Using the spelling/meaning connection to develop word knowledge in older students

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By the time most students are beyond the eighth grade, spelling is no longer taught to them as a subject. Vocabulary, on the other hand, continues to be part of the curriculum, but, true to fundamental principles of learning, the words students knew on Friday’s quiz are often forgotten by Monday. Although a few vocabulary programs group words for study according to a common base or root, two critical variables are still missing: (1) a systematic sequence of study and (2) informed, active exploration of the spelling/meaning interrelationships across prefixes, suffixes, base words, and root words. This article suggests a sequence and rationale for studying patterns that reflect a spelling/meaning connection.

Suggestions that spelling and vocabulary instruction should be linked are not new. Dale, O’Rourke, and Bamman (1971), for example, offered some fine procedures. What is new is our understanding of how this relationship might be studied systematically. The rationale underlying such study is based on theoretical examinations of the English spelling system (Chomsky and Halle, 1968; Venezky, 1970) and on empirical studies of this system (Frith, 1980; Henderson and Beers, 1980; Read and Hodges, 1982). Furthermore, several recent studies offer support for a possible instructional sequence of more advanced spelling/meaning patterns (Templeton, 1976; Templeton and Burke, In press; Templeton and Scarborough-Franks, In press). Most of these spelling/meaning patterns are characteristic of that part of English that came from the Romance languages, through which Greek and Latin contributions have passed as well. The spelling system of English retains the effects of this influence.

One of the consequences of this legacy, Chomsky and Halle (1968) have claimed, is a regularity of English spelling—a regularity based on the fact that the correspondence of spelling to meaning is direct. Spelling also corresponds to sound, but this correspondence is indirect.

Thus, words that are related in meaning are often related in spelling. Although the sound may change, the spelling changes little, if at all, as in the italicized pairs of each of these word pairs: please/pleasant, impose/imposition, remedy/remedial. When spelling does change in related words, it usually follows a predictable structural pattern: explain/explanation, retain/retenion.

Our knowledge of the spelling/meaning patterns in words and of the sequence in which they can be studied can provide the foundation for expanding and elaborating our students’ vocabularies; in the process, they should become better spellers as well.

Sequence

Instructional sequences should probably be considered in much the same manner as Bruner (1962) considered the role of educational theories: They represent points of departure rather than itineraries; they should be handled with flexibility. So, too, with the suggested sequence for study of the spelling/meaning connection. At each level, students should examine the patterns carefully, but teachers should be prepared to allow students to pursue or wander along unexpected lexical paths; indeed, active search and exploration within these patterns is probably essential if fuller understand-
students. Vocabulary. If the students know the meaning of autumn, they should be able to understand autumnal; you simply help them elaborate their concept of autumn while you reinforce the fundamental spelling principle that meaning usually predominates over sound.

Level II: Absorbed or assimilated prefixes. Absorbed or assimilated prefixes represent the second level of the spelling/meaning connection. Most words in English which exhibit prefix assimilation originated in Latin. It was in Latin, in fact, that the process began. To get a feel for what occurs in prefix assimilation, try pronouncing in + mobile (immobile) rapidly. The sound that the letter n represents becomes absorbed or assimilated into the sound m represents. Eventually, the spelling of the prefix came to represent this change in sound; the spelling of n in in-changed depending on the first letter of the base or root word to which it was attached. To appreciate the extent of this process, a glance back through this paragraph reveals several words with prefixes that have become assimilated into Latin roots; assimilate, attached, applied, appreciate all contain the prefix ad- while occurs has the prefix ob-.

This phenomenon of absorbed or assimilated prefixes presents a potential spelling problem unless meaning is used to explain the double consonant spelling. If meaning is not explained, then the student who ponders over the spelling of irresistible ("Is it one r or two?"") has no better alternative than to flip a coin. In the following words, double consonants occur at the point where a prefix has been assimilated, yet only one consonant sound is heard. For each group of words, note both the original spelling of the prefix and how it has changed: ad- (to' or toward')—account, assume, approve; in- (not)—illegal, innocent, immobile, immovable, irresistible; ob- (toward' or against')—occur, oppose.

Prefix assimilation has occurred predominantly in words in which the Latin root is difficult to identify—most of the foregoing examples offer a case in point. For this reason students should be introduced to the process through examining words such as irreplaceable, illegal, and immobile, in which the prefix can be removed from a familiar base. When students come to understand how this principle works and the extent to which it has affected a number of words, they will better remember the double consonant spelling in irresistible and illegal.

