

WORDS WITH SPELLING CONNECTIONS HAVE MEANING CONNECTIONS

Nancy Cushen White, Ed.D.

Strategies for Struggling Readers
SO-CAL Tri-Counties Branch
The International Dyslexia Association

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English Orthography—David Crystal—2012

Ultimate Test of the Validity of a Spelling Principle:

“The underlying system is robust and regular, but struggles to be visible through the layers of orthographic practice introduced over the centuries by writers with different linguistic, cultural, and political backgrounds.”

“... the best of way of defeating an enemy is to get to understand him.”

* Spelling is a linguistic problem that must be solved using linguistic tools.

Orthography
Etymology + Morphology + Phonics + Phonology

◆ Etymology → *interrelationships* of words with their own *origins* and with *other* words that *share those origins*—through *history*

◆ Morphology → sequence and structure of *meaningful units*—in English *today*

◆ Phonology → units of *speech* that create meaning only when combined

3

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English's "Loose Immigration Regulations"
Richard Venezky—1999—page 7

* "English has always had rather loose immigration regulations for vocabulary.

† Words, unlike people, have been forever welcomed, regardless of their origins.

† Neither quotas nor IQ tests have ever been required for admission to the lexicon.

† And unlike the melting-pot emphasis on assimilation in most of American history, orthography has been unencumbered by pressures to shed its alien

† "Consequently, *bijou*, *chalet*, and *chauffeur* retain their French garb, *trekked smacks* of Dutch (via Afrikaans), *ohm* and *Fahrenheit* are still German, and *vodka* remains recognizably Russian."

Etymology
www.etymonline.com

"Nuggets often nestle in etymonline."
-a 4th grade student of Old Grouch

INTERRELATIONSHIPS

➤ Words with their origins

➤ Other words with the same origin

French → *coquette*, *antique*, *contour*

Italian → *piano*, *Monticello*

Yiddish → *chutzpah*, *schlock*

Spanish → *mesa*, *taco*

Greek → *polychrome*, *philosophy*, *mythology*

Morpheme → smallest meaningful unit of language

Count the morphemes in these words:

- *elephants
- *election
- *accommodation
- *interrelationship
- photograph
- idiosyncratic
- beneficial
- conscious

6

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Another BIG Idea

❖ Words with spelling connections also have meaning connections.

❖ The meanings of specific words need to be taught in ways that support students in understanding how words are connected semantically and morphologically (Graves, Juel, & Graves, 2004).

7

Free Morphemes-Bases

- ❑ Can stand alone as words
- ❑ Do not have to be combined with other morphemes
- ❑ May be made up of one or more syllables

<u>FUNCTION WORDS</u> <ul style="list-style-type: none">▪ conjunctions▪ prepositions▪ pronouns▪ helping verbs▪ articles	<u>CONTENT WORDS</u> <ul style="list-style-type: none">▪ nouns▪ verbs▪ adjectives▪ adverbs
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8

Function Words

- ❑ Have little meaning of their own
- ❑ Give information about the function of lexical [content] words
- ❑ Are the main concern of grammar books
- ❑ Are usually unstressed (unaccented)

Function Words

- conjunctions
- prepositions
- pronouns
- helping verbs
- articles

9

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Content [Lexical] Words

- Have denotation, or specific meanings
- Can be defined in isolation
- Are the principal concern of dictionaries
- Are usually stressed [accented]

Content-Lexical Words

- nouns
- verbs
- adjectives
- adverbs

10

**Lexical [Content] Words
Must Have At Least Three Letters**

odd egg err ebb

When a lexical [content] word and a function word are homophones, one more letter is used to spell the lexical word.

in	for	by	to	or	but	be	we
inn	fore	bye	too	ore	butt	bee	wee
		buy		oar			

11

**Lexical [Content] Words
Must Have At Least Three Letters**

◇ What about one-syllable words ending in the phoneme /t/?

<cry> <dry> <try> <sly> <pry> <shy>

These words can be spelled with a <y> grapheme to represent their /t/ phoneme because their spelling includes a consonant blend or consonant digraph thus providing the 3 letters required for a lexical word.

