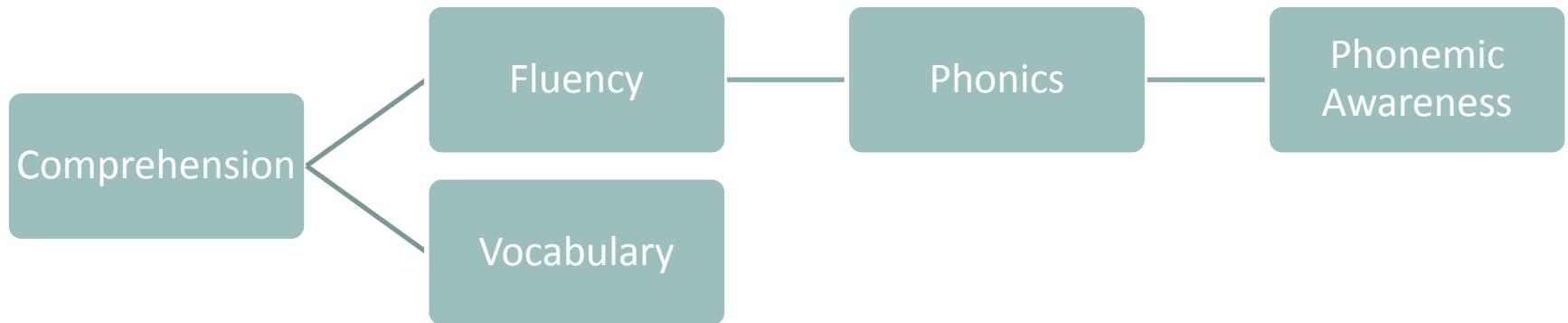
The Third Grade Reading Bill



What's down here?

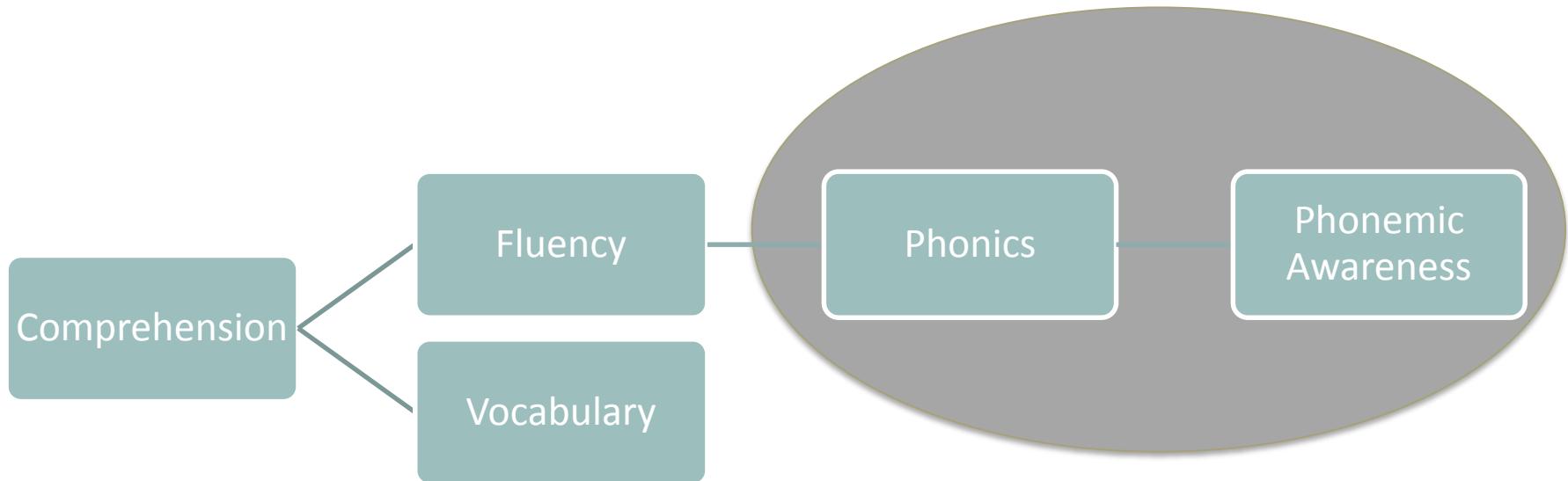
phonemic awareness, phonics, fluency, vocabulary,
and comprehension

The Cognitive Model



McKenna & Stahl, 2015

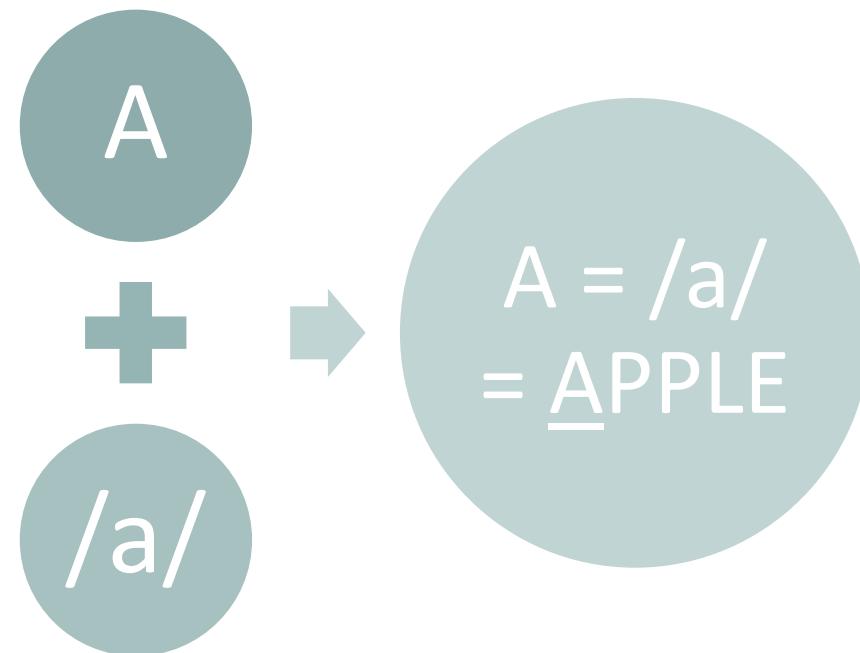
The Cognitive Model



McKenna & Stahl, 2015

The Alphabetic Principle

Reading and writing in English depends on associating graphemes (letters) and phonemes (sounds)



Liberman, Shankweiler, & Liberman, 1989

Phonological awareness

is the ability to pay conscious attention to the sounds that make up language.



