Teaching Reading IS Rocket Science: What Expert Teachers of Reading Know and Do

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MTSU Fox Conference

2020

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NIH-NICHD Multidisciplinary Research Program

(North America; Lyon, 1985-2005)

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The NICHD Reading Research Program: 1963 to Present

Lyon's Research Team (1992)

Directors: Jim Kavanaugh (1963-1987)
David Grey (1987-1991)
G. Reid Lyon (1991-2005)
Peggy McCardle (2005-2013)

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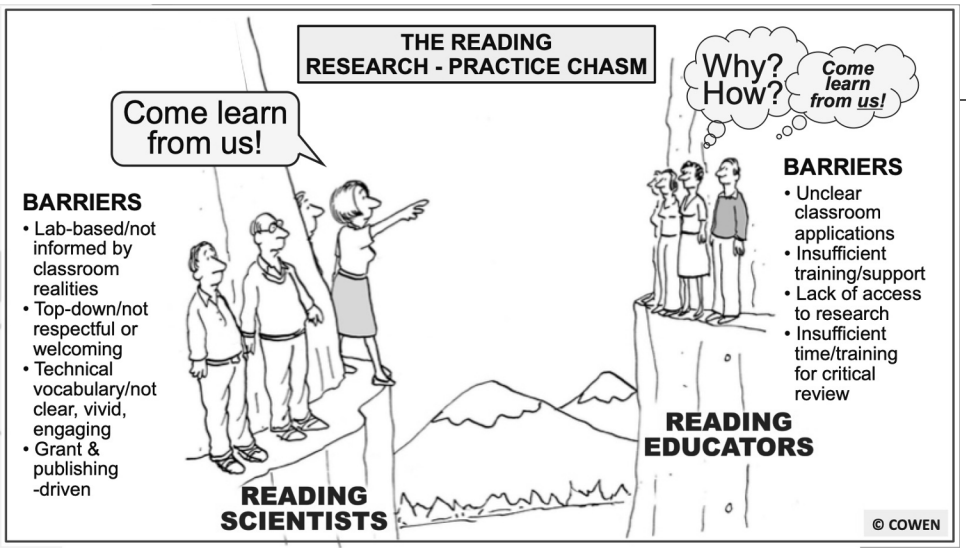

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Teachers' Disciplinary Knowledge: A Topic of Discussion for 25+ Years

- *The Missing Foundation in Teacher Education* - Moats, 1994, 1995
- *Wanted: Teachers with Knowledge of Language* - Lyon & Moats, 1996
- *Informed Instruction for Reading Success* - Brady & Moats, 1997
- *Teaching Reading is Rocket Science* - AFT (Moats), 1999, 2020
- *Knowledge to Support the Teaching of Reading* - Snow, Griffin, & Burns, 2005
- Special issues of the *Journal of Learning Disabilities* and *Reading and Writing* (2009)
- International Dyslexia Association's *Knowledge and Practice Standards for Teachers of Reading* (2010, 2018)

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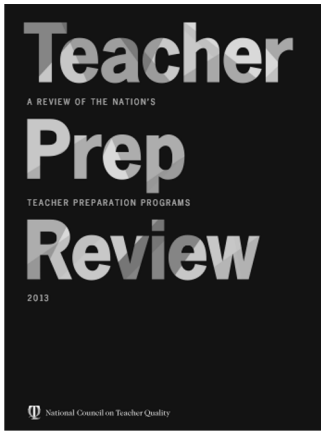
Why Do We Need Content-rich Professional Development? (NCTQ, 2013)



- **Overall ratings on 608 institutions**
- **Additional data on another 522 institutions**
- **Altogether, data on where 99% of new teachers are trained**

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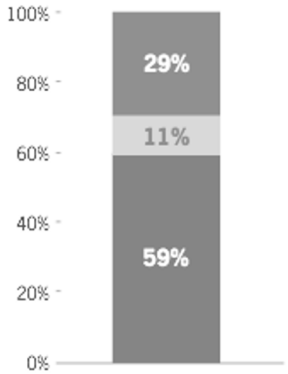
Only 29% introduce teachers to 5 essential components named in scientific reviews.

Fig. 12. Distribution of scores on Standard 2: Early Reading
(N=692 elementary and special education programs)



☆☆☆☆ or ☆☆☆★
Program coursework comprehensively prepares teacher candidates to be effective reading instructors by addressing at least four of the five essential components.

☆☆☆★
Program coursework addresses only three of the five essential components, providing teacher candidates with some preparation in reading instruction.

☆☆☆★ or ★★★★ (zero)
Program coursework cannot prepare teacher candidates to be effective reading instructors as it addresses at most two essential components.

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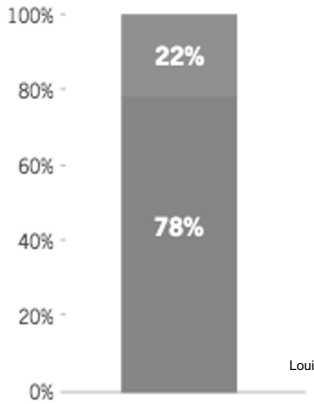
NCTQ: Only 22% adequately prepare teachers to teach "struggling readers."

Fig. 14. Distribution of scores on Standard 4: Struggling Readers
(N=550 elementary programs)



☆☆☆☆
Program coursework adequately addresses strategies for struggling readers.

★★★★ (zero)
Program coursework does not adequately address strategies for struggling readers.

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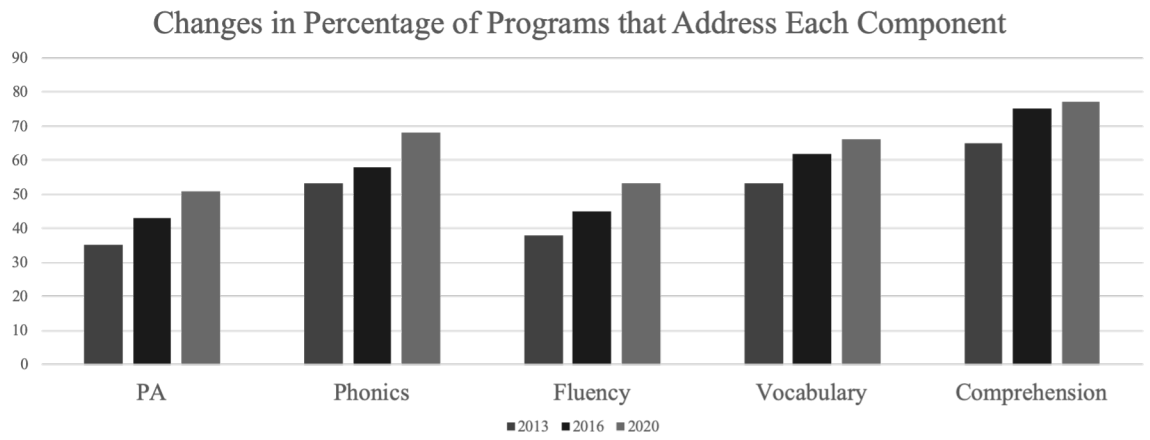
2020 Teacher Prep Review, NCTQ



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Teacher Educators Themselves are Often Not Prepared to Teach the Science of Reading

Binks-Cantrell, Joshi, & Washburn, "Peter effect in the preparation of reading teachers" (2012), *Scientific Studies of Reading*

Barksdale Reading Institute & The Institutions for Higher Learning, *2014-15 Study of Mississippi Teacher Preparation for Early-Literacy Instruction*

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	University Faculty	First Year Teachers
Define and count the number of syllables correctly	≈ 92%	≈ 92%
Identifying the definition of a phoneme	98%	89%
Correctly recognize that "chef" and "shoe" begin with the same sound.	92%	88%
Correctly recognize a word with two closed syllables (napkin)	65%	53%
Correctly recognize the definition of phonological awareness	58%	47%
No. of morphemes: heaven observer Frogs	 40% 26% 29%	 21% 18% 24%
Name all the 5 components of NRP	15%	0%

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Barksdale Study, Mississippi, 2014-2015

- **Finding #3** – Established research-based principles of early-literacy instruction **remain largely unapplied** in preparation and practice.
- **Finding #4** – "Balanced Literacy"--as interpreted by Mississippi teacher preparation programs and in many K-3 classrooms—has resulted in **widespread use of practices that are not supported by research**.

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"We have lots of information technology. We just don't have any information."

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Is Teaching Experience the Explanation?

- In study after study, teaching experience appears unrelated to or only somewhat related to knowledge of language structure or the processes of reading development
- Formal instruction to build disciplinary knowledge is required!
- Example: "Readers' and Writers' Workshop" based on "thousands of hours of teaching experience" by the authors – but is riddled with advice on teaching that is contrary to scientific research and accepted understandings of how children to learn to read

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Disciplinary Knowledge is Not Obvious, Natural, or Intuitive

Cunningham et al. (2009) asked teachers how they would *prefer* to teach reading.

- "…it appears that a philosophical orientation towards literature-based instruction tends to be more exclusive of other instructional approaches"
- Teachers' preferred practices do not conform to current research and policy recommendations for teaching first graders

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'Philosophy' Can Get in the Way

- "…[first grade teachers'] philosophical framework about reading instruction was germane to the extent teachers learned the content of direct methods of reading instruction"
- Those with a "whole language" orientation were less responsive to PD in phonology, phonics, and spelling

(Brady et al., 2011)

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Does Teacher Knowledge Matter?

- Link between teacher knowledge and student outcome has been demonstrated in a handful of studies, but these factors are moderated by *implementation supported by coaching*
  - McCutchen, Harry, Cunningham & Cox, 2002
  - McCutchen et al., 2002
  - Moats & Foorman, 2003
  - Carlisle & Berebitsky, 2011
  - And many studies by Spear-Swerling, Washburn, Binks-Cantrell, Joshi, Piasta, A. Cunningham and others

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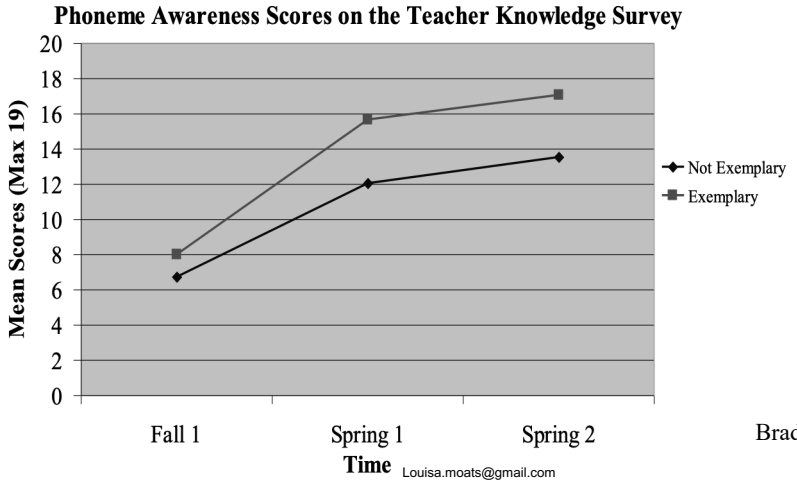
Mentor Condition: Teachers Grouped by Ability to Conduct Systematic, Explicit Instruction



Brady, Gillis, et al., 2011

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What Teachers Know Affects What They Do

- "…Teachers who performed well on phonics tasks [on the knowledge survey] prefer spending more time on explicit and systematic instructional practices and less time on unstructured literature activities"
- Prior knowledge [of language] plays a role in teachers' choice of instructional activities

-Cunningham et al.

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Good Instructional Programs Do Not Supplant Teacher Training

- Students' gains were predicted by the interaction between teacher knowledge and amount of explicit decoding instruction students received
- Highly scripted core curricula "cannot replace the expert teaching of highly knowledgeable teachers"
- More code instruction by teachers with low levels of knowledge did not produce student gains

Piasta et al. (*Scientific Studies of Reading*, 2009)

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Key (and Counterintuitive) Concept: Reading is NOT Primarily a Visual Skill!

- Shorter words are not always easier to spell and read than longer words
- Generic visual-spatial skills are virtually unrelated to reading and spelling.
- Rote visual memorization drills are generally ineffective.
- Language proficiencies are the best predictors of reading and spelling.
- Structured language teaching is the most effective approach.

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Dear, Michael, today I am going to take a trip to Hawaii and I am Iviting you when we are ther we will go sightseeing and take a swim go boating and go in an airplain or helocoptor r/d around the Islands then we will kiak all the way home good bye.

yore friend

DANNY, GRADE 7, FSIQ 110

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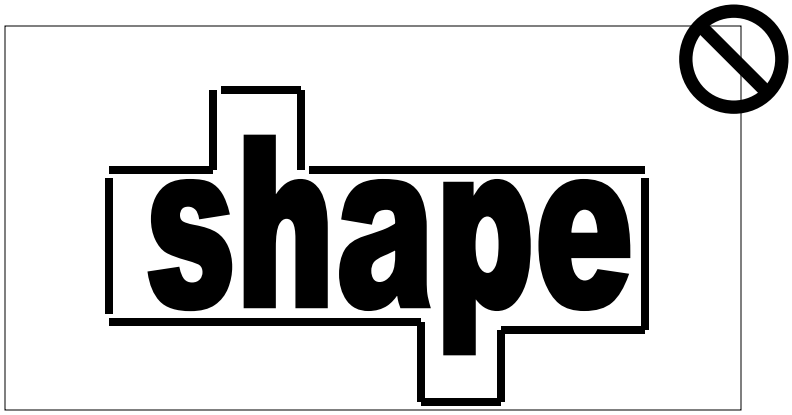
Word configuration is not distinctive.



Words are not recognized by shape.

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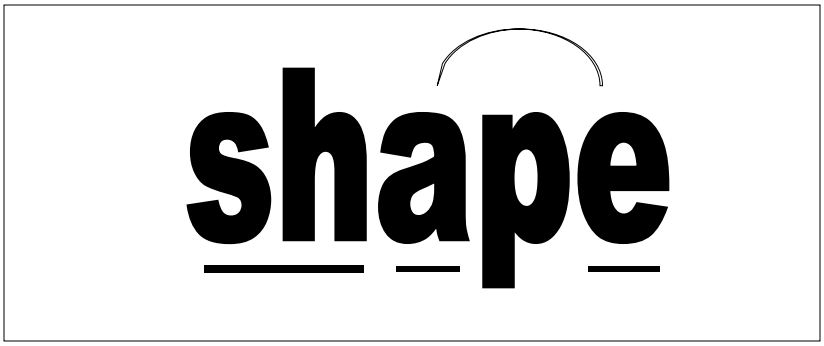
We read/spell this way:



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Context Does Not Drive Word Recognition or Printed Word Memory

- "….Don't know that word? Well just keep reading (or peak at the pictures) and see what might make sense here…"

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How We Recognize and Spell Words

	Units of Analysis
unreachable	*word*
un-reach-able	*morpheme*
un-reach-a-ble	*syllable*
u-n-r-ea-ch-a-b-le	*grapheme*
u-n-r-e-a-c-h-a-b-l-e	*letter*

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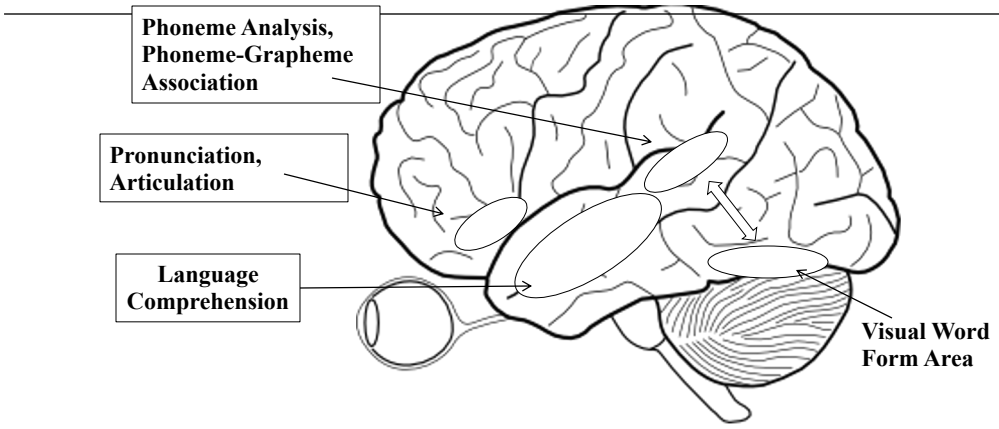
The Reading Brain (Dehaene, 2013)



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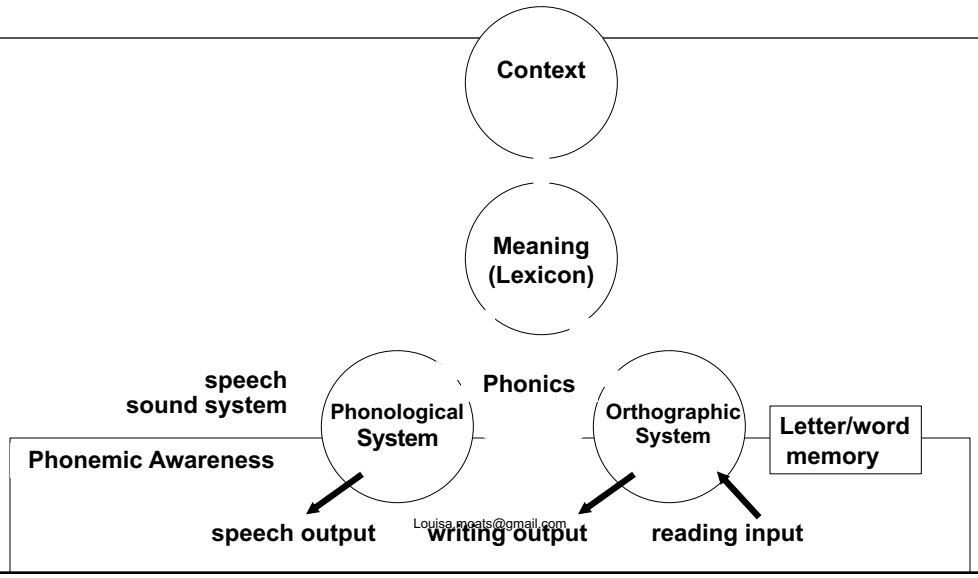
The Language Processing Systems of the Brain (Seidenberg)



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So...What is in powerful PD?

