



Spelling Instruction in the Upper Grades: The Etymology/Morphology Connection

by Marcia Kierland Henry

In their review of reading research, McCardle and Chhabra (2004) state, "In international comparison, U. S. children do not on average perform badly in the early years; if international comparisons are taken as our guide, the reading crisis is one of adolescent literacy, not one of first-to-fourth-grade literacy" (xx). I believe the same might be said for spelling. Teachers are often ambivalent about spelling. On one hand they bemoan the poor spelling of many students, and on the other hand they ask if it is really important for children to learn to spell accurately. I often hear statements such as "Why bother teaching spelling? Students can use the spell checkers on their computers as they write." Yet, with over 10 million websites listed as dealing with *spelling*, and over one-third of those listed under *spelling instruction*, (www.Google.com, March, 2005) one assumes that spelling is important to many people.

Moats, in this issue, provides a summary of the current research related to spelling, while Carreker describes early spelling instruction. I want to concentrate on spelling instruction in the upper elementary and secondary grades. Experience over four decades, along with current research on spelling, provides evidence for the efficacy of teaching the structure of English orthography (the spelling system) as well as the etymology (the word origin) of many words (Hanna, Hodges, & Hanna, 1971; Henderson, 1990; Henry, 1988, 2003). Word structure includes the many patterns available to students such as letter-sound correspondences, syllable types, and morphemes (the compound words, prefixes, suffixes, bases and roots). Word origins reflect historical events in language. English words come primarily from Anglo-Saxon, Latin and Greek origins. Knowing the differences in words from these origins provides a logical basis for teaching spelling.

I've always been fascinated with the end of school year national spelling bee. The moderator gives a student a word such as *physiologist*. Then the student may ask the moderator to pronounce the word again, and may ask the origin of the word, the part of speech, and the definition. Let's consider why knowing the origin and part of speech would be especially helpful in a word like *physiologist*. When told that the word is of Greek origin, the learned

student will know to spell the /f/ with ph and the /i/ with y as that is what happens in most Greek-based words. Knowing the word is a noun provides the clue to the final suffix. The student will choose *-ist* knowing the schwaed suffix is spelled *-ist* as a noun (e.g., *chemist, pianist, dentist, physiologist*) and *-est* as an adjective (e.g., *greenest, fastest, slowest, happiest*).

The Role of Etymology

Lederer (Personal correspondence, 2004) estimates that 25% of English words are the short, common, everyday Anglo-Saxon words, often with Germanic and Norse influence, that we use about 65% of the time in our speaking and writing. The Latin-based words make up about 50% of English words; these are usually polysyllabic words containing prefixes, roots, and suffixes. Approximately 10% of our English words come from the Greek language.

Anglo-Saxon Layer of Language

The first words taught are generally from the Anglo-Saxon layer of language. These are the common, short, down-to-earth, everyday words found in primary grade text. These words can be phonetically regular such as *cat, stamp, check*, and *spoil*, or irregular (usually in the vowel spelling) such as *do, done, only, want*, and *friend*. Students need to learn the common spellings for consonants, consonant blends, consonant digraphs, short and long vowels, -r and -l controlled vowels, and vowel digraphs. They also begin to learn the specific terminology applied to graphemes and phonemes.

Latin Layer of Language

Latin-based words, the majority of words in English, are generally polysyllabic; they are the more sophisticated words found in upper elementary and secondary literature and expository text. Latin is the basis for the Romance languages spoken in France, Italy, Spain, Portugal, and Rumania. Latin roots are generally affixed to make words such as *informing, disrupted, conventional*, and *incredulous*. These words contain the same letter-sound correspondences found in Anglo-Saxon based words. Happily those vowel digraphs that are problematic for many spellers occur

infrequently in Latin-based words. However, the schwa (ə), the neutral vowel in an unaccented syllable, is often found in the unaccented prefixes and suffixes. The schwa is a problem for most poor spellers, as any vowel may be schwaed.

Greek Layer of Language

Students begin to read Greek-based words in their science and math textbooks around the 3rd grade. These words, like the Latin, use most of the phonics patterns found in Anglo-Saxon words. Several unique letter-sound correspondences must be introduced for the Greek-based words. These include the *ph* for /f/ as in *photograph*, the *ch* for /k/ as in *chromosome*, and the *y* as /i/ as in *physiology* or the *y* as /i/ in *hydrogen*. Less common spellings such as *pn* for /n/ in *pneumonia*, *rh* for /r/ in *rhinoplasty*, and *pt* for /t/ in *pterodactyl* may also be taught to older students.