Linguistic Grain Size

- The grain size of Chinese is the word/concept (logographic)

信
believe

- The grain size of Japanese is the syllable (syllab

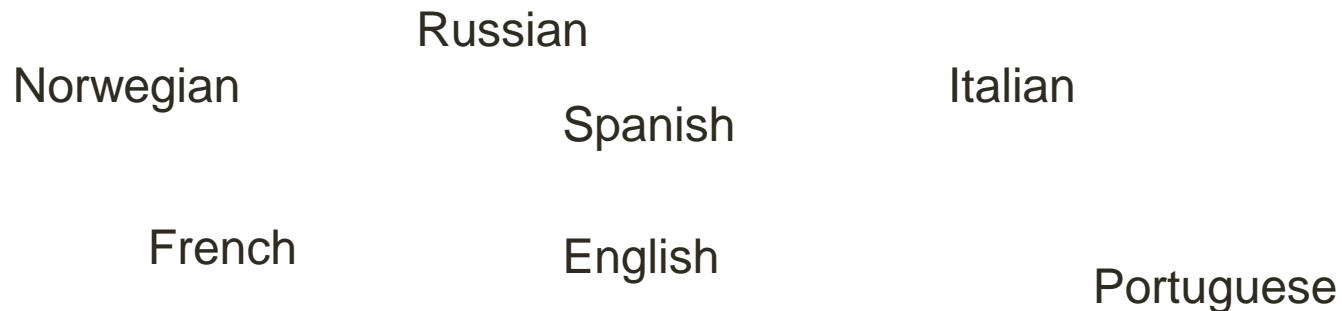
よ
yo

- The grain size of English is the phoneme (alphab



Ziegler & Goswami, 2005

In alphabetic languages like



- Phonemic awareness is the best predictor of future reading success.
- Preschool phonemic awareness accounts for 50% of the variance in reading proficiency at the end of first grade.
- Phonemic awareness and reading proficiency are highly correlated through the school years.

Blachman, 1991; Juel, 1991; Stanovich, 1986; Wagner et al., 1994

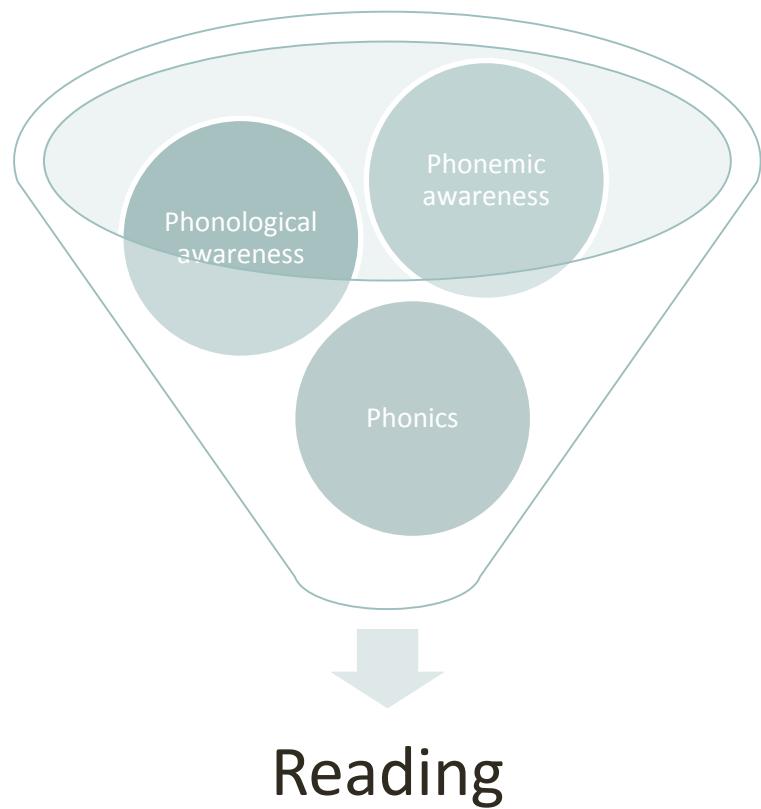


Frank Vellutino's research

- Identified that dyslexia/reading disabilities = deficits in phonemic awareness
 - Not a visual problem
 - Not related to IQ
- Can be identified early (Kindergarten vs. 3rd grade)
- Can be prevented with early intervention
- Formed the basis of the “response to intervention” model
 - Vellutino and Scanlon (2002) argue that we can't know if a child has a reading disability or not until we understand what instruction they have had.
 - Dyslexic readers are those that continue to struggle with phonemic awareness despite high quality instruction; these students need more support and individual instruction

(Vellutino, Fletcher, Snowling, & Scanlon; Vellutino & Scanlon, 2002)

How does this work?

