



# Teaching Spelling Using a Structured Literacy Approach

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## Meet Our Presenter



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# What We Will Cover Today

- The latest research about how children learn to spell
- How spelling supports reading and writing
- How spelling can be used as a diagnostic tool
- A comprehensive approach to teaching spelling that complements reading instruction

# Write These Words

\_\_\_\_\_ ?

\_\_\_\_\_ ?

\_\_\_\_\_ ?



# Answers

commitment -- com-mit-ment

accommodate – ac-com-mod-ate

iridescent – iri-desc(e)-ent

# What's in a Concept of a Word?

- **Commitment**

- Latin prefix, root, suffix
- All morphemes spelled consistently
- No reason to double “t” before a suffix beginning with a consonant

- **Accommodate**

- Assimilated prefix “ac” from “ad”
- Commodus = “fitting” in Latin

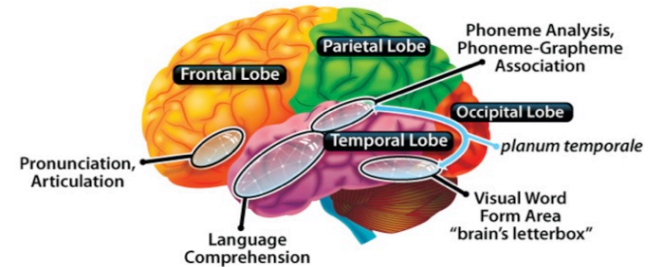
- **Iridescence**

- “iri” = Greek goddess of color or the rainbow; “iris” = rainbow in Latin

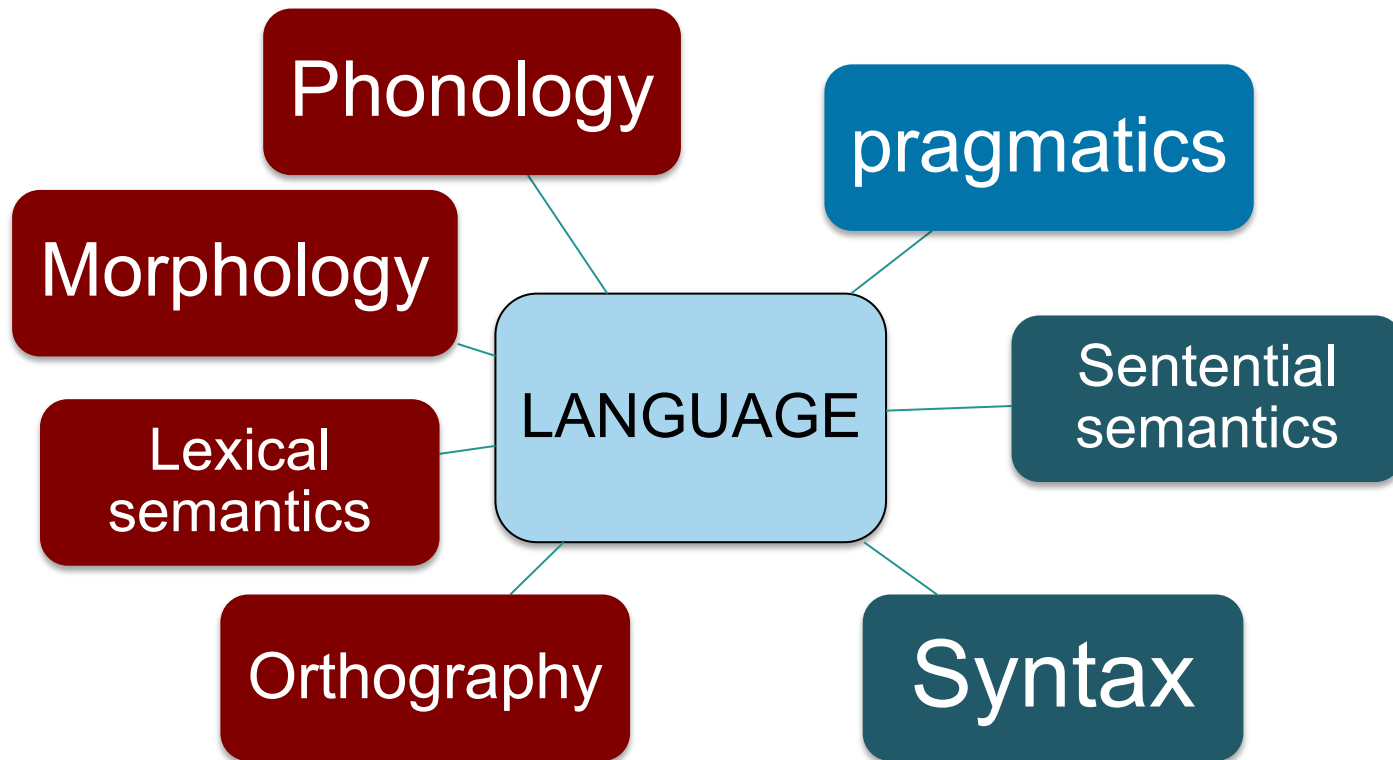
# Spelling Is a Linguistic Skill

- Reading and spelling development are mediated by phonological awareness
  - (Read, 1971; Chomsky, 1979; Post et al., 1999; Ehri, 1994; Tangel and Blachman, 1995; Sawyer et al., 1999; Cassar, Treiman, et al. 2005; Treiman, 2017)
- Spelling depends on awareness of phonemes, syllables, and morphemes as well as specialized memory for orthographic units in the brain's Word Form Area

## The Reading Brain



# Reading and Spelling Both Depend on Language





# Teachers' Knowledge of Language is Important

- Methods that emphasize language structure are more effective than rote methods (Berninger, 1999; Graham, 1999; Schlagal, 2001)  
