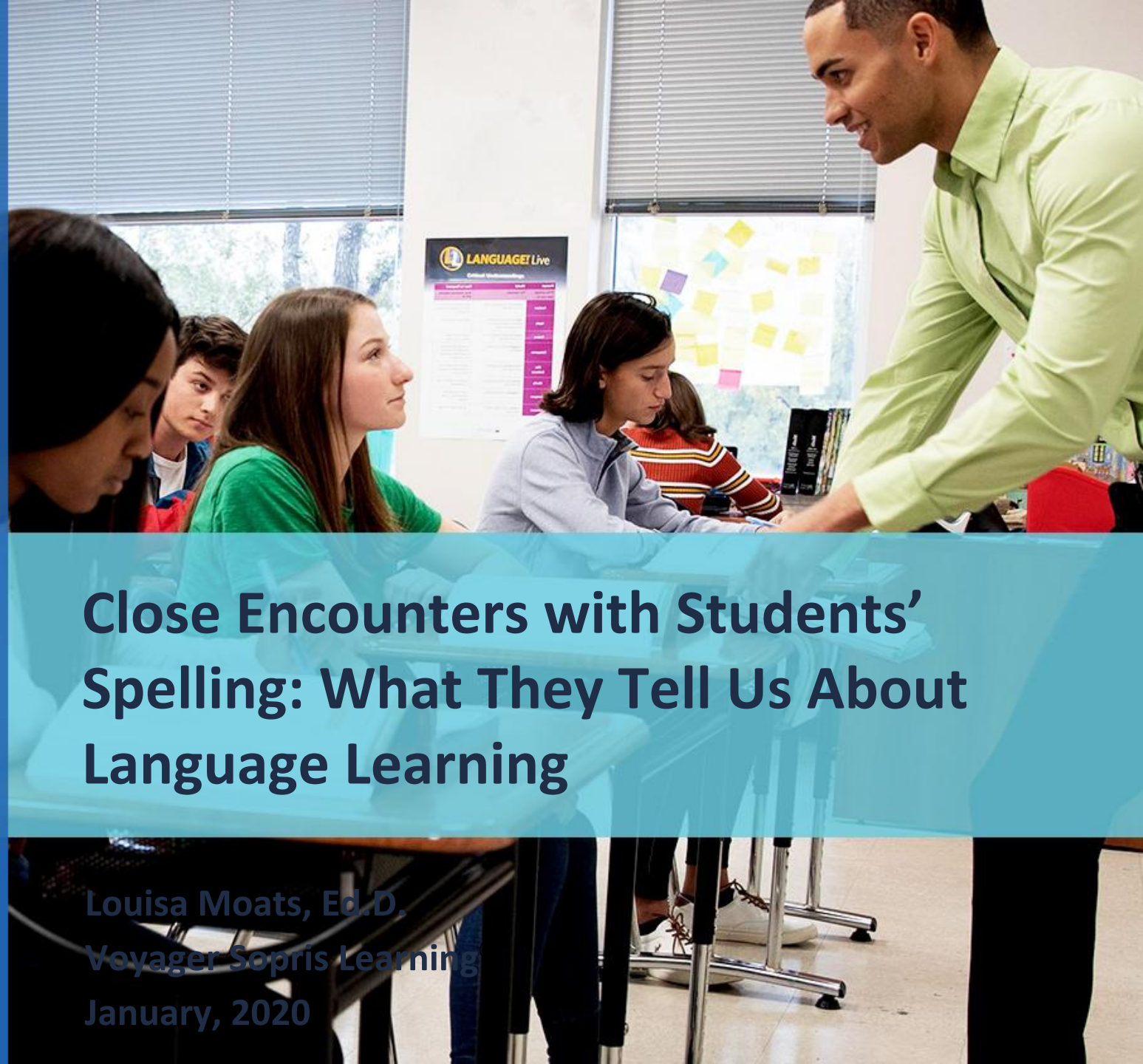


SPRING WEBINAR SERIES 2020



Close Encounters with Students' Spelling: What They Tell Us About Language Learning

Louisa Moats, Ed.D.
Voyager Sopris Learning
January, 2020



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Dr. Louisa C. Moats, Ed.D.

- Dr. Moats is a nationally recognized authority on literacy education and is widely acclaimed as a researcher, speaker, consultant, and trainer.
- She received her doctorate in reading and human development from the Harvard Graduate School of Education and is widely published on reading instruction, the professional development of teachers, and the relationship between language, reading, and spelling.
- Author of *LETRS*® (*Language Essentials for Teachers of Reading and Spelling*) and *LANGUAGE! Live*®.

Session Objectives

- Review theoretical frameworks explaining how students learn to spell
- Identify vowel and consonant spellings that signify underdeveloped phoneme awareness
- Recognize what students do and do not know about syllables, suffixes, and other morphemes
- Review best spelling instruction practices and appropriate targets for instruction
- Consider why teaching spelling is an opportunity to teach all levels of language that are reflected by print

What's in a Concept of a Word?

Write the word I say. _____

Accommodate

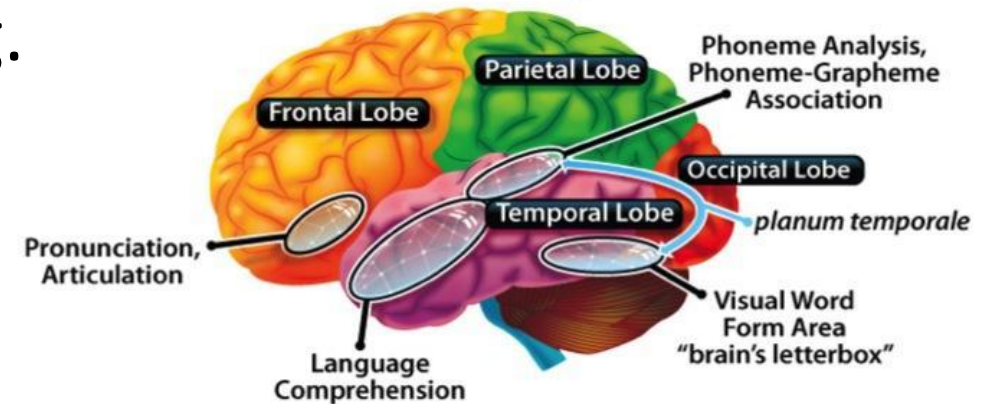
- Four syllables
- Stress on the 2nd syllable; 1st and 3rd vowels are schwas
- Assimilated prefix “ac” from “ad”
- Root: Commodus = “fitting” in Latin
- “ate” suffix marks the word as a verb