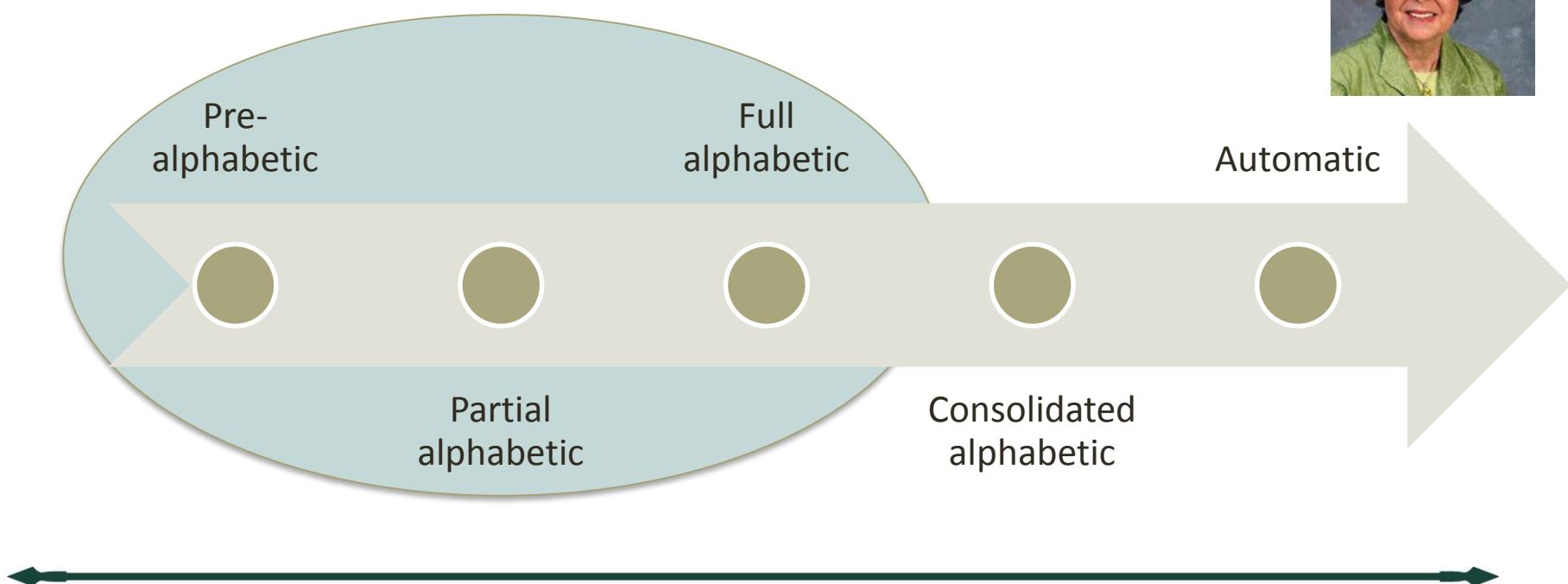


Phonological Awareness



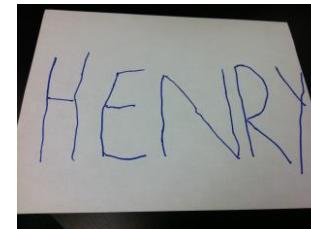
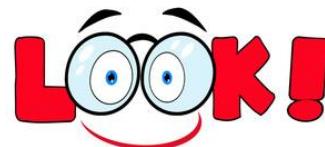
Linnea Ehri's Phases of Word Recognition

- Describes five developmental phases of word recognition (Ehri, 2005)



Pre-alphabetic phase

- Children rely on visual cues (e.g., shape, logo) to recognize words
- Children do not yet make connections between print and sounds



PA in the pre-alphabetic phase

Phonological awareness is just beginning!

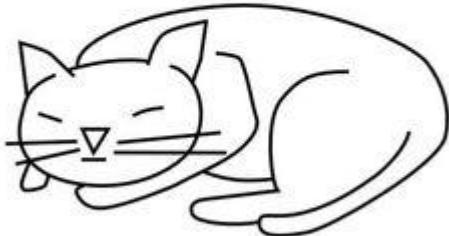
- Focused on
 - Segmenting sentences into words orally
 - Rhyme
 - Alliteration



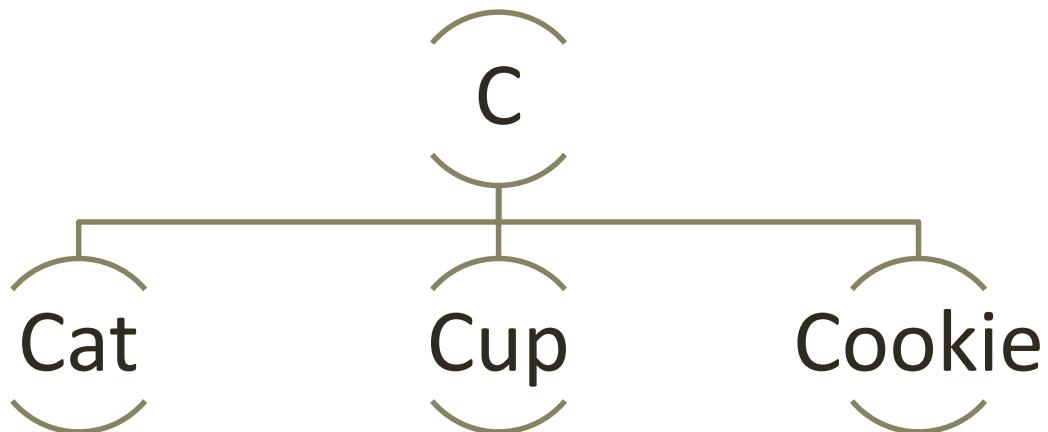
Partial alphabetic phase

- Child begin to use letter-sound connections to read and write words

C is for Cat

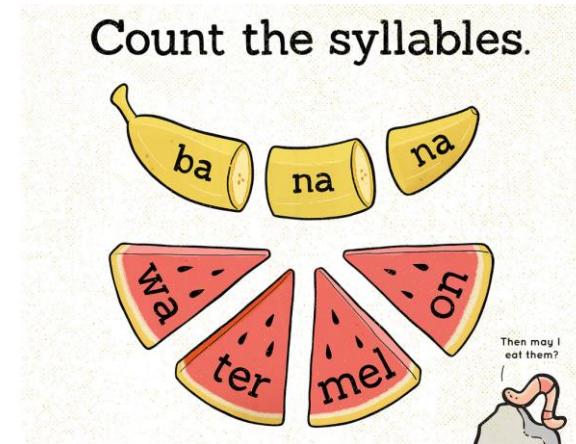
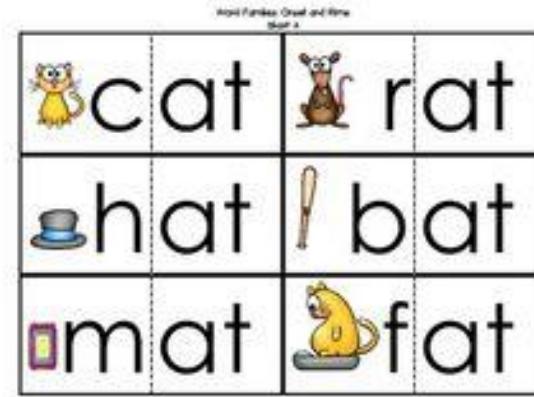


TwistyNoodle.com



PA in the partial alphabetic phase

- Children begin to focus on words and sounds *within* words
 - Onset-rime
 - Syllables



Concept of word in text

- Children need to understand what a word and be able to identify it in text so that they can:
 - Develop full phonemic awareness
 - Begin to decode words
 - Begin to write accurately



Flanigan, 2007; Morris, 1993

Concept of word in text

Before phonological awareness is developed:

Child's perception of text:

Text:

Bxxpxxxxxxxxxxxxxxxx.

Ben plays soccer for fun

After children develop beginning sound awareness & letter-sound knowledge:

Child:

Bxx

pxxx

sxxxx

fx

fx.

