WHY TEACH SPELLING?

- **WHY SPELLING INSTRUCTION MATTERS**
- **A CHECKLIST FOR EVALUATING A SPELLING PROGRAM**
- **TABLES OF *COMMON CORE STATE STANDARDS* LINKED TO SPELLING**

The English
Spelling-Book
WILLIAM MAVOR LL.D.

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A SPELLING BOOK
GEORGIA ALEXANDER

CENTER ON
INSTRUCTION

WHY TEACH SPELLING?

- *Why spelling instruction matters*
- *A checklist for evaluating a spelling program*
- *Tables of Common Core State Standards linked to spelling*

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CENTER ON
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CONTENTS

WHY TEACH SPELLING?

The three components of this Center on Instruction collection

Has spelling become an antiquated concept in this world of instantaneous online referencing, automatic document spellchecking, and the public's disheartening patience with a poorly spelled word? In every teacher's crowded instruction schedule, does spelling have a place—or has it become an anachronism, its instructional power fading with the intense focus and scrutiny on other literacy skills considered to be more critical?

This booklet collects three documents that support the teaching of spelling in today's schools: *Why Spelling Instruction Matters, A Checklist for Evaluating a Spelling Program,* and *Tables of* Common Core State Standards *Linked to Spelling* have been created to support state education agencies and technical assistance providers in their work with K-12 teachers. They follow the release of other Center on Instruction research summaries addressing the link between writing and reading development (Graham & Hebert, 2010) and the strategies found to improve the writing performance of older students (Graham & Perin, 2007). Both works identified spelling as a critical literacy skill.

> **To find**
> - *Synopsis of "Writing to Read: Evidence for How Writing Can Improve Reading"* (and its related webinar *Writing and Writing Instruction to Improve Reading: What We Have Learned from Research*) and
> - *Synopsis of "Writing Next: Effective Strategies to Improve Writing of Adolescents in Middle and High Schools"* (and its related webinar *Identifying and Implementing Key Components of Effective Writing Instruction*),
>
> **visit www.centeroninstruction.org.**

Why Spelling Instruction Matters explains the importance of spelling to students' reading abilities, describes models of spelling development, and explains common approaches to spelling instruction. It offers supporting figures and diagrams as well as appendices with additional information and lists of resources helpful to practitioners.

Using the information from *Why Spelling Instruction Matters*, the Center on Instruction created two companion documents as tools for administrators and teachers. The items in *A Checklist for Evaluating a Spelling Program* are based on research outlined in the main document and offer a quick reference to the

key elements for determining students' spelling abilities and teaching basic and more complex skills. Educators can search their spelling curriculum materials to locate the components suggested in the checklist. The checklist format provides space for educators to note the nature and quality of the content of the curriculum materials. This information can inform discussions about important curriculum decisions related to material and content selection.

The second companion tool, *Tables of* Common Core State Standards *Linked to Spelling*, connects the information in *Why Spelling Instruction Matters* to grade-level expectations. The document also includes guidance about how to read and use the information in the tables.

We recommend that you read *Why Spelling Instruction Matters* first. It contains the preliminary information you will need to understand the terms and categories in the companion tools. We hope that with support from your state department of education or other technical assistance providers, this suite of documents will reinforce the value of including spelling instruction and prove useful to teachers at all grade levels who address spelling in their English language arts and reading classes.

REFERENCES

Graham, S., & Hebert, M. A. (2010). *Writing to read: Evidence for how writing can improve reading. A Carnegie Corporation Time to Act Report.* Washington, DC: Alliance for Excellent Education.

Graham, S., & Perin, D. (2007). *Writing next: Effective strategies to improve writing of adolescents in middle and high schools – A report to Carnegie Corporation of New York.* Washington, DC: Alliance for Excellent Education.

WHY SPELLING INSTRUCTION MATTERS

WHY SPELLING INSTRUCTION MATTERS

At times, spelling has been marginalized in education, presumably because teachers either place more importance on other reading and writing skills or believe that the English language spelling system is too irregular and unpredictable to make instruction profitable (Simonsen & Gunter, 2001). When primary teachers were asked to self-report whether they teach spelling, nearly all indicated they do (Graham et al., 2008). Nevertheless, direct observations of first- and second-grade teachers reveal that less than 4% of the reading instructional block is devoted to spelling or spelling-related activities (Cooke, Slee, & Young, 2008; Foorman et al., 2006). Further, an examination of students' spelling development found significant monthly growth in grades three to seven but no significant growth in grades eight to twelve, suggesting a more pronounced lack of spelling instruction for adolescents compared to younger students (Foorman & Petscher, 2010).

Recommendations for providing effective reading instruction include components of spelling such as spelling-sound relationships,[1] the orthographic system,[2] and morphological components of words[3] (Snow, Burns, & Griffin, 1998). In addition, a meta-analysis conducted by Graham and Hebert (2010) summarizing the effects of instructional practices in writing on reading outcomes found that teaching spelling had a strong effect on reading fluency among students in grades one to seven (effect size = 0.79) and word reading skills in grades one to five (effect size = 0.68). Additionally, Abbott, Berninger, and Fayol (2010) found in a longitudinal study that individual differences in spelling explained both word-level spelling and text-level composition consistently across grades one to seven.

Why does spelling matter?

Proficiency in spelling actually supports reading (Moats, 2005/2006). Accurate spelling reflects more advanced linguistic knowledge (see Appendix A for further explanation) because it requires the integration of phonological, orthographic, and morphological knowledge (Ehri, 2000). For example, we would

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1 Spelling-sound relationships are also referred to as grapho-phonemic patterns.
2 The orthographic system concerns how the letters and other grammatical symbols of the language are written and used.
3 Morphological components of words are prefixes, roots, and suffixes.

not expect a student who struggles with reading words to be a precocious speller (Fayol, Zorman, & Lété, 2009). However, researchers caution that poor spelling ability does not necessarily mean that students are poor readers: good readers can typically decode more words than they can spell or encode (Berninger, Abbott, Abbott, Graham, & Richards, 2002).

Put simply, the English writing system is complex and, therefore, challenging to learn. The 26 letters of the alphabet can produce approximately 44 sounds (phonemes) that are represented in 250 different spellings (Ball & Blachman, 1991). In contrast, in Finnish, each letter of the alphabet is represented by one and only one sound. Finnish children learn to read and spell with minimal difficulty (Seymour, Aro, & Erskine, 2003). Developing automaticity[4] in decoding and spelling requires redundant exposures to the grapho-phonemic patterns of the language (Robbins, Hosp, Hosp, & Flynn, 2010). Therefore, reading and spelling can be mutually beneficial if taught together, rather than separately, because they create additional opportunities to practice applying common patterns (see Figure 1 for more information on the relationship between decoding and encoding). Additionally, spelling has a final verification stage where the speller reads back the written word to make sure it looks and sounds correct. A synthesis of studies conducted with developing readers in the lower elementary grades concluded that integrated decoding and encoding instruction led to significant gains in phonemic awareness,[5] alphabetic decoding,[6] word reading, spelling, fluency, and comprehension (Weiser & Mathes, 2011).

> Teaching reading and spelling together gives students more opportunities to practice applying common patterns.

The authors believed this might be due to the spelling instruction fostering a closer attention to the details of words' orthographic representations.[7]

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4 Automaticity is the ability to quickly and effortlessly process information. In decoding, automaticity is achieved when the reader can fluently identify written words without sounding them out letter by letter. In spelling, automaticity is achieved when the writer can fluently encode (put into print or type) spoken words without sounding them out letter by letter.

5 Phonemic awareness involves knowledge of the individual sounds (phonemes) that make up spoken words as well as the ability to manipulate those sounds.

6 Alphabetic decoding is achieved when a reader knows all of the vowel and consonant sounds and can read words letter by letter with one letter corresponding to one sound.

7 An orthographic representation is the way that a word is written based on the conventions of the language.

Figure 1

The Relationship Between Decoding and Encoding Words

Linguistic Knowledge (see Appendix A for more information)

Decoding: Analyzing a written word to match the graphemes (letters) to phonemes, syllables, and morphemes; Requires retrieval + *recognition*

Encoding: Analyzing spoken language in order to put the phonemes and morphemes into graphemes (letters and symbols); Requires retrieval + *production* (more difficult) and verification

Pronouncing: correctly saying the sounds and stress patterns of a word

Segmenting: breaking a word into its individual sounds in order to read or spell it

Handwriting: forming the letters and symbols that represent the language

Blending: fluently combining the individual sounds of a word as it is read

Spelling: producing the correct orthographic representation of a written word

Punctuating: writing the grammatical symbols (e.g., apostrophe) of a word

How does spelling ability develop?