<lie> <die> <vie> <tie>

These words cannot be spelled with the single letter <y> grapheme to represent their /t/ phoneme because they begin with a single consonant grapheme and therefore need an additional letter to meet the minimum of three letters required for a lexical word—so <ie> must spell /t/.

12

Thanks to Gina Cooke for her insights on use of graphemes <y> and <ie> to spell /t/.

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Affixes → Prefixes and Suffixes

□ **Affixes** → bound morphemes that generate derivations and inflections of a base element

◆ **Prefixes**

- ◇ Prefixes precede base elements within words.
- ◇ A single base element may have multiple prefixes.

◆ **Suffixes**

- ◇ Suffixes follow base elements within words.
- ◇ A single base element may have multiple suffixes.

Although there are only about 50 suffixes used in everyday English, suffixes appear in 50% of English words (David Crystal, 2012).

13

Connecting Vowel Letter

□ **It connects; it's a vowel; it's ONE vowel letter.**

- ◇ A connecting vowel letter **follows** a base element within a word.
- ◇ Only **one** connecting vowel letter may follow a base element.

-synonym = syn + onym

- ◇ Default connecting vowel letter in Latin: <i>

-proficient = pro + fice + **i** + ent

Sometimes <u>; occasionally <e>

-situation = site + **u** + ate + ion

- ◇ Default connecting vowel letter in Greek: <o>

-thermometer = therm + **o** + meter

-psychology = psych + **o** + loge + y

14

The meaning of the word is the sum of its parts.
How many words can you think of that share these Latin base elements?

mobe-mote-move ↗ same etymological family
↘ different morphological family

mobility → emotion → moveable

text → textile → context → texture → textual

fide → confident → diffident → fidelity → fiduciary

crede → accredit → creditor → credulous → credential

duce-duct *twin bases* → **introduce → introduction**

sponse-spound *twin bases* → **respond → responsive**

15

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A **Sample for Illustration
 Basic Daily Lesson Plan Format **INTEGRATED** Structured Literacy Lesson
 Slingerland® Multisensory Structured Language Approach

LEARNING TO WRITE
 1. Learning new letters
 2. Practicing letters newly learned
 3. Review of letters previously learned
 4. Teaching and Practicing letter connections (Cursive)

AUDITORY	VISUAL
A. Phoneme-Grapheme Practice Auditory • Visual = Phoneme • Grapheme B. Encoding (segmentation) C. Spelling 1. Base Elements + Affixes 2. Unpredictable Words 3. Phrases—Sentences—Paragraphs D. Dictation E. GOAL: Independent Writing	A. Grapheme-Phoneme Practice Visual • Auditory = Grapheme • Phoneme B. Decoding (blending) C. Preparation for Reading (Pre-Teaching Vocabulary and Syntax— words, phrases, grammar, punctuation, etc.) D. Reading Connected Text (Structured Reading • Studying) E. GOAL: Independent Reading

**Two Types of Suffixes:
 Inflectional and Derivational**

Inflections and derivational morphemes are two kinds of morpheme units that operate differently in word formation.

- > **INFLECTIONAL SUFFIXES** do not change the part of speech of the word to which they are added. The word continues to be a noun, verb, or adjective even with the inflection.
- > **DERIVATIONAL SUFFIXES** usually, but not always, change the part of speech of the word to which they are added.

Inflections

NOUNS:

- Possession hers
- Gender alumna
- Number toys, wishes, crises

VERBS:

- Tense talked
- Voice He was driven.
- Mood She could have been driving.

ADJECTIVES:

- Comparison wilder, wildest

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How We Remember Words

◆ Related words are activated in memory when they have meaningful connections and share structural elements at the morpheme level, especially when spelling reveals those connections (Nagy et al, 1989)—even when pronunciation does not:

<late> = to carry; to bear

relate ➔ relative ➔ relation ➔ relationship ➔ interrelate

◆ Awareness of morphemes aids understanding and recall of differences among homophones:

site ➔ situation cite ➔ citation
accept ➔ except

19

How We Remember Words

⊙ We know from cognitive experimental research that people with morphological awareness organize their mental dictionaries so that related words are associated and more readily retrieved (Schreuder & Baayen, 1995).