Text:

Ben

plays

soccer

for

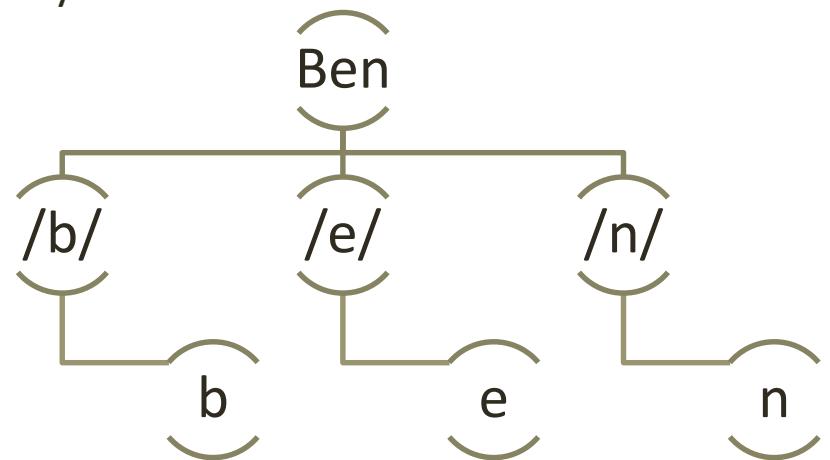
fun.

Flanigan, 2007

Concept of word in text

Once children understand where the words are, they can:

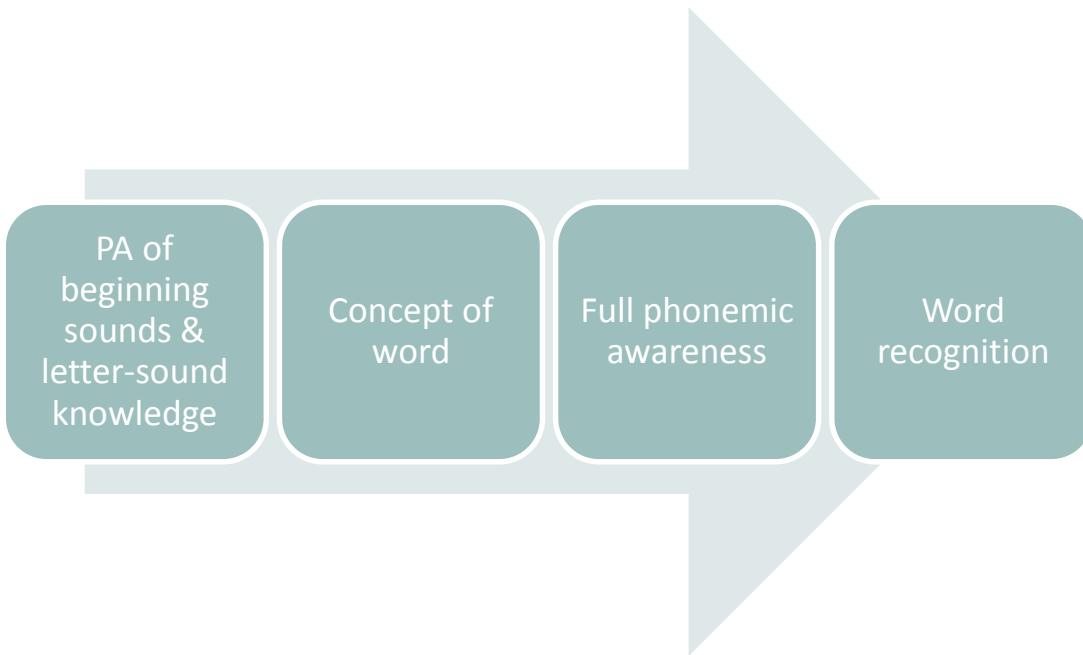
- Develop full phonemic awareness
- Engage in phonics productively
- Begin to read words and store them in memory



Flanigan, 2007

Concept of word in text

Children develop this understanding over time:



Flanigan, 2007; Morris, 1993

Full alphabetic phase

- Children can decode words using letter-sound relationships
 - Not always accurate, but all sounds are accounted for

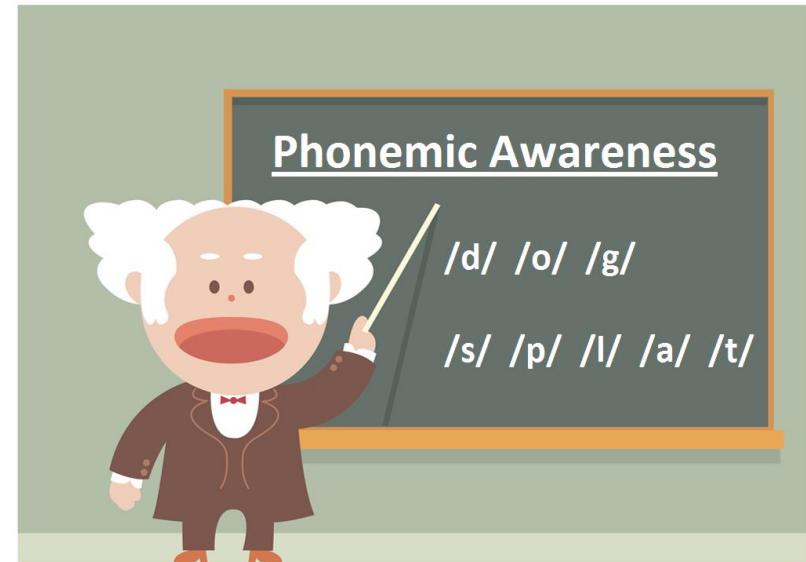


c a t

CAT
KAT
CET

PA in the full alphabetic phase

- Children begin to fully blend and segment words into individual phonemes
- Focus on *phonemic awareness* = the ability to identify and manipulate the individual sounds (phonemes) within words.



Phonemic awareness is . . .