Many qualitative spelling inventories are designed to evaluate how students' spelling errors map onto a developmental sequence of skills (e.g., Bear, Invernizzi, Templeton, & Johnston, 2004):

- Early Emergent: scribbling

- Late Emergent: beginning consonants

- Early Letter-Name/Alphabetic: final consonants

- Middle Letter-Name/Alphabetic: short vowels

- Late Letter-Name/Alphabetic: consonant digraphs

- Early Within-Word Pattern: consonant blends

- Middle Within-Word Pattern: long vowels

- Late Within-Word Pattern: other vowel patterns (e.g., *ew, oi*) and inflectional endings (e.g., plurals using -*s* or -*es*, -*ing*)

- Early Syllable Juncture: easy/high frequency prefixes and suffixes (e.g., *pre*-, -*ize*)

- Late Syllable Juncture: harder prefixes & suffixes (e.g., -*ure*); unaccented final syllables (e.g., *open*)

- Derivational Constancy: reduced and altered vowels (e.g., *pleasure*), bases, roots, & derivatives (e.g., *oppose – opposition*)

These types of developmental sequences are referred to as "stage models" of spelling (Frith, 1985). One advantage afforded by stage models is that the description of error types makes it easier to recognize an error as more than just a mistake or an incorrectly applied rule. Instead, the stages allow teachers to understand the nature and quality of errors and decide whether it is developmentally appropriate to address a given error. It would not be time well spent, for example, to address a child's consonant doubling and *e*-drop errors (late within-word pattern stage) if he or she has not yet consistently learned to use basic long vowel patterns (middle within-word pattern stage). Through analysis of spelling errors, stage theory traces the patterns of orthographic growth that move from simple (e.g., errors in sound) to complex (e.g., errors in meaning units within words, such as roots, bases, and affixes).

A recent study conducted with third-graders indicates that children's spelling errors consistently align to stage designations such as those listed on page 8 (Young, 2007). Other research findings that seem to support stage theory have demonstrated that five- and six-year-olds use unlikely phonetic spellings of the past-tense morpheme –*ed* (e.g., spelling the word *raced* as *rasnd*); whereas, seven- and eight-year-olds produce phonetically correct but inaccurate spellings of the morpheme, such as spelling the word *raced* as *rast* (Larkin & Snowling, 2008). Only the nine-year-olds in the study consistently spelled the past-tense morpheme –ed correctly. The authors concluded that novice spellers move from spelling words based on the sounds they hear to incorporating orthographic conventions (e.g., changing *y* to *i when adding –ed* to *try*) and morphological elements (e.g., combining free morphemes to create compound words or using affixes) as proficient spellers. This was consistent with previous work demonstrating that the spellers of inflectional suffixes aligns with oral tests of morphological awareness (Treiman & Casar, 1996).

The connectionist model of spelling considers the interplay among phonology, orthography, and word frequency rather than viewing spelling ability solely as a result of sequential development (Ehri, 2000; Foorman, 1994). For example, research has found that five- to nine-year-olds base their spelling of the plural –s ending pronounced as /z/ on the frequency of encounters with certain letter combinations rather than on the morphological rules for inflectional endings (Kemp & Bryant, 2003). Because younger children are successful at spelling these patterns (e.g., accurately spelling *fleas* instead of phonetically spelling it *fleaz*) before they might have developed the requisite morphological knowledge, the results of the study support the connectionist views of spelling. Production of spelling patterns, then, reflects the number of times students see those particular letter patterns (Treiman & Kessler, 2006). That is, the more often a student works with words that share a spelling pattern, the more likely the student is to accurately spell new words that also have the pattern. These repeated encounters should strengthen and reinforce the weight of the cognitive connections among all the word's representations—phonological, orthographic, and morphological—causing the student to read or spell the word correctly.

The connectionist perspective helps explain why students might over-generalize the pronunciation and/or spelling of a phonetically irregular word that they have encountered a number of times. Foorman and Petscher (2010) offer the example of the high frequency word *great*, which has a phonetically irregular

pronunciation of the vowel pair –*ea*. Frequent encounters with this word might influence students to use the same pronunciation of other words with that vowel pair, such as *neat*, so that all words with that pattern would rhyme with *great*. Connectionism suggests that students are recalling the orthographic feature in the word, based on its frequency of use, and forming a notion of its phonological pattern. As students encounter more words conforming to the regular phonetic pronunciation, they would refine their understanding of the pattern.

Each model of spelling contributes to what and how students are taught. Viewing English orthography as irregular, for example, might lead to whole-word instruction that emphasizes rote memorization. On the other hand, instruction based on stages of spelling development might follow a systematic sequence of phonemic and morphemic elements. And a connectionist perspective might weave together instruction in the phonemic, orthographic, and morphemic elements of the language with both frequently encountered regular and irregular words. Whatever the model of spelling development, keep in mind that English orthography maps sound to print at the level of whole-word (cat), phoneme (/c/ /a/ /t/), grapheme (c-a-t), and sound spelling (c-at) patterns. All of these units or grain sizes (Ziegler & Goswami, 2005) must be learned to master English orthography. The next sections of this booklet describe available research findings on three common approaches to instruction: whole-word, phonemic, and morphemic. Each approach involves classroom practices that might reflect one or more of the different beliefs about spelling.

Whole-word spelling instruction

Since the 19th century, many educators have believed that learning to spell depends on rote memorization of words (Schlagal, 2007). When asked about the sources of their weekly spelling lists, first- through third-grade teachers reported using several sources often associated with whole-word memorization: basal readers, material students read, students' compositions, and student self-selection (Graham et al., 2008). These sources fall into two primary categories with particular implications: *thematic lists* and *leveled* or *self-selected lists*.

Thematic lists. Using the vocabulary words from basal readers or supplementary texts creates lists of words arranged by theme, topic, or curricular unit. Students learn how to pronounce the words, read them, and define them in context at the same time they are learning to spell the words (Schlagal, 2007). Although aligning spelling instruction with a thematic unit

might provide a meaningful context for students, learning all aspects of a word at once might be too cognitively challenging for others (Morris, Blanton, Blanton, Nowacek, & Perney, 1995). In addition, choosing spelling words based on the vocabulary students are learning does not necessarily produce a list that reinforces a common phonemic or morphemic structure. Rather, combining spelling and vocabulary instruction suggests that memorizing words is the primary means of learning to spell and, hence, instruction is implicit (Simonsen & Gunter, 2001): students are not taught *how* to learn and remember the spellings of the words, other than to memorize them.

Leveled or self-selected lists. Starting in the 1930s, leveled spelling lists were offered as a more organized alternative to thematic lists (Schlagal, 2001). These lists are based on word frequency counts, so younger children are given shorter words that appear in speech and print very often, and older students are given successively more complex and less frequently occurring words. The lists may be formal, such as the Dolch (1936) sight word lists, or they may be generated from errors students make in their own writing (Templeton, 2003).

Generally, instruction for leveled and/or self-selected lists has been implicit. However, some approaches successfully teach students a learning strategy, such as study-copy-cover-compare (see Example 1), for increasing their accuracy in spelling memorized words (e.g., Fulk, 1996; Struthers, Bartlamay, Bell, & McLaughlin, 1994). A well-organized and leveled spelling list allows students to sort words into contrasting categories such as the *–oi* and *–oy* patterns. Teachers can draw students' attention to the apparent patterns and help students articulate the observed rule that *–oi* comes in the middle of a word or syllable, and *–oy* at the end of a word or syllable.

Example 1

A Sample Learning Strategy for Spelling: Study-Copy-Cover-Compare

1. Look at the spelling word (also referred to as the stimulus or target word).

2. Copy the spelling word while referring to the stimulus.

3. Cover both the stimulus and the copy produced in step 2.

4. Spell the word from memory.

5. Uncover the stimulus and compare it to the word spelled in step 4.

Because many irregular words are highly useful to students, whole-word memorization can never be completely avoided (Simonsen & Gunter, 2001). In irregular words, one or more syllables are not pronounced and/or spelled in the way that would be expected. For example, the word *some* is irregular because it looks like a silent-*e*, or a vowel-consonant-*e,* syllable type, that would indicate the vowel *o* should be pronounced with the long sound as in the word *dome.* Instead, *some* is pronounced with a short *u* sound as in *sum.*

Many irregular words occur frequently and, therefore, are included in leveled lists such as the Dolch (1936) sight word list.[8] Highly frequent irregular words are included in these lists because they cannot be decoded using typical sound-symbol relationship rules. They must be memorized and recognized by sight. However, simply learning to read words may not improve students' ability to spell them. In a study comparing reading practice with reading plus spelling practice, second graders who studied the spelling produced significantly more accurate spellings of the trained words at post-test (Ouellette, 2010).