Perhaps more important than remembering particular spellings, however, is that the students develop a sense of prefixes as spelling and meaning units. This sense is important for the simple fact that prefixes are not always easily discernible, especially when they are attached to Latin roots which themselves are not easily identified. WholeSale instruction in Latin is not necessary; the important point is to allow students opportunities to note prefix assimilation and to develop the necessary feel for these units.

Level III: Alternation patterns in related words. The two previous levels should lay a solid foundation for students' understanding and awareness of the spelling/meaning connection in English. Students should now be ready to explore some of the most productive patterns in the language. These patterns reflect derivational aspects of English: specifically, how words are derived from other words.

primarily through the addition of suffixes to base or root words. By the middle and secondary school years, students are conceptually able to learn and to appreciate the nature and productivity of these patterns.

The patterns that are discussed here are grouped under a very general category that will be referred to as vowel alternation. This term is used because, as we will see, words that are related in meaning undergo changes in the pronunciation of their vowels. Three predominant patterns of vowel alternation will be discussed at this level; a fourth, more abstract pattern will be presented and discussed at Level V.


The italicized letters in each pair highlight the part of each word in which the spelling remains the same but the sound of the vowel in the accented syllable has changed 'or alternated from long to short. Like the silent consonant patterns discussed earlier, this vowel alternation pattern emphasizes that words related in meaning are often spelled similarly, despite changes in pronunciation. It is not enough to talk to students only about the changing vowel sounds within these word pairs; the meaning connection must also be addressed explicitly.

Some students probably come to this understanding on their own. Others will need continuing guidance. For this reason, it is essential that the teacher discuss the spelling/meaning relationships with the students, provide examples of representative patterns, and have students search actively for words that follow each pattern.

- Pattern 2. Long vowel: schwa alternation. Sample pairs are local/locality, metal/metallic, fragile/fragility, mobile/mobility, relative/relatively, image/imagine.

Consider the spelling of the final /ə/ sound in local, metal, fragile, and mobile; it is up for grabs as far as uncertain spellers are concerned—unless they have been cued to try to think of related words. In these two cases, the italicized letters in locality and metallic represent sounds the spelling of which is obvious. Once again, although the sound has changed within each pair of these related words, the spelling has not.

Level IV. Roots and combining forms. Greek and Latin roots are the mainstay of most English vocabulary programs and, beginning in the middle grades, of a few spelling programs.
Quite often, however, there is little reason for the selection and sequencing of the roots; groups of them are more or less haphazardly thrown at students, with Latin roots predominating at first and Greek roots following later on. If, however, these roots are (1) systematically presented and studied after the previous three levels and (2) considered from the perspectives of meaning and spelling, then they will much more likely have the effect they are intended to have: expanding and elaborating vocabulary and spelling knowledge.

From the students' conceptual frameworks, the usual sequence in the study of roots—Latin first, Greek later—may be backwards. The problem is that Latin roots, as we noted at Level III, are often hidden within words and are difficult to locate. For example, attraction offers intriguing possibilities for analysis, but beginning an examination of Latin roots with examples such as -tract- is probably leaping a few conceptual notches. The root is hidden from the untrained student eye and, although its meaning changes subtly across words while retaining the core meaning of 'to pull,' students usually cannot appreciate this phenomenon. Greek combining forms, on the other hand, are more easily recognizable and their meaning is usually straightforward. It makes instructional sense to begin this level of study with them.

Combining forms are distinct from roots in that they cannot simply join to form words. For example, photo 'light' can occur first with graph 'writing' or it can occur second with tele- 'distant.'

The Greek number prefixes mono-, bi-, tri-, quad-, and so forth are a good starting point because of their frequency. Students usually command a number of words with these prefixes, although they may never have analyzed these words. For example, students are often surprised to note how the prefix mono- has affected the meaning of common words: monotone, monotonous, and monorail. It is a fairly short step to more intriguing forms such as tele-, thermo-, photo-, -meter, astro-. As such forms occur in different words, their pronunciation will change; this is quite natural and underscores the primacy of meaning over sound in English spelling. For example, students will note the changes in the pronunciation but not in the spelling of the italicized vowel letters as the accent shifts in the words telegraphy/telegraphic, thermometer/thermodynamic, photography/photographic.

Once students understand the way Greek combining forms work within words, they are ready for the challenge of Latin roots. At the outset, it should be understood that the instructional objective here is not mastery of 157 Latin roots, but rather (1) a working understanding of a few relatively frequent roots and, perhaps more important, (2) a sense of the root as a stable element in words, an element that can be conceptualized as a unit in the same way as are prefixes and suffixes.