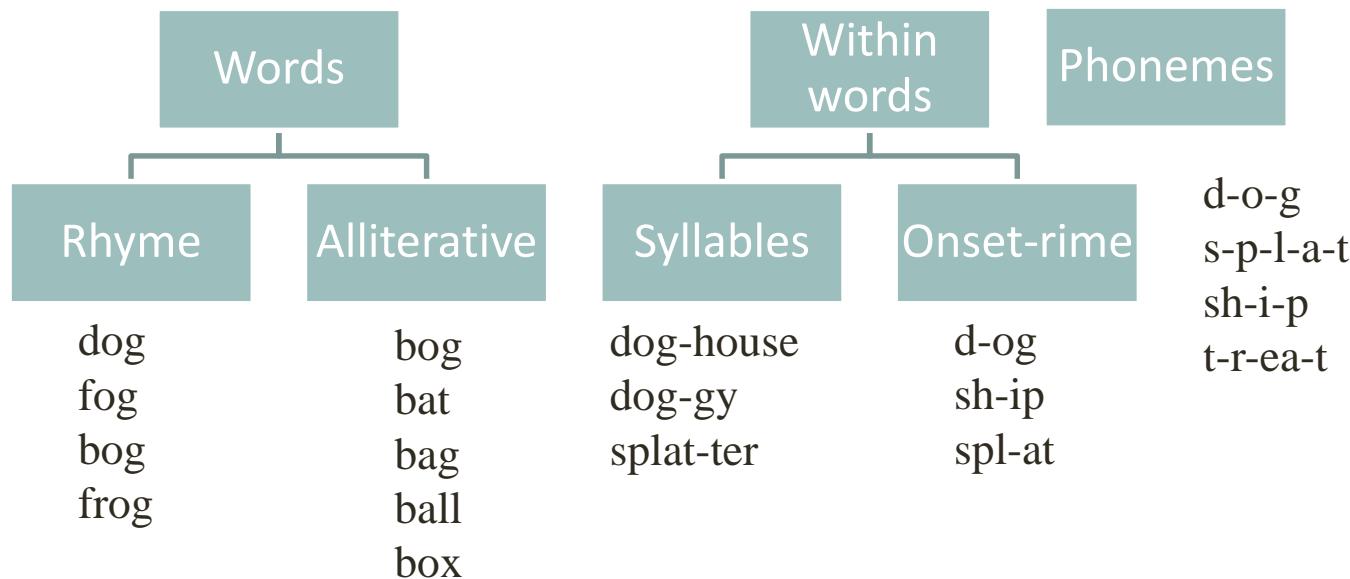
- The understanding that a single-syllable word such as "dog" can be subdivided into beginning, middle, and ending sounds (segmentation)
 - "dog" = /d/ - /o/ - /g/
 - "splat" = /s/ - /p/ - /l/ - /a/ - /t/
- The understanding that individual phonemes can be combined to form words (blending)
 - /d/ + /o/ + /g/ = "dog"
 - /s/ + /p/ + /l/ + /a/ + /t/ = "splat"
- Knowledge or awareness of the distinctive features of individual phonemes (discrimination)
 - /b/ vs. /d/
 - /s/ vs. /sh/

Phonemic awareness is . . .

- A prerequisite for reading in English
 - The phoneme is the basic unit of sound
 - Phonics = the ability to associate phonemes with letters to read and write words
 - 10 phonemes = 10,000 words



Phonological Awareness Development



Ehri, 2005; Flanigan, 2007; Yopp & Yopp, 2000

Phonemic awareness vs. phonics

Do we need both?



Phonemic awareness = sound

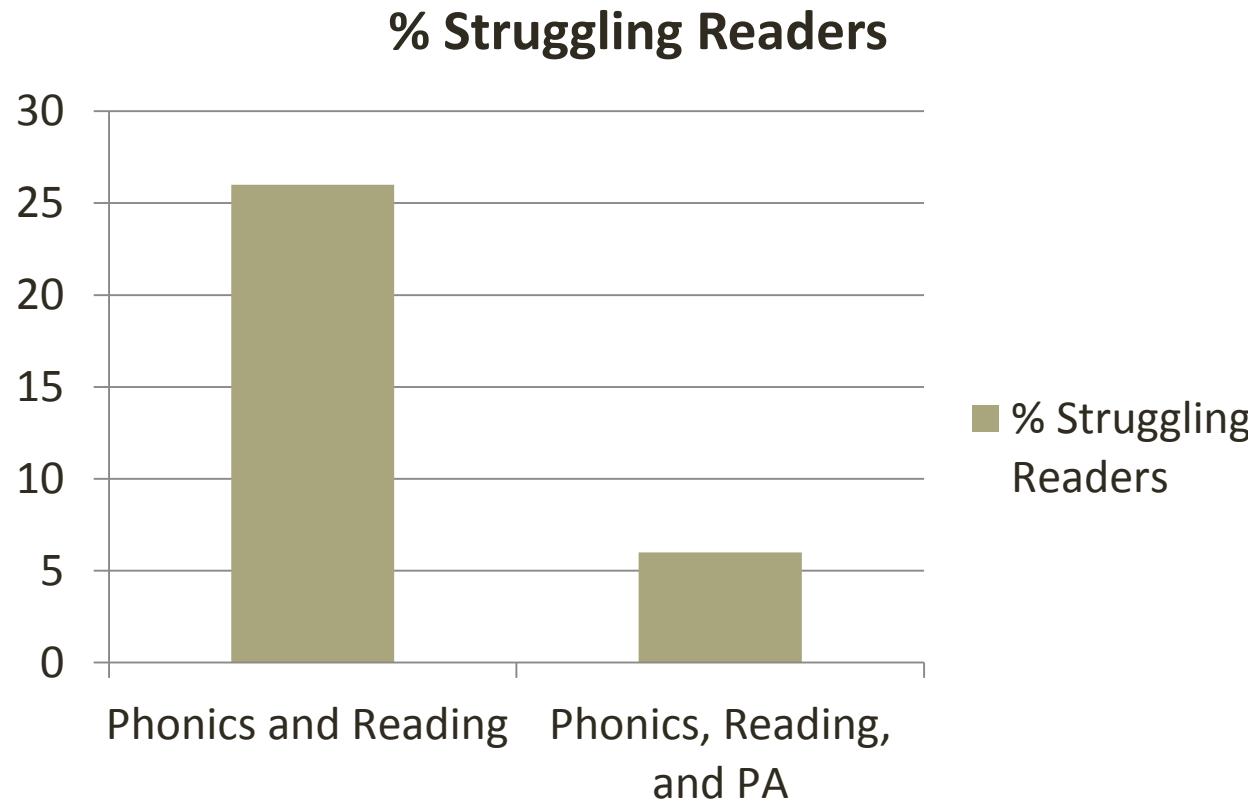


Phonics = sound + print

Carson, Gillon, & Boustead, 2013

- Tested an intensive, 10-week, PA-focused intervention vs. regular reading and phonics instruction with no PA focus
- 129 5-year-olds, including those with language difficulties

Carson, Gillon, & Boustead, 2013



What did this program look like?

- 10 weeks
- 30 minutes, 4 x week
 - 5-minute review
 - 2 10-minute activities
 - 5 minutes of shared reading, emphasizing the targeted sounds

What did this program look like?

