

Word Morphology As A Strategy For Vocabulary Instruction

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Introduction

For many years, reading researchers have been cognizant of vocabulary instruction as a critical component in the teaching of reading and the comprehension of text (Blachowicz & Fisher, 2004; Fountas & Pinnell, 2001; Stahl, 1986, 2003). Although many studies have been done on a variety of vocabulary teaching methods, the National Reading Panel (2000) concluded that there is little evidence to support one instructional method over another. In fact, the Panel strongly suggested that dependence on a single method would not result in optimum vocabulary learning.

Direct instruction is the most frequently used method to teach new vocabulary, but it is not the only answer. Each year, from fifth grade on, the average student encounters 10,000 new words---words they have never encountered before (Nagy & Anderson, 1984). The entire instructional day would have to be spent on these 10,000 new vocabulary words when, in reality, many of those words may only be encountered once. Each child needs many tools with which to examine new words, apply what he/she knows about them, activate his/her schema, and be able to make logical conclusions about the possible meanings. These tools need to provide cross-curricular connections, be easily instructed, and readily reinforced on a daily basis.

One answer to providing children with in-

structional tools for the comprehension of new vocabulary lies in the morphology of words---the ability to examine the form and structure of words in a language. Eighteen years ago, White, Sowell, & Yanighara (1989) determined that a significant impact could be made on children's word learning if a small list of prefixes and suffixes was taught in third grade. The teaching of affixes provides children with skills for not only analyzing the meanings of newly-encountered vocabulary, but for creating new words with the application of these learned *parts*.

Nagy & Anderson (1984) estimated that approximately 60% of English words can be predicted from the meanings of their word parts; English words give useful, but incomplete, information for another 10%. As early as 1947, Brown noted that of all English words that come to us from other languages, 80% are from Latin and Greek origins (as cited in Henry, 1993, p. 231). He concluded that twelve Latin and two Greek roots combined with twenty of the most frequently used prefixes would generate an estimated 100,000 words. What teachers would give to teach their students over 100,000 words! And yet, it can be done as simply as teaching the basics of word morphology.

In the *Academic Content Standards for Language Arts*, the importance of vocabulary instruction is recognized (2001). However, little is suggested for the methodology of this instruc-

tion. The standards suggest the prefixes un-, re-, and pre- be taught at second grade. At fourth grade, the standards state that children should have knowledge of prefixes, suffixes, and roots (bases). However, the "knowledge of Greek, Latin, and Anglo-Saxon roots and affixes to understand vocabulary" (Ohio Department of Education, 2001, p. 220) is not mentioned until the seventh grade. The implication that children are not able to comprehend these word parts until the seventh grade ignores a simple tool that can empower young readers.

Using the instructional strategies included in this article, children who briefly *play* with a Latin root create schema to decode additional words, not only the ones in their reading texts, but words they encounter in their content-area texts as well. If children have prior schema for the root *graph*, they can use the instructional strategies suggested in this article to decode important words like biography, geography, telegraph, graphic, and photograph, by making connections to a previously-known application of the root and its affixes. At first, children may not always make the transition to the complete and correct meaning of a new word, but by activating prior knowledge that helps them relate the new word to its Latin root "family," they begin to use that root---and they learn a new word recognition strategy as well. This article will share classroom-tested strategies for using word morphology to teach vocabulary to students in grades three through eight.

What Do We Know About Teaching Vocabulary?

Blachowicz & Fisher (2004) reported that of more than twenty new books published in the field of literacy since 2000, the average space allocated for vocabulary instruction was two pages. In 1997, only two percent of all articles submitted to *The Reading Teacher* focused on vocabulary instruction, and, as recently as 1998, there were no articles in *The Reading Teacher* devoted to vocabulary instruction (Rupley, Logan, & Nichols, 1999). The National Reading Panel devoted only one page in its report and only thirteen pages of the more than 400 plus pages of the report of the subgroups to vocabulary instruction.