⊙ ... the mind is always seeking pattern recognition to reduce the load on memory and facilitate retrieval of linguistic information:

auditory ➔ auditorium ➔ audit ➔ audition ➔ audience
inscribe ➔ subscription ➔ scribe ➔ describe ➔ script ➔ ascribable

20

Triple Word Form Theory
Phonology—Orthography—Morphology
(Berninger et al., 2003)

◆ Learning to read and write words is a process of increasing awareness and coordination (integration) of three different types of word forms and their parts:

- Phonological Awareness
- Orthographic Awareness
- Morpheme Awareness.

◆ Multidisciplinary evidence for triple word form theory continues to accumulate.

21

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Layers of the English Language
borrowed from Marcia K. Henry

GREEK
specialized words
mostly scientific
dependable
some common non-phonetic
phone+o+graph ←combined base elements→ neur+o+psych+o+loge+y

LATIN
academic language
content area text
"high class" words
formal settings
mostly phonetic

ANGLO-SAXON
compound words
common, everyday
down-to-earth
ordinary situation
many non-phonetic

22

Old English Layer

▪ **Compounds** are characterized more by their stress pattern than by their spellings. Stress, or accent, almost always occurs on the first word of the compound. Spelling may include a hyphen or a space.

earthquake oatmeal baseball snowman

23

Homophone Principle
Venezky (1999)

* When two words are pronounced the same, if possible, they will be spelled differently to mark that difference in meaning.

* "... with one etymological concept—the *homophone principle*—we can drop the false assumption that homophones are confusing because they are spelled the same ..."

heal health please pleasant steal stealth
loan lone grown groan beet beat
scene seen sight site cite knead need

24

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Old English Layer

Words of Old English origin are characterized as the common, everyday, down-to-earth words used frequently in ordinary situations.

What is the base element in <happiness>?

25

Saga of the Scribal-o

Before the printing press, monks who were scribes noticed that many of their quill-penned letters were difficult to read. Most troublesome were the letters formed with *similar, beginning, up-and-down strokes*:

m n w u r v

26

Saga of the Scribal-o

- Therefore, the wise scribes changed the vowel grapheme *u* to *o* when *u* appeared adjacent to one of the letters listed.
 - The scribes could not, however, alter the pronunciation of the words that were affected by the spelling change they made.
 - Therefore, the grapheme *o* in words like, *brother, love, some, and wonder*, is pronounced /u/.
- What about *month* and *Monday*?

27

Adapted from Carol Murray

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Think of a word that ends in v...

- have
- starve
- love
- strive
- nerve
- give
- twelve
- grieve
- live
- believe
- move
- arrive
- heave
- relative
- motive
- beehive
- authoritative
- attractive

28

Why don't English words end in <v>?

The letter <u> shares history and behavior with <v> and has a spelling partnership with <a>. The letters <u> and <v> used to be written—and printed—identically—something like <v>. The early printers did develop two versions of the letter—<v> and <u>—but choice between them was determined ONLY by their position in the word, not whether they were functioning as the vowel or the consonant letter.

When vowel <u> or consonant <v> appeared at the beginning of a word, it was written <v> but when either occurred inside a word it was written <u>:

*v*nder *h*ave *l*ove
*v*pon *e*very *o*ver *v*se

29

Spelling /r/ with wr...

- Usually one syllable
- Meaning associated with “twisting”

wring	wreath	wrestle	wrangle	write
wrath	wrinkle	wrong	wrench	wrist

30

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Words that begin with *tw...*

- Meaning associated with “two”

twins	twine	twinkle
tweezers	twelve	twenty
betwixt		between

31

Etymological Marker? Venezky 1999

Ⓞ The <w> in <two> is not there as a grapheme representing a phoneme.

Ⓞ It is there to inform readers that <two> is the spelling for the number.

Ⓞ ... so there is sense to the <o> in <people> when we consider words like <popular> and <population>—from the same etymological family.

32

Why does <ey> spell /ā/ in <they>?

they

them

their [y changed to i inside a word]

33

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Why is there an <l> in <would>?

will → would

shall → should

34

...so what about the <l> in <could>?