- Scientifically sound models of how we learn to read
- Comprehensive road maps for teaching all essential components, independent of programs
- How English language is structured at all levels
- Modeling and practice of structured literacy lessons

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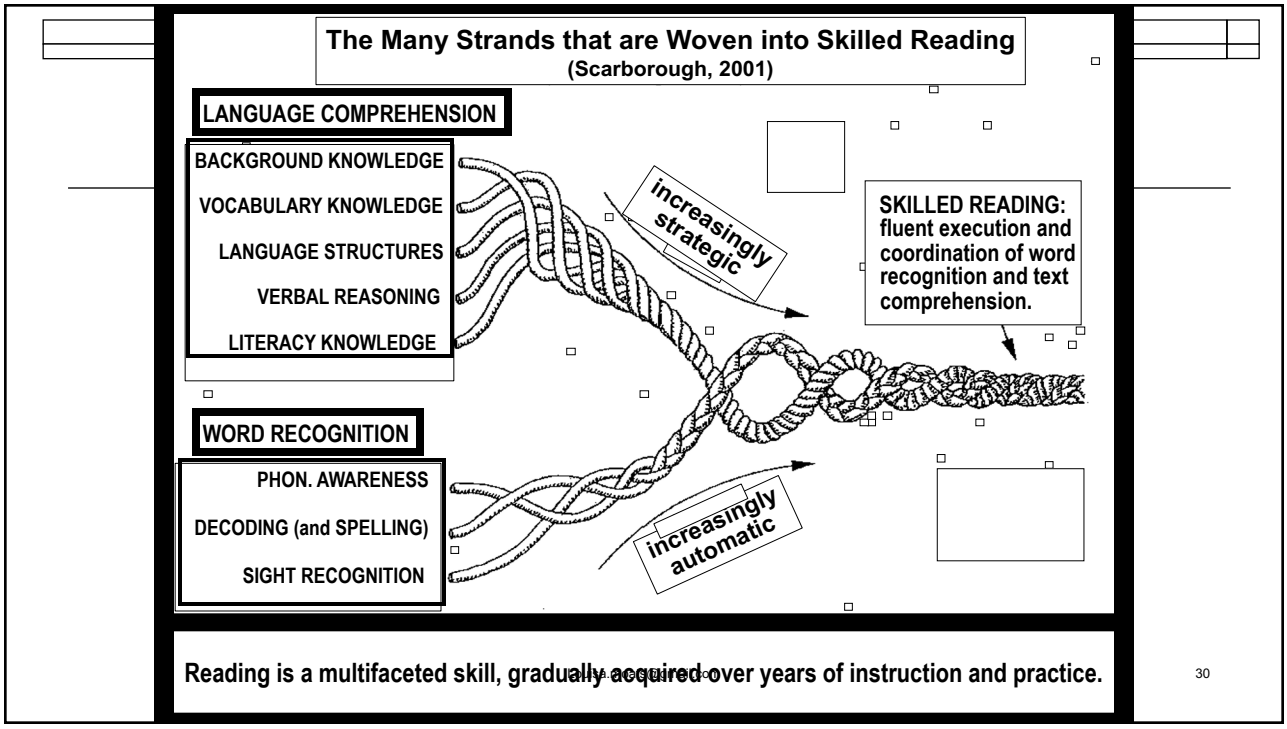

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Using Data: Selecting Priorities for Instruction, Using the "Rope" Model for Reference

- Phonological and phoneme awareness
- Using phonics to decode/spell accurately
- Recognizing/writing words "by sight" or automatically
- Knowing what most words mean (vocabulary)
- Bringing background knowledge to bear during reading
- Interpreting academic language, especially complex syntax
- Navigating different kinds of texts; monitoring comprehension and repairing miscomprehension if necessary

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What is Hard about Phoneme Awareness?

- Phonemes are not "letter-sounds"
  - How many speech sounds in "sing"
  - What is the third phoneme in "axe"
- Phoneme awareness is not phonics

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Phoneme Segmentation of "Hard Words"

LANGUAGE, SPEECH, AND HEARING SERVICES IN SCHOOLS, October 2008, 39, 512–520

% correct

	SLPs	Teachers
knuckle	90	73
sing	71	45
think	75	41
poison	60	34
squirrel	51	18
quick	70	11
box	61	10
start	31	6
fuse	21	3
use	17	3

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A Phoneme is a Sound AND a Mouth Gesture

Phonemes are shaped by the mouth according to the sounds that surround them. What do you feel your mouth doing with /d/ as you say these words?

desk

dream

ladder

would you

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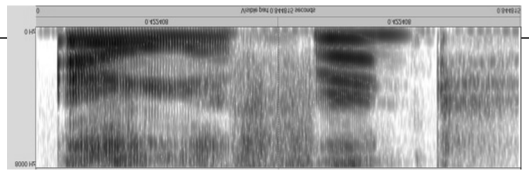
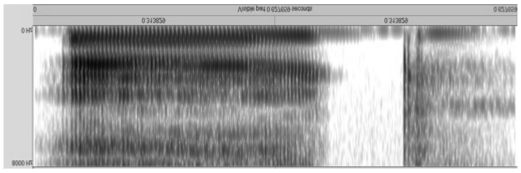
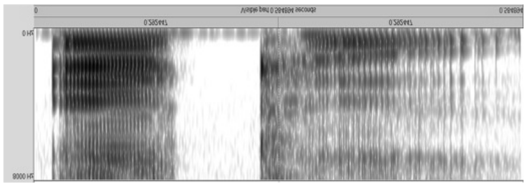
Why Phonemes are Elusive: Coarticulation



"elephant"



"egg"



"echo"

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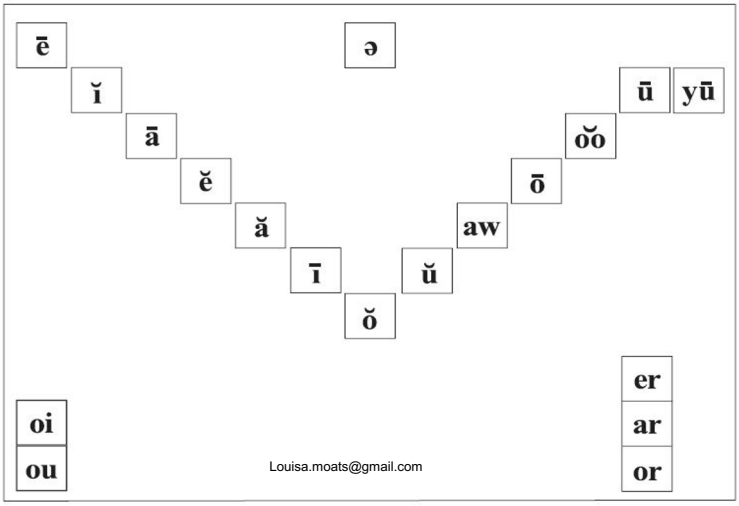
Vowel Phonemes in Order of Articulation (LETRS 3rd ed.)



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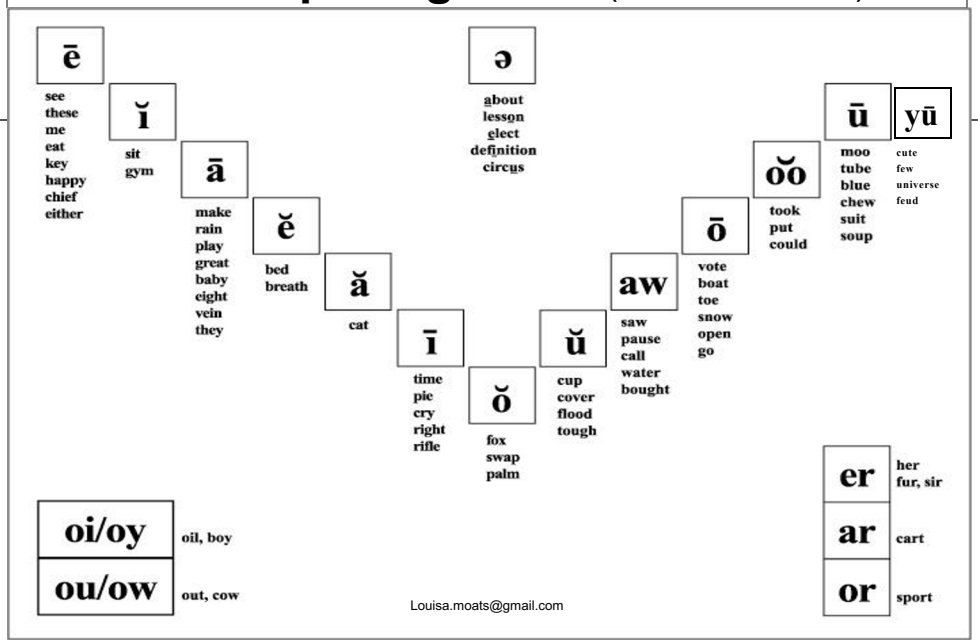
The Vowel Spelling Chart (LETRS 3rd ed.)



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Teach phoneme-grapheme correspondences.

d	r	i	ve		
b	u	m	p		
wh	e	n			
t	r	ai	n		
ch	a	s e			

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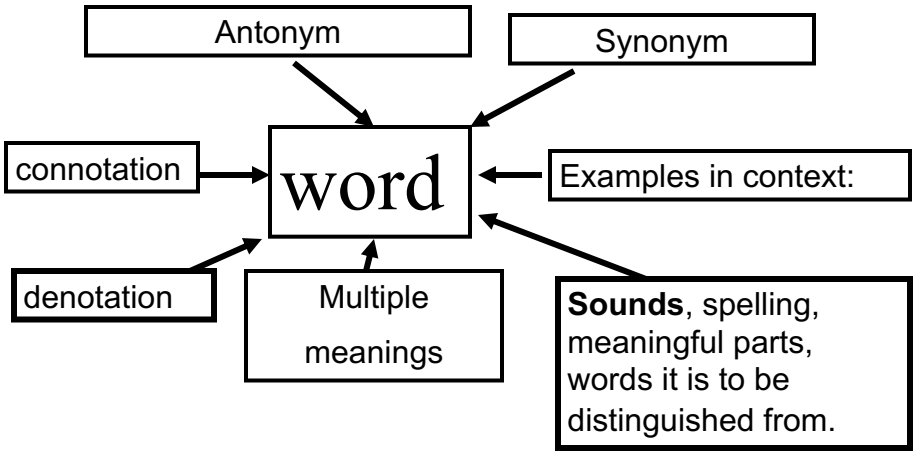
Strive for "Deep Lexical Quality" in Word Learning



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Introduce a New Vocabulary with a Routine

- Pronounce and read the word. Examine the spelling.
- Tell students what the new word means, using a student friendly definition.
- Say more about the word. Use it several times while elaborating its meaning.
- Ask questions about the word's meaning.
- Elicit word use by students.

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How to Introduce a New Word: Example

Pronounce and read the word.

flexible

Examine the spelling.

flex – ible

Identify familiar parts (morphemes).

flex, to bend; -ible, an adjective suffix

Tell students what the new word means, using a student friendly definition.

"Flexible material can bend easily without breaking."

Introducing a New Word, continued...

Say more about the word. Use it several times.

The best gymnasts are very flexible; they can bend way over or do the splits.

Ask questions about the word's meaning.

Is hair flexible or rigid?

Is a nail flexible or rigid?

Elicit word use by students.

A healthy ankle can roll all around if it is _____.

My schedule can be adjusted; I'm _____.

Paperbook books bend in your hands; they are _____.

Generalization to Related Word Forms

flexion	flexibility
inflexible	flexile
flexor	reflexive
reflection	reflective
deflect	circumflexion
genuflection	

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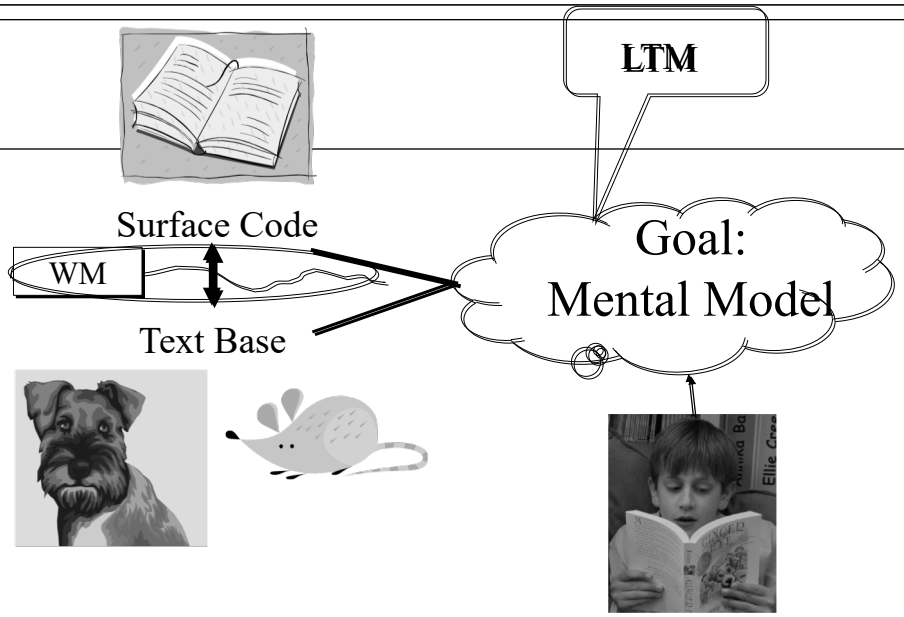

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Reading Comprehension Depends on Active Processing of…

- word meanings as used in context
- figurative language
- multiple meanings
- academic language formalities
- discourse structure
- phrase structure in sentences
- topic-specific terminology

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Words in "Hard" Sentences

- The rigid metal bar was replaced by a more flexible one.
- We had no reason to think she was less flexible than her competitor.
- Lack of flexibility is a major problem.

  Lack of flexibility is the major problem.
- The firm foot bed was adequate, although it would have been better constructed with more flexible material.

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The IDA Knowledge and Practice Standards

Building Teacher Knowledge

- how children learn to read
- common sources of reading problems, including dyslexia, and how to assess them
- how the various components of reading develop
- what kinds of instruction have been found to be effective
- how to implement lessons and activities

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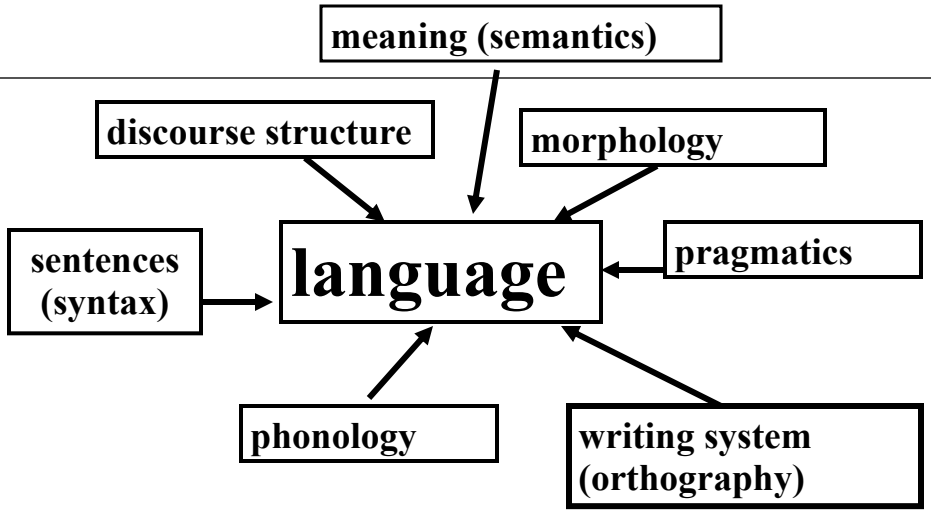

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In Sum: What Can an Expert Teacher Do?

- ✓ Implement explicit teaching and monitor whether students are learning
- ✓ Explain why words are written the way they are
- ✓ Choose examples and give corrective feedback
- ✓ Lead students to the meanings in text
- ✓ Base instructional decisions on data
- ✓ Adapt lessons for different reading profiles

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THANK YOU for Joining Me in This Effort!

- To all teachers who strive to understand more and improve their practice every day
- To the leaders who are unafraid to confront bad ideas and ineffective practices and to turn us in a better direction
- To MTSU, Dr. Tim Odegard, Tennessee literacy leaders, and sponsors of this conference.

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Explicit Language Instruction is the Heart of Structured Literacy

Louisa Moats, Ed.D.

1

Definition of Structured Literacy

Key features of SL approaches include (a) explicit, systematic, and sequential teaching of **language** at multiple levels— phonemes, letter–sound relationships, syllable patterns, morphemes, vocabulary, sentence structure, paragraph structure, and text structure; (b) cumulative practice and ongoing review; (c) a high level of student– teacher interaction; (d) the use of carefully chosen examples and nonexamples; (e) decodable text; and (f) prompt, corrective feedback.

- -adapted from Spear-Swerling, 2019

2

2

Non-SL Programs

- Guided Reading (Burkins & Croft, 2010)
- Reader's Workshop (Calkins, 2000),
- Balanced Literacy,
- Four Blocks Literacy (Cunningham, Hall, & Sigmon, 1999),
- Reading Recovery (Clay, 1994),
- Leveled Literacy Intervention (Fountas & Pinnell, 2009).

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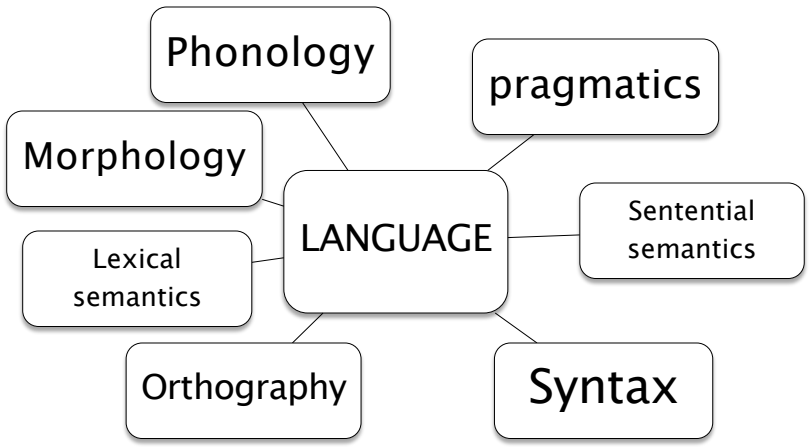
The Content is Language: Words and Rules (Pinker, 1999)



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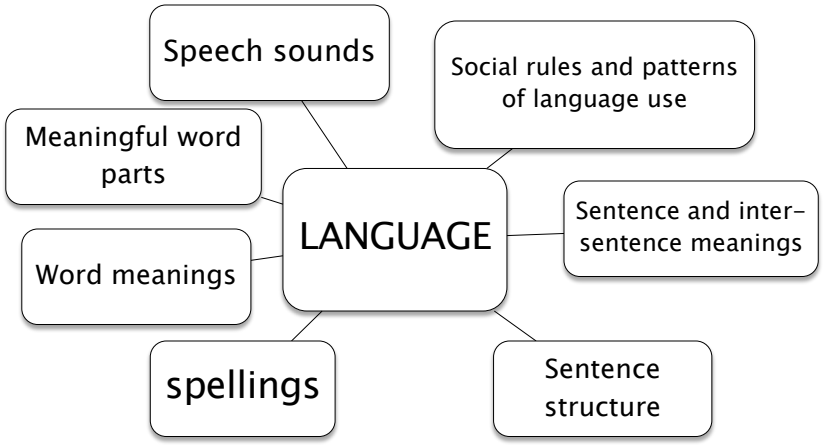
Language: Words and Rules



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The Simple View of Reading

R = D x C

"Capacity for reading comprehension is determined by ability to decode text and ability to comprehend spoken language."