Joshi, Treiman, Carreker, & Moats, 2009, (*American Educator*)
- Teachers at 2<sup>nd</sup> and 3<sup>rd</sup> grade level who have better knowledge of language are more effective, especially with poor spellers who depend on instruction (Puliatte & Ehri, 2018)
- Non-linguistic, visual-spatial abilities have almost no relationship with spelling and “visual” approaches are not helpful!

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 airplane or helicopter ride around the  
Islands then we will kayak all the way home  
good bye!

Your friend



DANNY, GRADE 7, FSIQ 110

# Relationships Established by Research

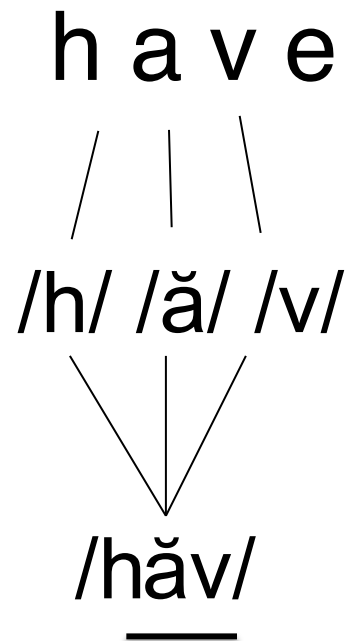
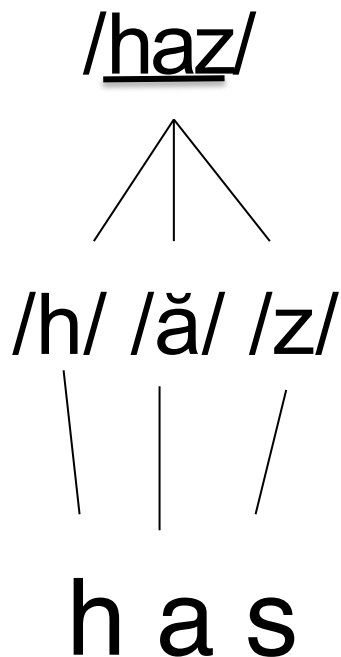
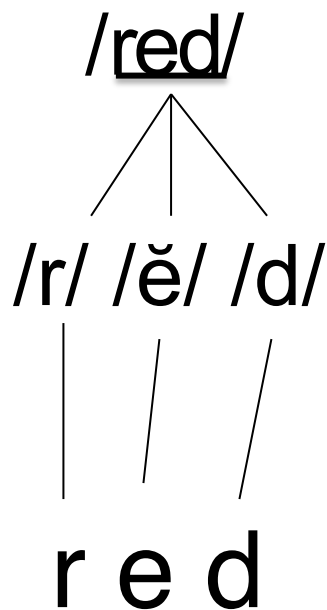
- Better spelling leads to better writing (Berninger & Wolf, 2012; Moats & Foorman, 2004; Graham & Perrin, 2007; Graham & Santangelo, 2014)
- Spelling knowledge facilitates vocabulary growth and speed of word recognition (Treiman, 2017)
- Spelling is even more highly correlated with reading comprehension than word recognition (Mehta et al., 2005)

# Spelling Instruction Accelerates Reading Progress

- Weiser, B. and Mathes, P. (2011) Using encoding instruction to improve the reading and spelling performances of elementary students at risk for literacy difficulties: a best-evidence synthesis. *Review of Educational Research*.
- Ouellette, G., Martin-Chang, S., & Rossi, M. (2017). Learning from our mistakes: Improvements in spelling lead to gains in reading speed. *Scientific Studies of Reading*, 21, 350-357.