The Role of Morphology

Morphemes are the smallest unit of meaning in words. Just as phonemic awareness is important for reading and spelling, those students with morphemic awareness appear to be better spellers (Carlisle, 1987). Although many students develop morphemic awareness without instruction, students with specific reading disabilities often do not.

Anglo-Saxon Morpheme Patterns

Anglo-Saxon base words can either compound or affix. Children learn to combine two short Anglo-Saxon base words to read and spell words like *catfish, lamppost*, and *sailboat*. The first affixes found in text are the inflectional suffixes such as plural *-s*, past tense *-ed*, and adjective or noun *-er*. Additional suffixes and prefixes should be taught to expand the number of words students can read and spell accurately. Students learn that since affixes are often unstressed, the schwa sound is prevalent in prefixes and suffixes. Prefixes taught first since they are added to Anglo-Saxon base words include *in-*, *un-*, *mis-*, *dis-*, *non-*, *mid-*, *fore-*, *re-*, *de-*, *pre-*, and *a-*. Suffixes taught in the early grades include *-s*, *-es*, *-ed*, *-ing*, *-ly*, *-er*, *-en*, *-est*, *-less*, *-ness* and *-ful*.

Teachers begin instruction by asking children to spell words where suffix

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addition rules (see Carreker, this issue) are unnecessary. For example: *help, helped, helps, helping, helper, helpful, unhelpful, helpfulness, helpless, helplessness*; or *spell, spelled, speller, spelling, misspell, misspelled, respell, respelling*. They then move on to teach the rules for adding suffixes to words ending in vowel consonant (e.g., *big, sad*), silent final e (e.g., *slide, blame*), and y (e.g., *try, copy*).

Latin Morpheme Patterns

The Latin word roots are usually perfectly phonetic. Third and fourth graders who know consonant and vowel patterns are ready to learn common roots like *rupt, struct, spect, tract, cred, form, port, and fer*. Many of the Latin roots have two, three, or four variants (e.g., *scrib/script, spec/spect, mit/miss, duc/duce/duct, tend/tens/tent, and viv/vivi/vit/vita*).

Additional prefixes and suffixes need to be taught to accompany Latin roots. The major prefixes, in addition to those listed earlier, include *trans-, ab-, ambi-, ante-, anti-, bene-, circum-, ex-, inter-, intra-, intro-, mal-, multi-, pro-, and se-*. In addition, several prefixes (called assimilated or chameleon prefixes) have several variants depending on the first letter of the root. For example, *in-*, meaning *in* or *not*, changes to *il-* before roots beginning with an *l* (e.g., *illegible*), to *ir-* before roots beginning with *r* (e.g. *irregular*), and to *im-* before roots beginning with *m, b, and p* (e.g., *immature, imbibe, imported*). Similar changes occur in the prefixes *con-*, meaning *together* or *with*; *sub-*, meaning *under* or *below*; and *ad-*, meaning *to* or *toward* (See Henry, 2003 for additional information.)

Suffixes added to Latin word roots must also be taught systematically. These include *tion-, -sion, -cian, -ture, -ent, -ence, -age, -ate, -ous, -or, -ar, -ist, -ive, -al, -ible, -ize, -ify, and -ity*.

Greek Morpheme Patterns

Many Greek-based words will be found in student's math and science texts. Greek combining forms, or roots, usually compound two word parts of equal stress and importance as in *autograph, hydrometer, telephone, philosophy, and monologue*. Affixes may be added to these combining forms as in *photography, photographer, and philanthropist*. Important Greek combining forms to teach include: *phon/photo, graph/gram, auto, tele, ology, micro, meter, therm, bio, scope, hydro, biblio,*

crat/cracy, geo, metro, polis, dem, cycl, dermat, hypo, hyper, chron, chrom, phys, psych, techni, lex, path, poly, gon, sphere, and the number prefixes.

Instruction

As students learn the common Latin roots and Greek combining forms, I encourage teachers to purchase or make drill cards for these word-parts. The cards can be used as visual and auditory drills to achieve automaticity in identifying the morphemes. This automaticity will assist in achieving fluency as students read words containing these morphemes in context.

"...learning the frequently used morphemes not only helps students' spelling, but also provides strategies for decoding and for enhancing vocabulary."

During auditory drills the teacher pronounces the root or affix and the students write the morpheme as they say letter names or sounds.