-Phil Gough

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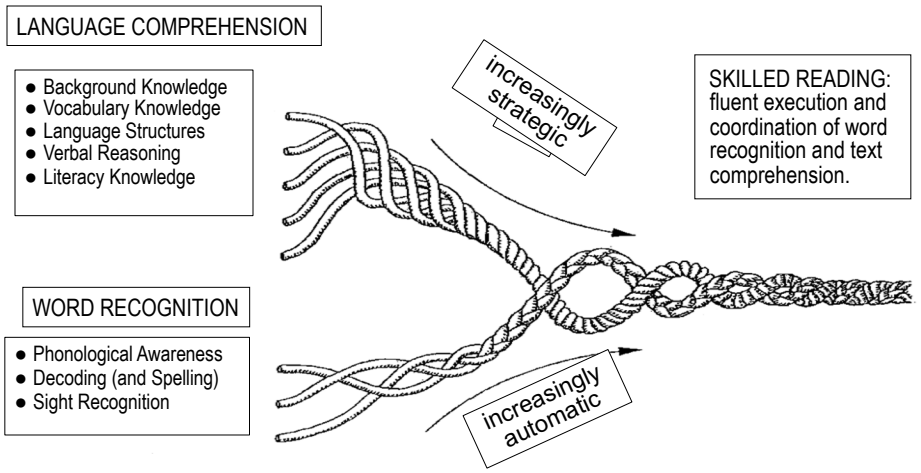
Scarborough's "Rope" – A Model of Reading Development



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What Sound Does Each Letter Represent?

f k n

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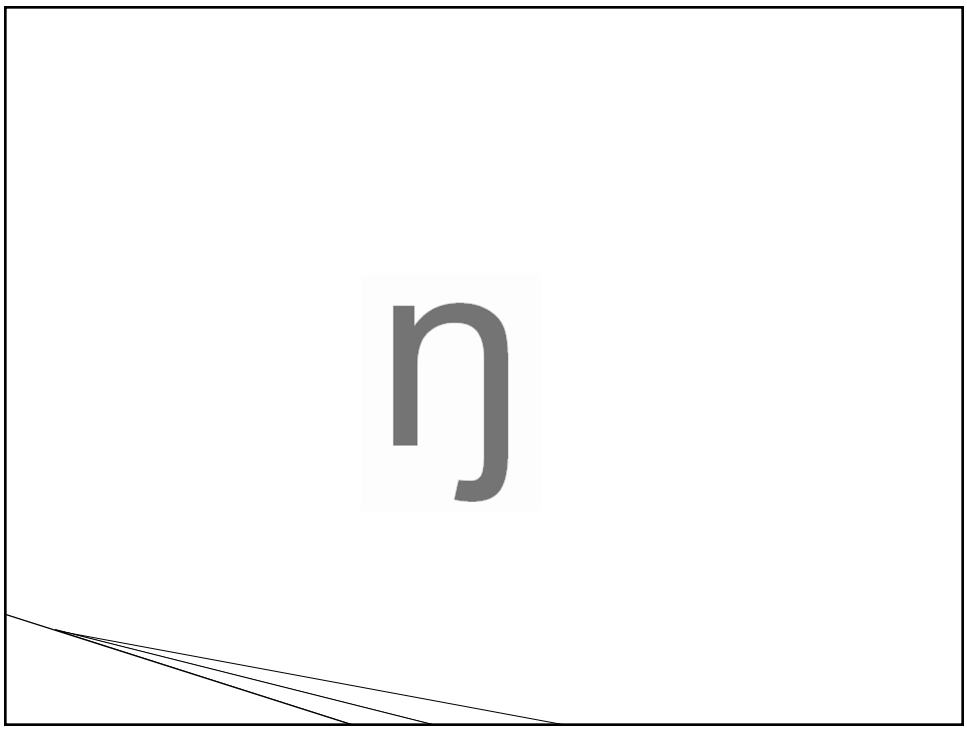

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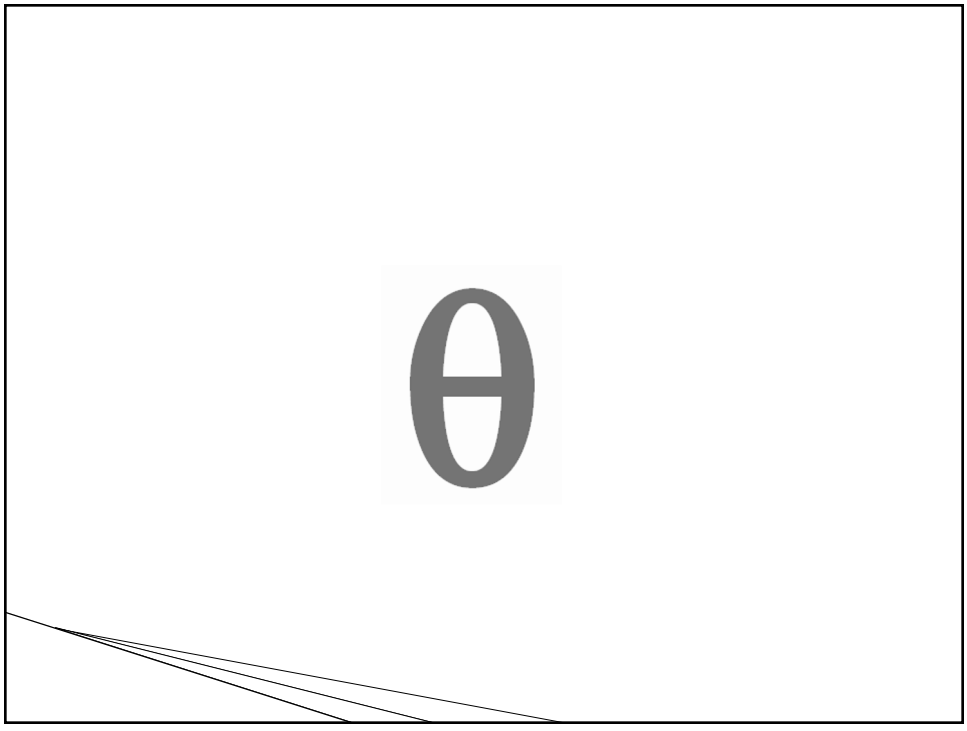

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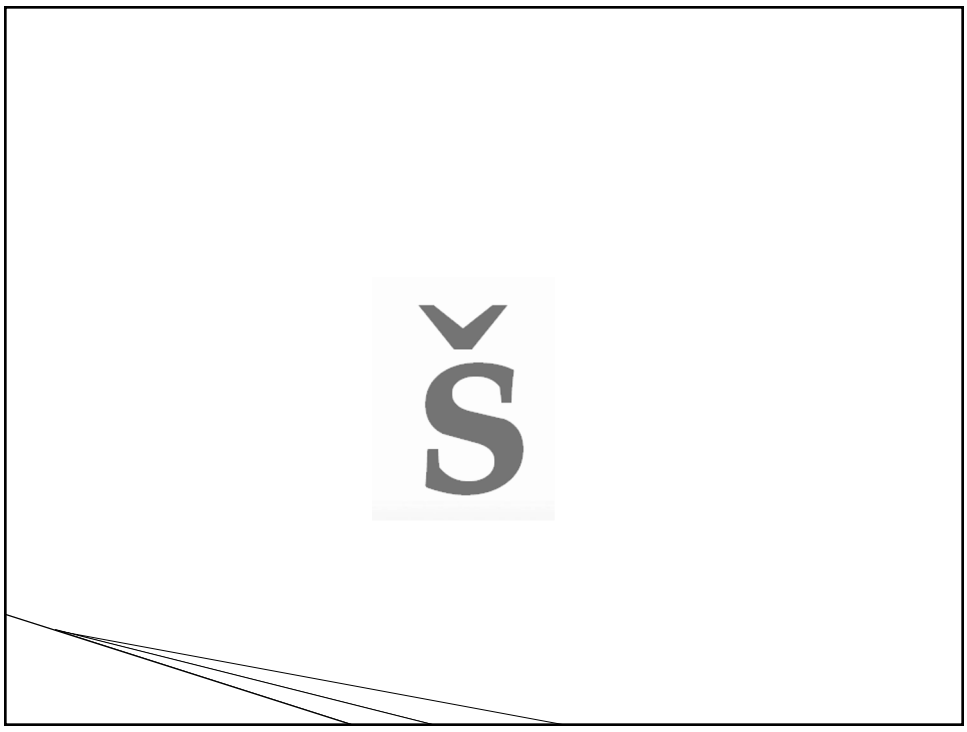

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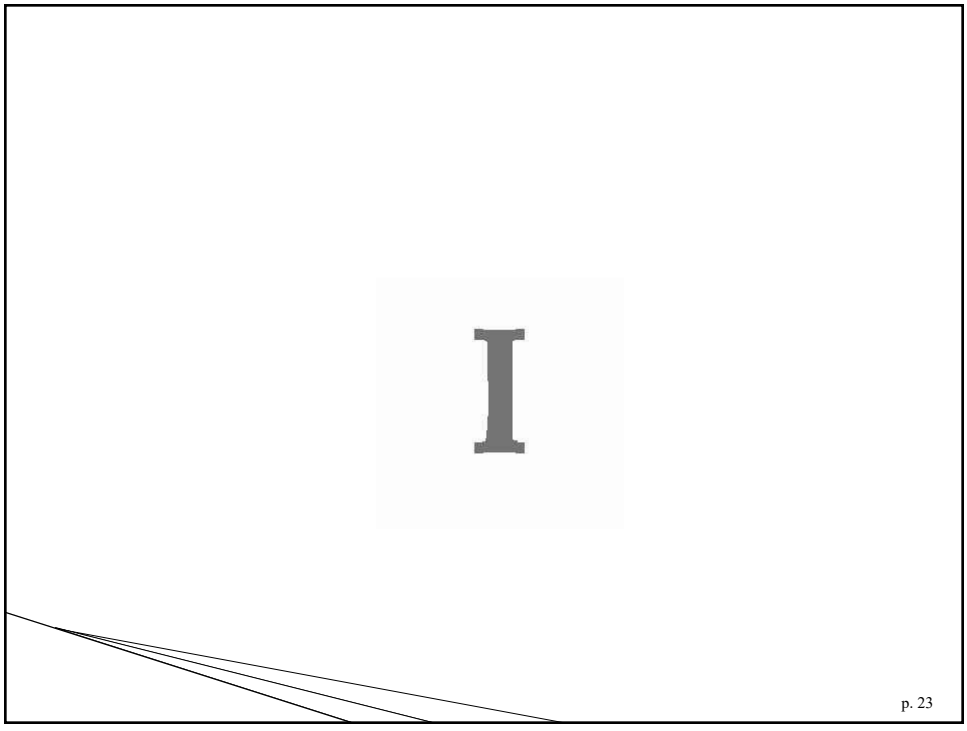

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Practice

f k n

ɪ θ ŋ š

13

Blend Sounds Into Words

ɪn, θɪn, θɪŋ, fɪš

fɪn, šɪn, θɪk

kɪn, kɪŋ, kɪk

kɪŋk, ɪŋk, fɪŋk, θɪŋk

14

"Sight" Words

ænd ə ðə wʌz

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Read Phrases and Sentences

1. θɪk ænd θɪn
2. wʌz ə fɪŋk
3. θɪŋk ɪn ɪŋk
4. kɪk ðə šɪn
5. kɪŋk ðə θɪŋ
6. fɪšɪŋ wʌz ə kɪk.
7. ðə kɪŋ wʌz fɪšɪŋ.
8. ðə kɪŋ wʌz θɪn.
9. ðə fɪš fɪn wʌz θɪn.
10. wʌz ðə θɪŋ ə fɪš?

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Read the Story

ðə kɪŋ wʌz θɪŋkɪŋ ʌv fʌn ænd
wɛ̇ntɪd tu fɪš. "aj wɛ̇nt ə θɪk fɪš,"
θɛ̇t ðə kɪŋ. ðə kɪŋ kɛ̇t ə θɪn fɪš.
"aj wɪš ðə fɪš wʌz θɪk," wɪšt ðə
kɪŋ. ðə kɪŋ šɛ̇kt ðə fɪš ænd kʌt
ðə kɪŋk ɪn ðə θɪŋ. ðə fɪš wɪŋkt tu
ðə kɪŋ!

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Let's Reflect

- Where did you start to struggle?
- What did this exercise feel like?
- What would a teacher have to do to make sure all students "got" what was taught?
  - One new sound-symbol relationship at a time
  - Guided practice and independent practice until overlearned
  - Immediate corrective feedback
  - Application to both decoding and writing until recall is more fluent
  - Minimal number of irregular words or symbols that have not been taught explicitly

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Let's Compare SL with Non-SL

- Focus on oral language (speech) as reference point for print
- Phoneme awareness the start point for understanding print
- Phonemes identified by articulation and sound
- Distinction between "sounds" and "letters"

- Letters are the start point; letters treated as if they "make sounds"
- No explicit teaching of phoneme identity
- No attention to which sounds are confusable
- Treatment of reading as a visual skill

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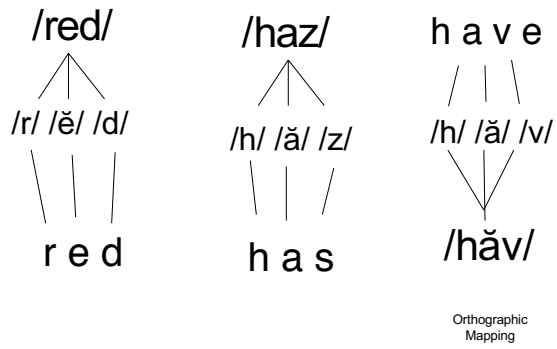
How We "Map" Words to Long-Term Memory

(Kilpatrick, 2015)



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The Critical Role of Phoneme Awareness

- Every level of word reading and spelling depends on phoneme awareness
- An internal representation (mental image) of the phonemes in words serves as Velcro or "parking spots" to anchor or match strings of graphemes
- If phoneme awareness is incomplete, inaccurate, out of focus – then anchoring or mapping print to speech will be adversely affected
- In addition, knowledge of word meanings is affected: *relevant, reverent; syllabus, syllable; flush, flesh; prude, prune*

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Phoneme Awareness: How Many Speech Sounds?

ice _____ sigh _____

coin _____ creep _____

weight _____ quaint _____

song _____ fox _____

few _____ chew_____

22

Why Is Phoneme Awareness Challenging for Novice Learners?

"Children faced with the task of learning to read in an alphabetic script cannot be assumed to understand that letters represent phonemes because awareness of the phoneme as a linguistic object is not part of their easily accessible mental calculus, and because its existence is obscured by the physical properties of the speech stream."

(A. Liberman, 1989, Haskins Laboratories of Yale University)

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More Than A Sound: A Phoneme Has Articulatory Features

Consonant sounds are closed speech sounds. What is your mouth doing as you say each of these sounds?

/p/	(pop)	/t/	(tip)	/k/	(back)
/b/	(bob)	/d/	(dip)	/g/	(bag)
/m/	(mob)	/n/	(nip)	/ng/	(bang)

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Consonant Phonemes by Place and Manner of Articulation

	lips (bilabial)	teeth on lips/ labiodental	between teeth (interdental)	behind teeth (alveolar)	roof of mouth (palatal)	back of throat (velar)	glottis
stops unvoiced voiced	/p/ /b/			/t/ /d/		/k/ /g/	
nasals	/m/			/n/		/ng/	
fricatives unvoiced voiced		/f/ /v/	/th/ /th/	/s/ /z/	/sh/ /zh/		/h/
affricates unvoiced voiced					/ch/ /j/		
glides unvoiced voiced	/wh/ /w/				 /y/		
liquids				/l/	/r/		

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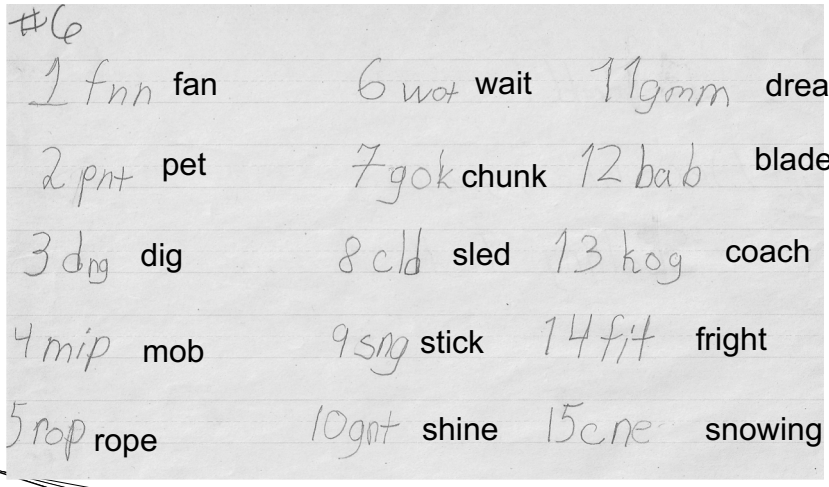
Children with Poorly Developed PA May Confuse Phonemes That Have Similar Features

EFRY	every
INEMS	items
PASMET	basement
GOACH	garage
SGAT	skate

26

Which consonant sounds does this student confuse?



27

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Consonant Sound Wall for K-1

(Adapted from Moats, 2000)

/b/	/p/	/t/	/d/	/k/	/g/
B b bat	P p pig	T t ten 10	D d dog	C c cat K k kiss	G g go
/m/	**/n/**	**/ng/**	**/f/**	**/v/**	**/th/**
M m man	N n nest	-ng ring	F f fish -ff fluff	V v van	Th th three 3
/th/	**/s/**	**/z/**	**/sh/**	**/ch/**	**/j/**
Th th this	S s sun -ss dress	Z z zipper	Sh sh sheep	Ch ch chips	J j jet
/wh/	**/w/**	**/y/**	**/h/**	**/l/**	**/r/**
Wh wh wheel	W w well	Y y yarn	H h house	L l lamp -ll bell	R r rake

28

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Consonant Sound Wall for grades 2-3

(Adapted from Moats, 2000)

/p/	/b/	/t/	/d/	/k/	/g/
P p pig	B b bat	T t ten ed walked	D d dog ed played	C c cat K k kiss ck duck ch school	G g go gh ghost
/m/	**/n/**	**/ng/**	**/f/**	**/v/**	**/th/**
M m man mb lamb mn autumn	N n nest kn knight gn sign	ng ring n pink	F f fish ff fluff ph phone gh tough	V v van	Th th three **/th/** Th th this
/s/	**/z/**	**/sh/**	**/zh/**	**/ch/**	**/j/**
S s sun ss dress c city sc science	Z z zipper zz jazz s was x Xerox	Sh sh sheep ch Chicago ci special ti action si mansion		Ch ch chips tch catch	J j jet g giant dge fudge
/wh/	**/w/**	**/y/**	**/h/**	**/l/**	**/r/**
Wh wh wheel	W w well	Y y yarn u use	H h house wh who	L l lamp ll bell	R r rake wr wrist

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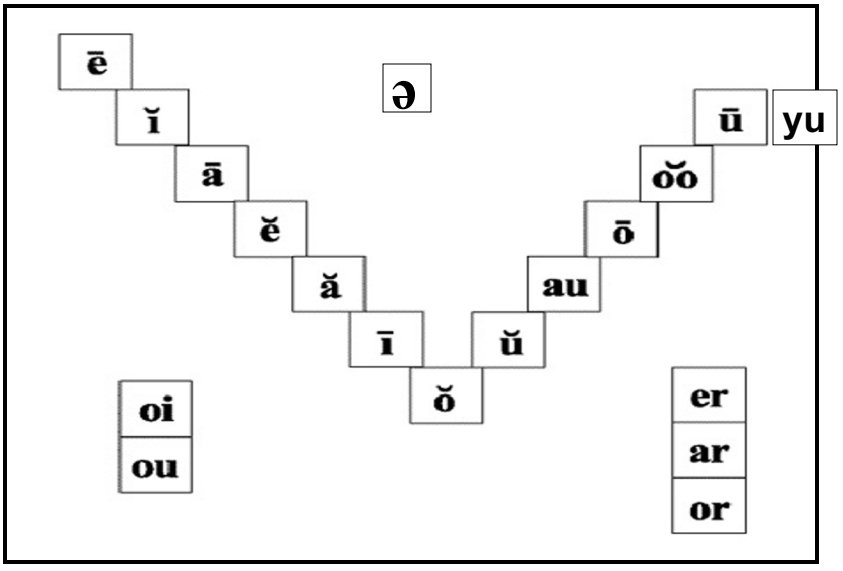
Vowel Sounds of English, by Articulation



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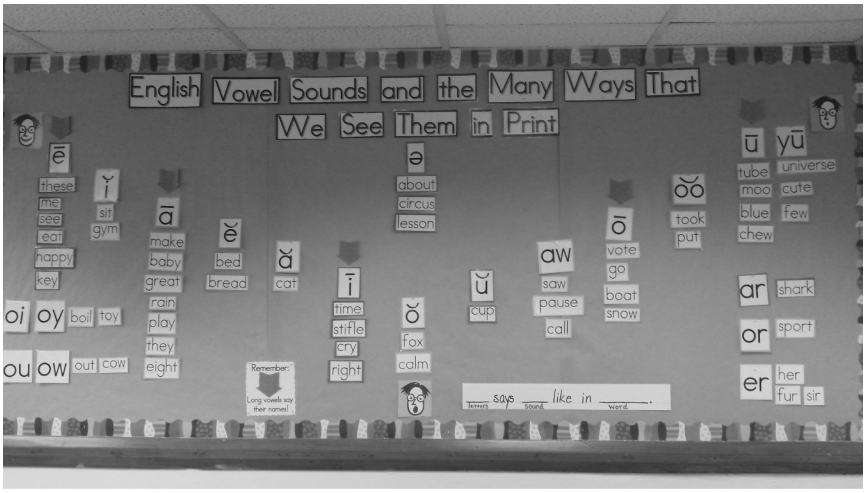
Sound Wall in First Grade



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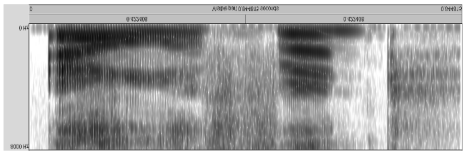
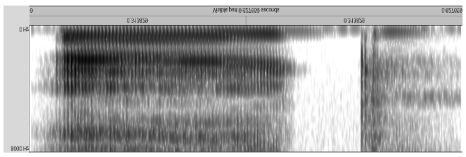
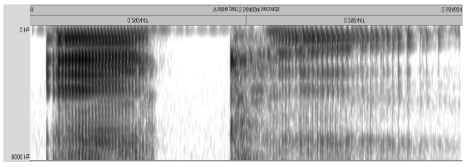
Coarticulation: Phonemes Overlap in Spoken Words



elephant



egg



echo

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"Key Words" for Short Vowels

GOOD	NOT SO GOOD
apple	cat
itch	igloo, iguana, Indian
up	umbrella
octopus	dog, off
echo, Ed, edge	hen, elephant, engine, eye (!)