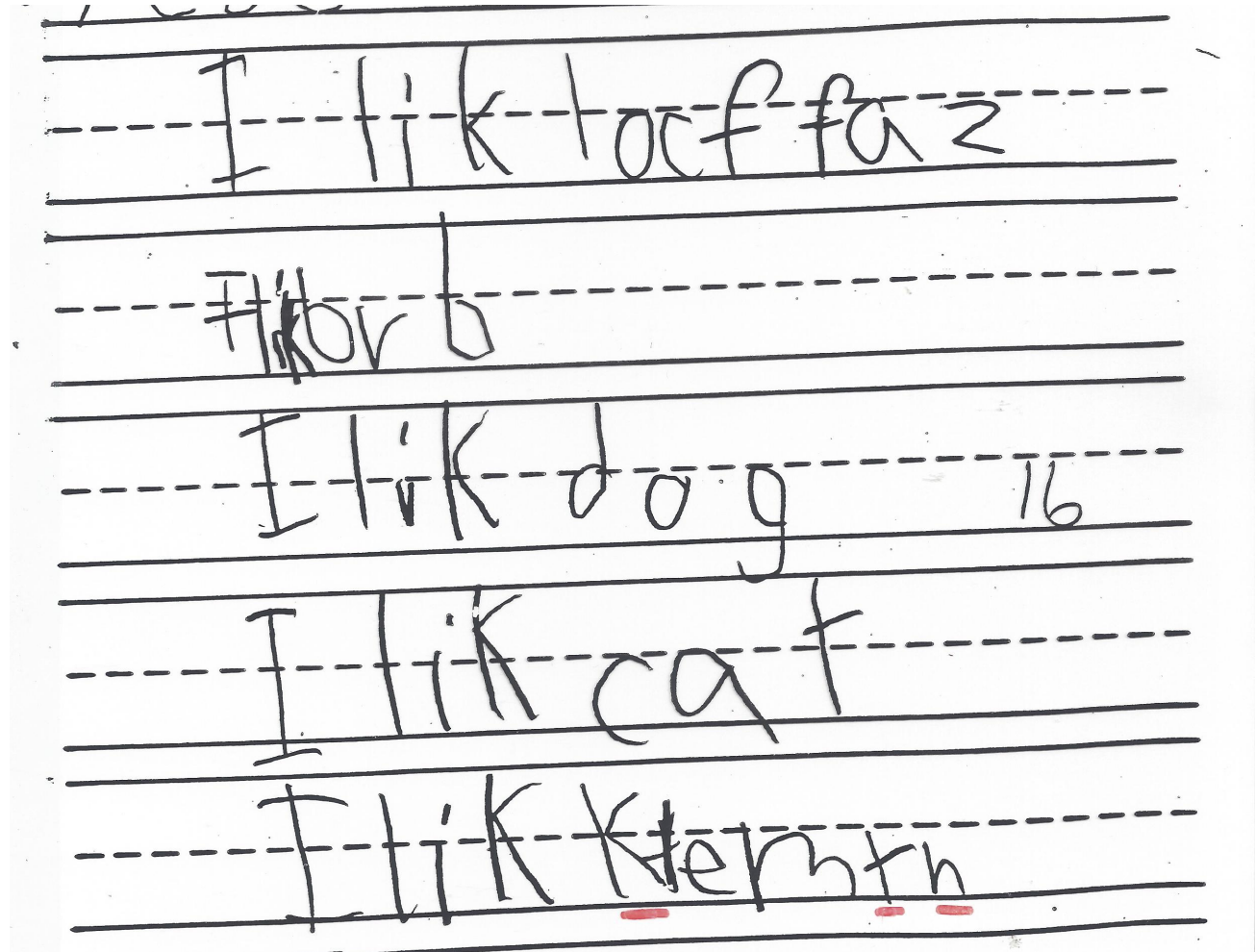


# How We “Map” Words to Long-Term Memory (Kilpatrick, 2015)



Orthographic  
Mapping

What can we learn from watching young children spell?