Spelling Is a Linguistic Skill

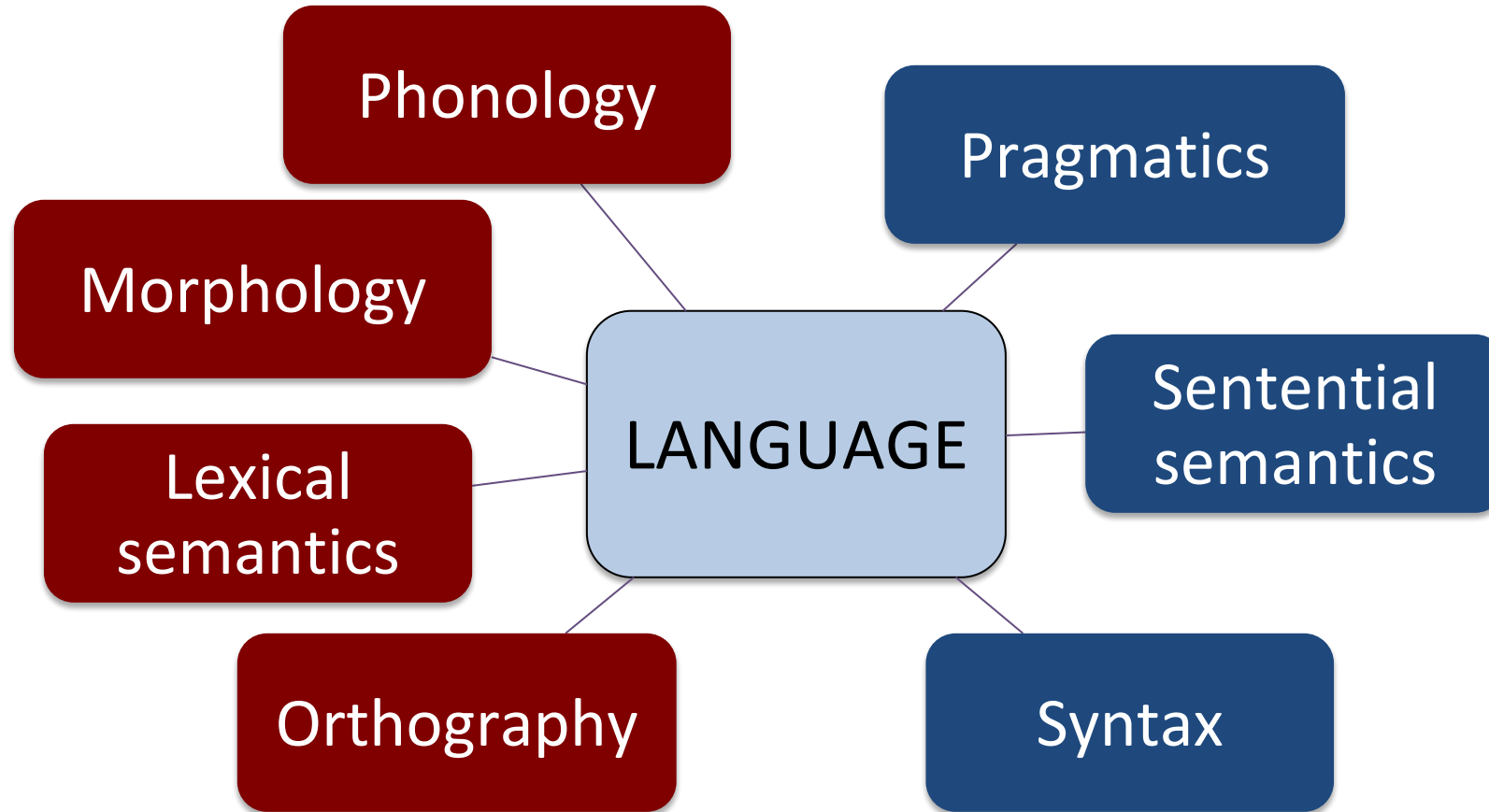
Spelling depends on phoneme awareness and memory for phoneme-grapheme correspondences, orthographic units and patterns, including syllable patterns, and morphemes.

Nonlinguistic, visual-spatial abilities have almost no relationship with spelling.