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PA Benchmarks Between Ages 4–9

Typical Age	Skill Achieved by Most Students
4	Rhyme identification, alliteration
5	Rhyme production, phoneme matching, syllables counting
5.5	Onset-rime, initial consonant isolation
6	Phoneme blending, segmentation (simple)
6.5	Phoneme segmentation, blending, substitution
7	Initial and final sound deletion
8	Deletion with blends
9	Longer and more complex deletion tasks

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Ehri's Phases of Word Reading Development and their Phonological Counterparts (Kilpatrick)

Phonological Development	Word-Reading Development (Ehri)
1. Early Phonological Awareness Rhyming, Alliteration, Syllable Segmentation, First Sound Awareness	1 Letter Name & Letter Sound Knowledge
2. Basic Phonemic Awareness Segmentation & Blending	2 Phonic Decoding & Basic Spelling Skills
3. Advanced Phonemic Awareness Best assessed via phonemic manipulation (and timed)	3 Orthographic Mapping Efficient sight word acquisition (an early version of #3 overlaps with #2)

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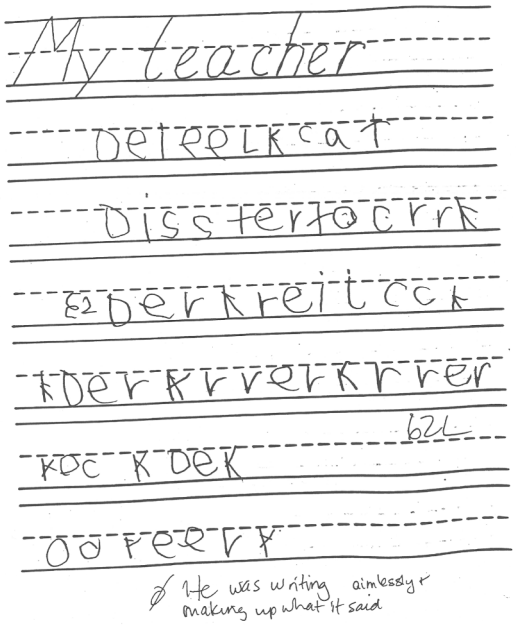
Agree or Disagree?

Instruction must focus first on the identity of phonemes, differentiation of confusable sounds, and phoneme segmentation.



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General Principles, Teaching PA

- Move from early, to basic, to advanced tasks
- Teach the IDENTITY of each sound, with reference to how it is formed
- Have children produce words and sounds
- Model, lead, observe (I do one, you do one)
- Give immediate corrective feedback
- Use movement – vocal, manual, whole body
- Transition to letters as appropriate.

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How Do You Measure All Relevant Aspects of Phonological Skill?

PHONOLOGICAL AWARENESS SCREENING TEST (PAST) David A. Kilpatrick, Ph.D. © 2003, 2010, 2016

- Adapted from the levels used in McInnis (1999) & Rosner (1973)

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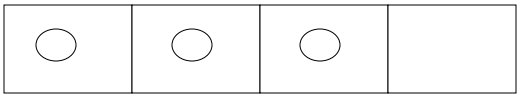
Phoneme Segmentation

- Say the word.
- Model: listen as I say the sounds.
- Guided practice: let's do one together.
- Now you map the sounds.

/sh/ /ar/ /k/



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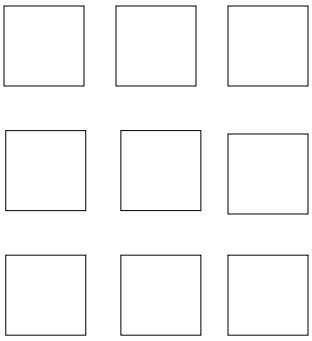
Sound Substitution with Colored Blocks

- Show me "shop."
- Now show me "chop."
- Now show me "chip."



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Sound Chaining with Colored Blocks

steam

stream

street

streets

41

Phonemic Awareness: Reversal

pay	male	safe
sick	lime	note
Max	sign	file
zone	chow	ice

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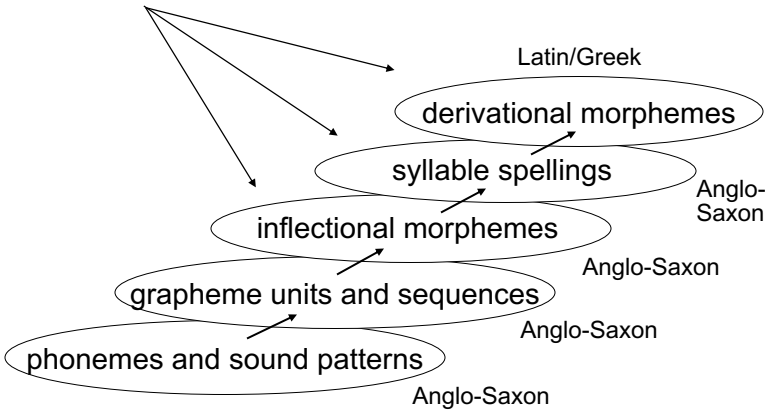
A Progression of Phonics and Word Study



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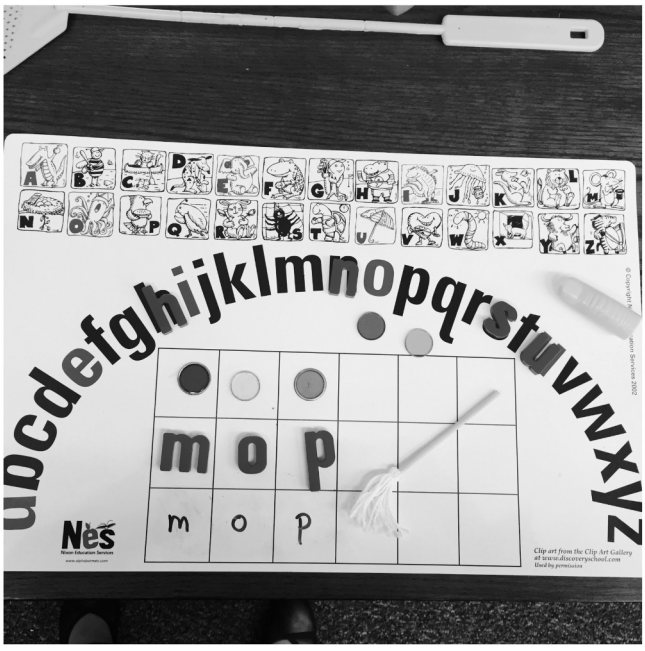
43



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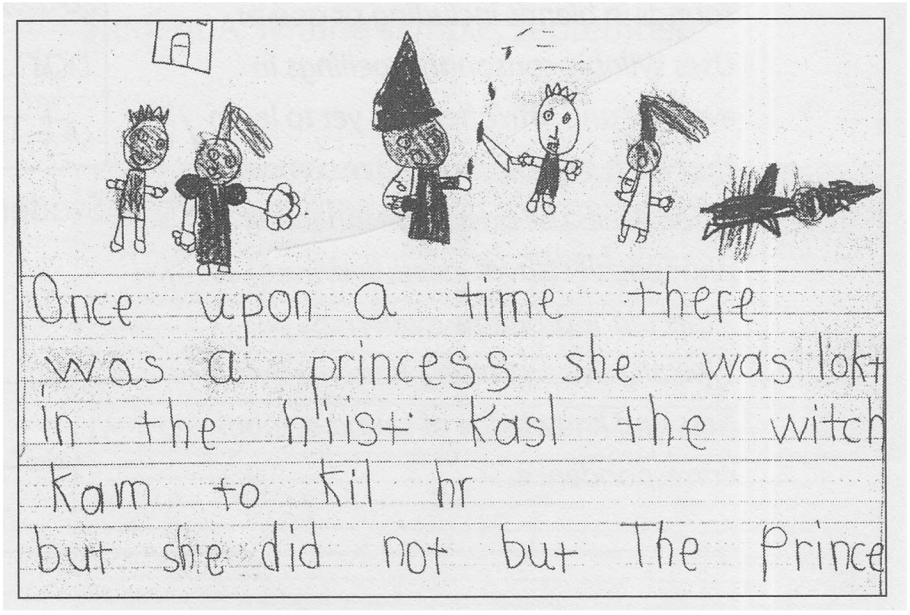
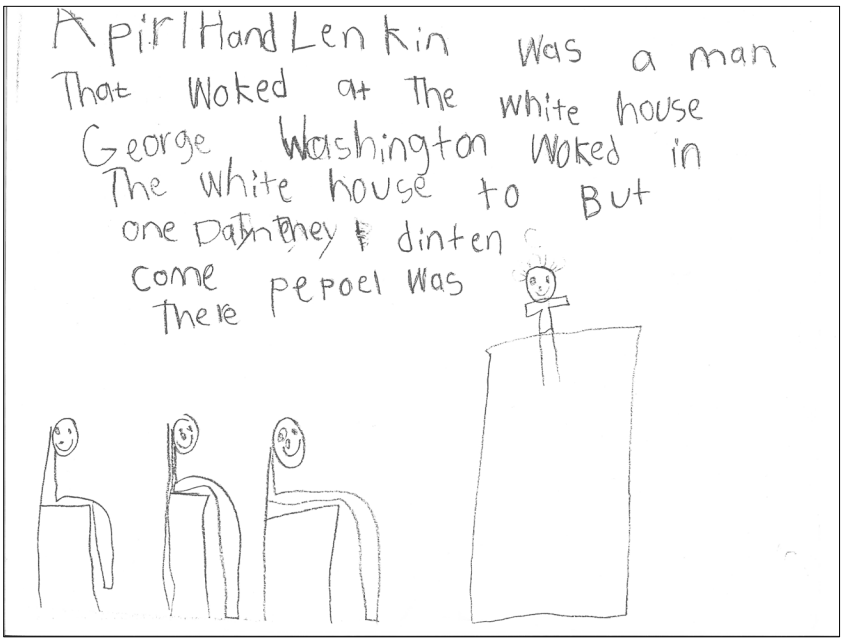
44


Once upon a time there
was a princess she was lokt
in the hiist kasl the witch
kam to kil hr
but she did not but The Prince

45

45


Apir1HandLenkin Was a man
That Woked at The white house
George Washington Woked in
The White house to But
one Dathey dinten
come
There pepoel Was

46

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Generic Framework for a Phonics/Word Study Lesson

- Review/reread familiar text
- Phoneme awareness or listening task
- Introduce new correspondence pattern
- Provide guided practice with immediate feedback
- Vary the supervised, independent practice
- Spell pattern words and write sentences
- Read decodable text

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Phoneme-Grapheme Mapping

wet	w	e	t	
went	w	e	n	t
when	wh	e	n	
wish	w	i	sh	
witch	w	i	tch	

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Your Turn: Map These Words

choose				
cape				
wedge				
purse				
have				

49

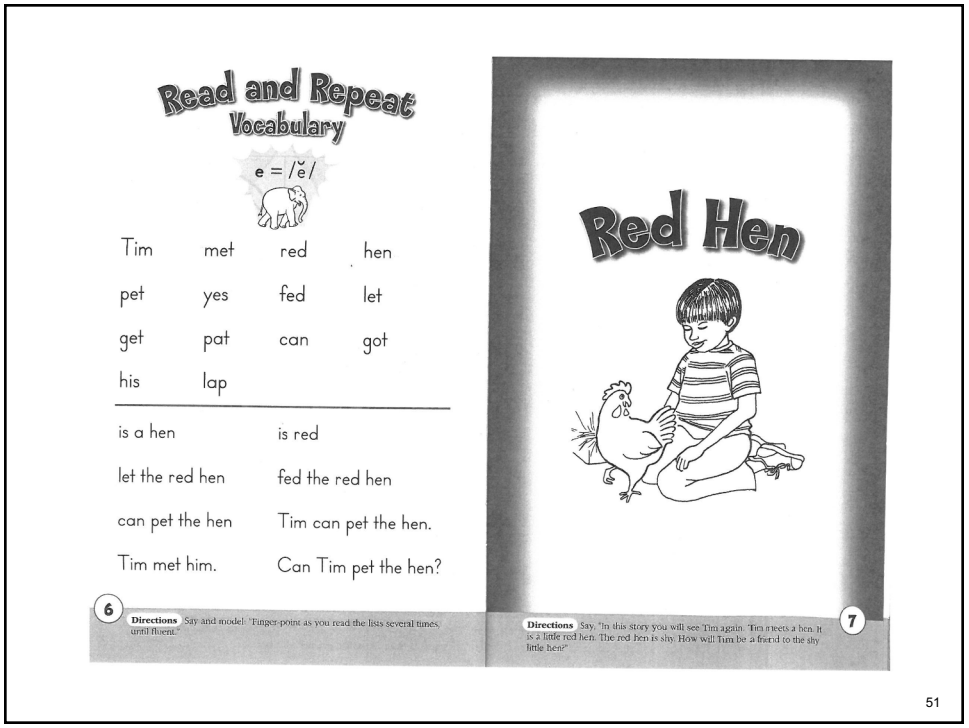
49

Your Turn: Map These Words

choose	**ch**	**oo**	**se**	
cape	**c**	**a**	**p (e)**	
wedge	**w**	**e**	**dge**	
purse	**p**	**ur**	**se**	
have	**h**	**a**	**ve**	

50

50



Read and Repeat
Vocabulary

e = /ĕ/

Tim	met	red	hen
pet	yes	fed	let
get	pat	can	got
his	lap		

is a hen	is red
let the red hen	fed the red hen
can pet the hen	Tim can pet the hen.
Tim met him.	Can Tim pet the hen?

6 **Directions** Say and model: "Finger-point as you read the lists several times, until fluent."

Red Hen

7 **Directions** Say, "In this story you will see Tim again. Tim meets a hen. It is a little red hen. The red hen is shy. How will Tim be a friend to the shy little hen?"

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How many words have these patterns?

-ate	-ait	-eight	-aight

Brainstorm lists of words with each of these patterns.

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Familiarity with Orthographic Patterns Helps Speed Word Recognition

-ate	-ait	-eight	-aight
date fate gate grate hate late mate rate crate	bait gait wait strait	freight weight	straight

Learning words with these patterns depends on phoneme awareness (/k/ and /t/ differ), orthographic awareness, and meaning.

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Words We Want Students to Read in Grades 1-2: What Pattern?

- grass, fell, miff
- gentle, germ, gymnast
- bridge, watch
- nose, rice, wage
- give, have, sieve
- find, sold, pint, post
- pepper, rabbit, mishap, napkin

54

54

Syllable Spelling Conventions

Closed	Open	VCe
dap con bot	ma wri bu	trite bune tane
Vowel Team	Vowel-R	-Cle
tain sigh weigh	var ter dor	-gle -tle -ple

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Sort the Syllables

wagon carport careful airhead cable

Closed Open VCe

Vowel Team Vowel-R -Cle

56

Sort the Syllables (Answers)

wagon carport careful airhead cable

Closed	Open	Vce
wag – on	ca	care
Vowel Team	**Vowel-R**	**-Cle**
air – head	car – port	-ble

57

Beware of Schwa! /ə/

wag + on	at + tend
cir + cus	of + fend
trum + pet	re + duce
king + dom	sup + pose
cap + tain	ef + fect

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Spelling by Syllable

1	2	3	4	WORD
noc	tur	nal		nocturnal
ac	com	plish	ment	accomplishment
in	ter	nal	ize	internalize
pro	duct	ive		productive

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Dividing Words into Syllables and Morphemes

Syllable	Morpheme
trac-tor	tract-or
po-et-ry	poet-ry
u-ni-cy-cle	uni-cycle
gen-tle	gent-le
un-der-played	under-play-ed

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Historical Layers of English

	Morpheme Structure
Anglo-Saxon	Compounds (yellowtail) Inflections (-ed, -s, -ing, -er, -est) Base words Suffixes (-hood, -ward, -en)
Latin	Prefixes (ad, re, in, sub, pre) Roots (dict, ject, vers, fer, port) Suffixes (ion, ive, ity, ous, ful) Latin plurals (alumni, alumnae)
Greek	Combining forms, plurals (parenthesis, parentheses)

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Two Types of Suffixes

inflections:

- learned early
- do not change a word's part of speech
- a fixed set or class of words
- change tense, number, and degree (*-ed*, *-s*, *-er)*

derivations:

- added to a root (usually from Latin)
- mark part of speech or grammatical role (*compare, comparison, comparative, comparatively*)

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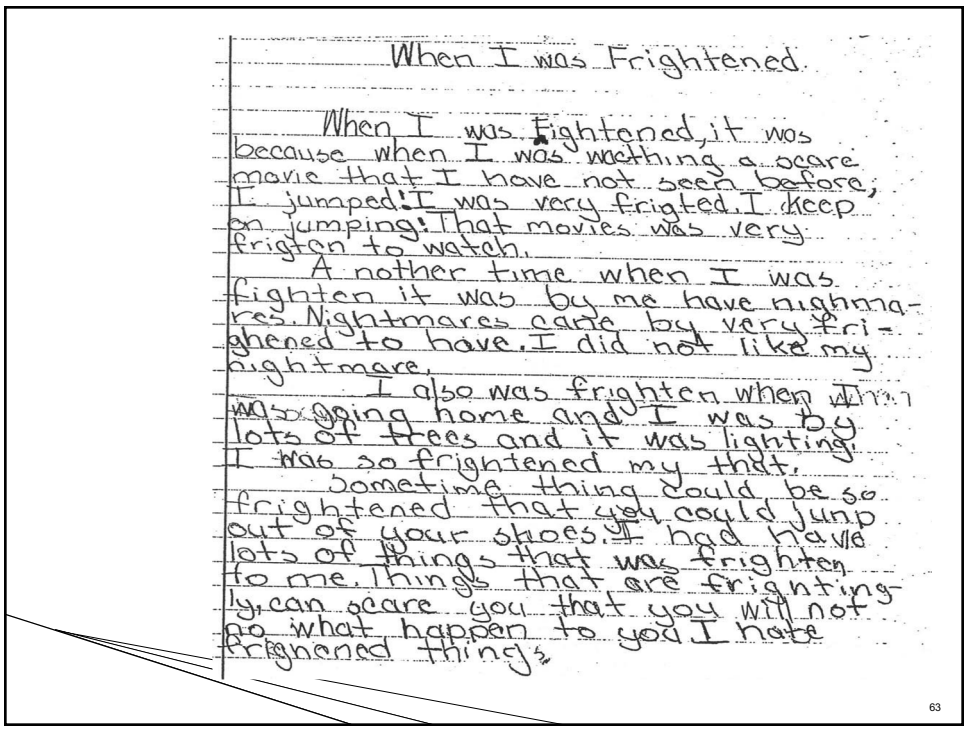

When I was Frightened.