# 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

# Confusing Phonemes with Similar (Overlapping) Features

#6

|            |              |                |
|------------|--------------|----------------|
| 1 fnn fan  | 6 wot wait   | 11 gomm dream  |
| 2 pnt pet  | 7 gok chunk  | 12 bab 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 3<sup>rd</sup> Ed.)

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

# How Does Poor Phonology Sabotage Spelling?

- The “anchors” or “parking spots” for graphemes are the phonemes in the word
- 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

(Seidenberg, 2017)

# What About the Vowel Errors?

#6

|       |      |        |       |         |         |
|-------|------|--------|-------|---------|---------|
| 1 fnn | fan  | 6 wot  | wait  | 11 gomm | dream   |
| 2 pnt | pet  | 7 gok  | chunk | 12 bab  | 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 |





# What We Know about Familiar Words (Perfetti, 2011)

snowing

snow-ing

snow-ing

s-n-ow-i-ng

s-n-o-w-i-n-g

Units of Analysis

*word*

*morpheme*

*syllable*

*grapheme*

*letter*

# What We Know about Familiar Words (Perfetti, 2011)

elephants

elephant-s

e-le-phants

e-l-e-ph-a-n-t-s

e-l-e-p-h-a-n-t-s

Units of Analysis

*word*

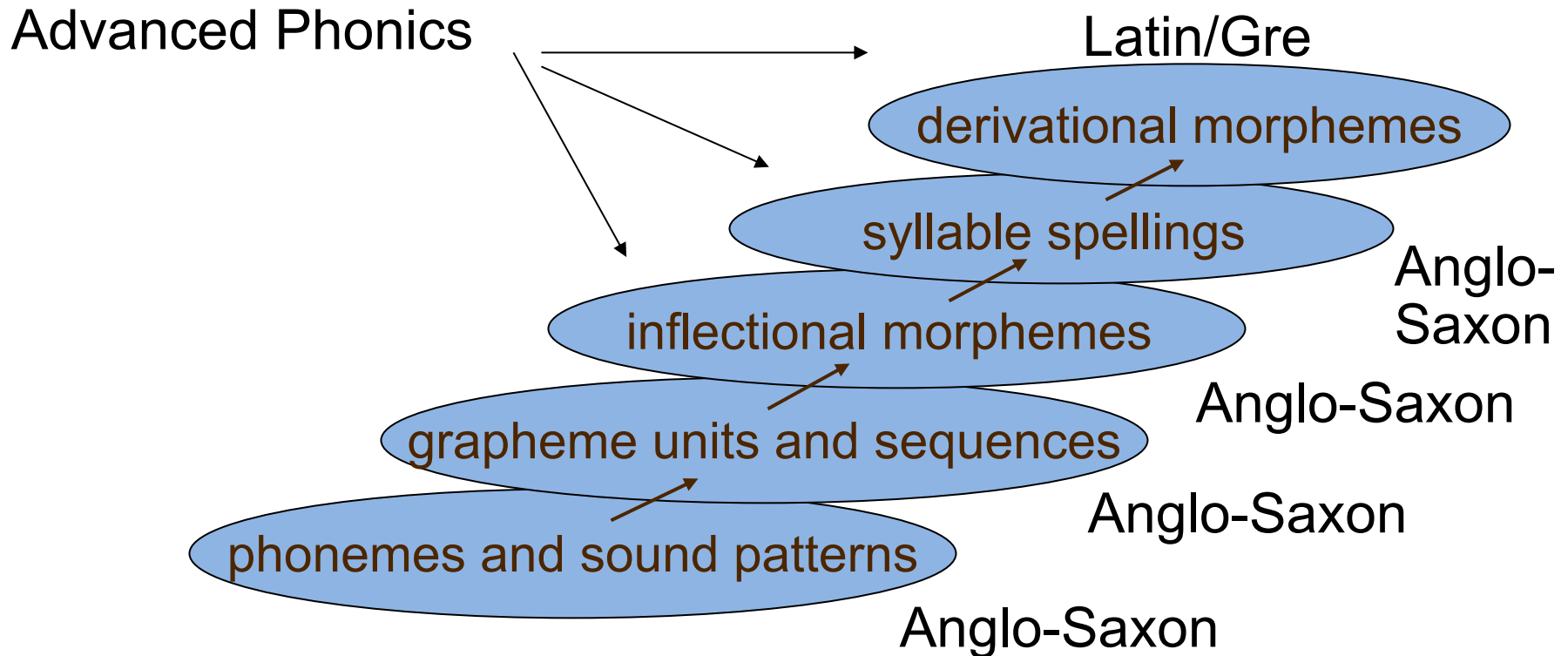
*morpheme*

*syllable*

*grapheme*

*letter*

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



# Research-Based, Traditional Spelling Instruction Practices: What Works Best?

(Schlagal, 2001)