The Reading Brain



Reading and Spelling Both Depend on Language



Pinker, 1999, *Words and Rules*

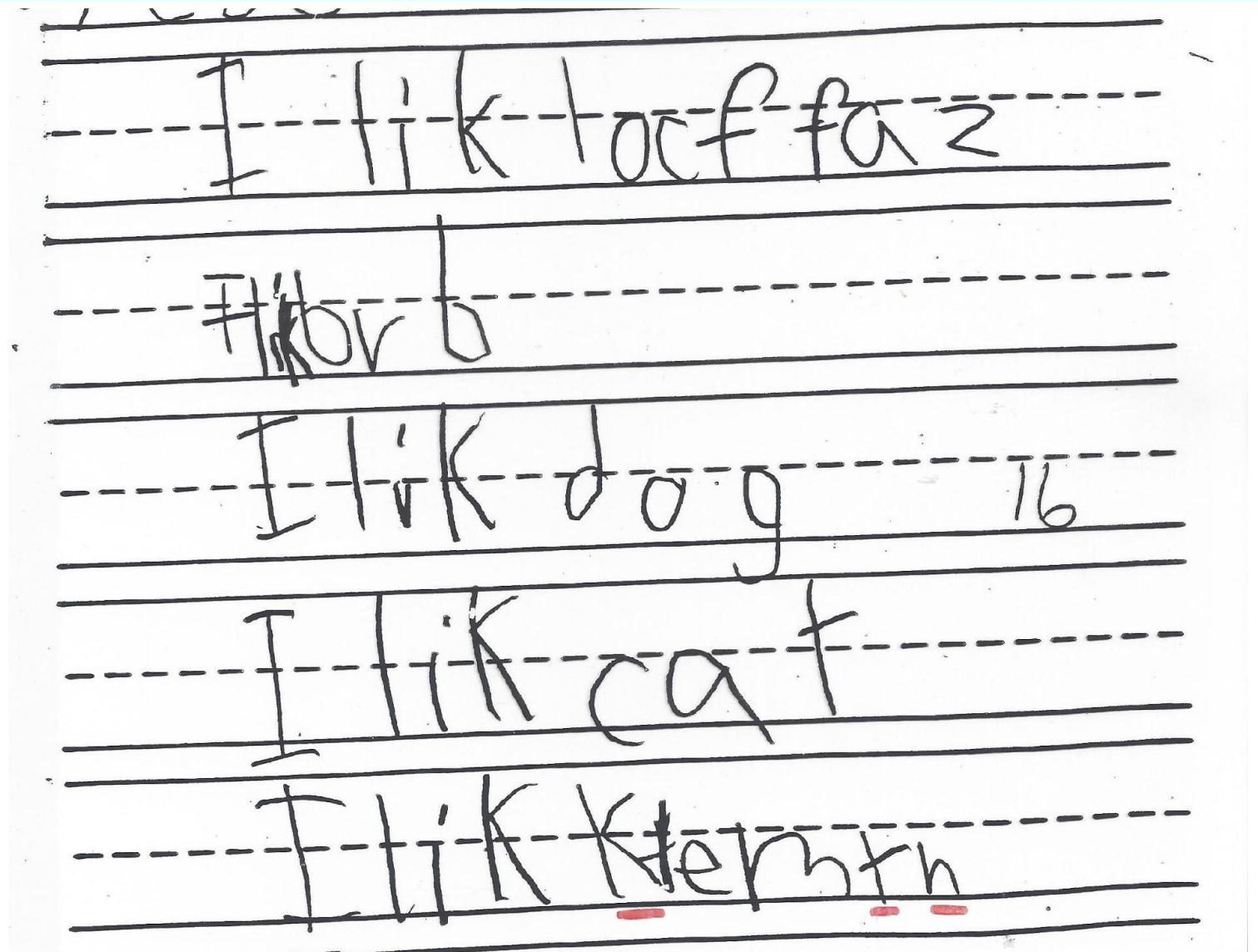
Dear, Michael, today I am going to take a trip to
Hawaii and I am inviting you when we are there
we will go sightseeing and take a swim go boating
and go in an air plane or helicopter r/d around the
Islands then we will kiak all the way home
good bye!

Yore friend



DANNY, GRADE 7, FSIQ 110

What can we learn
from watching young
children spell?



Early Phonetic Transcription: Reflects Phoneme Awareness and Print Awareness

(Read, 1970; Treiman, 2017)

Nasals omitted before consonants (vowel is nasalized and nasal consonant is “lost” in articulation). JUP – jump AD = and ED = end

Syllabic consonants /m/ /n/ /l/ /r/ LIDL = little BIGR = bigger OPN = open

Inflections spelled phonetically (ed, s). WALT = walked DAWGZ = dogs

Vowel spellings reflecting articulation: SOWN = soon GOWT = goat BOE = boy

Young Children Spell by Mouth and by Ear

Representing affrication of /t/ in tr and /d/ in dr.

CHRA = tray CHRIBLS = troubles JRAGN = dragon

Spelling intervocalic flaps with “D”

LADR = letter

WODR = water

Using letter names Y for /w/ and H for /ch/.

YOH = watch YL = will HRH = church

Spelling by Sound, Use of Letter Names (Read, 1970; Chomsky, 1970)

Long vowels from letter name.

DA = day, KAM = came, FEL = feel

Short vowels: derived from letter name closest in articulation.

a for /e/ BAD = bed

l for /o/ GIT = got

e for /i/ FES = fish

o for /u/ SOGH = sugar

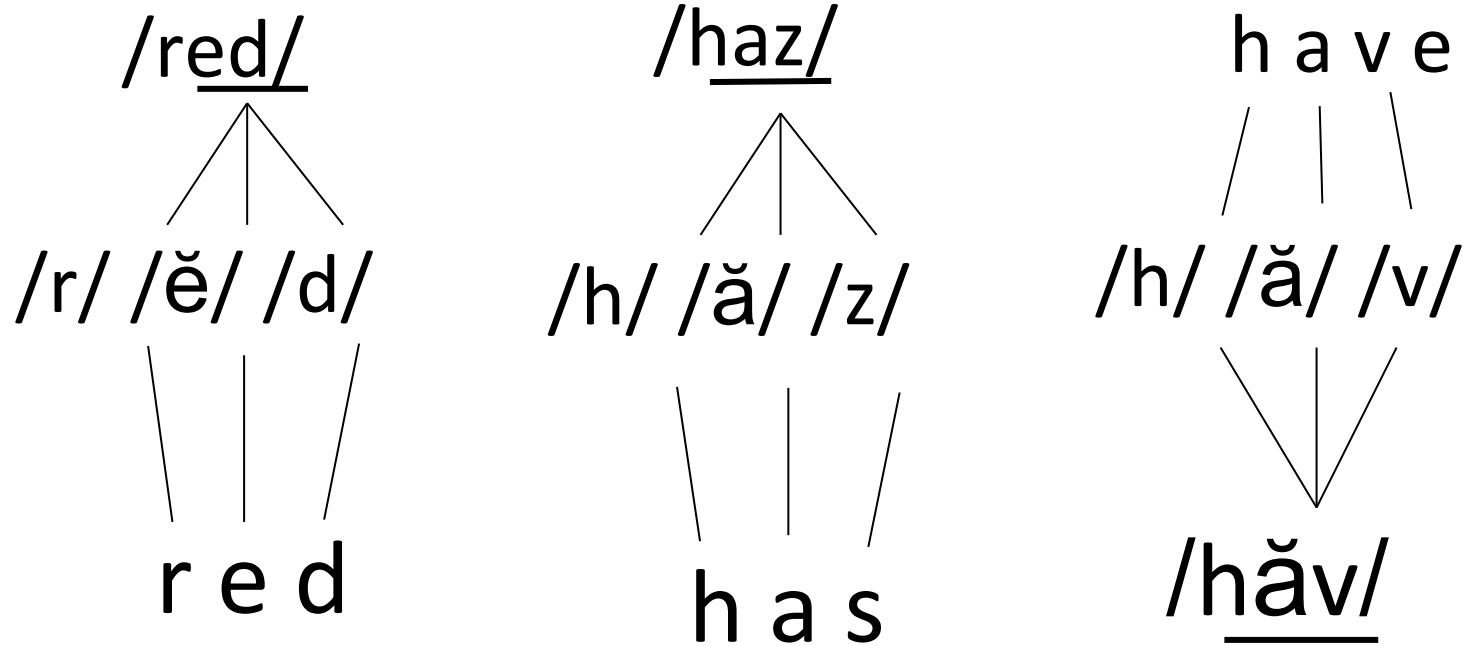
i for /u/ KIT = cut

What Does Early Spelling Tell Us?