When I was Fightened, it was because when I was watching a scare movie that I have not seen before, I jumped! I was very frigted, I keep on jumping! That movies was very frigten to watch.

A nother time when I was fighten it was by me have nighma-res. Nightmares came by very fri-ghened to have. I did not like my nightmare.

I also was frighten when I was going home and I was by lots of trees and it was lighting. I was so frightened my that.

Sometime thing could be so frightened that you could jump out of your shoes. I had have lots of things that was frighten to me. Things that are frighting-ly, can scare you that you will not no what happen to you I hate frighened things.

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Morphological Word Building

			ion	
de in	con		ive	
	struct		able	
re				**s**
	ob			**ed**
				ing

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How Do We Read and Spell a Word Like *Astronaut*?

astro – naut (morpheme)
as-tro-naut (syllable)
a-s-t-r-o-n-au-t (grapheme)
a-s-t-r-o-n-a-u-t (letter)
[ă s t r ə n ŏ t] (phoneme)

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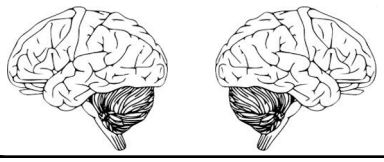
What Happens in Non-SL Programs?

- Words are treated as visual strings of letters, without reference to the sounds, syllables, and morphemes represented in print
- Visual shape memory is emphasized, although it plays virtually no role in WORD reading (beyond visual acuity)
- The nature of orthographic memory and the role of phonology is not understood



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Consider That You Can Read These

Mental graphemic images

Mental graphemic images

Mental graphemic images

Mental graphemic images

Mental graphemic images

Mental graphemic images

MENTAL GRAPHEMIC IMAGES

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Ubiquitous in Our Classrooms…

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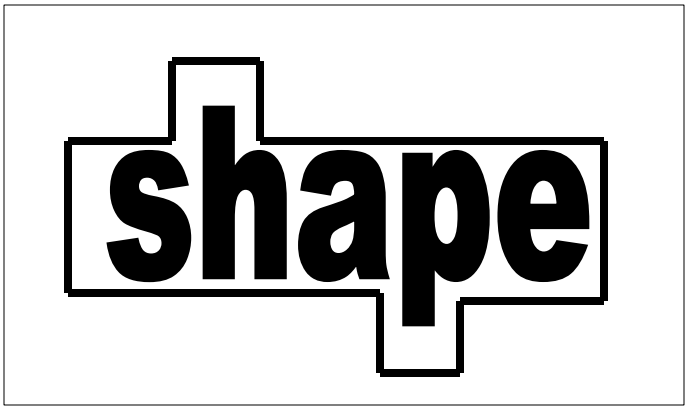
Words Are Not Recognized by Configuration!



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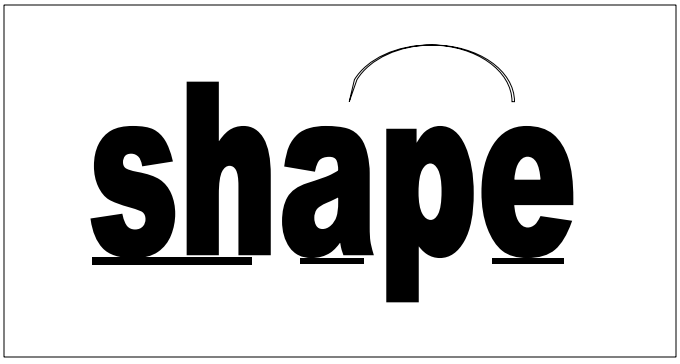
Word Recognition Depends On Fast, Accurate, Speech-Print Mapping!



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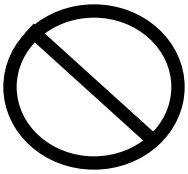
This Is Not Phonics Instruction…

O	E
one	eye
once	eat
only	end
out	every
open	even
on	
off	



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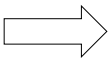
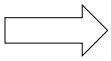
Making Words: Fine for Students Who are Pretty Good Readers Already



i, u, k, m, n, p, p

up, in, ink/kin, pin, pun, pup, pump, pink, mink, pumpkin



a, i, b, b, r, s, t

at, sat, rat, bat, bar, tar, star, stir, stair, rabbits

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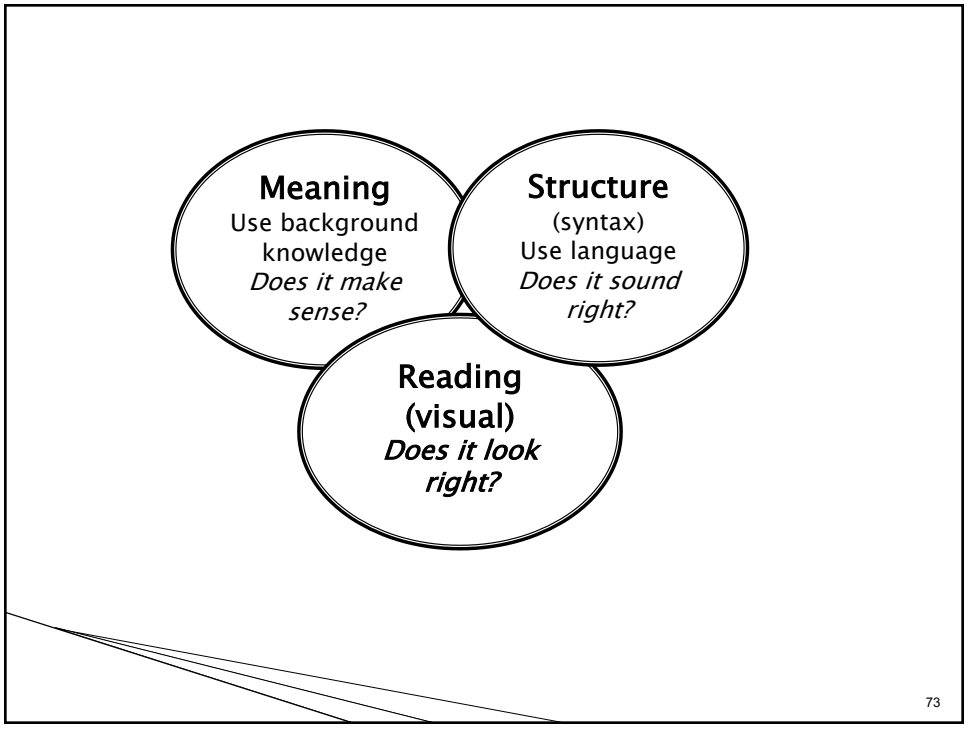
72



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By default, students are told to:

- Guess at unknown words from pictures and context
- Use “sounding out” as a last resort – although sounding out is not taught
- Read many words in leveled texts with patterns that have not been taught
- Spell by guesswork and invention
- Be satisfied with approximations that are incorrect

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Materials for Preventative, SL Classroom Instruction

- *Ladders to Literacy* (O'Connor et al.)
- *Road to the Code* and *Road to Reading* (Blachman et al.)
- *Phonemic Awareness in Young Children* (Adams et al.)
- *Phonological Awareness Skills Program* (J. Rosner)
- *Florida Center for Reading Research* (online materials)
- *Equipped for Reading Success* (D. Kilpatrick)
- *Phonemic Awareness: The skills that they need to help them succeed!* (M. Heggerty)
- *Sound-Spelling Cards* and *Kid Lips* Pictures – Tools4Reading

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Supplementary Phonics, Decoding, and Spelling – Sample Programs

- Phonics Boost and Phonics Blitz, Really Great Reading Company
- Fundations (Wilson)
- Phono-Graphix (McGuinness)
- SIPPS – Systematic Instruction in Phonics, Phonological Awareness, and Sight Words
- Phonics and Spelling Through Phoneme-Grapheme Mapping (Grace)
- Spelling by Pattern (Javernick & Moats)

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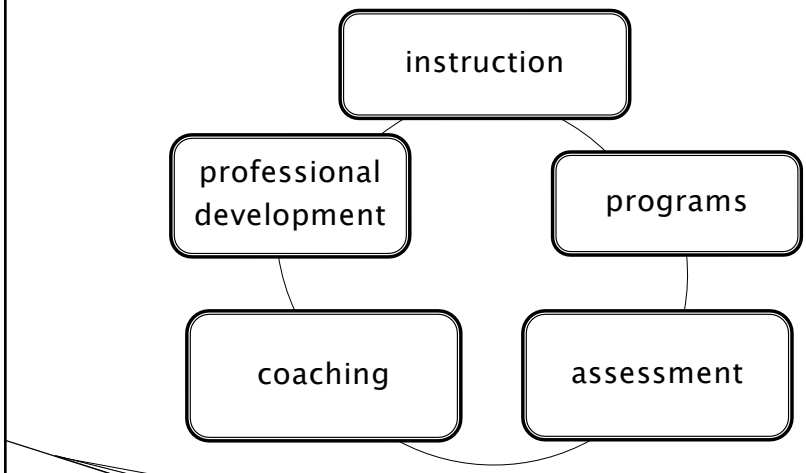
Can We Change Predicted Outcomes? Yes!



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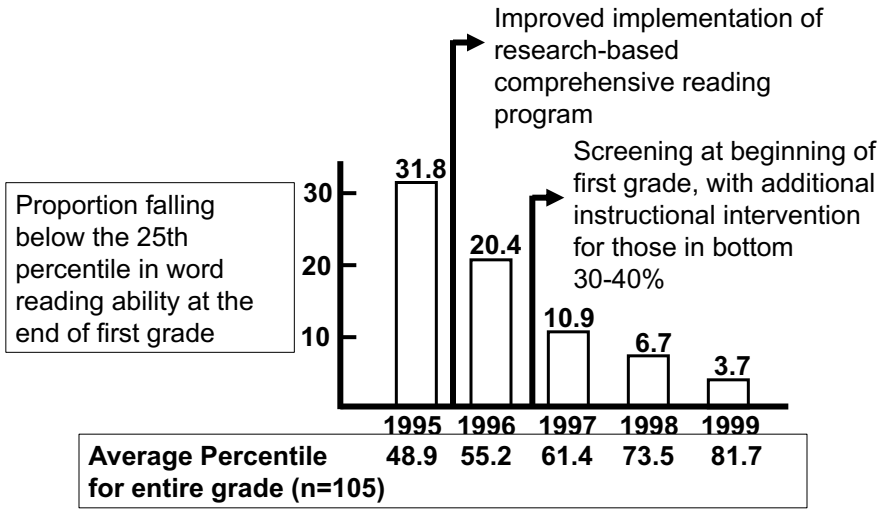
Hartsfield Elementary School Progress Over Five Years



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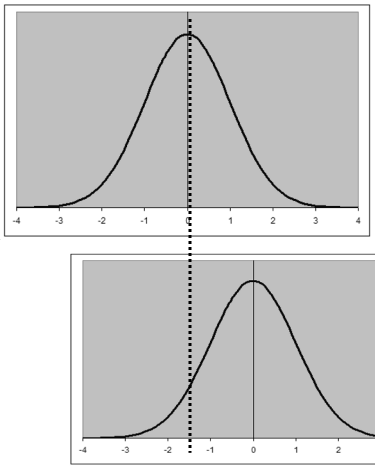
"Defying the Odds"



Typical distribution of results (national, state, local)

Outstanding classroom, school, or district

79

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Thank You!

For the work you are doing and for your participation in this session!

Louisa.moats@gmail.com
www.louisamoats.com

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Contrasting Structured Literacy Approaches with Typical Literacy Practices

Fox Reading Conference
Tennessee Center for the Study and Treatment of Dyslexia
March 21st, 2020

LOUISE SPEAR-SWERLING, PH.D.

PROFESSOR EMERITA

SOUTHERN CONNECTICUT STATE UNIVERSITY

NEW HAVEN CT

Opening: Paul's Story

At right: Paul (1922 - 1999) with his younger sister Georgette, circa 1945.

Introduction: Key features of dyslexia

- Central problem: learning to decode and spell printed words
- Usually based in phonological processes
- Broad oral language comprehension typically average or higher
- Students' broad intelligence also typically average or higher

(Fletcher, 2009; Fletcher, Lyon, Fuchs, & Barnes, 2019; Siegel, 1999; Stanovich, 2000)

Introduction: Key features of dyslexia (continued)

- Dyslexia involves an "unexpected" reading difficulty that is not primarily due to another disability or to experiential factors, such as English learner status, limited experience with language/literacy, or inadequate instruction

Key features of dyslexia (continued)

- Core deficit is relatively circumscribed but can have secondary effects on many areas, e.g., reading comprehension, written expression, content learning, motivation
- Reading comprehension usually good in texts the student can decode well
- Very common disability, 1 in 20 children even by more conservative estimates (e.g., Siegel, 2006)

Effective features of intervention for students with dyslexia

- Not a qualitatively different approach to intervention, but may need significantly more intensity
- More instructional time, smaller group size, more teacher scaffolding, more practice
- Highly explicit, systematic instruction in phonemic awareness, decoding, spelling, are key intervention needs

(Fletcher et al., 2019; Torgesen, 2004; Torgesen et al., 2001)

Effective features of intervention (continued)

- Ample practice reading texts is another key component of effective interventions (Kilpatrick, 2015; Vadasy, 2005)
- Early identification/intervention important to good outcomes
- Example: accuracy vs. fluency outcomes (Torgesen et al., 2001; Wexler et al., 2010)

These features of intervention are consistent with “Structured Literacy” (International Dyslexia Association, 2019).

Furthermore …

Many poor readers have problems similar to those seen in dyslexia and can benefit from similar types of intervention.

Percentage of reading problems due partially or entirely to poor decoding across grade levels:

- Children identified as poor readers in K to Grade 3: 95% (Leach, Scarborough, & Rescorla, 2003)
- Children identified as poor readers in Grade 4 to 5: ~67% (Leach et al., 2003)
- Children identified as poor readers in Grades 5 to 8: 48% (Catts, Compton, Tomblin, & Bridges, 2012)

Poor readers with problems based entirely in comprehension rather than decoding may also benefit from the explicit teaching characteristic of SL approaches – for instance, in areas such as vocabulary and text structure (Kamil et al., 2008).

Dyslexia and other reading problems emerge in an educational context, often (not always) in the primary grades.

What kinds of typical literacy practices do many of these students experience, in these grades (and beyond)?

How is phonics often taught in typical literacy practices?

- Phonics usually included in instruction, but often not emphasized even for beginners
- In one popular reading program it is 1 of 8 areas taught, even in Grade 1
- Phonics teaching frequently not very explicit or systematic

(Hanford, 2019; Moats, 2017; Spear-Swerling, 2018)

Phonics in typical literacy practices (continued)

- *Example*: children may be expected to read words with common vowel patterns (e.g., *salt, fright, work*), when they have not yet learned sounds for the relevant patterns (e.g., *alt, igh, wor*)
- *Example*: children may be expected to spell words with common suffixes (e.g., *flipped*, *shady*) when they have not yet learned to spell the base word (e.g., *flip, shade*)

Phonics in typical literacy practices (continued)

- *Example*: there may be a heavy emphasis on “word walls” in which word patterns and word regularity vary greatly, so inferring phonics relationships is difficult

Sample Grade 1 “word wall” for the letter *b*:

be

been

best

big

boy

brother

bird

Sample Grade 1 “word wall” for the letter *b*:

	WHAT PATTERN?
be	Open syllable, long vowel
been	Irregular word
best	Closed syllable with ending blend
big	Closed single cons (CVC) word
boy	Vowel team (*oy*), not CVC
brother	Irregular word
bird	Vowel R word (*ir*)

Phonics in typical literacy practices (continued)

- Initial phonics instruction may heavily emphasize a large-unit approach such as “word families”(e.g., *back, sack, pack, track, shack* ...)
- This approach does not foster close attention to letter sequences in words, a key habit for beginning readers to develop
- Also does not incorporate phoneme blending, an important skill

A brief digression on different phonics approaches:

- Analytic/analogy: Initial focus is on analyzing whole words (often patterned words, e.g., decode *stack* by comparison to *back, sack, shack*)
- Onset-rime: Initial focus is on learning sounds for common onsets and rimes and how to blend them, e.g., *st-ack, ch-ill, fl-ake*
- Synthetic phonics: Initial focus is on learning grapheme-phoneme relationships and how to blend phonemes into whole words
- Post-NRP research favors explicit, systematic synthetic phonics

(Brady, 2011; Christensen & Bowey, 2005)

In Structured Literacy approaches, phonics instruction generally uses an explicit, systematic, synthetic-phonics approach.

- *Example*: to decode *shack*, learn sounds for the letter patterns *sh, a, ck*, and how to blend them
- Instruction in phoneme awareness (e.g., phoneme blending and segmentation) also very important to include
- As children progress beyond the earliest stages of reading, must teach larger units such as common vowel patterns (e.g., *ee, all, igh*), vowel with r (*ar, er, ir*), and common morphemes (e.g., *-ing, -ed, -ness*)

Explicit, systematic phonics teaching requires careful choices of practice examples for children

- *Example*: Some practice words for decoding CVC words with *a*: *tap, bag, sad, cab, hat, lap, rag*
- For spelling, use same category but different practice words
- *Example*: Some practice words for spelling CVC words with *a*: *tag, nap, sat, mad, vat, sag, lab*
- Teacher must filter out words like *bay, car, jaw,* and *was*
- Point is to develop decoding and encoding skill on any regular CVC word, not just whether the child can decode/spell these particular words

It is very difficult for educators to teach phonics well, particularly to large groups of children or those who struggle, without research-based phonics curricula and materials.

However, some schools do not provide teachers with these kinds of curricula.

Another problem in typical literacy practices involves the use of certain instructional activities that unintentionally confuse or mislead children about how to read unknown words.

One of the best examples of this problem involves the use of word configuration activities (word shapes).

Name: ______________________ Date: ____________

WORD MANIA WORD SHAPES

Word List

rag	pun	nap	pea	ran	nod
rat	pen	pin	rod	nit	ill

Name______________________

Word Shapes

Directions: Write the spelling words in the correct boxes below.

scratch	scrape	spring	throne	stripe
strange	shred	shrub	splash	split

1.

2.

3.

4.

5.

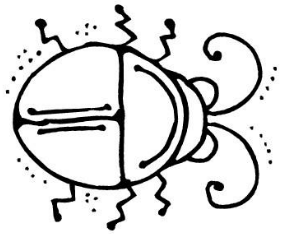
6.

7.

8.

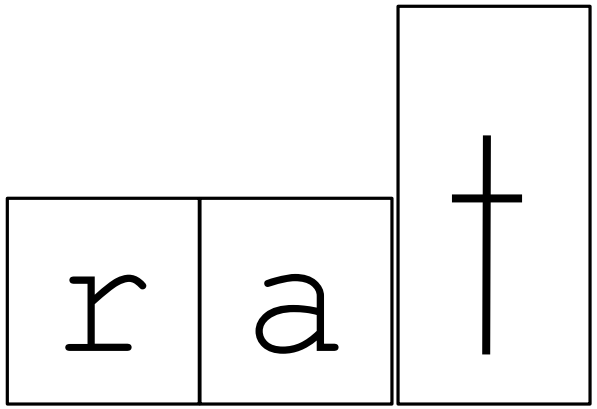
9.