ANALOGY

Words that sound similar tend to be spelled the same. This process of **analogy** affected many new words as they arrived in English—and some older spellings were changed to conform. (p. 121, Crystal, 2012).

- Throughout the history of English spelling, even in tiny groups of words (e.g., auxiliary verbs *would-should-could*), analogy has had influence.
 - Though they all look the same now, there was no *l* in *could* originally.
 - The other two verbs both had an *l*: *wolde-sholde*.
 - When *wolde* and *sholde* became *would* and *should* in late Middle English, scribes decided there should also be an *l* in *could*.

35

Is the spelling of <does> unpredictable?

*do does doing done

*go goes going gone

The spelling of <does> is predictable, but the pronunciation is not.

*lexical words with only two letters

36

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Latin Layer

Morphological Awareness → Semantic

- ****For every word a student learns, there are usually between one and three related words that should be understandable.**
- ****There are degrees of semantic transparency in words**
 - **Apparent:** *red → redness*
 - **Less Apparent:** *apply → appliance*
- ****The less morphological awareness a student has, the more distinct words need to be learned.**
- **Semantically transparent words are skewed toward the low end of the frequency distribution to a greater degree than morphologically basic words or semantically opaque words (Nagy and Anderson 1984).**
- **About 60% of the unfamiliar words encountered in the middle school years and beyond are sufficiently transparent—even though they are morphologically complex in structure and meaning—that a reader might be able to infer the meaning of the word (Nagy et al., 1989).**

37

Romance Layer

How many words can you think of that share the Latin base element <nate>?

38

Romance Layer

How many words can you think of that share these Latin base elements:

<secute-seque> [to follow] ?

39

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Romance Layer

How many words can you think of that share these Latin base elements:

<pel-pulse> [to push] ?

40

Romance Layer

How many words can you think of that share these Latin base elements: <mit-miss> [to send] ?

41

Greek Layer

◇ Scientific and mathematical terms incorporated into English in the past 500 years have most often been constructed from Greek morphemes.

◇ Many Greek-derived morphemes combine with other bound morphemes of equal importance in flexible order:

geography	photosynthesis
psychology	philanthropic
chronic	synonym

42

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Effects of Morphological Awareness

- Phonological awareness facilitates morphological awareness in younger children (Carlisle & Nomanbhoy, 1993), and both are associated with stronger reading skills.
- Problems that poor readers have with applying morphological rules to unfamiliar base words are attributable in large part to more basic weaknesses in phonological processing (Carlisle, 1987, 1988; Fowler & Liberman, 1995).
- *Because morphemes are units of both sound and meaning, deficits in phonological processing contribute to confusion of similar-sounding words and word parts, failure to recognize similarities of structure, and failure to either store or retrieve word form with precision.

43

Effects of Morphological Awareness

- Better readers with excellent language abilities in fourth through eighth grade are able to talk about word structure and word meaning in a precise, decontextualized manner that reveals conscious knowledge of phonology and morphology (Snow, 1990).
- Adults who read poorly have less information in their mental dictionaries as well as less ability to organize and gain access to words using morphological relationships (Cunningham & Stanovich, 1997; Leong, 1989; Shankweiler et al., 1996).
- Adults who read accurately and fluently have accumulated wide networks of word families for ready access and cross-referencing in the lexicon (Nagy et al., 1989).

44

Effects of Morphological Awareness

- Differences between good and poor spellers are associated with significant differences in sensitivity to word structure at the morphological level.
- Children with specific written language and spelling disorders have been shown to misuse, substitute, or omit inflected endings more than typical children (Bailet, 1990; Moats, 1996).
- Insensitivity to morphological aspects of word structure also characterizes adults who spell poorly.

(Fischer, Shankweiler, & Liberman, 1985; Liberman, Rubin, Duques, & Carlisle, 1985; Shankweiler et al., 1996; Berninger, Abbott, Nagy, & Carlisle, 2010; Kirby et al., 2012; Goodwin & Ahn, 2013)

45

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Why are these words spelled this way?

commitment
committee
referral
reference
illegal
accommodate
efficacious
effective

46

<fide> → “to trust”

Fidelity

+

Intensity

+

Duration

=

Efficacy

NCW-2015

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48