Children's early spellings reflect their linguistic awareness:

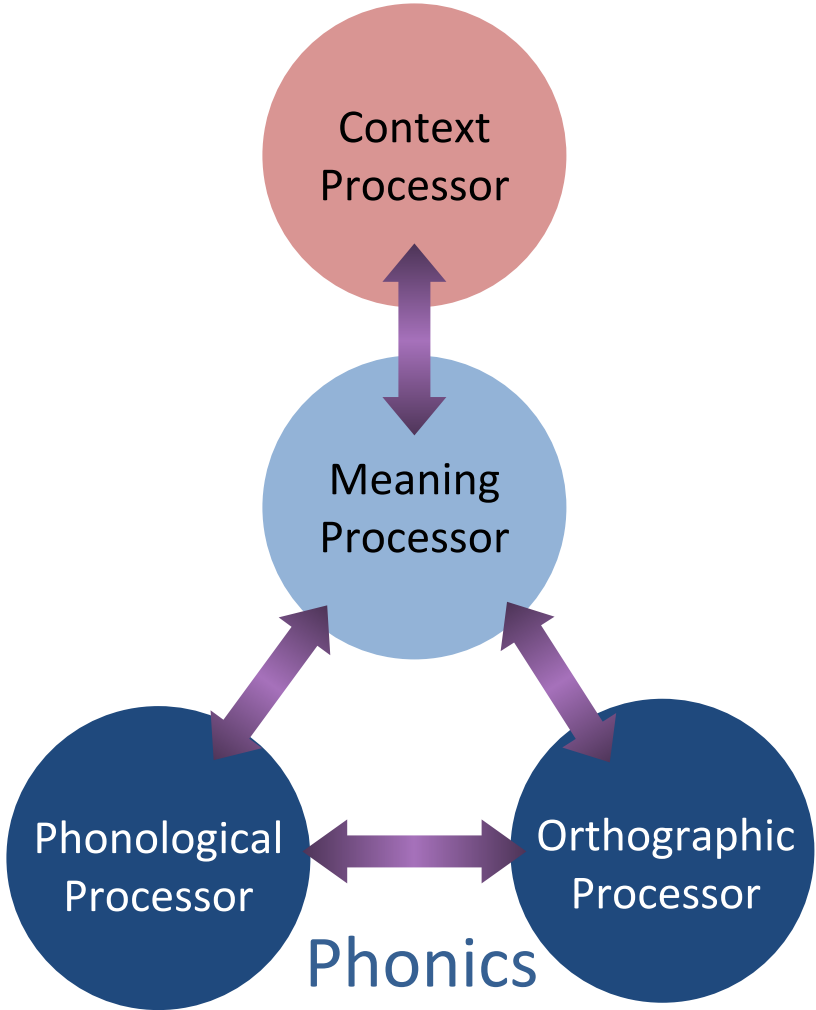
- Awareness of phonemes and allophonic variation
- Awareness of letter sequences in conventional print
- Awareness of letter name—letter sound similarities

Reminder: How We 'Map' Words to Long-Term Memory (Kilpatrick, 2015)



Orthographic
Mapping

How We Read and Spell Words (Seidenberg, 2017)



Importance of Phonology for Spelling

“...phonology, although important for all aspects of literacy learning, is even more critical in learning to spell than in learning to read. Orthographic knowledge is laid over a phonological foundation. If that phonological foundation is weak, orthographic skills cannot develop sufficiently to support good spelling and compensate for the underdeveloped phonological skills.”

—Cassar, Treiman, Moats, Pollo & Kessler, 2005

Important Questions to Answer

- Does the student need to improve phonological awareness?
- Where on a scope and sequence of spelling skill development should instruction begin?
 - Basic consonant correspondences
 - Basic vowel correspondences
 - Basic syllable types
 - Inflectional morphology
 - Derivational morphology

Confusing Phonemes with Similar (Overlapping) Features

#6

1 fnn	fan	6 wot	wait	11 gmm	dream
2 pnt	pet	7 gok	chunk	12 ba b	blade
3 dng	dig	8 cld	sled	13 kog	coach
4 mip	mob	9 sng	stick	14 fit	fright
5 rop	rope	10 gnt	shine	15 cne	snowing

English Consonant Phonemes (Moats & Tolman, *LETRS* Third Edition)

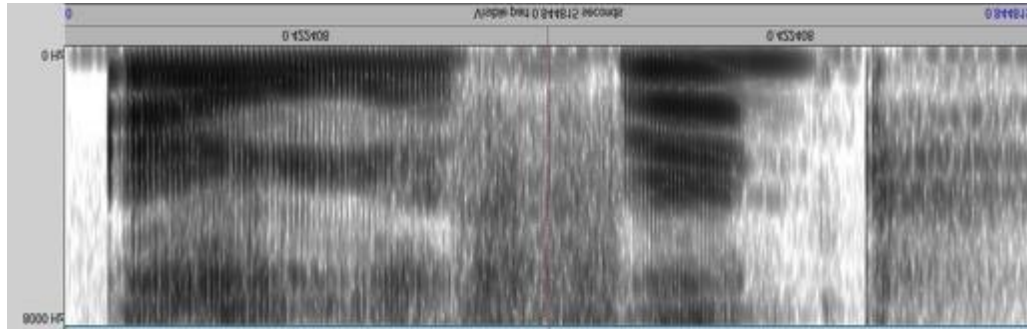
	bilabial	Labio-dental	Inter-dental	alveolar	palatal	glottal	
stops unvoiced voiced	/p/ /b/			/t/ /d/		/k/ /g/	
nasals	/m/			/n/		/ŋ/	
fricatives unvoiced voiced		/f/ /v/	/θ/ <u>/ð/</u>	/s/ /z/	/ʃ/ /ʒ/		/h/
affricates unvoiced voiced					/tʃ/ /dʒ/		
glides unvoiced voiced	/wh/ /w/				/j/		
liquids					/r/		

What About the Vowel Errors?