Week	PA skill	Activity description
1	Rhyme	Rhyme bingo and odd-one-out activities were used by the teachers to encourage the children to listen for rhyming components of spoken words.
2	Initial phoneme identity	Initial sound bingo, initial sound matching, and odd-one-out activities were used to draw the children's attention to the first sound in spoken words. Medial or final sounds were included for children with more advanced skills.
3	Final phoneme identity	Final sound bingo, final sound matching, and odd-one-out activities were used to draw the children's attention to the final sound in spoken words. Medial or final sounds were introduced for children with advanced skills.
4 & 5	Phoneme blending	Drawing, singing, and bingo games were used to teach the children to blend words together. Two- and three-phoneme words were predominantly used; however, four-phoneme words and initial and final consonant blends were used for children with more advanced abilities.
6 & 7	Phoneme segmentation	Drawing, singing, and bingo games were used to teach the children how to segment sounds in words. Two- and three-phoneme words were used; however, four-phoneme words and initial and final blends were used to extend students.
8 & 9	Manipulation	Large letter cards or a white board were used to teach the children to manipulate letter sounds in words to create new words.
10	Review	Activities from each of the 9 weeks of instruction were reviewed. Focus was directed toward phoneme segmentation and blending activities.

Note. Linking speech to print: All activities required a demonstration of how the PA task related to print. For example, during or after initial sound bingo, the children were asked to select three pictures from the bingo board, articulate the first sound they heard, and then write the letter for that sound.

Carson, Gillon, & Boustead, 2013

- Important implications:
 - Phonics instruction by itself is not enough for many kids (20%)
 - A little goes a long way (10 weeks)
 - Activities can be simple (e.g., bingo) and repeated often with different linguistic units (rhyme, initial phonemes)
 - Most instruction should focus on phonemes
 - Phonemic awareness instruction can be combined with phonics instruction at the highest levels

Michigan ELA Standards

Kindergarten & First Grade

Demonstrate understanding of spoken words, syllables, and sounds (phoneme).



Kindergarten

- a. Recognize and produce rhyming words.
- b. Count, pronounce, blend, and segment syllables in spoken words.
- c. Blend and segment onsets and rimes of single-syllable spoken words.
- d. Isolate and pronounce the initial, medial vowel, and final sounds (phonemes) in three-phoneme (consonant-vowel-consonant, or CVC) words.* (This does not include CVCs ending with /l/, /r/, or /x/.)
- e. Add or substitute individual sounds (phonemes) in simple, one-syllable words to make new words.

First Grade

- a. Distinguish long from short vowel sounds in spoken single-syllable words.
- b. Orally produce single-syllable words by blending sounds (phonemes), including consonant blends.
- c. Isolate and pronounce initial, medial vowel, and final sounds (phonemes) in spoken single-syllable words.
- d. Segment spoken single-syllable words into their complete sequence of individual sounds (phonemes).

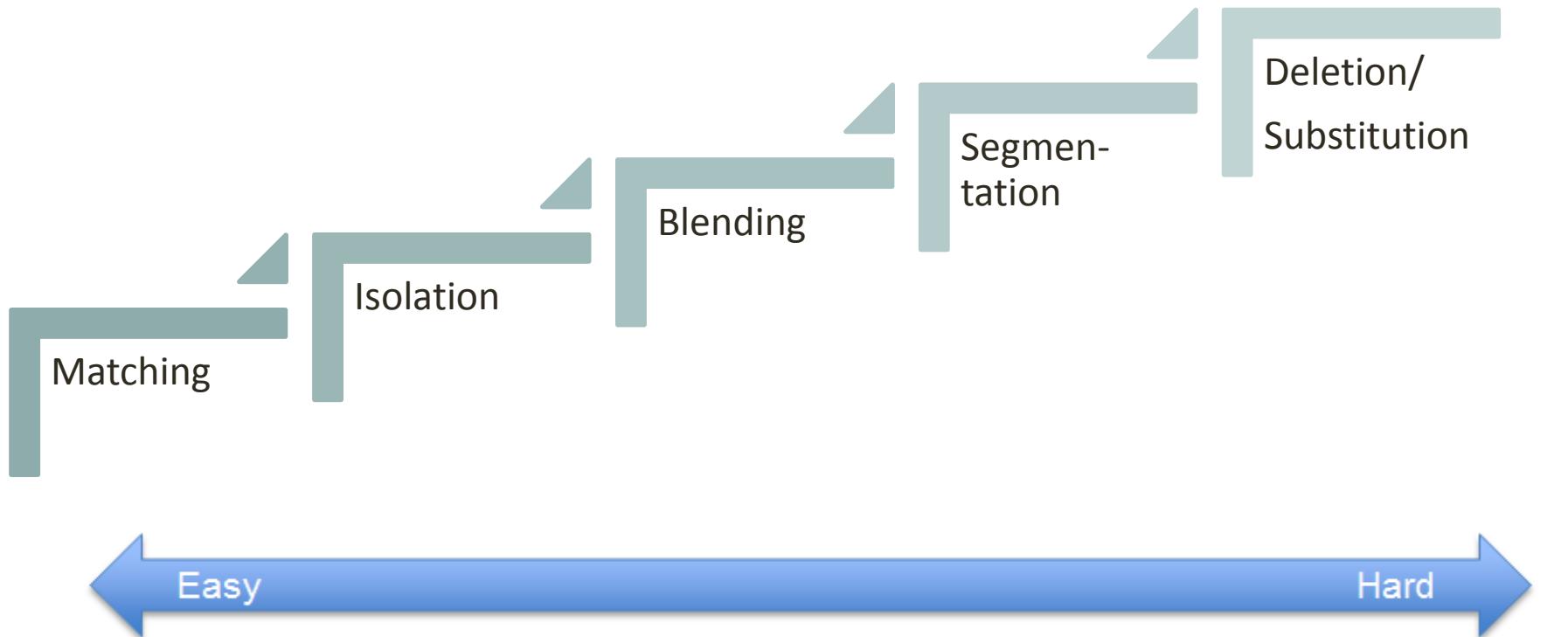
This instruction is more important for some children than others!

- Strang and Piasta (2015) studied the alphabet knowledge & phonological awareness of 57 children in a single, high-quality preschool
 - Children of lower SES had significantly lower levels of AK & PA at the beginning of the school year
 - Showed the same rate of growth throughout the year
 - Were still significantly behind at the end of the year

What does this instruction look like?