10.



 Unit 2.5

In English, word shape is completely useless for learning to decode or spell unknown words.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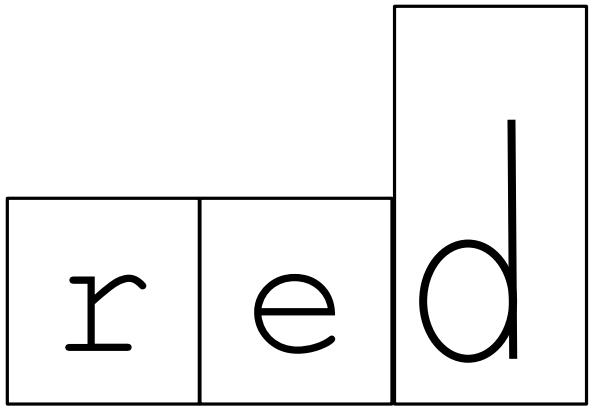
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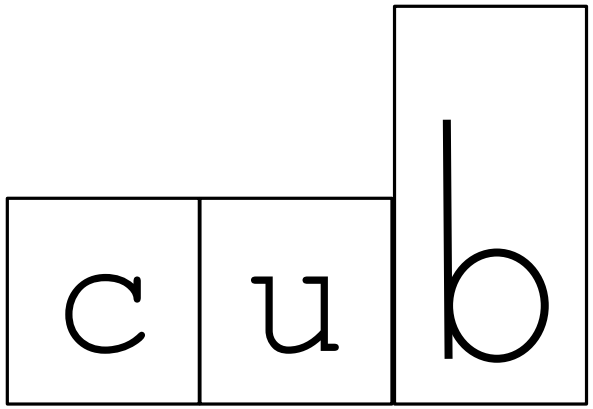
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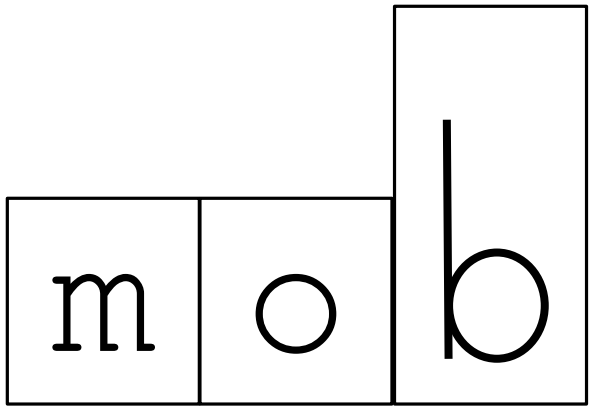
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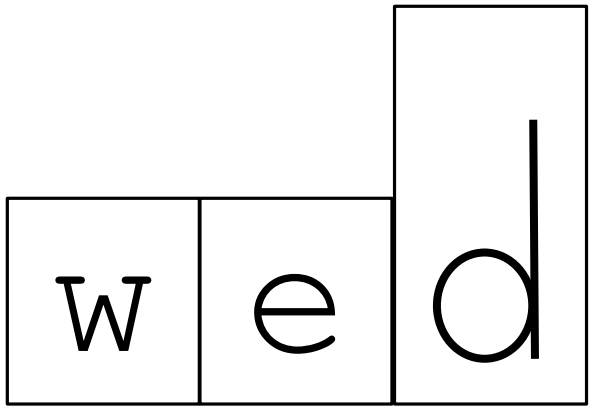
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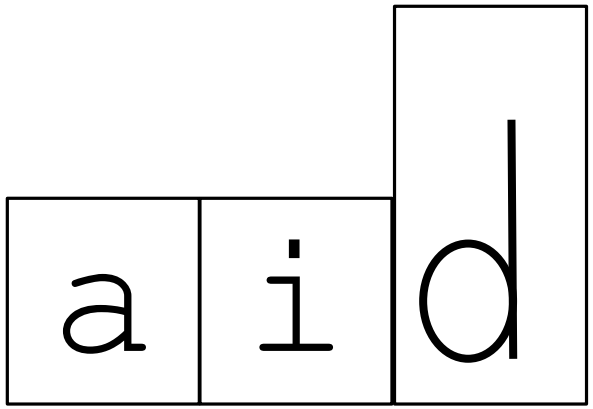
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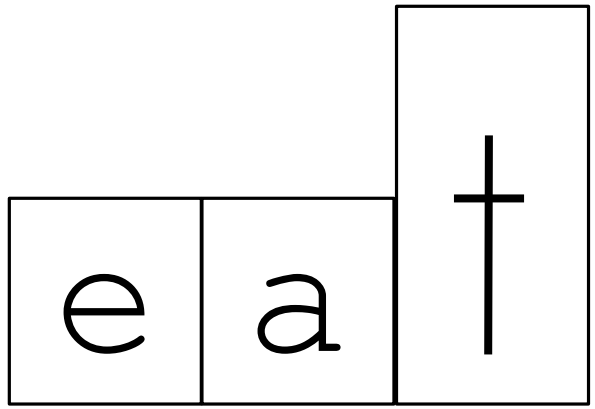
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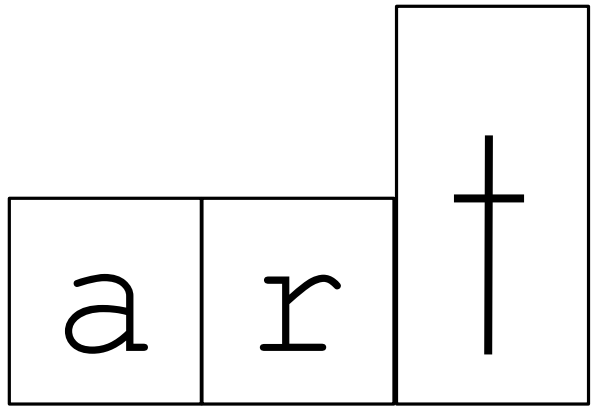

a
r
t

How would a word such as *art* be taught in an SL approach?

- This is a vowel-r word
- The pattern *ar* says /ar/
- Children blend /ar/, /t/ to produce “art”
- This approach helps children decode many other words with similar patterns and letter sounds
- For example: *art, ark, arm, bark, lark, smart, start, hard, farm, tar …*
- Repeated exposure to words with similar letter patterns builds automaticity

In typical literacy practices, instruction often relies on “three cueing systems” (MSV) models of reading.

The “Three Cueing Systems” (MSV) Model of Reading

- Based on the work of Goodman (1976), Clay (1994), and others
- Says that children become good readers by using multiple cues to read words
- Meaning cues
- Structural (syntactic) cues
- Visual/“graphophonic” cues (i.e., letter sounds)
- If children come to a word they cannot read when reading text, they are encouraged to use partial letter cues coupled with picture/sentence context, rather than looking carefully to decode

Examples of commonly taught three-cueing/MSV strategies for word reading:

(from Emily Hanford, APM Reports, *At a Loss for Words*, https://www.apmreports.org/story/2019/08/22/whats-wrong-how-schools-teach-reading)

Decades of scientific evidence shows that good readers do **not** use “three cueing systems” to read words.

(e.g., Adams, 1998; Foorman et al., 2016; National Reading Panel, 2000; Stanovich, 2000)

Exchange observed by a paraprofessional in a Grade 1 classroom:

Teacher to class: “Maisie is such a good reader. She knows all her strategies!”

Maisie: “I do know ‘em, but I don’t use ‘em. When I see a word I don’t know, I just sound it out!”

Why does this matter?

- Encouragement to guess at words in decoding distracts children from close attention to the print
- This is very problematic for developing skilled, fluent reading
- Guessing based on context does not work well for advanced types of texts
- Even if phonics is being taught well in one part of the reading curriculum, if children learn to guess at words when reading text, this will tend to undermine their reading progress

Why does this matter? (continued)

- Guessing at words based on context cues can become a very hard habit to break (Foorman et al., 2016)
- Especially problematic for children with dyslexia and other decoding difficulties, because they have weak decoding and often are already inclined to over-rely on context cues

Example: Jesse, Grade 7

- Student with a history of preschool language delay (expressive language)
- Identified with SLD/dyslexia in Grade 1
- All oral language abilities in average range or higher since Grade 3
- Many years of Structured Literacy intervention, since primary grades

Jesse's current (Grade 7) scores on WIAT-III (average SS = 85 to 115)

- Listening Comprehension SS = 108
- Oral Expression SS = 98
- Word Reading (real words) SS = 84
- Pseudoword Decoding (nonsense words) SS = 93
- Oral Reading Fluency (rate) SS = 89
- Oral Reading Fluency (accuracy) = 67

As is the case in many schools, typical literacy practices in Jesse's school emphasized "three cueing systems" in text reading, and likely undermined the effectiveness of his SL program in phonics.

It is important to distinguish using context cues to **decode words** vs. to **aid comprehension.**

Mary has two cats. When they go to sleep, they like to snuggle up to each other.

- A child cannot read the word *snuggle*. She uses the first couple of letters combined with the picture and/or sentence context to try to read the word. **This is using context to aid decoding.**

- A child can read the text, including the word *snuggle*, but does not know what *snuggle* means. She uses sentence context and/or the picture to figure out what the word means (i.e., move into a warm, comfortable position). **This is using context to aid comprehension.**

Two different uses of context

Good readers do not rely heavily on context **to aid decoding.**

Good readers do use context **to aid comprehension**, e.g., to figure out unfamiliar word meanings or multiple meanings of words.

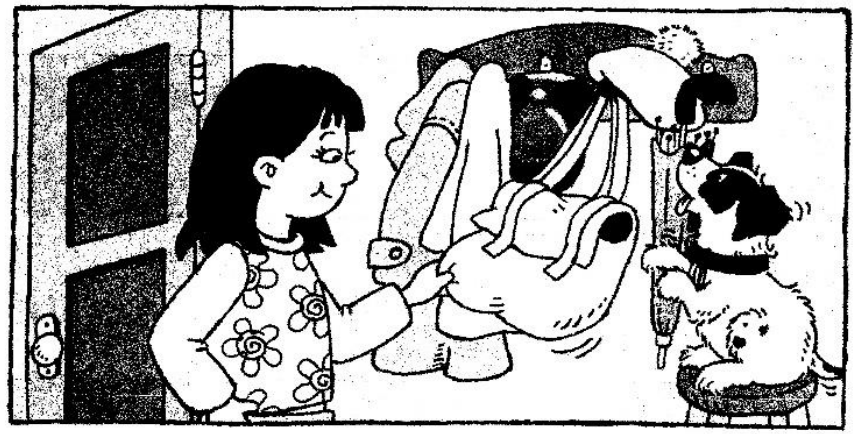
A related problem in typical literacy practices involves the types of texts that are used for children's reading, especially in the early stages of learning to read.

What kinds of texts are used for beginners' reading in typical literacy practices?

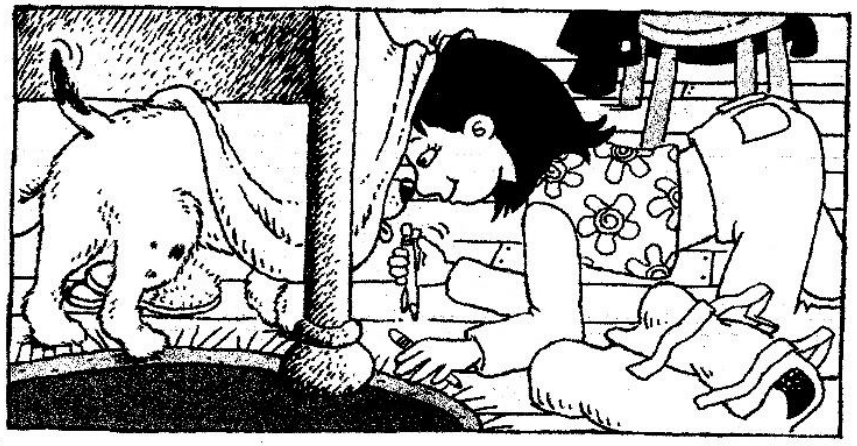
- Children are often placed for text reading in predictable leveled texts (Goldberg, 2019; Moats, 2017; Spear-Swerling, 2018)
- Texts contain many words that weak decoders are unable to decode
- Fosters a habit of guessing at words based on pictures or sentence context
- Weak decoders do not get opportunities to apply their decoding skills in text reading

From *Maria Goes to School*, Leveled Book A, Reading A-Z, www.readinga-z.com/books/leveled-books/

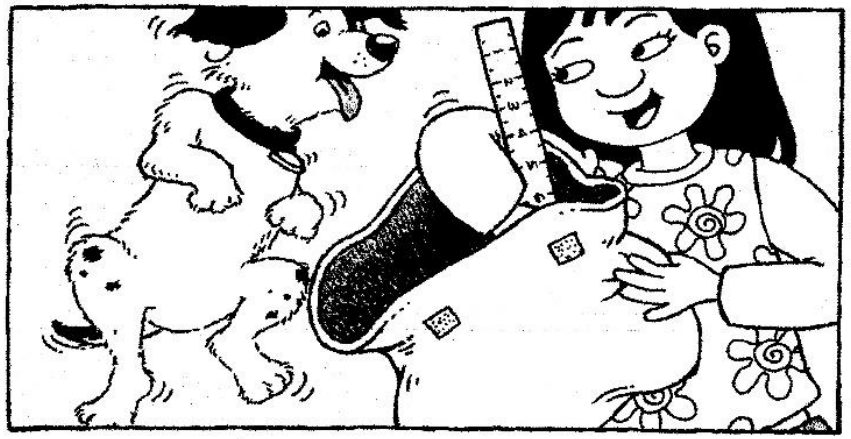
(Site also has some very good decodables.)



I get my backpack.

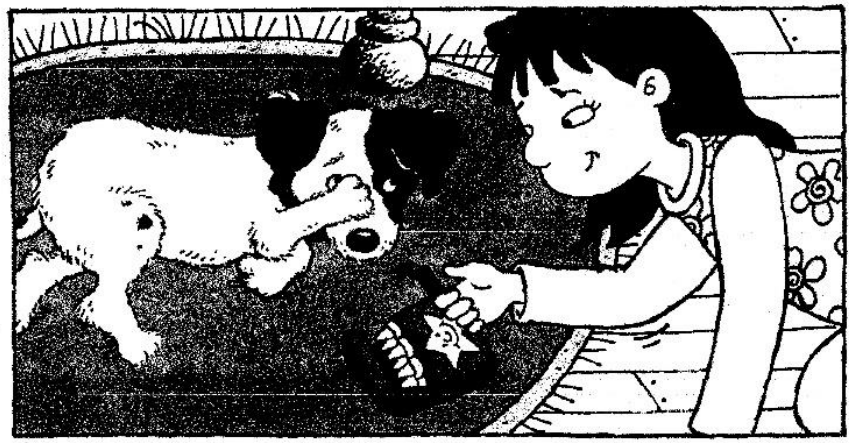


I get my pencils.

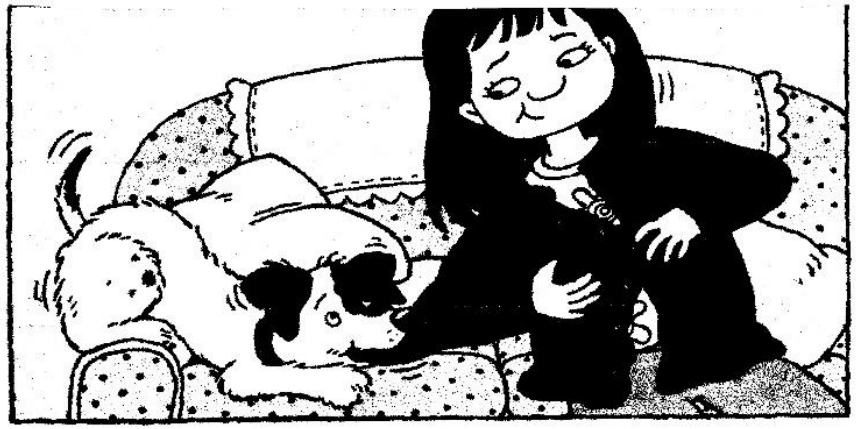


I get my ruler.

I get my eraser.



I get my crayons.

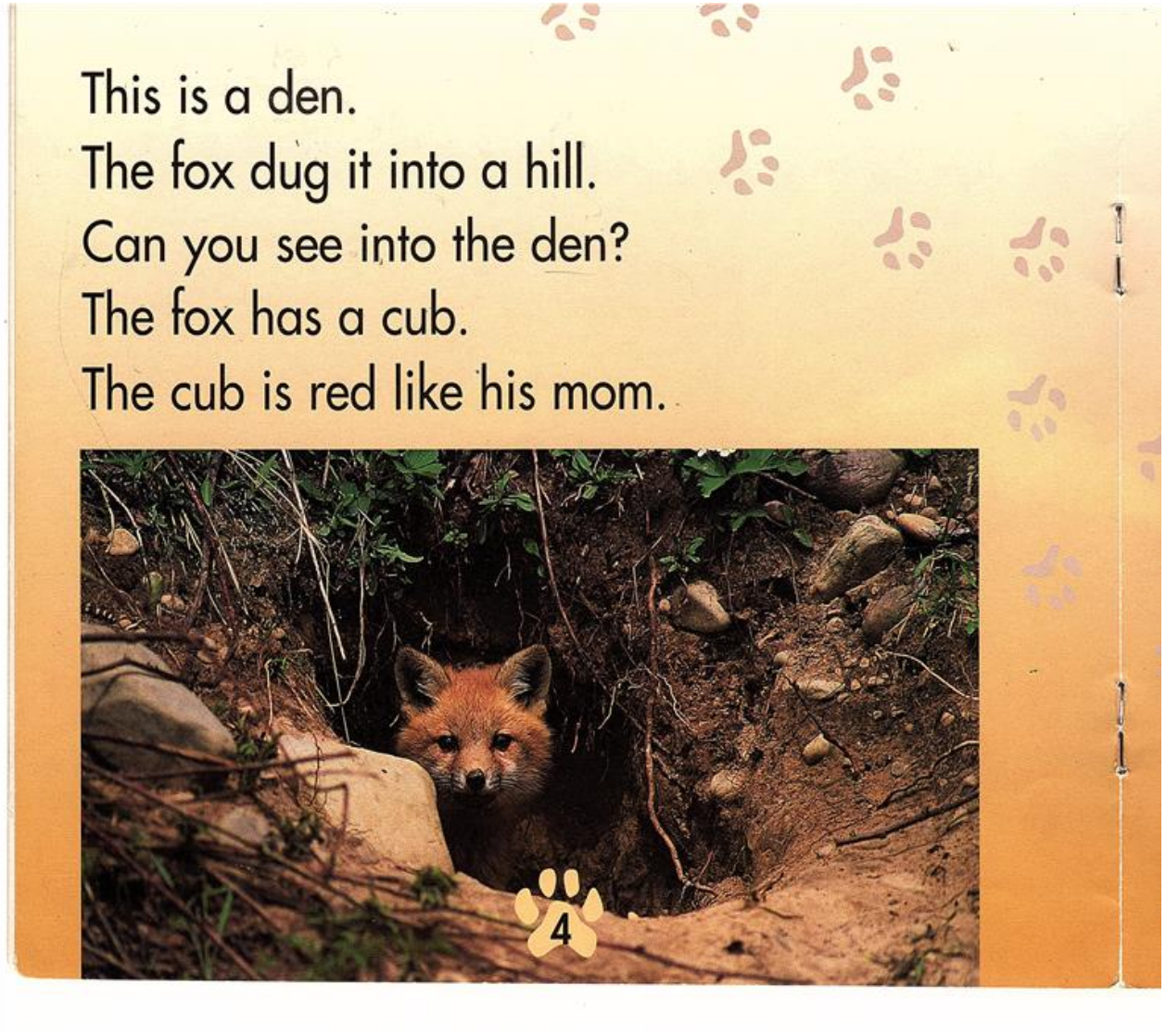


I get my sweater.