Research with sixth graders found that a structured approach to teaching high frequency, irregular words improved students' spelling skills at least one year above their grade-level norms (McCormick & Fitzgerald, 1997). The instructional routine included introducing the word in a sentence, initially providing the unpredictable portion of the word with blanks for the more predictable missing letters (e.g., starting with _ _ *ough* _ for spelling the word *thought*), gradually decreasing the number of provided letters for the target word, and presenting variations of the contextual sentence once students have demonstrated accurate spelling of the irregular word without letter prompts. In addition, target words, such as *thought*, can be practiced with the family of words sharing the unpredictable pattern: *ought*, *bought*, *fought*, *sought*, etc. Henry (2010) also encourages students to say the letter names aloud as they spell irregular words.

The success of explicit instruction in irregular words seems consistent with a connectionist view of spelling. Students study the orthographic representations of the word and engage in repeated, contextualized encoding practice to strengthen the cognitive connections. Where applicable, the predictable grapho-phonemic portions of the words are emphasized. This latter element suggests that, even with irregular words, spelling does not depend on rote memorization alone.

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8 The Dolch list was developed for reading instruction but fits the description of a leveled list that might be used for spelling instruction. It contains both phonetically regular and irregular words. Therefore, it may be useful to separate the list for whole word and phonetic instruction purposes for both reading and spelling.

Phonemic spelling instruction

Phonemic approaches to spelling are based on regular sound-symbol correspondences of individual letters or letter sequences. Despite a common perception that English spelling is irregular and unpredictable (Simonsen & Gunter, 2001), it is estimated that about 50% of English words are spelled in a way that is grapho-phonemically predictable and another 34% are predictable except for one sound within the word (Hanna, Hodges, & Hanna, 1971; Joshi, Treiman, Carreker, & Moats, 2008–09). When considering only single-syllable words, about 69% of the words have consistent sound-symbol correspondences (Ziegler, Stone, & Jacobs, 1997).

Alphabetic spelling. In alphabetic spelling, students learn to match individual letters to sounds in a left-to-right fashion. Students who struggled with reading in first grade were taught successfully to segment, blend, and spell phonetically regular words using phoneme-grapheme correspondences (Uhry & Shepherd, 1993). Moreover, these students made significantly greater gains on measures of phonemic decoding, fluency, and encoding compared to students who were taught to use letter names as cues to decoding (see Example 2 for an example of decoding and encoding).[9] Similarly, studies with second- and third-grade students found moderate to large effects (Cohen's *d* = .55 to .99) on the reading and encoding skills of students provided instruction that was sequenced from easier to more difficult sound-symbol correspondences as well as practice manipulating, building, reading, and writing words (Blachman et al., 2004; Brown & Morris, 2005).

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9 More information on decoding and encoding words is provided in Figure 1.

> ### *Example 2*
> *An Example of Decoding and Encoding a Word*
>
> **Decoding: A student is presented with the written word *gem*.**
>
> He would work left-to-right and attempt to segment the sound learned for each letter: /j/ /e/ /m/.
>
> He would then blend the sounds together to say the word.
>
> If the word did not sound right, he might employ other linguistic knowledge in order to fix-up the pronunciation. For example, he might have pronounced the letter *g* with its hard sound /g/ and read the word *ghem*. To correct his decoding, he would have to recall that the consonant also produces a soft sound /j/ and blend that with the short /e/ and /m/ sounds.
>
> **Encoding: A student is orally given the word *gem***
>
> He segments the sounds in the word: /j/ /e/ /m/.
>
> He uses phonological and orthographic knowledge to determine the letters and letter combinations that could correspond to the individual sounds he identified in the word. For example, he might recall that a /j/ sound at the beginning of a word is usually spelled with the letter *g* if followed by the vowels *e*, *i*, or the letter *y*. He recalls that the short /e/ sound commonly is spelled by the vowel *e*. He also knows that the /m/ he hears at the end of the word is the one sound made by the consonant *m*.
>
> He writes the letters in the order of the sounds he segmented when he heard the word, and then compares the resulting word with the representation he has stored in memory. If the word doesn't look right, he would use other linguistic knowledge to fix-up the spelling.

In terms of difficulty, the spellings of consonant sounds are much more predictable than the spellings of vowels because most consonants make a single, consistent sound (Henry, 1988). At the syllable level, beginning consonant sounds can be predicted 91% of the time and final consonants 82% of the time (Kessler & Treiman, 2001). Therefore, instruction in the letter sounds often starts with consonants that have one frequent sound. For typically developing students, identifying and writing these letters can be accomplished

by the end of kindergarten (Joshi et al., 2008–09). However, adults who have difficulty spelling have also demonstrated a similar progression in acquiring orthographic skills (Bear, Truex, & Barone, 1989).

In contrast to consonants, a vowel sound can be spelled in different ways (e.g., long /a/ spelled as *a*, *a-e*, *ai*, *ay*, *eigh*, or *ea*); their spellings are predictable only 53% of the time (Scarborough, 2010). Knowing the beginning consonant(s) in a syllable increases the odds of spelling the vowel sound to 65%, and knowing the final consonant(s) increases the odds to 82% (Kessler & Treiman, 2001). To reinforce the grapho-phonemic correspondences, students can be encouraged to say the sounds as they spell phonetically regular words. Because readers need to go beyond the phoneme-grapheme unit to include a focus on syllables and the patterns of letters that can produce certain sounds, they must proceed from alphabetic to phonemic and syllable patterns in the written language.

Phonemic and syllable patterns. Although beginning readers and spellers fixate on each letter in a word, becoming a skilled reader or speller requires more efficient processing of progressively larger units (Goldstone, 1998). This progression is reflected in the stage models of spelling. One such larger unit within a word might be a cluster of letters appearing in a consistent order, according to certain constraints on how English letters can be used (Joshi et al., 2008–09). For example, the /k/ sound at the beginning of a word is produced by the letter *c* when it is followed by the vowels *a*, *o*, *u*, or by any consonant (e.g., *cat*, *corn*, *cup*, *clip*). The initial /k/ sound is produced by the letter *k* when it is followed by the vowels *e*, *i*, or *y* (e.g., *kelp*, *kiss*, *Kyle*).

Other pattern rules are based on syllables. First graders directly taught the six syllable types (see Appendix A for a list of the syllable types with examples of each) outperformed their peers who received implicit phonics instruction on measures of reading and spelling (Blachman, Tangel, Ball, Black, & McGraw, 1999). Students who know syllable patterns can better use that knowledge flexibly to encode increasingly more complex words. For example, although open syllables are the most common representation of long vowel sounds, second graders taught silent-*e* and vowel pair/team syllable types improved their ability to spell words with alternative representations of long vowel sounds (Brown & Morris, 2005). Learning the six syllable types also enables students to encode sounds, such as *r*-controlled vowels and consonant-*le*, that take more than individual letters to produce.

Word sort activities can reinforce the orthographic patterns associated with syllable types. For example, a teacher provides category labels for the closed, silent-*e*, and *r*-controlled vowel syllable types along with a bank of words to sort into the appropriate groups. To these predictable patterns, the teacher might add a fourth category labeled with a question mark into which students place any words that do not fit the characteristics of the syllable types. These irregular words generate discussion about the letter or letters that were not pronounced according to the rule for the syllable type they seem to resemble, such as how the word *have* appears to be a silent-*e* syllable but is pronounced with the short /a/ rather than the predictable long sound.

Students who know the salient features of syllables can be taught spelling rules associated with syllable junctures.[10] Joshi and colleagues (2008–09) offer the "rabbit rule" as an example. "Rabbit rule" words have two syllables with a short vowel sound in the first syllable as in *rabbit*. They have a double consonant in the middle of the word to preserve the first closed syllable: *rab-bit*. Otherwise, the syllable would be open as in *ro-dent*. A related spelling rule, the doubling rule (explained in the next section), overlaps phonemic spelling and morphemic spelling: it deals with the addition of meaningful suffixes but attends to the syllable types immediately preceding those endings.