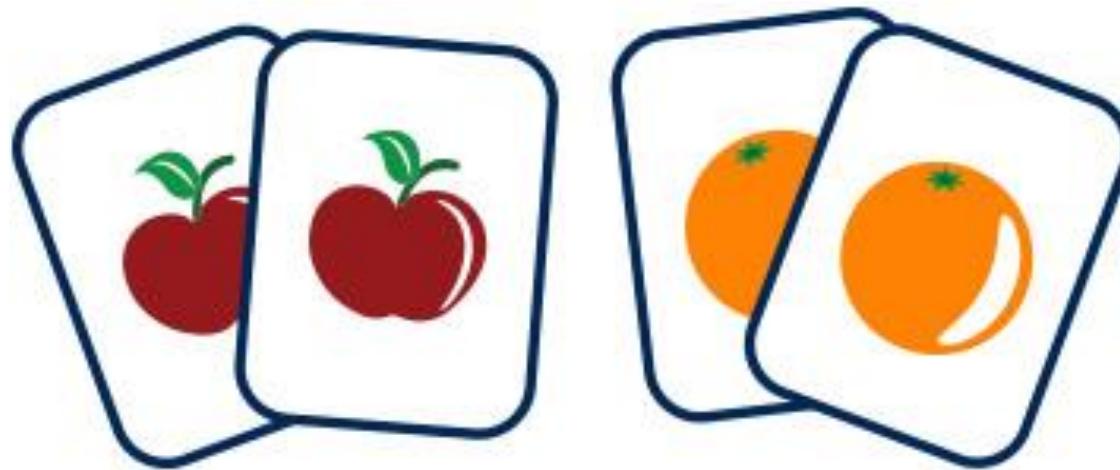
Phonological Awareness Skills



Yopp & Yopp, 2000

Phonological Awareness Activities

Matching



Matching

Beginning Sounds Picture Cards

/p/, /t/

pan, pie, pen, pail, top, tent, toe, tub

Private printing for classroom, library or school use. Not for commercial use.

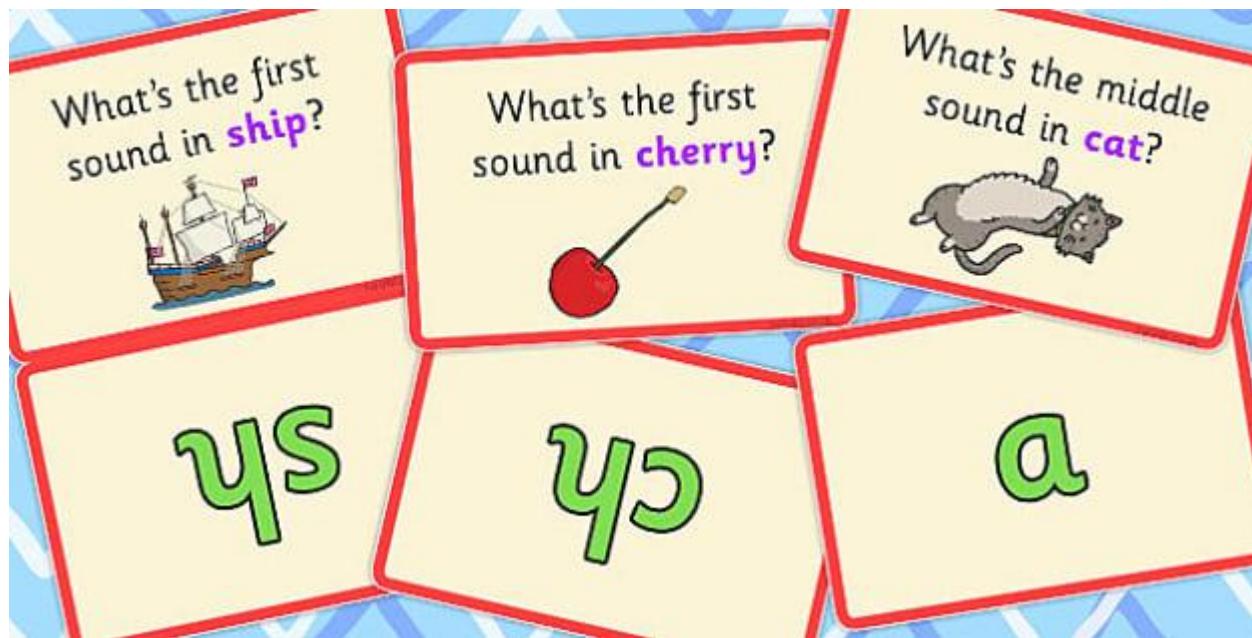
26

Phonological Awareness Skills

Isolation



Isolation



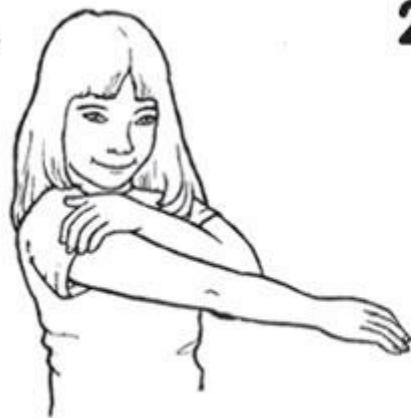
Phonological Awareness Skills

Blending



Blending

1.



/hh/

2.



/ă ă ă/

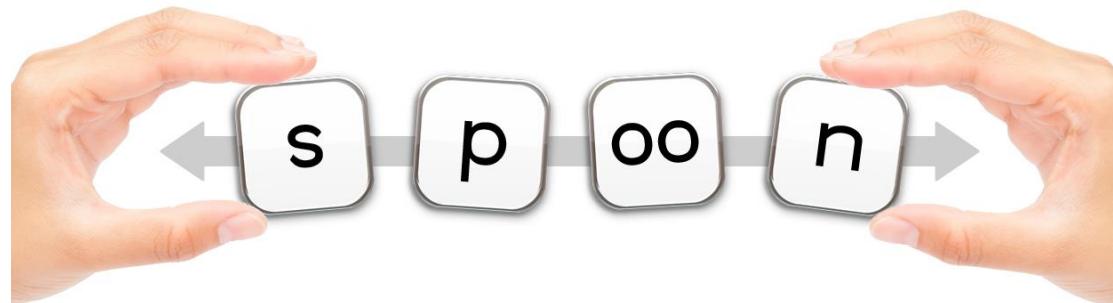
3.