In a Structured Literacy approach, beginning decoders would read texts that provide a good match to the decoding skills they have learned and that do not encourage guessing at words.

Example of a decodable text for beginning decoders, about early Grade 1 level (CVC words, all vowels).

From *Red Fox Cub*. Series: The Wright Skills, Decodable Series, Level A Review.

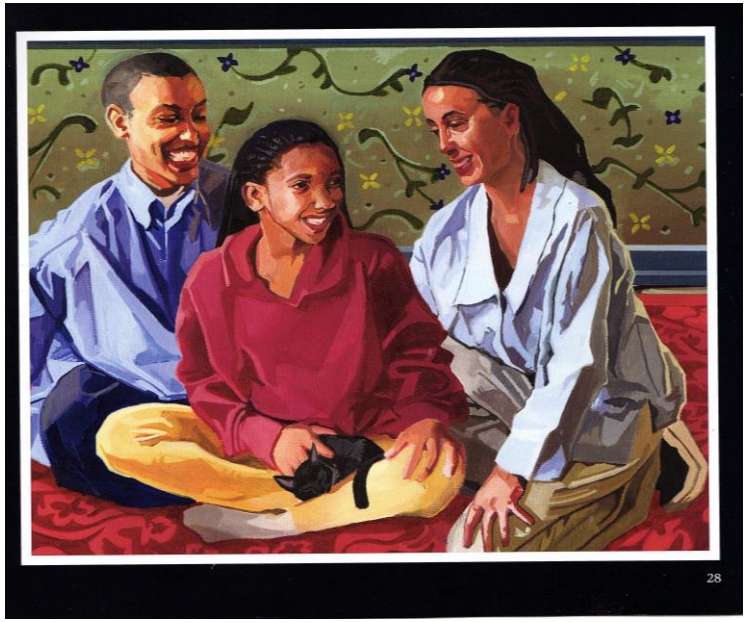


Example of a decodable text for beginning decoders, about mid Grade 1 level (short vowel words with blends and digraphs). From *Jen's Best Gift Ever*. Series: Flyleaf Books to Remember, Reading Series 1.

Frolic runs and jumps and flips and spins until he has to rest. Jen lifts him onto her lap.

She thanks Mom and Dad.

A kitten is the best gift Jen has ever had.



“Three cueing systems” (MSV) approaches may also influence scoring of assessments, especially informal assessments of children’s text reading.

Two different approaches to scoring text reading errors:

Non-SL practices: May overlook "contextually appropriate" errors such as *a* for *the*, *this* for *that*, *mom* for *mother*, etc.

These kinds of "miscues" viewed as unimportant because they do not greatly alter meaning

Structured literacy approaches: With very few exceptions, all word reading errors count

Exceptions: errors due to articulation, dialect, or foreign accent

Accurate text reading key for building fluency

"Minor" errors do affect comprehension (Daane et al., 2005)

Ignoring certain text reading errors in scoring assessments can provide a false picture of how well poor decoders are performing and may lead to faulty decision-making for these students.

(Jesse’s school thought he was doing great.)

Some instructional approaches popular in typical literacy practices make explicit, systematic instruction very difficult.

Instructional approaches that make explicit, systematic instruction difficult (continued)

- *Example*: “Reader’s Workshop”
- Includes some explicit instruction via “mini-lessons”
- Includes activities from which children can certainly benefit, e.g., work on language and partner work
- Heavy emphasis on children working independently and in different, self-selected texts (with teacher guidance)
- Teacher confers with students individually on reading/writing

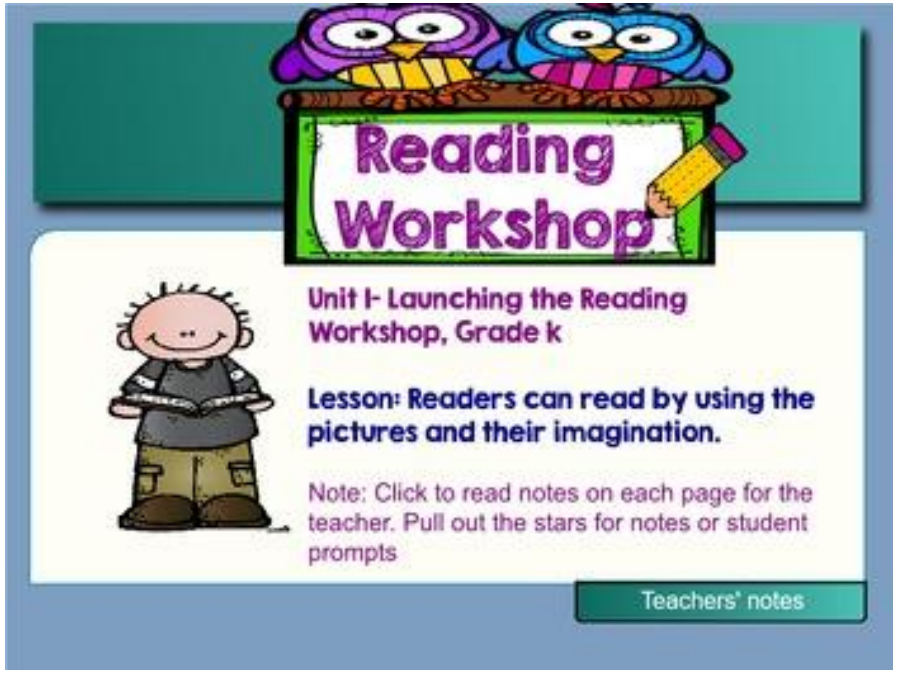
Why is this a problem?

- Limited time for explicit teaching
- Model really does not lend itself to systematic teaching
- Not enough focused practice for weaker readers in a class
- Children will not necessarily choose optimal texts for their own learning
- If every child is reading a different book, challenging for the teacher to give more than superficial input during conferences or consistently recognize students' misunderstandings of a text

Why is this a problem? (continued)

- May be hard to address higher level aspects of reading such as building background knowledge and inferencing, when there is not a shared set of texts to discuss
- Usually there is also a “three cueing systems” (MSV) emphasis

(Student Achievement Partners, 2020)



Why is this a problem? (continued)

- Substantial amounts of classroom time often devoted to silent independent reading (Goldberg, 2019)
- Not a good use of classroom instructional time, especially for weaker readers in a class

Another important distinction to highlight:

- Encouraging free-time independent pleasure reading

vs

- Devoting substantial amounts of classroom instructional time to silent independent reading

An important distinction (continued)

- Children can derive many benefits from independent pleasure reading, e.g., in fluency, vocabulary, and background knowledge (Mol & Bus, 2011; Stanovich, 2000)
- Teachers should certainly encourage this
- Provide ample choices of texts; make interesting and appropriate texts available, assign (and guide) independent reading as homework, encourage independent reading as a free-time classroom activity, develop book groups

An important distinction (continued)

- However, classroom instructional time is limited
- Students with dyslexia and other poor readers often need substantial amounts of explicit, systematic teaching to progress
- Many poor decoders also need to read text aloud with a teacher or partner; not yet ready for long stretches of silent reading
- Prioritizing a large block of instructional time to silent independent reading not a good use of time, especially for these students

Even if an important component of literacy is not fully included in a school's instructional model or curriculum, standards such as the Common Core will ensure that it is still taught … right?

Average number of minutes planned for specific components of literacy, in a planning task involving a two-hour ELA block (Grade 2-5 teachers, n = 68)

- Spelling = 5.2 mins
- Vocabulary = 4.8 mins
- Basic writing skills (punctuation, capitalization, sent struc) = 9.9 mins
- Writing processes = 0.7 mins
- Text composition (content) = 18 mins

(Spear-Swerling & Zibulsky, 2014)

High levels of teacher knowledge in Spear-Swerling and Zibulsky (2014) **did** predict time allocation plans that were more consistent with research.

Overall, however, many teachers planned to allocate time in ways not consistent with scientific recommendations, in writing as well as reading.

These results suggest that, in the absence of research-based curricula and materials, key components of literacy would be overlooked in instruction by many teachers.

Do some children learn to read well with typical literacy practices?

- Yes, some do.
- However, these kinds of practices are a very poor fit for students with dyslexia or other reading difficulties.
- Structured Literacy (SL) approaches are a much better fit for these students – and would undoubtedly have benefited my Uncle Paul.
- AND if features of SL were incorporated into typical literacy (Tier 1) instruction, they could benefit many students, not only those with dyslexia

It is a myth that a knowledgeable, capable teacher can teach well using *any* method.

Teacher knowledge is very important, but instructional methods are **also** very important (Piasta, Connor, Fishman, & Morrison, 2009).

Teachers need instructional models, curricula, and materials that lend themselves to effective teaching.

We should give them the tools and professional development they need to reach all children, including those with dyslexia.

Thank you.

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Contrasting Structured Literacy Approaches with Typical Literacy Practices

Louise Spear-Swerling

Fox Reading Conference
Tennessee Center for the Study and Treatment of Dyslexia
March 21st, 2020

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Literacyhow
Empower teaching excellence.

One Teacher at a Time: Supporting Teachers' Knowledge of the Science of Reading

Margie Gillis, Ed.D., CALT
President, Literacy How
Research Affiliate, Haskins Laboratories

Fox Reading Conference
Middle Tennessee State University
March 21, 2020

1

Literacyhow
Empower teaching excellence.

Our Mission is to

EMPOWER TEACHERS to ensure that every child learns to read by third grade.

Literacy is the language of opportunity.

Children are at the heart of all we do.
We believe that every child has the right to read.

We know that 95% can be taught to read.

We believe that teachers—not programs or products—
teach students to read, write and spell.

So we empower teachers with the best ways to teach.

2

Session's Objectives

Why we coach teachers

- Provide research on what teachers need to know and be able to do to teach their students to read
- Provide research on what their current knowledge is

How we coach teachers

- Explain what cognitive coaching is and how it is used to build teachers' knowledge and use of evidence-based literacy practices
- Share some tools that are used to coach teachers (i.e., pacing guides, conference forms to support the coaching cycle, literacy protocols)

What we coach

- *The Science of Teaching Reading*: Knowledge, practice, and planning

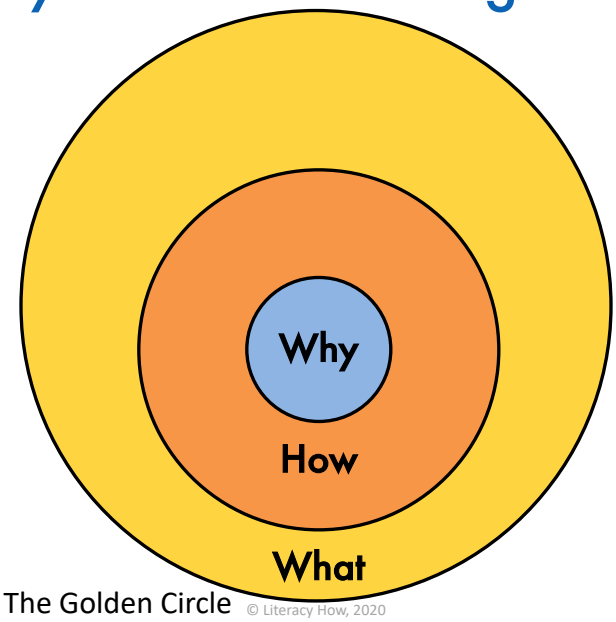
3

Participants can expect to…

- Understand ***why*** teachers need to know the Science of Reading
- ❖Learn ***how*** we coach teachers so they can apply the science of reading in their classrooms
- Hear about ***what*** the focus of our coaching is

4

Literacy How's Coaching Model*



*Based on The Golden Circle

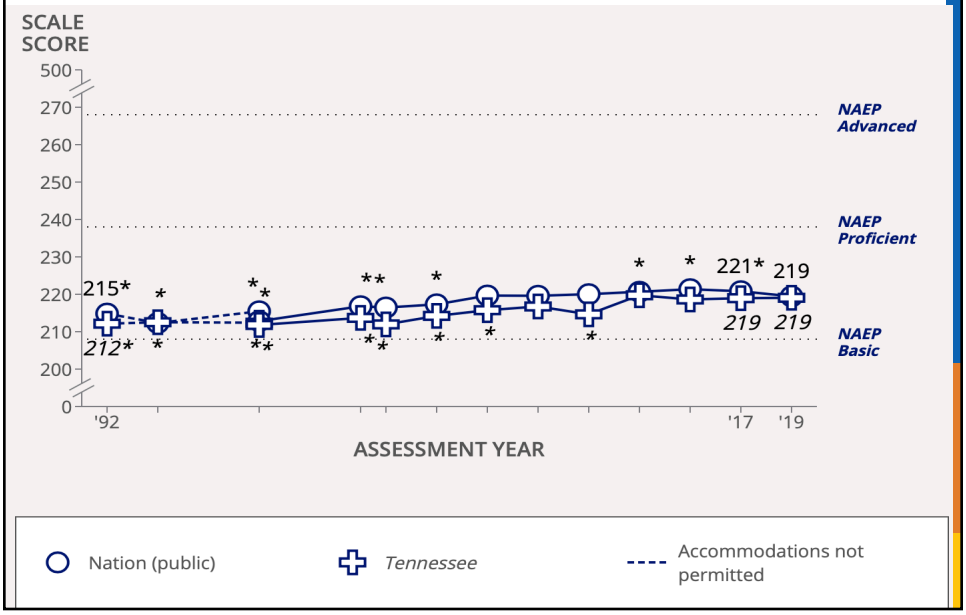
5

Why does Literacy How exist?

- 95% of children can be taught to read (Torgesen, 2004)
- However, 65% of the Nation's 4th graders read below grade level (http://nces.ed.gov/nationsreportcard/naepdata/)
- Teachers are typically not taught how to teach reading (Joshi et al., 2009; Brady et al., 2009; Cunningham et al., 2009; Spear-Swerling & Zibulsky, 2014, NCTQ Teacher Prep Reviews)
- However, teacher knowledge of effective literacy instruction strategies can override student disadvantages (Binks-Cantrell et al., 2012, Podhajski et al., 2009)

6

NAEP 4th Grade Reading Scores



7

How: Literacy How's Coaching Model

Professional Development Outcomes

PROFESSIONAL DEVELOPMENT ELEMENTS	KNOWLEDGE LEVEL (Estimate percentage of participants understanding content)	SKILL ATTAINMENT (Estimate percentage of participants demonstrating proficiency in the instructional practices)	TRANSFER TO PRACTICE (Estimate percentage of participants regularly implementing instructional practices in the classroom)
Theory (e.g., presenter explains content—what it is, why it is important and how to teach it)	10%	5%	0%
Demonstration (e.g., presenter models instructional practices)	30%	20%	0%
Practice (e.g., participants implement instructional practices during the session()	60%	60%	5%
Coaching (e.g., participants receive ongoing support and guidance when they return to the classroom)	95%	95%	99%

Bruce Joyce and Beverly Showers. *Student Achievement through Staff Development* (3rd ed: 2002.

8

Practice…practice…practice

"Research on effective school change has found that it takes an average of 20 to 25 times of trying a new method or technique before it becomes natural."

Joyce, Bruce and Showers, 1988

9

Does Teacher Knowledge Matter?

- Link between teacher knowledge and student outcome has been demonstrated in a handful of studies, but these factors are moderated by *implementation supported by coaching*
  - McCutchen, Harry, Cunningham & Cox, 2002
  - McCutchen et al., 2002
  - Moats & Foorman, 2003
  - Carlisle & Berebitsky, 2011
  - And many studies by Spear-Swerling, Washburn, Binks-Cantrell, Joshi, Piasta, A. Cunningham and others

Louisa Moats, Fox Conference

10

How Walpole and McKenna Define Coaching

"Coaching is a strategy for implementing a professional support system for teachers, a system that includes research or theory, demonstration, practice, and feedback."

McKenna, M. C., & Walpole, S. (2013). *The literacy coaching challenge: Models and methods for grades K-8*. New York: Guilford.

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The *Literacy How* Mentor

Core principle:
Teaching is about thinking through your instructional practices. Why do you choose to use specific methods, techniques, and activities?

The LH Mentor supports the thinking process!

12

Mentor Characteristics

- Knowledgeable about the science of reading
- Expertise in working with struggling readers
- Skilled in design and delivery of PD
- Well-informed about core reading programs and how to integrate best practices as well as supplemental materials within the context of district curriculum and school improvement plan
- Expertise in working with adult learners (i.e., cognitive coaching)
- Life-long learner with an attitude of respect for the teaching profession.

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Mentor Responsibilities: A Clearly Articulated Job Description

- Models lessons and supports teacher in implementation of research-based reading methods (gradual release method)
- Delivers monthly workshops to teachers
- Supports collection and analysis of data for differentiated instruction
- Meets with grade level team, including principal, weekly if possible but at least once a month

❖Why is the coach in the school and what is the purpose of the work?

14

Administrator's Role

- Meets with the Mentor to fully understand the scope of the project
- Meets with the staff to explain the model
- Follow-up meeting with the staff for discussion
- **Appoints internal 'Teacher Specialist' to partner with the external mentor**
- Meeting with the Mentor and staff for initial introductions
- Provides release time for PD and data team meetings
- Attends PD in order to understand literacy at a deeper level and to conduct meaningful observations in classrooms (i.e., what to look for)

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Literacy How Embedded Professional Development

Translates the *Science of Reading* into professional development and classroom practices to help teachers instruct reading more effectively.

Uses student data to drive and differentiate instruction with an eye to improving the efficacy of student assessment tools.

Creates "method-proof" teachers who can weigh the merits of the latest reading research, programs, and materials.

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Literacy How Embedded Professional Development

Tailors professional development to meet the needs of individual schools, teachers, and students, and advises about key materials needed to supplement existing school curricula.

Provides a realistic roadmap to higher student achievement through scope-and-sequences with clear curricular goals that guide seamless delivery of reading instruction across grade levels.

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Pacing Guide

Scope and Sequence for Phonetic/Morphemic Elements

Phonetic/Morphemic Element	Spelling Stage*	Grade Level	
		Reading	Spelling
Identifies most common sound for single-letter **Consonants** and **Consonant Digraphs** (*sh, ch, th, wh, ng*)	LN	K	K
Short & Long vowel sounds (*a, e, i, o, u*)	LN	K	K
Closed Syllables (VC, CVC)	LN	K	K
Open Syllables (CV) e.g. we, hi, go, my, ba-by (*y* says long *i* at the end of one-syllable words; y usually says long *e* at the end of multisyllable words)	LN	K (one-syll. words) Gr. 2 (two-syll. words)	K (one-syll. words) Gr. 3 and up (multisyllable words)
Identifies the base word in frequently occurring inflected forms (e.g. looks, looked, looking)		K/Gr. 1	

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5 Features of Effective PD

1. Focus on Content (how students learn the content)
2. Active Learning (teachers observe, receive feedback, and analyze student work)
3. Coherence: PD goals are aligned to the school curriculum and goals
4. Sustained duration: Ongoing throughout the year and beyond
5. Collective participation: Ts from one grade level participate together to build an interactive learning community

Desimone and Pak, 2017

19

Best Practices of Student-Focused Coaching

- Teachers must agree to be coached.
- Coaches are peers – that is, they do not supervise, judge or evaluate the teachers whom they work with.
- Coaches must first establish 'a trusting and mutually respectful professional relationship.' The teacher and coach 'focus on partnering for student success.'