Morphemic spelling instruction

Phonemic spelling is based on encoding units of sound. Morphemic spelling, on the other hand, involves the meaningful units of language: prefixes, roots, and suffixes (see explanations in Appendix A). Researchers emphasize that a growing knowledge of morphology, through direct and explicit instruction in common roots and affixes, leads to improvements in spelling accuracy (Henry, 1993; Nunes, Bryant, & Olsson, 2003). This may also benefit English language learners because morphological information is important to spelling in other languages (Defior, Alegria, Titos, & Martos, 2008; Tsesmeli, Douvalis, & Kyrou, 2011). And, knowledge of how to use morphemes to read and spell words can be applied to a student's first- and second-languages (Wang, Cheng, & Chen, 2006).

Rule-based spelling. After mastering the basic vowel patterns in single-syllable words, students can begin transitioning to morphemic spelling rules
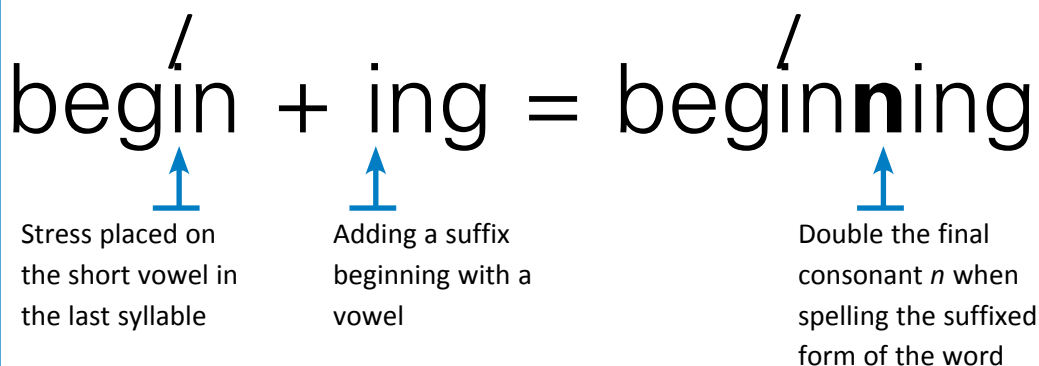
---

10 Syllable junctures are the places in a word where two syllables come together. In a two syllable word, such as open, there is one juncture: o'pen. The longer the word, the more syllable junctures it contains.

that govern the formation of plurals and joining syllables. For example, the doubling rule states that a base word or final syllable ending in one consonant after an accented short vowel doubles the final consonant before adding a suffix beginning with a vowel. Hence, when adding *–ing* to the word *begin*, which ends with an accented closed syllable, the final *n* is doubled: *beginning* (see Example 3). However, the *n* is not doubled before adding *–ing* to the word *open* because the accent is not on the final closed syllable: *opening* (see Example 4).

Example 3

An Example of Applying the Doubling Rule

begín + ing = begin**n**ing

Stress placed on the short vowel in the last syllable	Adding a suffix beginning with a vowel	Double the final consonant *n* when spelling the suffixed form of the word

---

Example 4

An Example of When the Doubling Rule Does Not Apply

ópen + ing = ópening

Stress placed on the long vowel in the first syllable	Short vowel before the final consonant is **not** stressed	Adding a suffix beginning with a vowel	No doubling of the final consonant *n* when spelling the suffixed form of the word
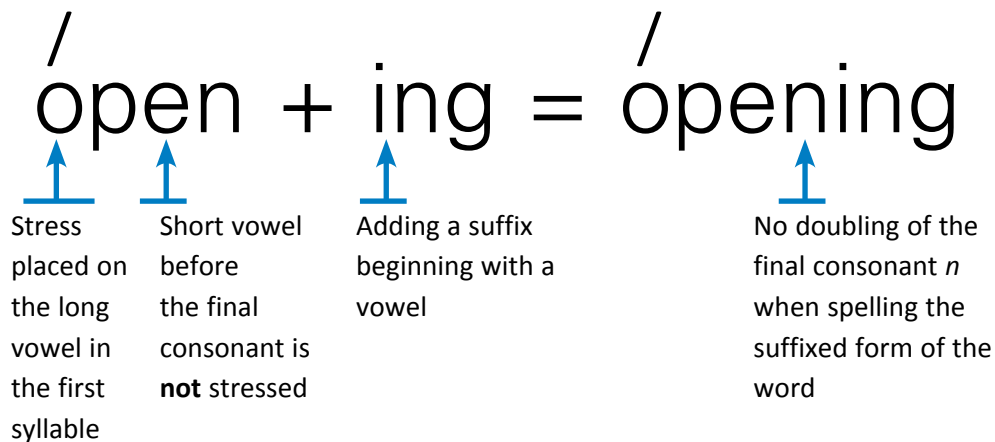
Some believe that poorer spellers try to use visual recognition of the spelling that "looks right" rather than using the rules about the underlying structures of words (Lennox & Siegel, 1996). For example, the word *outrageous* is frequently misspelled as *outragous*. The latter might look right if compared to words such as *humorous* or *ridiculous*. However, a deeper understanding of the dropping rule would draw attention to the underlying structures of these words. The dropping rule addresses when a silent -*e* at the end of a word is dropped before adding a suffix. In the rule's most frequent application, the *e* is dropped before adding a suffix beginning with a vowel (e.g., *ridicule* + *ing* = *ridiculing*). But the rule d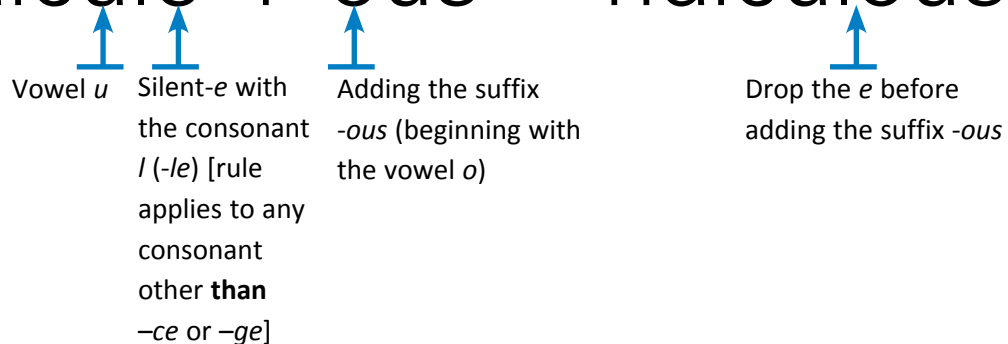oes not apply when adding the suffixes –*able* or –*ous* to a silent-*e* word when the vowels *a*, *o*, or *u* are followed by –*ce* or –*ge* (e.g., *trace* + *able* = *traceable*; *courage* + *ous* = *courageous*). Example 5 demonstrates the difference between the spelling of *ridiculous* and *outrageous* using the dropping rule.

<div style="border:1px solid #3399cc; padding:1em;">
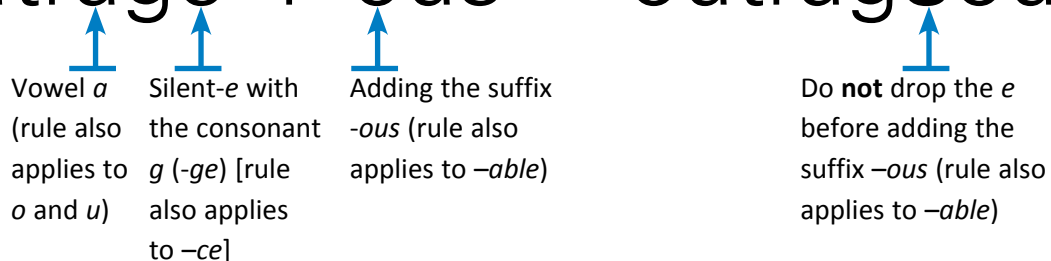
Example 5

Applying the Dropping Rule to Ridiculous and Outrageous

ridicule + ous = ridiculous

| Vowel *u* | Silent-*e* with the consonant *l* (-*le*) [rule applies to any consonant other **than** –*ce* or –*ge*] | Adding the suffix -*ous* (beginning with the vowel *o*) | Drop the *e* before adding the suffix -*ous* |

outrage + ous = outrag**e**ous

| Vowel *a* (rule also applies to *o* and *u*) | Silent-*e* with the consonant *g* (-*ge*) [rule also applies to –*ce*] | Adding the suffix -*ous* (rule also applies to –*able*) | Do **not** drop the *e* before adding the suffix –*ous* (rule also applies to –*able*) |

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Teachers can couple this with drawing students' attention to the structure of words through a functional examination of them. For example, the teacher might ask how the pronunciation of the letter *g* changes when it is and is not followed by a silent-*e* in *huge* and *hug*, *age* and *ag*, *edge* and *Edgar*. By demonstrating the difference in the soft and hard sounds for *g*, it is possible to show students the logic behind overriding the general rule for dropping the silent-*e* when preserving the pronunciation of a consonant that can make two sounds.