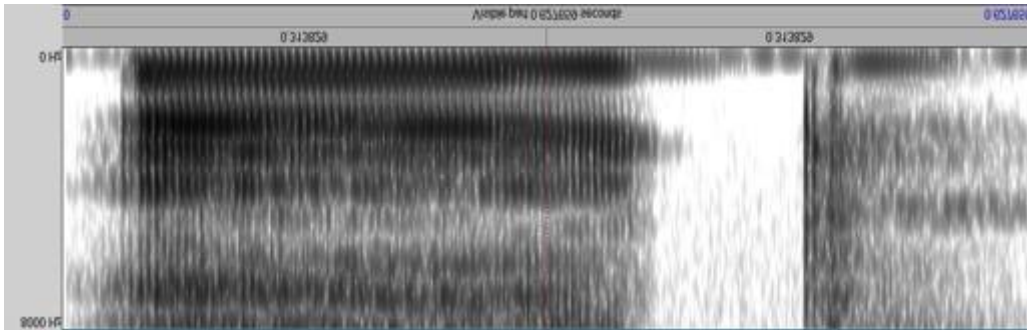
#6

1 fnn	fan	6 wot	wait	11 gonm	dream
2 pnt	pet	7 gok	chunk	12 bab	blade
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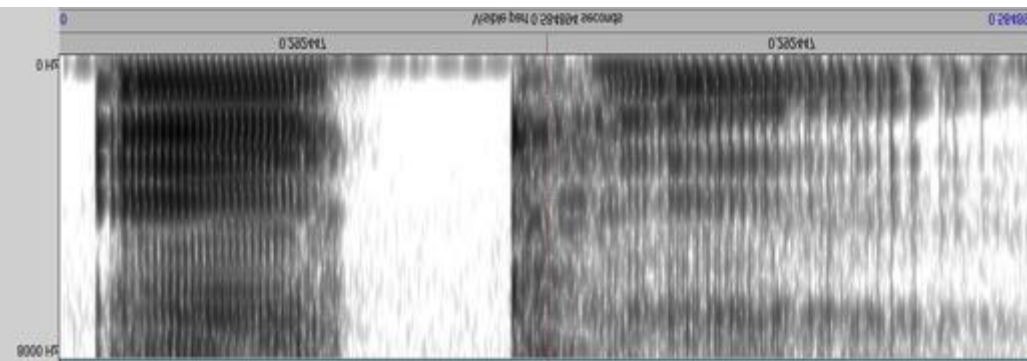
Why Phonemes are Elusive: Allophonic Variation



“elephant”



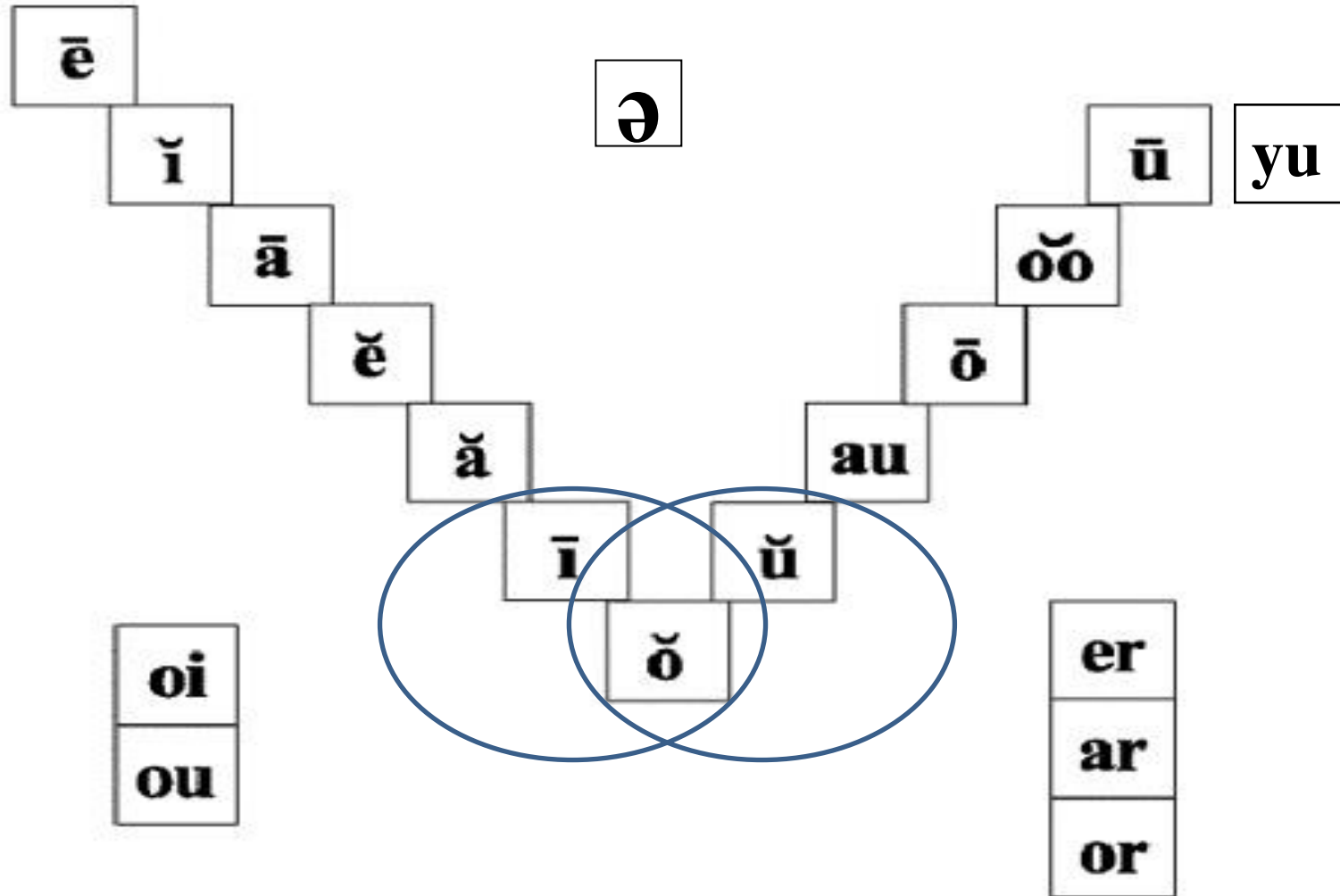
“egg”