- About 10-15 minutes daily, classroom instruction, over 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

# Research-Based, Traditional Spelling Instruction Practices: What Works Best? (Schlagal, 2001)

- 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?

# That Depends on What A Student Already Knows and Can Do

## Ehri's Phase Theory

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



# Five Principles for Understanding 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 #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             |

# Characteristics of English Words

## according to Language of Origin

| Language of Origin                   | Features of Words   | Examples   |
|--------------------------------------|---|--|
| <b>Anglo-Saxon<br/>(Old English)</b> | Short, one syllable;<br>common words; irregular<br>spellings                | <i>sky, earth, moon, sun,<br/>water, sheep, dog, horse,<br/>cow, hen, head</i>           |
| <b>Norman French</b>                 | Soft <b>c</b> and <b>g</b> ; special<br>endings; words for food,<br>fashion | <i>amuse, cousin, cuisine,<br/>country, peace, triage,<br/>rouge, baguette, genre</i>    |
| <b>Latin/Romance</b>                 | Multi-syllable words with<br>prefixes, roots, suffixes;<br>content words    | <i>firmament, terrestrial,<br/>solar, stellar, equine,<br/>aquarium, mammal</i>          |
| <b>Greek</b>                         | Combinations of forms;<br>science and math<br>terminology                   | <i>hypnosis, agnostic,<br/>hemisphere, phonology,<br/>neuropsychology,<br/>decathlon</i> |

# Dimensions of English Orthography

|             | Sound-Symbol   | Syllable Patterns  | Morpheme Structure  |
|-------------|--|--|---|
| Anglo-Saxon | <p><b>Consonants</b><br/>single, digraphs, trigraphs, blends</p> <p><b>Vowels</b><br/>short, long<br/>-v-c-e, vowel team, vowel-r patterns</p> | <p>closed<br/>open<br/>vce<br/>vowel-r<br/>vowel team<br/>consonant -le<br/>(oddities)</p> | <p>compounds<br/>inflections<br/>base words<br/>suffixes<br/>high frequency words</p> |
| Latin       |  |  | <p>prefixes<br/>roots<br/>suffixes</p>  |
| Greek       | <p>ph for /f/ (graph)<br/>ch for /k/ (chorus)<br/>y for /i/ (gym)</p>  |  | <p>Combining forms<br/>plurals</p>  |

# Application in Instruction

church

Ch used for /ch/ (Anglo Saxon)

machine

Ch used for /sh/ (French)