Hasbrouck, 2017

20

Progression of classroom modeling and coaching

- Mentor models lessons
- Team teach lessons
- Teacher does a lesson

Gradual Release of Responsibility

★Progression cycles through the year as new learning takes place

21

Cognitive Coaching Cycle

Planning Conference

- Goals clarified
- Evidence chosen
- Strategies selected
- Self-assessment

Reflection Conference

- Guided self-reflection
- Evidence shared
- Conclusions for future

Classroom Observation

- Evidence gathered
- Strategies documented

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Developing the School's Literacy Plan

1. Conduct Needs Assessment (using data to drive the focus of the coaching and instruction)
   - District Literacy Scan
   - Literacy How's School-level Survey
   - Review baseline literacy data
2. Meet with Principal to discuss results of the assessment
3. Identify teachers/grade levels who will receive coaching support and content focus for coaching
4. Identify teachers who will receive PD Series prior to being coached (in coaching pipeline)
5. Map out schedule for year including dates for PDs and data meetings (5 times/year)

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literacyscan.org

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Phase 1

1. Principal and LH Mentor meet with teachers to discuss the LH coaching model and school literacy plan.
2. Plan and implement data/RTI process.
3. Plan weekly meetings with administrator/point person
4. Partner with internal coach to build capacity.
5. Deliver monthly PD workshops (2 hrs/grade level).
6. Engage in weekly coaching sessions with teachers that follow a gradual release (I do, we do, you do) for each area of comprehensive literacy and include planning and reflection time.
7. **Focus on foundational skills (i.e., PA, Code) that emphasize meaning** (i.e., vocabulary and comprehension).

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Phase 2

1. Review current literacy data to update the literacy plan.
2. Meet with teachers to discuss the LH coaching model and school literacy plan.
3. Continue to implement data/RTI process.
4. Plan weekly meetings with administrator/point person
5. Partner with internal coach to build capacity.
6. Deliver monthly PD workshops (2 hrs/grade level).
7. Engage in weekly coaching sessions with teachers that follow a gradual release (I do, we do, you do) for each area of comprehensive literacy and include planning and reflection time.
8. **Focus on comprehension** (i.e., vocabulary, syntax, text comprehension and written expression).

26

So…What is in powerful PD?

- Scientifically sound models of how we learn to read
- Comprehensive road maps for teaching all essential components, independent of programs
- How English language is structured at all levels
- Modeling and practice of structured literacy lessons

Louisa Moats, Fox Conference

27

Teacher knowledge is very important, but instructional methods are **also** very important (Piasta, Connor, Fishman, & Morrison, 2009).

Teachers need instructional models, curricula, and materials that lend themselves to effective teaching.

Louise Spear-Swerling, Fox Conference

28

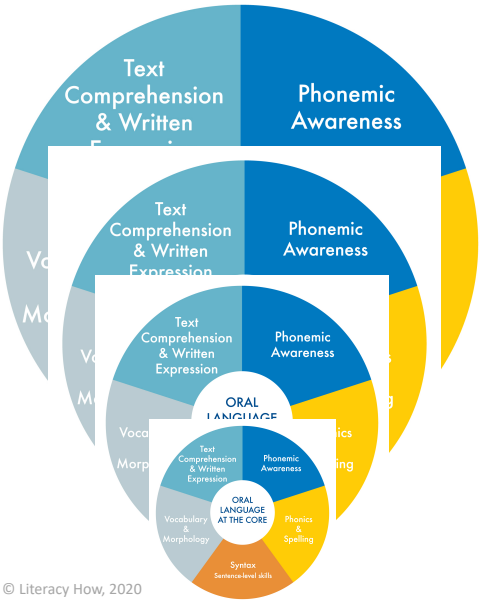
Tennessee Early Literacy Supports Framework

1. High-quality instructional materials
2. Teachers trained in "science of reading"
3. Vendor-based coaching supports
4. K-2 diagnostic data tracking
5. Family engagement

29

What

Teacher Knowledge in all these content areas is crucial for teachers to be able to help all students maximize their literacy skills.



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What

Knowledge

And knowledge of fundamental competencies (explicit instruction, gradual release, etc.) in order to be able to implement their content knowledge.

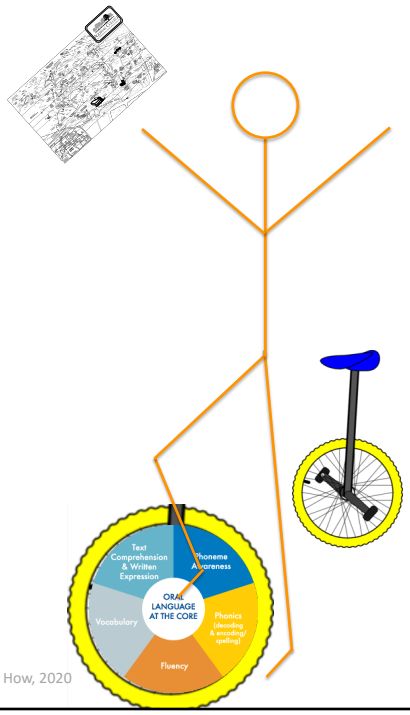
Teacher Knowledge also has to include knowledge about pedagogy: how to implement their content knowledge with students - where the rubber hits the road.

Practice

Teachers need practice putting all this knowledge into action. We help them learn HOW to implement all this knowledge.

Planning

For planning, teachers need a road map (Scope and Sequence) and knowledge of where the students are (Assessing and RTI).



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The Language Constraint on Writing Systems

Writing systems encode spoken language.

1. Spoken language encodes meaning but writing systems do not – spoken and written language systems are NOT parallel systems.
2. Learning how to read must involve learning how one's writing system goes about encoding one's spoken language.

While the GOAL of reading is to obtain meaning, the goal of something is not the same as its essential nature.

Perfetti, *The Universal Grammar of Reading,* 2003

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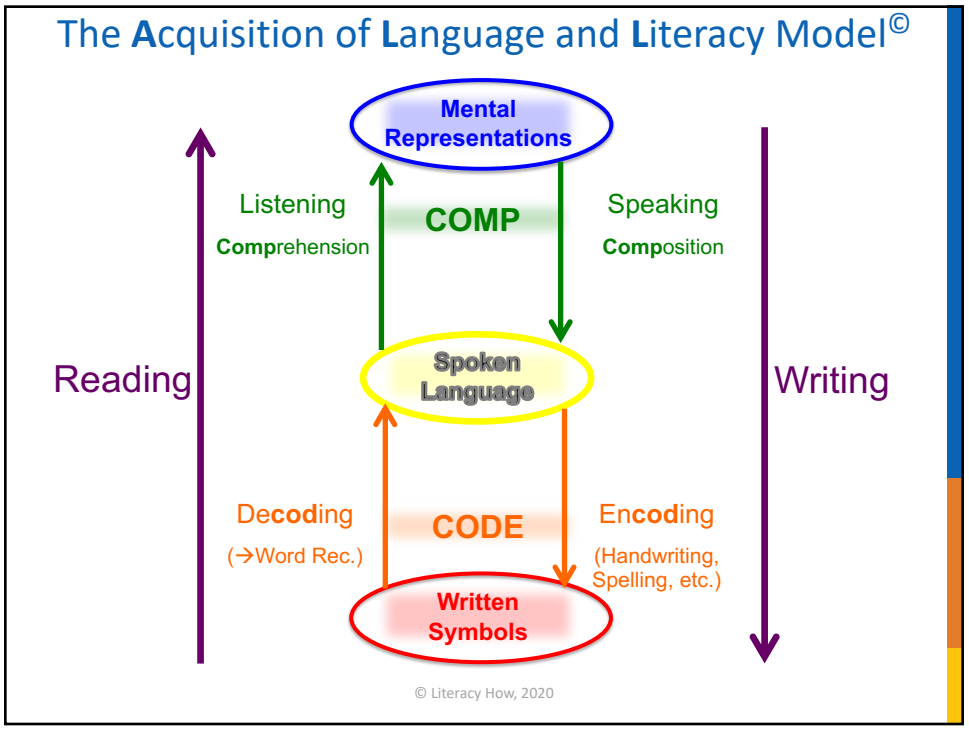
The Acquisition of Language and Literacy Model©
Mental Representations
Listening
Comprehension
COMP
Speaking
Composition
Reading
Spoken Language
Writing
Decoding
(→Word Rec.)
CODE
Encoding
(Handwriting, Spelling, etc.)
Written Symbols
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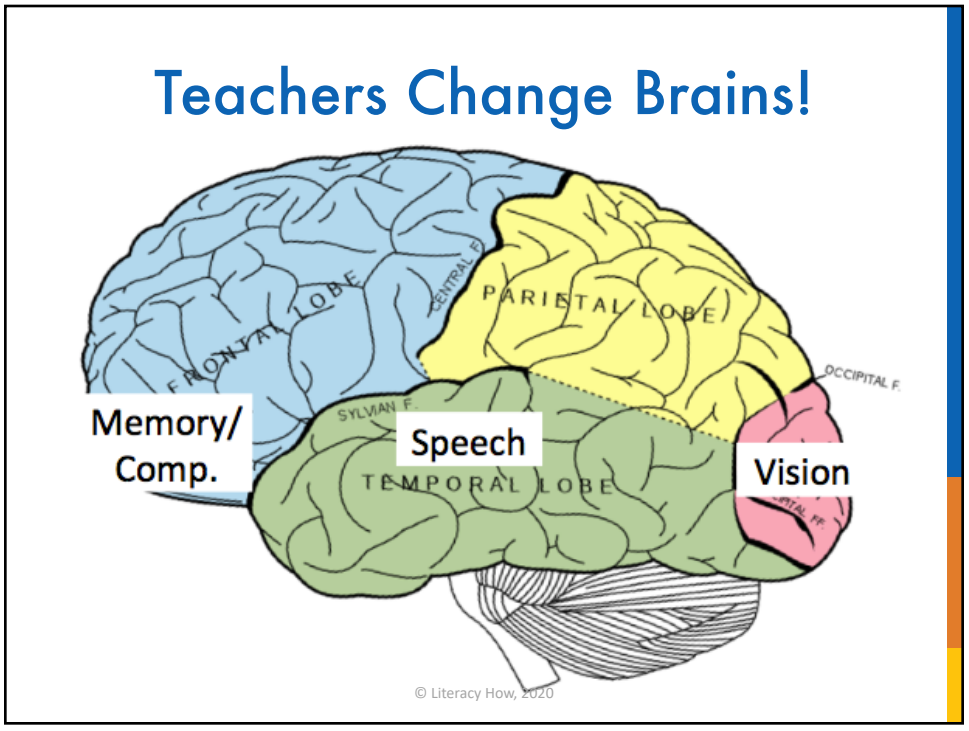
Teachers Change Brains!
FRONTAL LOBE
CENTRAL F.
PARIETAL LOBE
OCCIPITAL F.
SYLVIAN F.
Memory/ Comp.
Speech
TEMPORAL LOBE
Vision
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Neural effect of intervention

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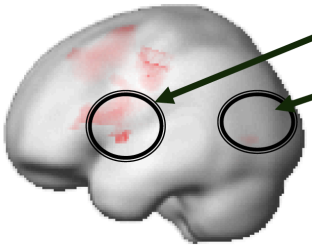
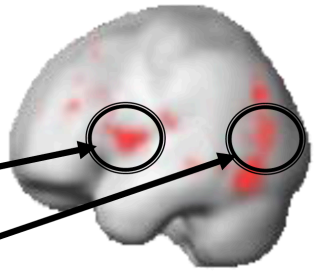
Pre-Intervention



Frontal but NOT Temporo-parietal

Post-Intervention



Increased activity in Frontal AND Temporo-parietal

After training, metabolic brain activity in dyslexics more closely resembles that of typical readers.

Presented by Nadine Gaab at CT Dyslexia Conference, 2017

[Temple et al. (2003) PNAS, 100]

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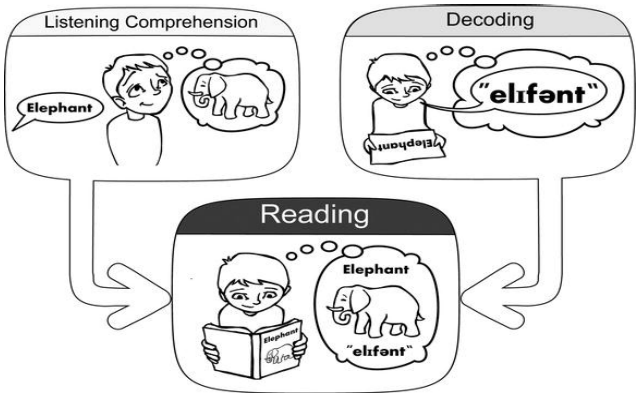
The Simple View of Reading

(Gough & Tunmer, 1986)

Listening Comprehension X Decoding = RC



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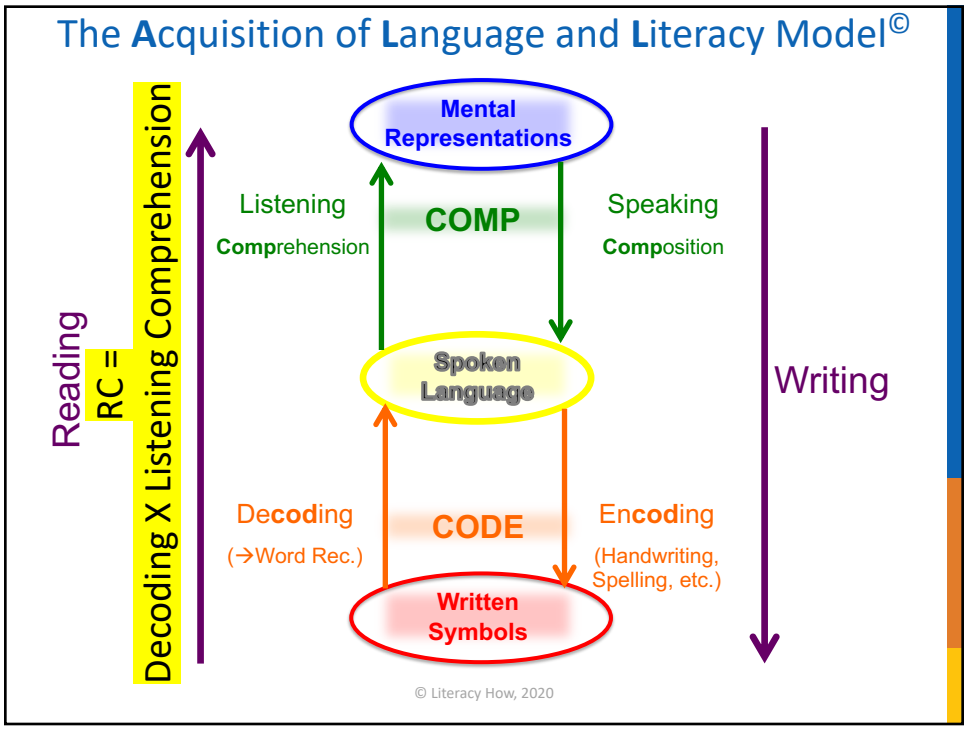
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Reading
RC =
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(Handwriting, Spelling, etc.)
Written Symbols
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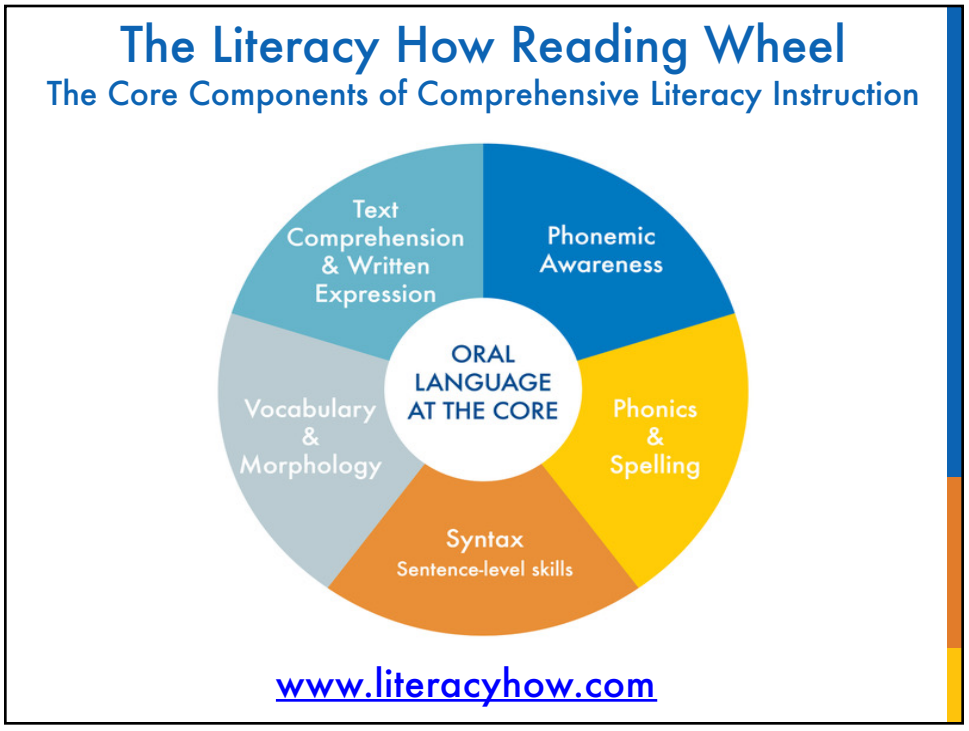
The Literacy How Reading Wheel
The Core Components of Comprehensive Literacy Instruction
Text Comprehension & Written Expression
Phonemic Awareness
ORAL LANGUAGE AT THE CORE
Vocabulary & Morphology
Phonics & Spelling
Syntax
Sentence-level skills
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Comprehensive Literacy Instruction

NRP (2000)	Literacy How Reading Wheel (2009)	CCSS (2010)	Structured Literacy (IDA) (2015)
Phonemic Awareness	Phonemic Awareness	Foundational Skills (PA)	Phonology
Phonics	Phonics/ Spelling	Foundational Skills (Phonics)	Sound-Symbols Syllable Instruction
Fluency	Syntax (in lieu of Fluency)	Foundational Skills/Language	Syntax
Vocabulary	Vocabulary and Morphology	Language/ Foundational Skills	Morphology Semantics
Comprehension	Comprehension Written Expression	Reading Literature and Informational Text Writing	Semantics
	Oral Language	Speaking and Listening	All instruction is based on rich OL

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BEST FOR ALL
We will set all students on a path to success.

Science of Reading

1. Sounds first
2. Systematic approach of building sounds
3. Intentional coding of letter patterns to sounds
4. Absence of "cues" (MSV)

40

Phonological Awareness develops sequentially, so we begin where the student is in that progression.

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Activity: Syllable Inspectors

Closed: VC CCVC CVCC CVC CCVCC	
	• One (1) vowel, followed by
	• One (1) or more consonants
	• The short sound of the vowel 

Teaching the vowel syllable patterns of English so students will know how to read single syllable ***and*** multisyllabic words.

42

One Teacher at a Time

"Teaching is one of the most cognitively complex professions... there is still uncertainty as to what works in various schools in diverse communities with each unique group of students... what makes teaching a profession is the continual inquiry, expansion of repertoire, and accumulation of knowledge through practice."

Costa and Garmston, 2016

43

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Thank You!

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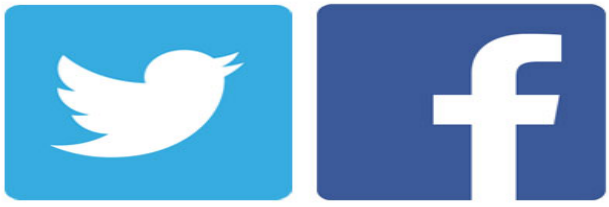

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