“echo”

Courtesy of Dr. Anne Whitney

Vowel Sounds of English, by Articulation (Moats & Tolman, *LETRS* Third Edition)



How Does Poor Phonology Sabotage Spelling?

- Phonemes are the “anchors” or “parking spots” for graphemes
- If those anchor points are incomplete, unclear, or misidentified, there is no “Velcro” to attach the graphemes to
- The result is students attempting to memorize letter sequences by visual imprinting, or by using extraneous information such as configuration and/or context
- (HINT: This doesn’t work! There is no “alternative pathway.”)

(Seidenberg, 2017)

What We Know about Familiar Words (Perfetti, 2007)

Word

accomplished

ac-com-plish-ed

ac-com-plished

a-cc-o-m-p-l-i-sh-ed

a c c o m p l i s h e d

Unit of Analysis

word

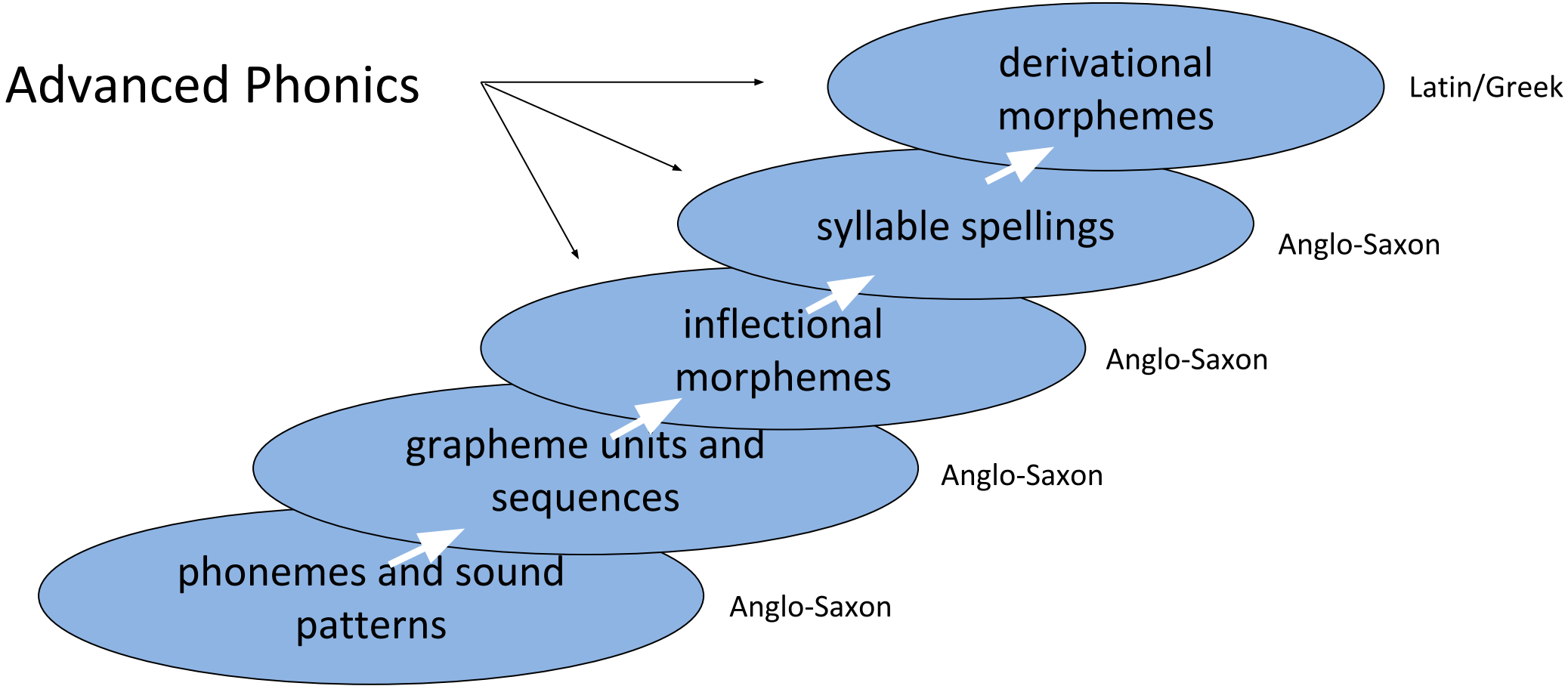
morpheme

syllable

grapheme

letter

Implication: A Layer Cake of Language Concepts Supports Word Recognition and Spelling



- About 10–15 minutes daily, classroom instruction, during a week
- Word lists organized by a concept or pattern of orthography
- Test study, then test on Friday
- Immediate corrective feedback
- Frequent, distributed practice of difficult words

- Application of learned words to sentence writing
- Use of supports: personal spelling dictionary, etc.
- Positive reinforcement for correct responses

BUT WHAT CONTENT SHOULD BE TAUGHT?

What and How We Teach Depends on What a Student Already Knows and Can Do

Ehri's Phase Theory

PREALPHABETIC	EARLY ALPHABETIC	LATER ALPHABETIC	CONSOLIDATED
KKEEDCABCMN	B	BOE	BOY
	MC	MAK or MAEK	MAKE
	Y	WL	WILL
	FNM	FRM	FAM or FARM
	FG	THIK	THINK

Five Principles for Explaining English Orthography and Developing Concepts of Words

1. Language of origin
2. Phoneme-grapheme correspondences
3. The position of a phoneme or grapheme in a word
4. Letter order and sequence patterns
5. Meaning (morphology) and part of speech



Principle No. 1

LANGUAGE OF ORIGIN

(The language from which a word came and its history in the English language.)