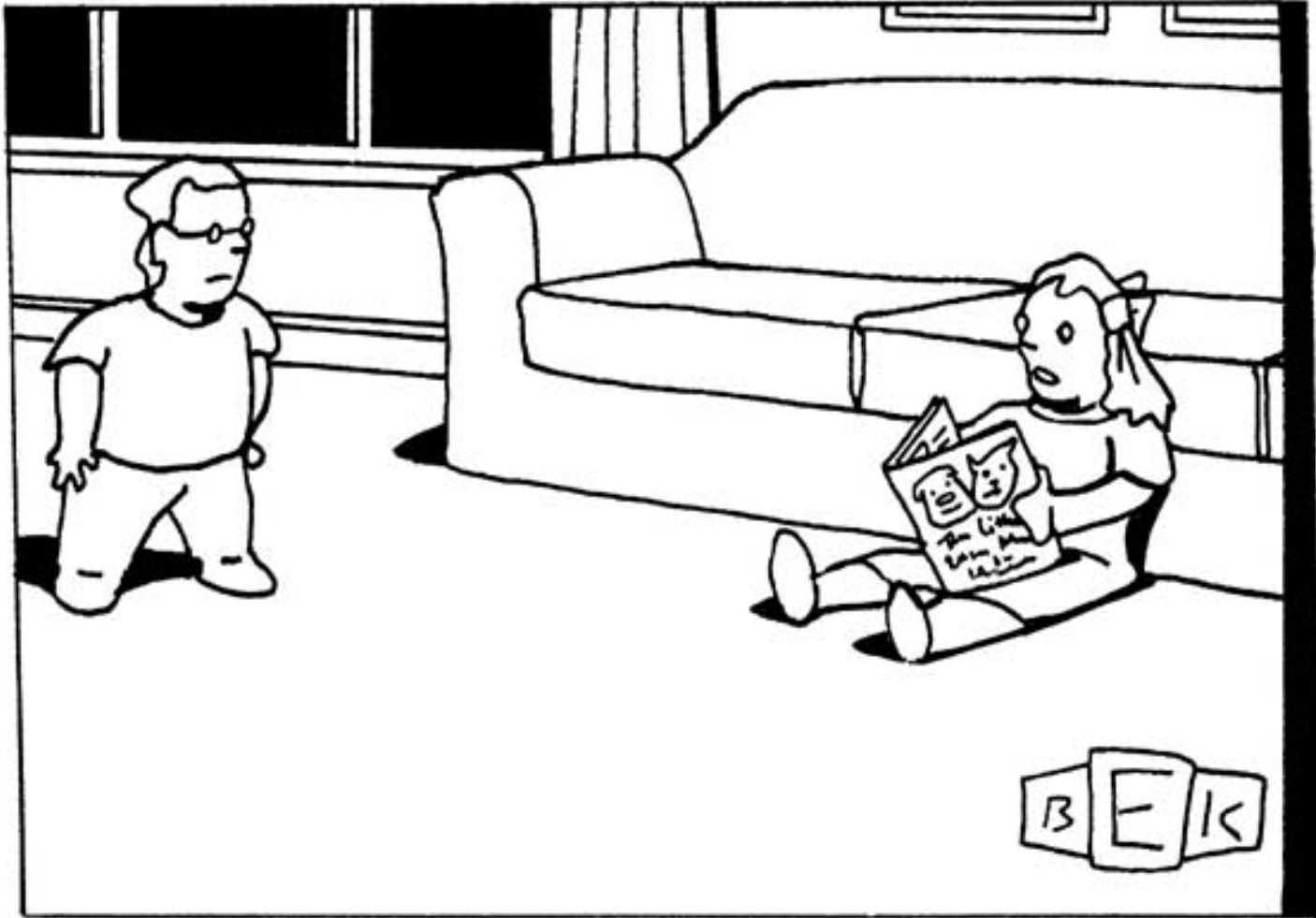
character

Ch used for /k/ (Greek)



# Principle #2

Phoneme-Grapheme Correspondences



*"Finally, the alphabet is paying off."*

# Graphemes: Letters and Letter Combinations

Phoneme-Grapheme Correspondence:

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

My teacher

DETERLK cat

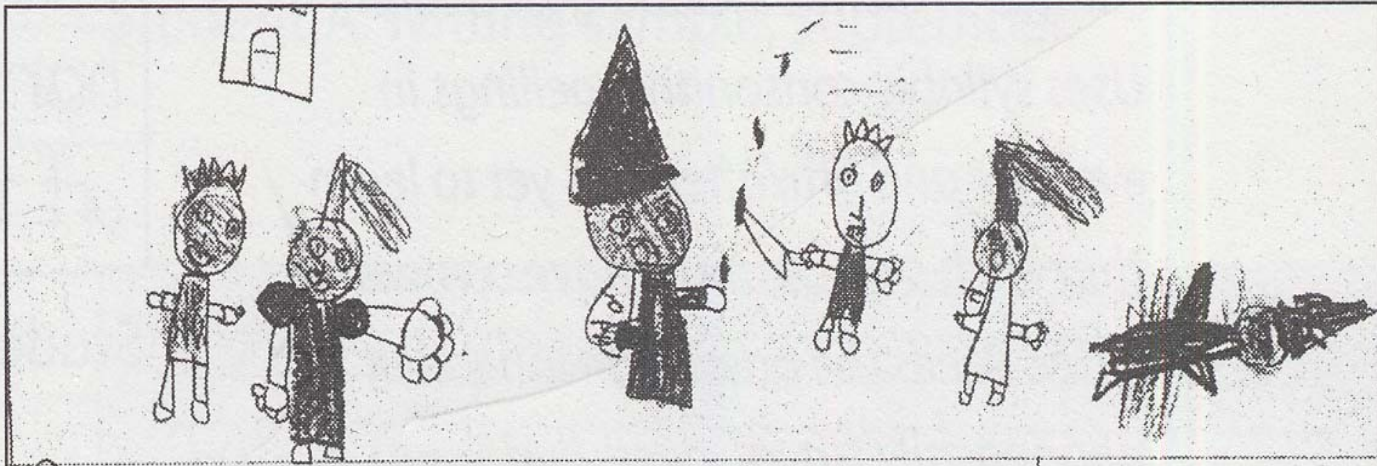
DISSTEROCK

EDERKEITCCK

KDERKVERKVER

KOC K DEK <sup>62L</sup>

ODFERK



Once upon a time there  
was a princess she was locked  
in the highest castle the witch  
knew to kill her  
but she did not but The Prince

# Phoneme-Grapheme Mapping

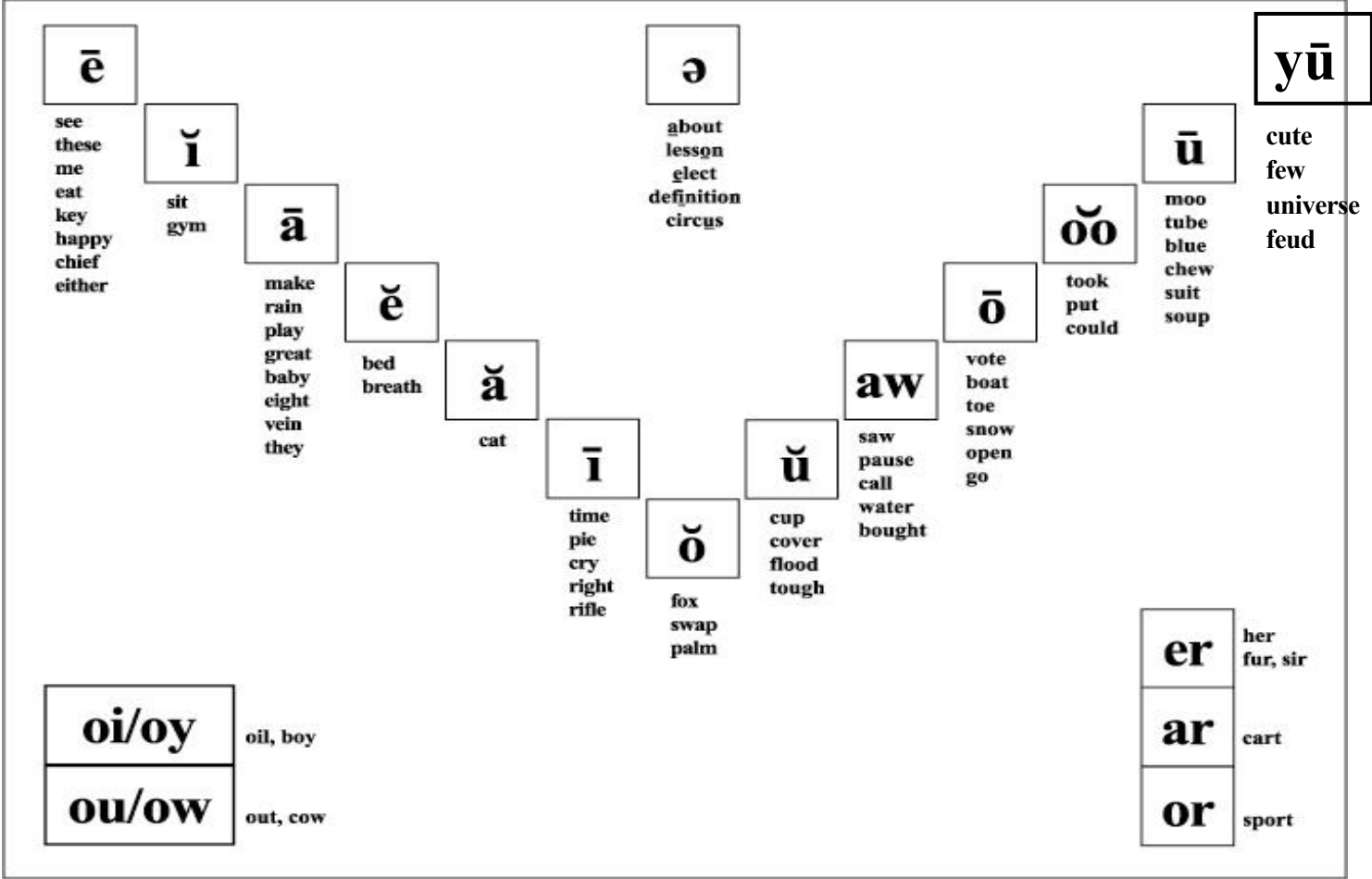
|               |  |  |  |  |  |
|---------------|--|--|--|--|--|
| <b>shrimp</b> |  |  |  |  |  |
| <b>blond</b>  |  |  |  |  |  |
| <b>chunk</b>  |  |  |  |  |  |
| <b>fresh</b>  |  |  |  |  |  |
| <b>string</b> |  |  |  |  |  |