Although there is no support for one instructional design over another, reading researchers conclude that there are several integral components to the successful implementation of vocabulary instruction. The first necessary component of vocabulary instruction is that it connects to previously known words or word parts. Stephen Stahl (1986, 2003), highly recognized and respected for his years of research in the field of vocabulary instruction, believes there are three increasingly deep levels of processing vocabulary. The first level, in which the students link their understanding of the new word to a synonym or specific context, is called *association processing*. The second level, in which students apply the association knowledge of the word, is called *comprehension processing*. The third level, in which students synthesize and use their knowledge of the word, is called *generation processing*.

The second factor that determines the quality of vocabulary instruction is its classroom context. Vocabulary cannot be taught in isolation. In 2003, Stahl determined that as more words are learned by children, they learn to think about the world in more sophisticated ways. It is this sophistication, rather than the difficulty level of a particular group of words that leads to understanding. Therefore, it is what the reader knows about the words in the text, not the categorization of easy or difficult words that determines the level of difficulty for each specific child. When Gipe and Arnold (1979) compared the teaching methods of vocabulary instruction using context, association, dictionary and categorizing for third and fifth grade students, they determined that the context method provided the highest gains.

A third factor which should drive vocabulary instruction is the way in which it connects to other areas of the curriculum, other reading materials, and oral language. It has often been said that all teachers are reading teachers and children would certainly benefit if teachers in the content areas taught the connections between the language and vocabulary of content-area material and other vocabulary learned across the curriculum. An instructional strategy which adds this component, this activation of schema, is critical. Blachowicz & Fisher (1996)

and Blachowicz & Lee (1991) added several other guidelines suggesting important components of well-rounded vocabulary instruction. These include providing strategies for decoding new words, the opportunity to play with words, and reinforcement and review.

What are the Advantages of a Morphological Approach?

There are several research-based rationales for teaching the morphological analysis of words to children.

- By third grade, some strategies are no longer meaningful for the analysis of multisyllabic words. Rhyming families and phonetic patterns are not enough. As children progress past the early elementary grades, they encounter more abstract or technical words for which they have no schema. As the texts and the vocabulary become increasingly more difficult, the strategy of "sounding out" words is less functional. Which of us, as adult readers, use the strategy of sounding out unfamiliar words? As adult readers, we are far more likely to break words into meaningful parts. It becomes increasingly important, then, for children to comprehend the meaning

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of affixes (i.e., prefixes at the beginning and suffixes at the end) and the roots with which they are combined. Not only is this useful for the decoding of new words encountered in text, but for the connections these word parts create to prior schema.

- The structural analysis of words has cross-curricular applications. Not only is this a tool a child may apply in reading, but it can also be used for examining words he/she encounters in content-area subjects as well. One of the components of successful vocabulary instruction is that it connects to previously known words or word parts. Although content-area teachers may not consider themselves reading teachers, the use of morphological analysis of words can help them connect Latin and Greek roots to critical vocabulary in their respective fields.
- The morphology of words extends and deepens meaning for the child. A component that differ-

entiates a successful reader from the reader who struggles is the concept of root words. Unless children have learned the strategy of removing all the affixes in a word and then analyzing the part that is left, learning affixes will be just another unused tool in the child's toolbox of strategies. If the child has successfully learned the meaning of the root, the largest part of the word analysis puzzle is solved.

- The use of word analysis can enable a child to assimilate more new vocabulary throughout the school year. Rather than the rote memorization of lists, children acquire the strategy of purposeful analysis in context. For example, with the teaching of affixes and roots, children can extend their vocabulary to include not only the word "supervise," but also supervises, supervised, supervising, supervisor, unsupervised, and supervision.
- Teaching word morphology in mini-lessons as words are encountered in the text is far more productive for the instructional time invested. Neglecting the potential of morphological analysis as a tool for learning new words and word parts disregards the meaningful and brief "teaching moments" that occur naturally in the classroom setting. Many teachers work with children on "revising" their work, yet may not take advantage of the potential connections the Latin root *vis* (to look at/to see) makes to word families. In a ten-minute lesson on *vis*, children can make connections to over twenty different words---*televise, television, advise, advisor, vision, visible, invisible, visibility, invisibility, visitor, devise, revise, revision, supervise, supervisor, supervision visit, visitor, visual, visitation, visualize, visualization, and video*.
- One of the instructional benefits about word morphology is that it can be taught in two pedagogical ways. The first way, the analysis of words as they occur, benefits the learner who learns from whole to part. The second technique, the creation of words using roots and affixes, appeals to the learner who learns from part to whole. Each of these approaches to the learning of vocabulary has its respective place meeting the needs of a variety of learning styles.
- The skill of being able to analyze unknown words is a life-long learning tool. Once children have learned to apply their knowledge of affixes

and roots, they can utilize it not only in academic settings, but in real-life contexts as well. It is a functional skill.