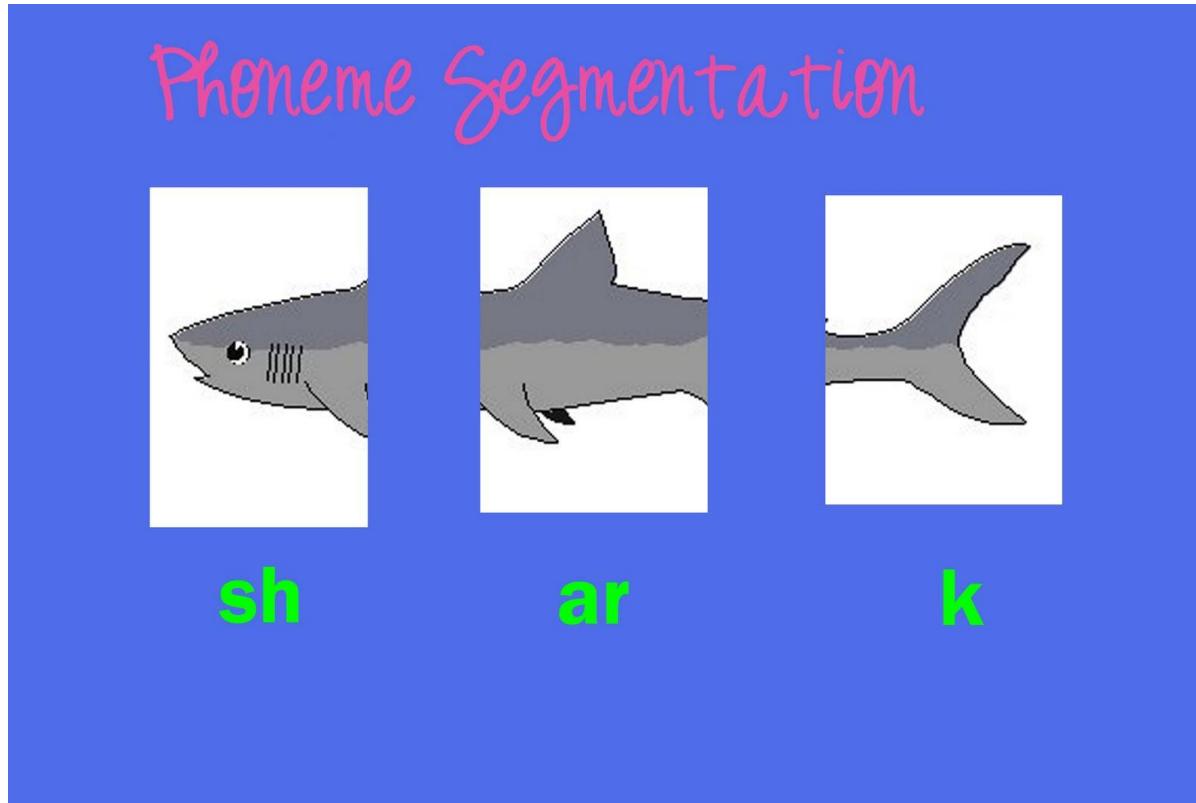
/t/

Phonological Awareness Skills

Segmentation



Segmentation



Phonological Awareness Skills

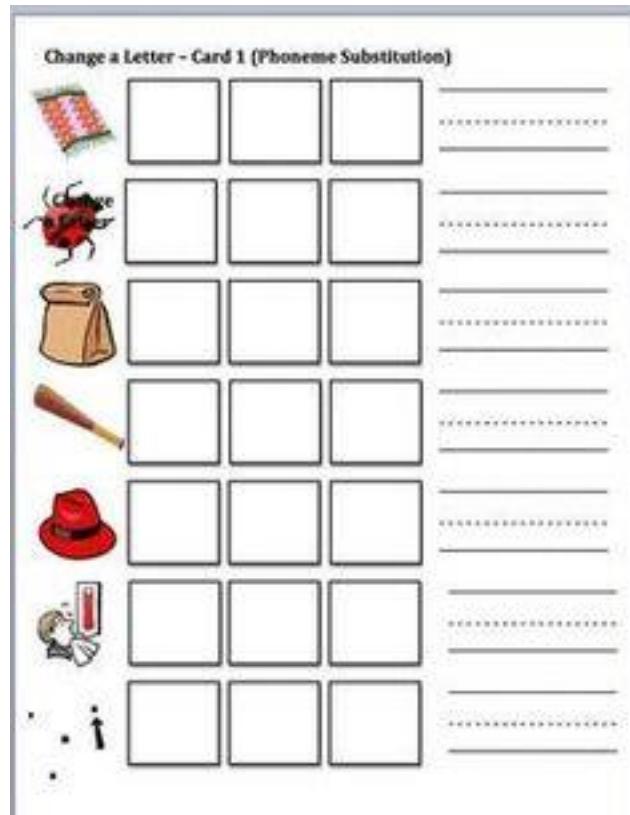
Deletion/substitution



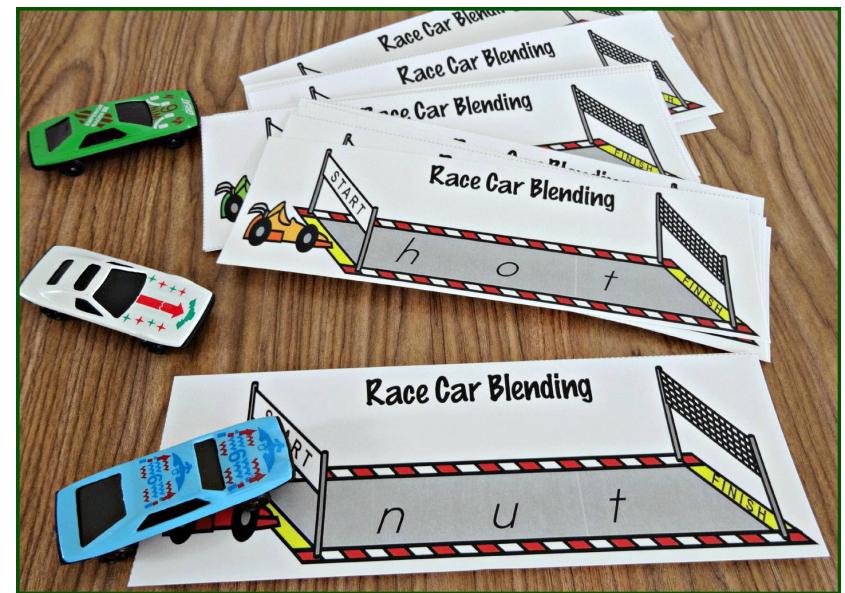
- t + p =



Substitution/Deletion



Combined PA and phonics instruction



Thank you!

- Questions?
Comments? Interested
in research-PD
partnerships?
- Ltort@msu.edu

What It's Really Like to Read With a First Grader