Word Origin is Often Represented in Spelling

Word in English	Language of Origin
algebra	Latin
attract	Greek
blitz	Spanish
mosquito	Yiddish
cello	Italian
chutzpah	French
ballet	Arabic
chorus	German

Application in Instruction

church Ch used for /ch/ (Anglo Saxon)

machine Ch used for /sh/ (French)

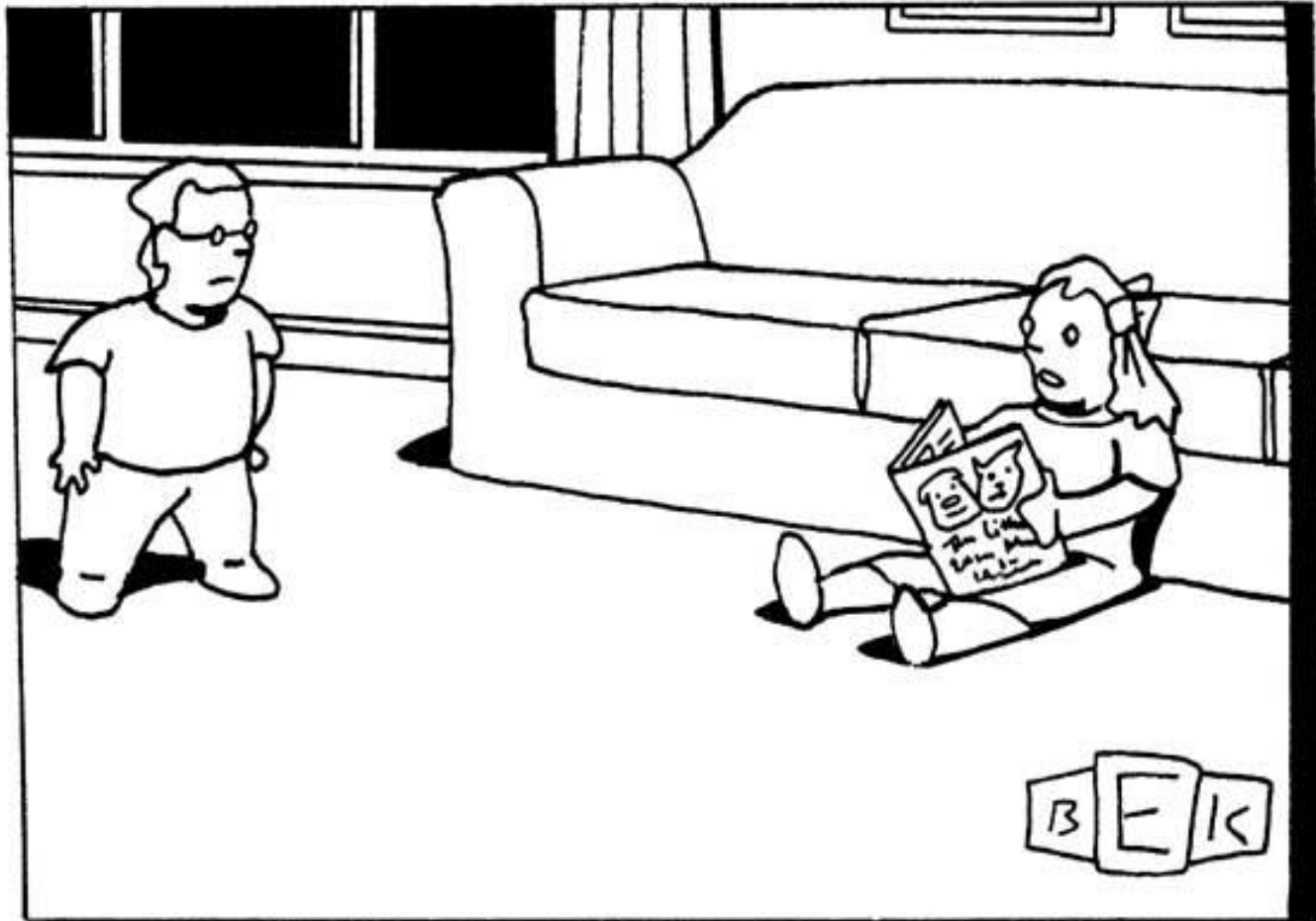
school Ch used for /k/ (Greek)



Principle No. 2

Phoneme-Grapheme Correspondences

©Cartoonbank.com



"Finally, the alphabet is paying off."

Graphemes: Letters and Letter Combinations

Phoneme-Grapheme Correspondences:

/ch/	/ē/	/z/	/d/	/ū/	/d/	/l/	/z/
ch	ee	se	d	oo	d	le	s

End of K

My trip
Woshintin Dc it is
65 degree I'm going
to play at washintin Dc
I'm going to pack clothes
I'm going to see the white
house I will see
president in booshe

Apir/Hand Len kin Was a man
That Woked at The white house
George Washington Woked in
The white house to But
one Dat they dinten
Come There pepoel Was