What are Some Instructional Strategies for Teaching Word Morphology?

Before initiating instruction in Latin and Greek roots, it is imperative to first teach the affixes most frequently found in the English language. Because there are far more prefixes

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than suffixes, they require the most instruction. Suffixes are often used in conjunction with verb tense, comparative adjectives, and adverbial phrases. As more unknown words are encountered in text, less commonly used affixes and Greek roots which frequently combine as affixes can be taught---such as *auto* + *mobile* or *tele* + *graph*.

In my fifth grade reading classroom in a rural community, there are four integral components for the successful integration of word morphology: 1) word study books, 2) word wall, 3) word-building packets, and 4) interactive word games and activities. (It is also important to note that I spend the first quarter of the school year reviewing learned prefixes and suffixes, as well as introducing ones that the children have not yet been taught.)

First, children begin the year with a **Word Study** notebook. This is a stenographer's notebook, divided into three sections with the use of tabs. The first section is marked with a pink tab that states "Prefixes," the middle section is marked "Roots" with a yellow tab, and the third section is marked "Suffixes" with a green tab. When new words are introduced or when any word analysis activities are done, they are recorded in the notebook for reinforcement.

The development of their **Word Study Book** is one of those projects that the children love to share at conference times, as well as with reading buddies from lower grades. They are excited about the number of "big" words they have learned. It is quite common by the third quarter

of the school year to begin to notice an increasing number of these newly-acquired vocabulary words in their journal writing. The fact that the study of words is given a special book, as well as an important place in language instruction, sends the message that "word study is important."

The second component is the construction of a **Word Study Wall**. At the beginning of the school year, the creation of the Word Study Wall emphasizes not only how important the study of words is, but provides an interactive arena in which children can add what they have "discovered." The entire back wall of my classroom is a bulletin board I divide into three separate sections. The first section is marked "Prefixes," the middle section is marked "Roots," and the last section is marked "Suffixes." Before children can learn to analyze roots and affixes, it is critical that key affixes are retaught and reviewed. The first few weeks of school, we review as many as three to five affixes a week. The instruction is brief—we may spend ten minutes skimming our reading books for words that contain the prefix "pre-." When children find a word, they write it on a colored 3" x 5" note card. In order for them to add their word to our Word Study Wall, they must provide a definition for the word that makes sense to the class, and they must be able to use it in a sentence.

To coincide with the tabs in the Word Study Books, prefixes are coded with pink note cards and words with suffixes are written on green ones. When the classroom teacher reviews or re-teaches an affix, the child records it in his Word Study Book. For example, the day that the class reviews the prefix "pre-," the child writes the prefix on a page in his book with the meaning (i.e., pre- : to happen ahead of time). Then the child lists several words that are placed on the board to help reinforce the prefix. This might include such words as *precook*, *preheat*, *prehistoric*, *preview*, and *preoccupied*. The color coordination is an additional reinforcement, particularly important for our special needs learners.

Third, after we spend the first few weeks of school reviewing and practicing the skill of "word study," the children cut out three pages of "word parts." I provide the children with

a page each of prefixes, suffixes, and roots. I photocopy a page of twenty to twenty-four of the most frequently used prefixes in squares on pink paper. The children cut these squares out and place them in an envelope marked "Prefixes." The children do the same with green paper on which I have photocopied common suffixes. They keep these two envelopes of commonly-used affixes in their language folders. These are used to "create" new words as I begin to introduce Latin and Greek roots. As the children become proficient in manipulating the affixes, I then provide them with the yellow paper of roots. We only cut out the roots one at a time, as we use them in our word analysis.