Present the affixes and roots systematically. Once a few have been introduced teachers can generally present several roots at a time. (See Henry, 2003; Henry & Redding, 2002.) Ask students to generate words containing the target roots you are teaching, provide numerous opportunities to read and spell words, phrases, and sentences containing the target morphemes. As they read their textbooks, see if students can identify words from the various layers of language. The following words were selected from 3rd and 4th grade social studies textbooks:

Anglo-Saxon	Latin	Greek
homestead	irrigation	hemisphere
neighborhood	transportation	democracy
imprinted	manufacturing	bicentennial
westward	segregation	meteorology
redcoat	dictatorship	autobiography
hardship	reconstructionist	philanthropist

Notice how the Anglo-Saxon words both compound (*homestead, redcoat*) and affix (*neighborhood, imprinted, westward, hardship*). The Latin-based words affix to roots with specific meanings such as *port, to carry (transportation, imported, exported), and dict, to say (dictate, prediction, dictatorship)*.

Greek-based words combine two and even three root forms (e.g., *hemi + sphere, demo + cracy, auto + bio + graph*).

Teachers should articulate carefully as they dictate spelling words. Students will benefit from using the following process in spelling multisyllabic words:

- Repeat the word dictated by the teacher
- Count the number of syllables
- Say each syllable as the word is written
- Sound out each syllable, if necessary
- Reread the word, phrase, or sentence to check

The Friday Spelling Test

Many teachers feel beholden to the weekly spelling test. Teachers often tell me that parents wouldn't like it omitted. I suggest that teachers design their own spelling test. This alleviates the situation I find in many spelling materials. For example, in one frequently used 5th grade spelling series, a typical lesson included the following words: *straight, favor, sleigh, reins, great, and praise*. Note that all these words contain different spellings for */ā/*. Most children learn to memorize each word in lists such as this. Henderson (1990) reminded us that while memory plays a role in learning to spell, it does not play the only role. Many children practice words during the week and pass the Friday test, only to be unable to spell them a week or two later.

In contrast, I recommend that teachers select several patterns that they have been teaching in the previous several weeks. Children in the primary grades might be taught final *-ck* and *-tch*. I would tell my students that they will have to think hard about when to use *-ck* and *-tch* in the 15

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spelling words that will contain the /k/ and /ch/ sounds. I don't give them the list, but I do review the rule that we use *-ck* when the /k/ sound comes directly after a short vowel at the end of a one syllable word. Similarly, we use *-tch* when the /ch/ comes directly after a short vowel at the end of a one syllable word. The words dictated on Friday might include: *stick, pluck, strike, beak, crock, stroke, flake, stretch, lunch, crutch, stitch, peach, coach, and pitch.*

The other 10 words for the spelling test can be words that the students study both at school and at home. However, these words should be relevant to what is being read and written. They may be place names found in geography, or names of people in the literature they are reading. They could be non-phonetic words (often called rote memory words or irregular words) such as *foreign, ocean, and colonel.* As students read *Esperanza Rising* (Ryan, 2000) they might be asked to spell Spanish proper nouns such as *Esperanza, Josefina, and Aguacalientes.* Other Spanish words such as *campesinos* and *tamales*, along with English words such as *monotonous* and *ritual*, could be added. Words such as *immigration* and *accustomed* would support the learning of chameleon prefixes.

Poor handwriting compounds the spelling problem. While I encourage the use of the computer for compositions, reports and essays, I believe that upper level students need to learn to use cursive writing. As you teach new roots and affixes, provide models for student to trace and copy in cursive writing. The kinesthetic act of writing supports the spelling-memory of the student.

Conclusion

Learning the common prefixes, suffixes, Latin roots, and Greek combining forms supports Venezky's Principle 6: "Visual identity of meaningful word parts takes precedence over letter-sound simplicity" (Venezky, 1999, p. 6, 197). This statement implies that the morpheme will often be spelled the same even though its pronunciation changes. Examples of this change include *know-knowledge, athlete-athletic, insane-insanity, electric-electricity, sign-signal, breath-breathe, and divine-divinity.* Venezky calls this the "...morphophonetic level in the translation from spelling to sound" (p. 197).

Even though the sound changes, the morpheme identity is preserved. In closing, I agree completely with Templeton and Morris (2002) as they refer to spelling instruction based on how words work. They conclude:

Instructional emphasis is placed on the explorations of patterns that can be detected in the sound, structure, and meaning features of words - as opposed to the single-minded focus on learning how to spell the 5,000-plus most frequently occurring words in writing or particular words that may be problematic for individual students (p. 103).

Remember, too, that learning the frequently used morphemes not only helps students' spelling, but also provides strategies for decoding and for enhancing vocabulary.

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