In a study of five- to eleven-year olds, students who reported making a morphological or meaning connection when determining how to spell a word had higher scores than those who only reported using phonological (sounding-out) or memory-based retrieval strategies (Devonshire & Fluck, 2010). Children used morphological knowledge to assist them with the spelling of *lovely* versus *loveable* (when to apply the dropping rule), but still struggled with more complex words such as *magician* (misspelled as *magition*). The researchers explained that accurate and consistent use of morphological rules takes time to develop. Inflectional endings, such as –*s* and –*ed*, are acquired before derivational endings, such as –*ly* and –*er* (Deacon, 2008; Steffler, 2004). With longer, more complex, and/or less frequently used words, awareness of the morphemes within the words becomes critical to reading and spelling them accurately (Nunes & Bryant, 2006).

Morpheme preservation. Many words that seem "irregular" based on phonemic spelling rules are actually formed to preserve the morphemes (Henry, 1993). For example, dividing the word *scarcity* by syllables would result in: *scar'ci'ty*—a closed syllable *scar* unexpectedly pronounced with a long *a* sound, an open syllable *ci* unexpectedly pronounced with a short *i* sound, and the final open syllable *ty*.

Dividing the word by morphemes, however, would result in: *scarc/ity*: the root *scars* (from Middle English), now spelled as *scarce*, meaning "plucked out" or rare and the abstract noun suffix –*ity*, indicating state or position.

The preservation of the morphemes in a word has also contributed to the use of some silent consonants (Venezky, 2004). For example, the word *sign* retains the –*g* of the morpheme because it is actually pronounced in derived forms of the word: *signal*, *signature*, *signify*, *significance*. Although the silent consonant makes the spelling of the base word less predictable by sound-symbol correspondences, an awareness of the role it plays as part

of a meaningful unit helps students make connections among words and perceive greater consistency in the written language. Venezky (1999) termed this condition *morphonemics*, whereby certain morphemes keep their written spelling even though their phonemic forms change.

Inherent in the teaching of morpheme preservation is teaching what prefixes, roots, and suffixes are, their meanings, and how they contribute to reading and spelling words. Explicitly teaching the morphological components of words to students ages five to eleven improves their knowledge and use of spelling strategies (Devonshire & Fluck, 2010). Similarly, explicit instruction in morphological structure significantly improves the spelling ability of adolescents identified with dyslexia as compared to students matched by age and by initial spelling performance (Tsesmeli & Seymour, 2008). Moreover, the improvements were maintained two months after the intervention ended, and students generalized their new knowledge to untaught words. Several resources in the *Suggestions for Further Reading* at the end of this document include lists of common morphemes as well as clear explanations and good examples of how to teach them.

Implications for instruction

So, how should spelling be taught? The research suggests the answer is not a choice of a single approach, either whole word, or phonemic, or morphemic instruction. Rather, there seem to be valid reasons to integrate the approaches in order to address different aspects of English spelling. Henry (1988) referred to these as "layers" of the language[11] and suggested that instruction be organized to introduce letter-sound correspondences, syllable patterns, morpheme patterns, and strategies for long unfamiliar words. These correspond to the elements of reading instruction as well, so it has been suggested that spelling can be used to leverage the reading curriculum (Weiser & Mathes, 2011). It is important to recognize, however, that phoneme-grapheme and grapheme-phoneme mappings are not always comparable in English. For example, the word *sheer* is less likely to cause decoding problems than spelling problems because of the multiple ways to write the /-eer/ pattern. Viable options are /-ere/ (as in here); /-ear/ (as in fear); /-ier/ (as in pier); /-eir/ (as in weir); or /-eer/ (as in

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11 Henry's (1988) reference to "layers" also included the three main origins of English words: Anglo-Saxon, Latin, and Greek. Although not a focus of this guide, instruction in word origins, or etymology, is also beneficial for understanding different characteristics of a word. For example, Anglo-Saxon based words both compound and affix (e.g., railroad; like/unlike/unlikely). Latin roots usually affix (e.g., rupt/disrupt/disruptive). Finally, Greek roots or combining forms usually compound (e.g., homo-nym, photo-graph).

sheer). To enable students to master the orthographic depth of English and write words without effort, teachers need to enhance reading instruction with spelling instruction (Foorman, Breier & Fletcher, 2003).

Letter-sound correspondences and syllable patterns can support decoding and encoding regular words. Morpheme patterns emphasize the underlying structure of words that can increase the predictability of their spelling as well as the spelling of their derived forms. And, explicit instruction in learning strategies (such as study-copy-cover-compare explained in Example 1 and in the section on whole word spelling instruction) helps students read and spell both irregular and more complex words. Because these components treat spelling as logical and pattern-based, the words used for instruction must conform to the rules or patterns being taught (Schlagal, 2007).

If teachers cannot rely on thematic or leveled lists from the basal, how should words be selected? Researchers recommend that students be taught using lists of words that exemplify targeted spelling rules or patterns and on which they scored 50–85% accuracy at pre-test (Morris et al., 1995). Too little knowledge of lower level or easier spelling rules or patterns leads to frustration, and too much existing knowledge presents too low a challenge to foster new learning. Teachers, then, will be following a test-teach-test sequence for spelling instruction.

> **Building spelling word lists**
> Use words that exemplify targeted spelling rules or patterns, and words on which students scored 50–85% accuracy at pretest.

The "teach" step should include cumulative review of words and spelling rules or patterns to build retention and greater proficiency (Simonson & Gunter, 2001). A synthesis of studies found that immediate error correction[12] of misspellings as students practice leads to better outcomes than students writing words without any error correction or providing delayed error correction after all the words in the list had been written (Wanzek et al., 2006). With students using different word lists tailored to their spelling abilities and needing immediate feedback, teachers might implement peer tutoring to manage the instruction. Peers have been taught successfully to help each other learn, practice, and review spelling

> **Immediate correction, better outcomes**
> Immediate correction of misspellings leads to better outcomes than students writing words without any error correction or providing delayed error correction.

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12 "Error correction highlighting" can be used when words are spelled incorrectly to highlight the portion of the word in which the error occurred and the rule or pattern that applies to the correct spelling. If provided immediately, the error correction is delivered as soon as the student has finished writing the word incorrectly.

skills (Fulk, 1996; Graham & Freeman, 1985; Telecsan, Slaton, & Stevens, 1999).

An example of a routine that peers might follow for correcting a partner's spelling error is provided below (Fulk & Stormont-Spurgin, 1995).

▶ Step 1: State the rule.

▶ Step 2: Demonstrate the correct spelling. Refer to the rule on the portion of the word where your partner made the error.

▶ Step 3: Spell the word out loud together with your partner.

▶ Step 4: Have your partner spell the word out loud again on his/her own.

▶ Step 5: Have your partner write the word on his/her own while spelling it out loud.

▶ Step 6: Put the word back into the list. Administer it again at some point during the activity.

The peer tutor explicitly connects the word to the spelling rule it exemplifies. The correction reinforces the logical patterns and not just the memorization of the individual word. The subsequent steps lead the student tutee through practicing the spelling both orally and in writing with at least three repetitions. This type of peer tutoring better enables the delivery of immediate error correction and ensures that students have multiple trials with appropriately challenging words.

Student tutors will likely need a key or guide to identify each of the spelling rules being practiced. In the absence of a capable peer, teachers might consider small group instruction: the teacher can provide the immediate error correction and reinforcement while working with a few students who share similar spelling abilities.

The *Suggestions for Further Reading* at the end of this document include resources for planning spelling lessons and a list of resources to learn more about spelling instruction. In addition, as mentioned in the introduction, two companion documents have been appended to this book: a checklist for evaluating a spelling curriculum and a chart that depicts the types of spelling instruction incorporated into the Common Core State Standards (CCSS). Copies of these tools can be downloaded at http://www.centeroninstruction.org. The CCSS chart may be useful in determining approximately at which grade level particular phonological, orthographic, and morphological elements typically are

addressed. However, some students may need skill instruction at a different grade level than their current placement. As explained earlier, stage theory can help teachers understand the nature and quality of students' spelling errors and plan appropriate instruction that incorporates the principles and practices described here.

CONCLUSION

Investing instructional time in spelling can be profitable if the English language is not treated as a haphazard writing system that can only be learned through rote memorization. Students need to be taught how to learn and remember the spellings of the words. This can be accomplished through:

- ▶ **explicit instruction** in phoneme-grapheme correspondences, phonemic patterns in letter sequences or syllables, rules for joining syllables or adding morphemes, elements of morpheme preservation in word formation, and strategies for encoding irregular words;

- ▶ **careful selection of spelling words** that capitalize on students' developing knowledge of the underlying structures of words; and

- ▶ **repeated and cumulative practice** in coordinating phonemic, orthographic, and morphemic knowledge with immediate error correction.