Another instructional technique that I use to introduce a Latin or Greek root to the children is to provide them with two or three examples of words that contain the root. I may put the words *transform*, *perform*, and *uniform* on the chalkboard. We then discuss what these words have in common. How is this root interpreted in each of the words? Can we then say that the Latin root, "*form*," has to do with the shaping of something? I would then entertain their ideas of other words that may have been derived from this Latin root. We would then list all of the words we have discovered in our **Word Study Book** in the root section.

Fourth, as the students (my "Reading Detectives," I call them) become more familiar with the skill of analyzing words, I begin to introduce word games and activities. One activity I call "**Root Race**" combines the children's love of competition and their ability to create words. For example, I would put three words on the board that contain the Latin root "*port*" --- *export*, *report*, *portable*. After discussing what the students believe the words mean and how that relates to the meaning of the root itself, I challenge them to write as many words as they can think of in two minutes that might contain this Latin root. The children are strongly encouraged to use verb suffixes to increase the number of words on their lists. They have learned that if the word "*report*" is a verb, they can also *list reports*, *reported*, and *reporting*.

As we go over the student-created words on the overhead, they check the number of actual words they created and record any addi-

tional words added by the group's discussion. The two children with the most correct words in "**Root Races**" earn the privilege of getting to select a new paperback book from my book box. I also reward the children who have successfully created at least ten words by giving them prizes such as "Free Homework" passes. The children begin to ask for this activity if I neglect to use it at least once or twice a week. For this activity, I count the creation of the words, not the correct spelling of them. As they check each other's lists for the "**Root Race**" in their **Word Study Book**, the child who checks is responsible to make sure all the words are listed and spelled correctly. This reinforces our handwriting skills by making sure that what we write in someone else's book is legible. Making word study enjoyable through games and activities such as "**Root Races**" creates a love of word analysis.

Other games I use with Latin and Greek roots include **Bingo**, **Jeopardy**, and **Concentration**. I also use webbing activities, word sorts, and concept wheels to help reinforce the study of words. One of the children's favorite activities is an assessment I use called "**Vocabulary Trees**." The children begin by drawing a tree trunk and listing the Latin or Greek root on the trunk. They add as many branches as they can create that expand the number of words on their tree. On a tree that has the root "*script/scribe*," one branch might have the word "*describe*," and the branches coming from that branch might include *description*, *indescribable*, and *descriptive*.

What are the Results of Teaching Word Morphology?

Although the results of using a program of Latin and Greek roots to teach vocabulary are not statistically measurable in isolation, the student's application of the roots is significant. For each of the last three years this program has been implemented, our building has had unusually high scores on the vocabulary strand of the Ohio Achievement Test for fifth grade. Because of other influencing factors, this cannot be attributed to the study of word morphology alone; however, perhaps the most meaningful result was when one of my former students returned as a sophomore to inform me she had

achieved a perfect score on the reading portion of her ACT Test. "Those Latin roots sure came in handy!" she reported. "They really helped me figure out a lot of the words."

Suggested professional resources:

Bear, D., Invernizzi, M., Templeton, S., & Johnston, F. (2007). *Words their way: Word study for phonics, vocabulary, and spelling instruction* (4th). Upper Saddle River, NJ: Prentice Hall.

It includes an interactive resource compact disc. This book not only provides information on the teaching of affixes and roots, it provides activities that are easy to create and use in the classroom.

Ehrlich, I. (1968). *Instant vocabulary*. New York: Pocket Books.

As a resource of root words and their derivatives, this little book is priceless as well as timeless.

Suggested web sites for word study:

<http://www.vocabulary.com/> Vocabulary University: lesson plans, word puzzles, and activities.

<http://syndicate.com/> Grade level puzzles and word activities.

<http://www.factmonster.com/ipka/A0907017.html> Information and activities based on Latin and Greek roots.

<http://www.wordinfo.info/> Robertson's Words for a Modern Age: A Dictionary of Latin and Greek words used in Modern English Vocabulary.

<http://www.wordexplorations.com/> A program of Latin-Greek cross references to enhance English vocabulary skills and word studies.

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