# Mapping the Graphemes

|           |          |          |           |           |  |
|-----------|----------|----------|-----------|-----------|--|
| <b>sh</b> | <b>r</b> | <b>i</b> | <b>m</b>  | <b>p</b>  |  |
| <b>b</b>  | <b>l</b> | <b>o</b> | <b>n</b>  | <b>d</b>  |  |
| <b>ch</b> | <b>u</b> | <b>n</b> | <b>k</b>  |           |  |
| <b>f</b>  | <b>r</b> | <b>e</b> | <b>sh</b> |           |  |
| <b>s</b>  | <b>t</b> | <b>r</b> | <b>i</b>  | <b>ng</b> |  |

# 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

**e**  
these  
me  
see  
eat  
happy  
key

**i**  
sit  
gym

**a**  
make  
baby  
great  
rain  
play  
they  
eight

**ə**  
about  
circus  
lesson

**ē**  
bed  
bread

**ā**  
cat

**i**  
time  
stifle  
cry  
right

**ō**  
fox  
calm

**aw**  
saw  
pause  
call

**o**  
vote  
go  
boat  
snow

**ū**  
cup

**oo**  
took  
put

**u**  
tube  
moo  
blue  
chew

**yū**  
universe  
cute  
few

**ar**  
shark

**or**  
sport

**er**  
her  
fur  
sir

Remember:  
Long vowels say their names!

\_\_\_\_\_ says \_\_\_\_\_ like in \_\_\_\_\_.  
letters sound word

# Principle #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/?**

# The Spelling Patterns for /k/

- Beginning /k/ is spelled with **c** before **a**, **o**, and **u** or a **consonant**, and with **k** before **e**, **i**, or **y**.
- Ending /k/ is spelled with **-ck** immediately after an accented, short vowel.

What about words like kayak, kangaroo, flak, and koala?



# Principle #4

We Spell by Letter Patterns

(Conventional uses of letters that are independent of sound patterns)

# 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

# Schwa! /ə/

wag + on

cir + cus

trum + pet

king + dom

cap + tain

at + tend

of + fend

re + duce

sup + pose

ef + fect

# Spelling by Syllable

| 1   | 2   | 3     | 4    | WORD         |
|-----|-----|-------|------|--------------|
| ac  | com | plish |      | accomplish   |
| en  | ti  | tle   |      | entitle      |
| be  | lit | tle   | ment | belittlement |
| fan | tas | tic   |      | fantastic    |

# Principle #5

We Spell by Meaning (Morphemes)

# Historical Layers of English

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

## 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 kept on jumping! That movie was very frightening to watch.

Another time when I was frightened it was by me having nightmares. Nightmares can be very frightening to have. I did not like my nightmare.

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

Sometimes things could be so frightening that you could jump out of your shoes. I had had lots of things that were frightening to me. Things that are frighteningly, can scare you that you will not know what happens to you I have frightened things.

# Teach Common Prefixes, Roots, Suffixes

- ex-press-ion (pressure, impress, unimpressed, repression)
- vi-rus (viral, virology, virologist)
- at-tract-ive (intractable, traction, retracted, extract)
- im-port-ant (portable, portage, import, export, unreported)
- un-patri-ot-ic (patriotism, patrician, repatriate)



# CCSS: Demonstrate Command of the Standard English Conventions...

- Spelling must be learned incrementally
- With emphasis on the “5 principles,” including language structure and word origin
- Following a logical scope and sequence
- With lots of practice, in and out of context

# To Conclude:

Spelling lessons are an opportunity to teach language – the common denominator linking reading, spelling, and writing.

Let's be sure that teachers have sufficient professional training and support to make Structured Language and Literacy commonplace!

THANK YOU FOR ALL THAT YOU DO

[www.louisamoats.com](http://www.louisamoats.com)

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