Accurate spelling is a laudable goal, and not only because poor spelling is often interpreted as a sign of laziness or a lack of intelligence (vos Savant, 2000). Practically, relying solely on computer-based spellchecks takes time, requires substantial knowledge to differentiate between plausible spellings, and can be unreliable. The authentic benefit of being a strong speller, however, goes beyond the superficial. *A skilled speller is a stronger reader and writer.* A teacher can have confidence in affording spelling significant time and space in the literacy curriculum.

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APPENDIX A

The Kinds of Linguistic Knowledge that Contribute to Spelling[13]

Linguistic knowledge: Understanding of the language, how it functions, how sounds are used to form words, and how words are used/ordered for the purposes of organization

- **Phonological knowledge:** Knowing the speech sounds in a language, how they are organized and used in that language, and the ways that sounds interact with one another
  - ° Letters
    - – Vowels
      - ◆ Short vowels: the sound most commonly found when a consonant follows the vowel (e.g., *a* in *cat*, *u* in *bus*)
      - ◆ Long vowels: say their name (e.g., *e* in *be*, *o* in *joke*)
      - ◆ Digraphs: consecutive vowels producing one sound (e.g., *ea*, *oa*)
      - ◆ Reduced and Altered: pronunciations that may involve a shift in the stressed syllable (e.g., *confide – confident*)
      - ◆ Exceptions: pronunciations that do not fit the above types of sounds (e.g., *people*)
    - – Consonants
      - ◆ One sound: always make the same sound (e.g., *d*, *f*, *t*)
      - ◆ Two sounds: produce a different sound in different letter sequences (e.g., *g* in *get* or *gem*; *s* in *pits* or *plays*)
      - ◆ Blends: consecutive consonants making their own separate sounds (e.g., *bl*, *pr*, *st*)
      - ◆ Digraphs: consecutive consonants making a single sound together (e.g., *sch*, *tch*, *wh*)
      - ◆ Silent: not producing any sound (e.g., *n* in *autumn*, *g* in *gnat*)

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13 This appendix provides general descriptors of the linguistic elements to support your understanding of the information in the document.

- ° Syllables: a unit of pronunciation with one vowel sound

    - – Closed: a syllable with one vowel closed in by at least one consonant (e.g., *pin*, *vest*)

    - – Open: a syllable ending in one vowel that says its name (e.g., *a*, *so*)

    - – Silent-*e*: one vowel, followed by a single consonant, followed by an *e* that makes no sound (e.g., *made*, *hike*)

    - – *r*-controlled: one vowel followed by an *r* (e.g., *car*, *shirt*)

    - – Vowel pair: consecutive vowels producing one sound (e.g., *read*, *boat*)

    - – Consonant-le: a final syllable in a word with one consonant followed by the letters le (e.g, *able*, *shuffle*)

        [Note: some syllables are irregular, meaning they do not produce the expected sound (e.g., *love* is pronounced with a short *u* sound rather than the long *o* sound expected by the silent-*e* syllable)]

- **Orthographic knowledge:** Knowing what letters and/or symbols can represent sounds and in what combinations

    - ° Letter formation (e.g., knowing that numbers do not produce letter sounds, forming the letter *b* as distinct from the letter *d*, knowing an apostrophe marks where letters were omitted when forming a contraction of two words such as *don't*)

    - ° Letter position/use (e.g., *v* never appears as the last letter in a word, *x* is never doubled, the /k/ sound at the beginning of a word is produced by a *c* when followed by the vowels *a*, *o*, *u*, or any consonant)

- **Morphological knowledge:** Knowing the meaningful units within a word, how they can be combined, and how they are spelled

    - ° Roots and bases: either the form of the word after all affixes are removed (e.g., *scrip* after removing *pre-* and *–tion* from *prescription*) or a single morpheme that can stand alone (e.g., *port*)

    - ° Compound words: two base words combined to make a new word (e.g., *suntan* made from the standalone bases *sun* and *tan*)

    - ° Prefixes: a unit added before a root or base to change its meaning (e.g., the *de-* added before the root cline, meaning to *climb*, to indicate a downward motion)

° Suffixes: a unit added after a root or base to change its number, tense, or part of speech

  – Inflectional: suffixes used to create plurals (e.g., the *–s* on *stars* as in *"There are many stars in the sky."*), possessives (e.g., the apostrophe *s* on *star's* as in *"How do you measure a star's mass?"*), verb tenses (e.g., past regular *–ed* ending on *starred* as in *"He starred in the show"*), progressive (e.g., the *–ing* on starring as in *"She won the starring role"*), verb conjugations (e.g., the *–s* on *stars* as in *"He stars in the movie"*), and comparative and superlative adjectives (e.g., the *-er* and *–est* on *bigger* and *biggest*)

  – Derivational: suffixes used to change the part of speech (e.g., the *–ly* on *badly* changing the base from an adjective to an adverb; the *–sion* on *decision* changing the verb *decide* to a noun), which can also change the meaning (e.g., adding the suffix *–less* to *homeless*)

SUGGESTIONS FOR FURTHER READING

For those wishing to deepen their knowledge about spelling research and spelling instruction, the following resources can be useful as a place to start.

Bear, D., Invernizzi, M., Templeton, S., & Johnston, F. (2004). *Words their way: Word study for phonics, vocabulary and spelling instruction* (3rd ed.). Upper Saddle River, NJ: Pearson Education.

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A CHECKLIST FOR EVALUATING A SPELLING PROGRAM

A CHECKLIST FOR EVALUATING A SPELLING CURRICULUM

Component	Yes	Somewhat	No	Comments or Suggestions for Supplementing
Determining Students' Spelling Abilities				
Provides an assessment tool				
Guides teachers in interpreting the results of the spelling assessment				
Offers word lists accommodated to students' individual spelling abilities				
Uses words in the lists that match the students' linguistic knowledge needs to the instructional lessons				
General Elements of the Spelling Instruction				
Devotes daily instructional time to spelling				
Integrates reading and spelling instruction so that students are manipulating, building, reading, writing, and verifying words				
Emphasizes the connections among phonology, morphology, and orthography				
Integrates whole word instruction (for irregular words), phonemic instruction (for regular words), and morphemic instruction (for word structure and derived forms)				
Assists teachers in following a test-teach-test sequence for spelling instruction				
Includes a procedure for immediate error correction during spelling instruction and practice				
Emphasizes the predictability of English spelling				
Encourages repeated practice with words to highlight phonemic/orthographic/morphemic patterns				
Offers cumulative review of spelling words and patterns				
Includes authentic writing activities for the application of spelling words and patterns				
Explicitly teaches strategies for learning to spell regular and irregular words				
Suggests methods for peer collaboration or peer tutoring				

Component	Yes	Somewhat	No	Comments or Suggestions for Supplementing
Beginning Spelling Instruction				
Provides a sequence for moving from easier to more difficult sound-symbol correspondences such as:				
• Single or most common consonant sounds				
• Short vowels				
• Initial consonant blends				
• Two-letter consonant digraphs				
• Long vowel s				
• -r controlled vowels				
• Vowel pairs/teams				
• Final consonant blends				
• Diphthongs				
• Three-letter consonant digraphs				
• Special cases (e.g., igh, ing)				
Demonstrates segmenting single-syllable words into the initial consonant sound (also called the *onset*) from the vowel and remaining letters in the syllable (referred to as the *rime*)				
Teaches position rules and phonemic patterns for spelling sounds in units (includes consonants that make more than one sound and variant vowel sounds that are based on the sequence of letters in the word)				
Introduces the six syllable types one at a time, emphasizing the salient features of each				
Includes high frequency irregular words				
Provides practice with a family of words sharing a pattern or rime (e.g., *fought*, *bought*, *sought*)				
Spelling Instruction with Multi-syllable and Morphographically Complex Words				
Demonstrates and provides exercises to illustrate how syllables are joined				
Systematically introduces morphemes such as:				
• High frequency prefixes				

Component	Yes	Somewhat	No	Comments or Suggestions for Supplementing
• Plurals and possessives				
• Verb tenses				
• Verb conjugations				
• Derivational suffixes				
• Lower frequency morphemes				
Teaches morphemic spelling rules associated with affixing words and preserving roots/base words				
Includes irregular words that are multi-syllable and/or of lower frequency				

TABLES OF *COMMON CORE STATE STANDARDS* LINKED TO SPELLING

TABLES OF *COMMON CORE STATE STANDARDS* LINKED TO SPELLING

The tables here highlight the spelling skills contained in the Common Core State Standards (CCSS) and will help you connect the information in *Why Spelling Instruction Matters* to the grade-level expectations outlined in the CCSS. This is not an official CCSS document; rather, it represents the author's interpretation of the standards as they relate to our understanding of spelling instruction. To help explain the tables, their format and a few important caveats about their content are described below.