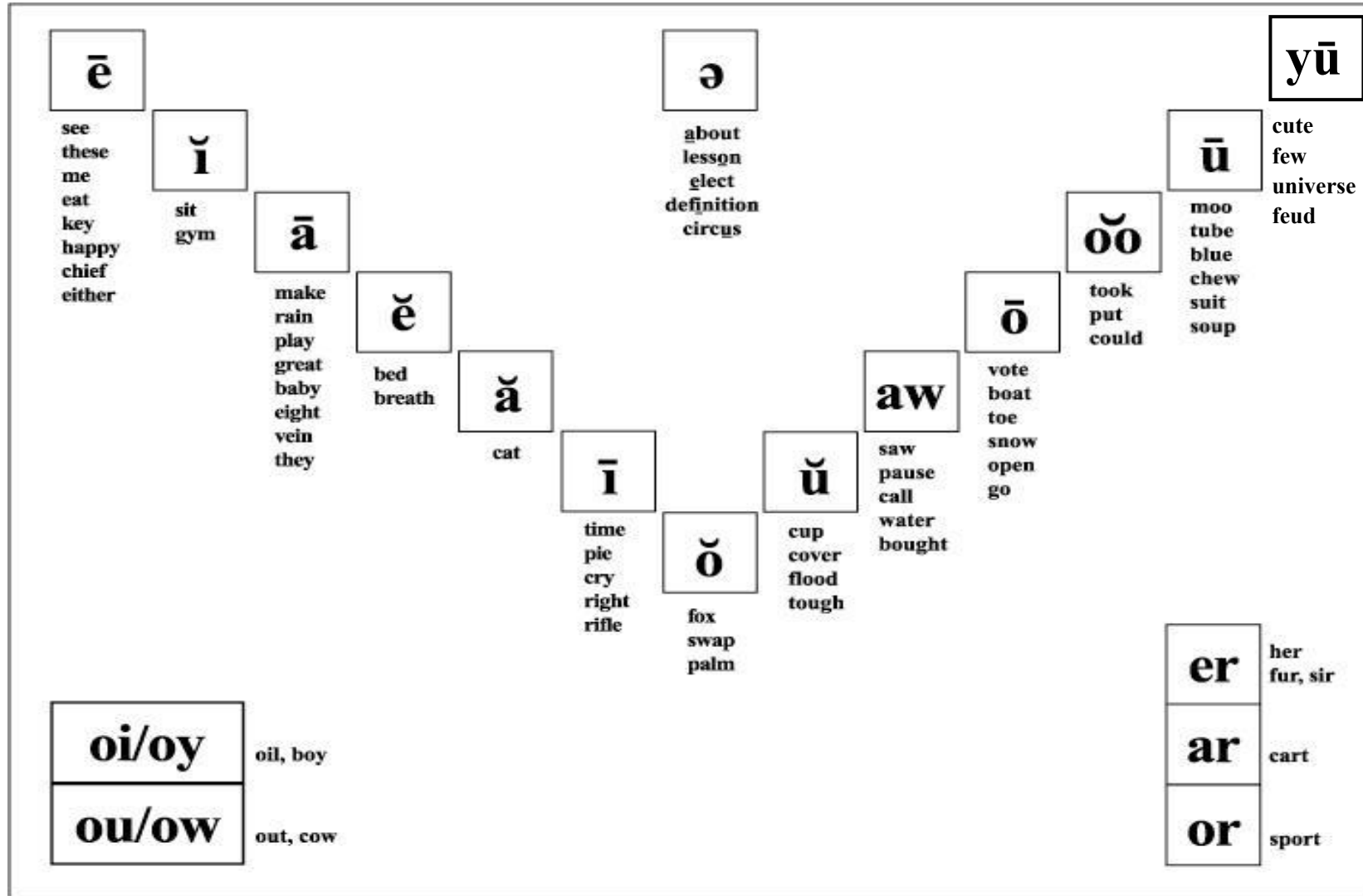
Phoneme-Grapheme Mapping: Blends and Digraphs

shrimp					
blond					
chunk					
fresh					
string					

Mapping the Graphemes

sh	r	i	m	p	
b	l	o	n	d	
ch	u	n	k		
f	r	e	sh		
s	t	r	i	ng	

The Vowel Spelling Chart (Moats & Tolman, 2017)



Sound Wall in First Grade

English Vowel Sounds and the Many Ways That We See Them in Print

ē: these, me, see, eat, happy, key

ĩ: sit, gym

ā: make, baby, great, rain, play, they, eight

ē: bed, bread

ă: cat

ĩ: time, stifle, cry, right

ŏ: fox, calm

ũ: cup

ăw: saw, pause, call

ō: vote, go, boat, snow

ū: took, put

yū: tube, moo, blue, chew, universe, cute, few

ar: shark

or: sport

er: her, fur, sir

oi: boil, toy

oy:

ou: out, cow

ow:

oō:

Remember: Long vowels say their names!

_____ says _____ like in _____.
letters sound word

Beware of Schwa! /ə/

wag + on

cir + cus

trum + pet

king + dom

cap + tain

at + tend

of + fend

re + duce

sup + pose

ef + fect



Principle No. 3

We Spell by Position of a Phoneme
(or Grapheme) in a Word

Word Sort—Spellings for /k/

c-	k-		-k	-ck	?
coat	kin		hook	pick	nice
cover	keep		sneak	deck	circus
clear	kind		squawk	flock	cyclone
cuddle	kettle		oink	stuck	cycle
catch	kitchen		fork		
	Kyle				

- When do we use a 'c' for /k/?
- When do we use a 'k' for /k/?
- When do we use 'ck' for /k/?



Principle No. 4

We Spell by Letter Patterns

Some Arbitrary Conventions of Letter Use

- *Love, have, sieve, glove*—no word in English ends in “v”
- *College, badge, village, wage*—no word in English ends in “j”
- Some letters are never doubled

Six Basic Written Syllable Types

1. Closed

pet, cats

2. VCe

slide, scare, cute

3. Open

ri-pen

4. Vowel Team

teeth

5. Vowel-r

car, bird, her

6. Consonant-le

ap-ple

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



Principle No. 5

We Spell by Meaning (Morphemes)

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)

Two Types of Suffixes

inflectional suffixes:

- 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*)

derivational suffixes:

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

When I was Frightened.

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

A nother time when I was fighten it was by me have nightma- 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 frighteningly, can scare you that you will not no what happen to you I have frightoned things.

Word Building

			ion	
de	con		ive	
in	struct		ible	
re				s
	ob			ed
				ing

- Spelling lessons are an opportunity to teach about **language**—the common denominator linking reading, spelling, and writing.
- Let's be sure teachers have sufficient professional training and support to make Structured Language and Literacy commonplace.

Selected References

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Q & A



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Tuesday, February 11, 2020, 4:00 p.m. (ET)

Making a Difference with Effective Dyslexia Screening

Presented by: Roland Good, III, Ph.D.
President, Acadience® Learning

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A photograph of a teacher with long dark hair, wearing a light blue button-down shirt, leaning over a desk to assist a young boy with dark hair wearing a blue t-shirt. They are both looking at a computer screen. In the background, other students are seated at desks, some using computers. The scene is set in a bright, modern classroom.

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YOU DO**

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