It has already been noted that the meaning of a Latin root can be somewhat obscure, usually because the original meaning has been extended over the centuries to refer to conceptually more distant features. Such roots are nevertheless interesting to investigate for the insight they afford into the ways in which meanings of words change. They also provide handy mnemonics for remembering both definitions and spellings.

It is wise to begin systematic study with roots whose one meaning in most words is relatively constant. The following is a sampling of frequent roots (backus, Dixon, and Anderson-Inman, 1980) whose meanings are fairly stable:

-pect: to look; inspect, spectator
-press: to press; impress, pressure
-port: to carry; export, portable
-form: shape; formula, conform
-pos: to put or place; compose, position
-tract: to draw or pull; tract, retract
-spir: to breathe; respiration, inspire
-dist: to say or speak; dictate, predict

Let's consider how one such root, -port-, might be investigated. When combined with prefixes and suffixes, its various meanings are easily perceived: port + able = capable of being carried; port + er = one who carries; imm + port = to carry into; ex + port = to carry out of. By itself, of course, the root port has come to mean a harbor, or a place where cargo is carried in and out.

Study of these occurrences of port in conceptually simple contexts will lead to a more challenging inquiry into, for example, opportunity. A systematic investigation of this word will reveal the base word opportune, which in turn is composed of the assimilated prefix ob- (meaning 'to') + port—literally 'to or toward a port or harbor.' In Latin, then, this word refers to a wind 'blowing toward the harbor,' which would indeed have been suitable or favorable—opportune.

Word study at the next higher conceptual notch will enable students to probe our earlier teaser, attraction. In the following manner: The core meaning of tract is 'pulld' Attract is a combination of an assimilated prefix, ad- (meaning 'to' or 'toward') + tract, literally 'pulling toward.'

Extension of this type of analysis is essential. Students can then engage in a word hunt in which they look for words containing the root tract or—and this is usually more productive and exciting—have them work together in a group to brainstorm words with tract: detract, extract, tractor, distract, traction, retract, intractable, contract, subtract, and the derivatives of these words created by adding derivational suffixes (subtraction, distractable, contractual).

Brainstorming could be followed by discussion of how the root and the prefixes or suffixes have combined to work in concert to convey the meaning of the words. In words such as contract and subtract the relationship is more abstract, but discussion will reveal how the word has come to mean what it does. This type of active group involvement rarely fails to become both an exciting and enlightening process for students.

Throughout this process of exploring roots and combining forms, teachers are modeling ways of looking at words, ways that the students will internalize. In addition, notice the opportunities for building on vocabulary and spelling knowledge developed at the previous levels: Several of the example words in the preceding paragraphs may also be considered as members of groups of words in which vowel alternation or prefix assimilation is at work.

Level V. Alternation patterns in related words.
- Pattern 4. Vowel and spelling alternation.
The words that fall into this category again alternate a long vowel to either a short or a reduced vowel, but there is an alternation in spelling as well, usually affecting the root of the word. Students who are not familiar with the processes that underlie these
Alternations may be confused and discouraged by what they otherwise perceive to be but more irrationality in the system. The key to understanding these patterns lies in their predictability. Looking only at one pair, we see no pattern; it is only when groups are considered that the logic emerges.

Note the pattern in each of the following groups of word pairs: (1) consume/consumation, assume/assumption, presume/presumption. (2) receive/reception, deceive/deception, conceive/conception. (3) explain/explanation, proclaim/proclamation. The meaning of the root does not change despite changes in sound and spelling. These patterns are less frequent, but they are not irregular.

The following patterns involve quite different sound alternations, but students are often fascinated to discover that the same root exists in both words of each pair: denounce/denunciation, renounce/renunciation; detain/detention, retain/retention, contain/contention.

Rationale and assumptions
The rationale underlying this suggested sequence of study for the spelling/meaning connection is based on the following assumptions.

1. Students need to be aware of the ways in which English spellings can directly represent the words’ meanings. The suggested sequence helps students advance systematically from their probable expectations that spelling represents sound to the awareness that, for a large part of English, spelling primarily represents meaning.

2. The levels in this sequence correspond to successively more abstract levels of understanding with respect to the relationships among spelling, sound, and meaning.

(3) The sequence of study for the more wide-ranging patterns—vowel alternation—is based on studies showing that older students’ ability to deal with these patterns follows this sequence.

After following this sequence of studying the spelling/meaning connection, students should have a better understanding of significant units within words—prefixes, suffixes, roots, and combining forms. They should be attuned to the core meaning of such word units and also to whatever subtle changes in meaning these units may undergo in different words. They should understand and be able to deal with the changing patterns of sound across related words. Finally, they should have more powerful and economical strategies for acquiring, organizing, and elaborating their spelling/meaning awareness.

References