The format of the tables

The Common Core State Standards are grouped by grade level, as seen in the far left column. In each grade level, the standards are subdivided by category where appropriate. For example, in grades kindergarten to two connections to spelling occur in the Foundational Skills and Language categories. Therefore, the second column from the left indicates the appropriate CCSS category for the standards in the respective rows. In grades three to twelve, however, the only standards identified with a direct connection to spelling were found in the Language category. Therefore, only that label appears in the column after the grade level.

The types of spelling instruction outlined in the main text of *Why Spelling Instruction Matters* appear across the top row of the tables: Whole Word, Phonemic, and Morphemic Spelling. The final column label, General Orthographic Knowledge, includes those standards that seem to refer more generally to students' understanding of the letters and symbols that represent certain sounds in certain combinations (such as the reference to position-based spelling in the grade three Language standard 2f or the unspecified knowledge of spelling conventions included in Language standards for grades two to twelve).

Beginning with the first-grade table, some rows have a standard or portion of a standard listed in multiple columns (see the Language standard 2d in grade one). This emphasizes that a standard may apply to multiple types of spelling or that particular elements within a standard might fall into particular types of spelling.

Using Language standard 2d in grade one as an example, frequently occurring irregular words require whole word instruction so that portion of the standard was listed in the Whole Word column. However, using conventional spelling for words with common spelling falls under phonemic spelling for some words and morphemic spelling for others. Therefore, that portion of the standard is listed in both the phonemic and morphemic spelling columns. Any standard that is listed in only one cell (i.e., in a row and column unto itself) was interpreted as applying to only one type of spelling or to general orthographic knowledge.

Caveats about the content in the tables

The Common Core State Standards provide targeted skills for each grade level, which is useful for understanding the "benchmarks" of students' spelling development. However, some students may not fully master one or more skills in a given grade or may have not received the kinds of instruction that would foster the development of those skills. The author advises readers to examine the tables in total to see the progression of skills and to consider how that progression might be addressed for students who are "out of sequence" or whose current abilities do not align with the grade-level indicators.

This holds true for any standard, such as the grade five Language standard 2e, that refers to "grade-appropriate" or otherwise leveled word lists. As described in *Why Spelling Instruction Matters*, teachers appropriately select spelling instruction words based on the level of challenge for a student working at a specific level of ability on a particular spelling pattern. Attending only to a designated grade level when choosing spelling words does not promote a systematic, pattern-based approach to spelling.

The author recommends looking across spelling types in the tables along with grade levels. Connectionist views of spelling believe the interplay of various forms of linguistic knowledge and spelling patterns to be integral to understanding and advancing students' spelling ability. The column labels offer some useful information on the conceptual origins of the standards, but they should not be considered as distinct choices to be made in spelling instruction. As *Why Spelling Instruction Matters* explains, research supports a combination of these. Similarly, a stage model approach to spelling would involve addressing the Common Core State Standards associated with the different spelling rule/pattern types as is developmentally appropriate.

As a final note, remember that the Common Core State Standards listed in the tables often encompass skills beyond spelling. For example, the standards that begin with "form and use" (such as the grade four Language standard 1b) could easily refer to oral applications of the language forms or their use in connected written texts and not just to forming single words with correct spelling. Their inclusion does not suggest that they are solely concerned with spelling, but that they have some connection to spelling. They may also require additional literacy skill instruction to be fully addressed.

		Whole Word Spelling	Phonemic Spelling	Morphemic Spelling	General Orthographic Knowledge
Kindergarten	Foundational Skills		3b. Associate the long and short sounds with common spellings (graphemes) for the five major vowels.		
			3d. Distinguish between similarly spelled words by identifying the sounds of the letters that differ.		
	Language		2c. Write a letter or letters for most consonant and short-vowel sounds (phonemes).		
			2d. Spell simple words phonetically, drawing on knowledge of sound-letter relationships.		

		Whole Word Spelling	Phonemic Spelling	Morphemic Spelling	General Orthographic Knowledge
Grade 1	Foundational Skills		3a. Know the spelling-sound correspondences for common consonant digraphs.		
	Language			1b. Use common, proper, and possessive nouns.	
				1c. Use singular and plural nouns with matching verbs in basic sentences (e.g., *He hops*; *We hop*).	
				1e. Use verbs to convey a sense of past, present, and future (e.g., *Yesterday I walked home; Today I walk home; Tomorrow I will walk home*).	
		2d. Use conventional spelling for frequently occurring irregular words.	2d. Use conventional spelling for words with common spelling.	2d. Use conventional spelling for words with common spelling.	
			2e. Spell untaught words phonetically, drawing on phonemic awareness and spelling conventions.		

		Whole Word Spelling	Phonemic Spelling	Morphemic Spelling	General Orthographic Knowledge
Grade 2	Foundational Skills		3b. Know spelling-sound correspondences for additional common vowel teams.		
	Language	1b. Form and use frequently occurring irregular plural nouns (e.g., *feet, children, teeth, mice, fish*).		1b. Form and use frequently occurring irregular plural nouns (e.g., *feet, children, teeth, mice, fish*).	
		1d. Form and use the past tense of frequently occurring irregular verbs (e.g., *sat, hid, told*).		1d. Form and use the past tense of frequently occurring irregular verbs (e.g., *sat, hid, told*).	
					2. Demonstrate command of the conventions of standard English capitalization, punctuation, and spelling when writing.
			2d. Generalize learned spelling patterns when writing words (e.g., cage→badge; boy→boil).		2d. Generalize learned spelling patterns when writing words (e.g., cage→badge; boy→boil).
		2e. Consult reference materials, including beginning dictionaries, as needed to check and correct spellings.	2e. Consult reference materials, including beginning dictionaries, as needed to check and correct spellings.	2e. Consult reference materials, including beginning dictionaries, as needed to check and correct spellings.	

		Whole Word Spelling	Phonemic Spelling	Morphemic Spelling	General Orthographic Knowledge
Grade 3	Language	1b. Form and use irregular plural nouns.	1b. Form and use regular plural nouns.	1b. Form and use regular and irregular plural nouns.	
		1d. Form and use irregular verbs.	1d. Form and use regular verbs.	1d. Form and use regular and irregular verbs.	
				1e. Form and use the simple (e.g., *I walked; I walk; I will walk*) verb tenses.	
					2 Demonstrate command of the conventions of standard English capitalization, punctuation, and spelling when writing.
				2d. Form and use possessives.	
		2e. Use conventional spelling for high-frequency and other studied words.	2e. Use conventional spelling for high-frequency and other studied words.	2e. Use conventional spelling for high-frequency and other studied words and for adding suffixes to base words (e.g., sitting, smiled, cries, happiness).	
			2f. Use spelling patterns and generalizations (e.g., word families, position-based spellings, syllable patterns) in writing words.	2f. Use spelling patterns and generalizations (e.g., ending rules, meaningful word parts) in writing words.	2f. Use spelling patterns and generalizations (e.g., position-based spellings) in writing words.
		2g. Consult reference materials, including beginning dictionaries, as needed to check and correct spellings.	2g. Consult reference materials, including beginning dictionaries, as needed to check and correct spellings.	2g. Consult reference materials, including beginning dictionaries, as needed to check and correct spellings.	

		Whole Word Spelling	Phonemic Spelling	Morphemic Spelling	General Orthographic Knowledge
Grade 4	Language			1b. Form and use the progressive (e.g., *I was walking; I am walking; I will be walking*) verb tenses.	
		1g. Correctly use frequently confused words (e.g., *to, too, two; there, their*).		1g. Correctly use frequently confused words (e.g., *to, too, two; there, their*).	
					2. Demonstrate command of the conventions of standard English capitalization, punctuation, and spelling when writing.
		2d. Spell grade-appropriate words correctly, consulting references as needed.	2d. Spell grade-appropriate words correctly, consulting references as needed.	2d. Spell grade-appropriate words correctly, consulting references as needed.	
		Whole Word Spelling	Phonemic Spelling	Morphemic Spelling	General Orthographic Knowledge
Grade 5	Language				2. Demonstrate command of the conventions of standard English capitalization, punctuation, and spelling when writing.
		2e. Spell grade-appropriate words correctly, consulting references as needed.	2e. Spell grade-appropriate words correctly, consulting references as needed.	2e. Spell grade-appropriate words correctly, consulting references as needed.	

		Whole Word Spelling	Phonemic Spelling	Morphemic Spelling	General Orthographic Knowledge
Grade 6	Language				2. Demonstrate command of the conventions of standard English capitalization, punctuation, and spelling when writing.
		2b. Spell correctly.	2b. Spell correctly.	2b. Spell correctly.	2b. Spell correctly.
		Whole Word Spelling	Phonemic Spelling	Morphemic Spelling	General Orthographic Knowledge
Grade 7	Language				2. Demonstrate command of the conventions of standard English capitalization, punctuation, and spelling when writing.
		2b. Spell correctly.	2b. Spell correctly.	2b. Spell correctly.	2b. Spell correctly.
		Whole Word Spelling	Phonemic Spelling	Morphemic Spelling	General Orthographic Knowledge
Grade 8	Language				2. Demonstrate command of the conventions of standard English capitalization, punctuation, and spelling when writing.
		2c. Spell correctly.	2c. Spell correctly.	2c. Spell correctly.	2c. Spell correctly.

		Whole Word Spelling	Phonemic Spelling	Morphemic Spelling	General Orthographic Knowledge
Grades 9-10	Language				2. Demonstrate command of the conventions of standard English capitalization, punctuation, and spelling when writing.
		2c. Spell correctly.	2c. Spell correctly.	2c. Spell correctly.	2c. Spell correctly.
				4b. Identify and correctly use patterns of word changes that indicate different meanings or parts of speech (e.g., analyze, analysis, analytical; advocate, advocacy).	
		Whole Word Spelling	Phonemic Spelling	Morphemic Spelling	General Orthographic Knowledge
Grades 11-12	Language				2. Demonstrate command of the conventions of standard English capitalization, punctuation, and spelling when writing.
		2b. Spell correctly.	2b. Spell correctly.	2b. Spell correctly.	2b. Spell correctly.
				4b. Identify and correctly use patterns of word changes that indicate different meanings or parts of speech (e.g., conceive, conception, conceivable).	

CHECKLIST FOR EVALUATING A SPELLING CURRICULUM

Why Teach Spelling?[1] summarizes the research that explains why proper spelling instruction is crucial for developing reading and writing skills in every student. The publication includes a checklist of the **criteria that a thorough and effective spelling curriculum should meet**. *SPELL/SPELL-Links to Reading & Writing scores an A++.*

How SPELL-Links to Reading & Writing meets the criteria

Component	Yes	No	How *SPELL-Links* Does It
Determining Students' Spelling Abilities			
Provides an assessment tool	✓		SPELL-2 diagnostic software (sold separately)
Guides teachers in interpreting the results of the spelling assessment	✓		SPELL-2 automatically scores, analyzes, interprets student responses, and writes individualized instructional goals. Summary reports are automatically created to share interpretation of results with other teachers and with parents.
Offers word lists accommodated to students' individual spelling abilities	✓		SPELL-2 automatically adjusts word lists and other test items to match the individual student's spelling ability.
Uses words in the lists that match the students' linguistic knowledge needs to the instructional lessons	✓		Each SPELL-2 recommendation is linked to specific lessons and instructional activities in the SPELL-Links to Reading & Writing curriculum to address the student's linguistic knowledge deficits.
General Elements of the Spelling Instruction			
Devotes daily instructional time to spelling	✓		30-minute daily SPELL-Links lessons are recommended.
Integrates reading and spelling instruction so that students are manipulating, building, reading, writing and verifying words	✓		Word study activities integrate the manipulation of sounds, letters, and morphemes to spell and read words with explicit instruction on checking written words to verify correct spelling.
Emphasizes the connections among phonology, morphology, and orthography	✓		SPELL-Links uses the Connectionist Word Study Model; it explicitly teaches and develops functional integration of phonology, orthography, and morphology.
Integrates whole word instruction (for irregular words), phonemic instruction (for regular words), and morphemic instruction (for word structure and derived forms)	✓		SPELL-Links explicitly teaches students how to use phonemic awareness, letter-sound relationships, and letter patterns and spelling rules to spell regular words; how to use letter-meaning relationships, morphological rules, and semantic relationships to spell inflected and derived forms; and how to develop mental graphemic representations (MGRs) of irregularly spelled words in long term memory.
Assists teachers in following a test-teach-test sequence for spelling instruction	✓		Progress monitoring tools, including word lists for mastery measurement of each pattern, are included in the curriculum.
Includes procedure for immediate error correction during spelling instruction and practice	✓		Students are provided with immediate feedback; feedback is gradually faded until students meet performance criterion without assistance; meta-linguistic SPELL-Links strategy monikers are used to prompt error correction.
Emphasizes the predictability of English spelling	✓		Teaches students that most English words can be spelled correctly when sounds, letters, and meanings are considered.
Encourages repeated practice with words to highlight phonemic/orthographic/morphemic patterns	✓		Words are repeated across activities within a word study lesson and are presented again during authentic reading and writing activities.

[1] Reed, D. K. (2012). *Why teach spelling?* Portsmouth, NH: RMC Research Corporation, Center on Instruction.

Component	Yes	No	How *SPELL-Links* Does It
Offers cumulative review of spelling words and patterns	✓		Word lists (included) provide repeated exposure to previously learned patterns; authentic reading and writing activities at the end of each SPELL-Links lesson also provide opportunity for cumulative review of spelling words and patterns.
Includes authentic writing activities for the application of spelling words and patterns	✓		Each spelling pattern lesson includes scaffolded authentic writing activities for application of pattern-specific word study knowledge, skills, and strategies.
Explicitly teaches strategies for learning to spell regular and irregular words	✓		SPELL-Links teaches strategies for learning AND meta-linguistic strategies for application of word study knowledge and skills.
Suggests methods for peer collaboration or peer tutoring	✓		Each activity includes suggestions for peer collaboration.
Beginning Spelling Instruction			
Provides a sequence for moving from easier to more difficult sound-symbol correspondences	✓		The sequence of instruction for SPELL-Links to Reading & Writing lessons is based upon an extensive body of research across multiple disciplines regarding the development of spelling skills, including the acquisition of speech, speech perception abilities, orthographic knowledge, and other linguistic underpinnings of spoken and written language. The sequence of instruction gradually progresses from the spelling of sounds and patterns that are perceptually, linguistically, and orthographically most simple to those that are most complex.
Demonstrates segmenting single-syllable words into initial consonant sound (*onset*) and the vowel and remaining letters in the syllable (*rime*)	✓		SPELL-Links explicitly teaches students to recognize, manipulate, and use onset-rime as a meta-linguistic strategy to read and spell familiar and unfamiliar words.
Teaches position rules and phonemic patterns for spelling sounds in units (includes consonants that make more than one sound and variant vowel sounds that are based on the sequence of letters in the word)	✓		Carefully structured learning tasks are provided throughout the SPELL-Links word study curriculum to systematically guide students' discovery of common letter patterns and spelling rules of English.
Introduces the 6 syllable types one at a time, emphasizing the salient features of each	✓		In-depth study of the phonetic and orthographic features of closed and open syllables, VCe, vowel digraphs, and syllabic-r and syllabic-l vowel sounds is provided.
Includes high frequency irregular words	✓		SPELL-Links develops MGRs for effective storage and retrieval of high frequency irregular words throughout curriculum.
Provides practice with a family of words sharing a rime pattern (e.g., *walk, talk, chalk*)	✓		Students explicitly taught how to recognize and spell rime patterns in words.
Spelling Instruction with Multi-syllable and Morphographically Complex Words			
Demonstrates and provides exercises to illustrate how syllables are joined	✓		Explicitly teaches students to recognize, manipulate, and use syllable structure and syllable stress to read and spell words.
Systematically introduces morphemes	✓		Systematically introduces and explicitly teaches high and low frequency prefixes, plurals, verb tenses, verb conjugations, high and low frequency derivational suffixes, high and low frequency word roots, possessives, contractions, irregular nouns and verbs, and homophones.
Teaches morphemic spelling rules associated with affixing words and preserving roots/base words	✓		Structured learning tasks guide students' discovery of morphemic spelling rules associated with affixing words.
Includes irregular words that are multi-syllable and/or of lower frequency	✓		Multi-syllable and low frequency irregular words are included throughout curriculum.

Learn more. Read the full report: www.learningbydesign.com

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