

Teaching Morphology: Enhancing Vocabulary Development and Reading Comprehension

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Decoding and vocabulary development are pivotal to developing strong reading skills. Indeed, the National Reading Panel (National Institute of Child Health and Human Development [NICHD], 2000) has identified them as two of the five critical components of reading instruction (phonemic awareness, decoding, fluency, vocabulary, and comprehension). Other instructional resources (e.g., ICAT Resources®) have identified decoding and vocabulary development through word recognition/meaning and word study as two of seven dimensions of reading instruction (comprehension, metacognition, language and prior knowledge, word recognition and meaning, word study, fluency, and responding). Morphology is a critical element of successful vocabulary development and accurate decoding. Awareness of morphology has been shown to be a strong indicator of and positive influence upon reading comprehension (Soifer, 2005). Subsequently, weakness in decoding and vocabulary skills is noted as a potent inhibitor to fully comprehending text.

An examination of the Virginia Standards of Learning reveals a vertical alignment of standards from kindergarten through eighth grade focusing on decoding and vocabulary development, more specifically, on morphology. The results of the Virginia high-stakes assessment indicate a weakness in vocabulary development for all Virginia students, thus suggesting a need to provide more intense vocabulary instruction with direct instruction in morphology.

What Is Morphology?

Morphology, a word of Greek origin, combines “morphe,” meaning form, and “ology,” meaning the study of. *Morphing* conjures mental pictures of children’s toys such as Transformers™ that transform from one form to another through the child’s manipulation of the parts. Morphology works in much the same manner, with students manipulating the parts of words to create new meanings or altered, but similar, meanings.

Morphology relates to the segmenting of words into affixes (prefixes and suffixes) and roots or base words, and the origins of words. Understanding that words connected by meaning can be connected by spelling can be critical to expanding a student’s vocabulary. Further, parts of words (affixes) can have separate meanings that can transform or morph word meaning. Finally, as shown in Table 1, the sound sequences, letter patterns, and morphemes depend, to a large extent, on word origin (Henry, 2003).

Table 1 *Word Origin and Word Structure Matrix (Henry, 2003)*

	Letter-Sound Correspondences	Syllables	Morphemes
Anglo-Saxon	Consonants: bid, step, that Vowels: mad/made, barn, boat	Closed: bat Open: baby VCE (vowel consonant e): made Vowel digraph: boat Consonant-le: tumbler-controlled: barn	Compounds: hardware, shipyard Affixes: read, reread, rereading;bid, forbid, forbidden
Latin	Same as Anglo-Saxon but few vowel digraphs Use of schwa/ə/: direction, spatial, excellent	Closed: spect VCE: scribe r-controlled: port, form	Affixes: construction, erupting, conductor
Greek	ph for /f/ - phonograph ch for /k/ - chorus y for /i/ - sympathy	Closed: graph Open: photo Unstable digraph: create	Compounds:microscope, chloroplast, physiology

Understanding the meaning of prefixes, suffixes, and roots enhances the comprehension of text being read. The manipulation of affixes can impact the part of speech that a word denotes. Having this knowledge enhances text comprehension as well. Direct instruction of morphology is an effective means to help with understanding and applying word structure for decoding, spelling, and vocabulary study (Wilson, 2005). Specifically, students can

be taught strategies to segment or manipulate words according to their affixes and roots. As a result, students may be able to recognize an unfamiliar word simply by identifying the affixes and the remaining base word or root (Carreker, 2005).

Textbooks and student writings in the early grades typically use words of Anglo-Saxon origin. Typically, these words are one- to two-syllable, high-frequency words (Berninger & Wolf, 2009). Textbooks and student writings in the upper grades more frequently use words of Latin and Greek origin. In addition, the number of syllables in these words increases and unique spelling patterns emerge. Therefore, the recommended instructional sequence for teaching word origins, affixes, and roots is Anglo-Saxon before Latin and Greek.

Classroom Instruction in Morphology

Prince (2009) suggested four main instructional strategies from **Lesaux's work with morphology**:

- Morphology should be taught as a distinct component of a vocabulary improvement program throughout the upper elementary years.
- Morphology should be taught as a cognitive strategy to be learned. In order to break a word down into morphemes, students must complete the following four steps:
 - Recognize that they do not know the word.
 - Analyze the word for recognizable morphemes, both in the roots and suffixes.
 - Think of a possible meaning based upon the parts of the word.
 - Check the meaning of the word against the context of the reading.
- Students also need to understand the use of prefixes, suffixes, and roots, and how words get transformed.
- Students who have knowledge of Spanish can use cognates, words that share a common origin.

Multisensory Introduction of Affixes

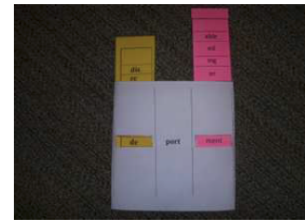
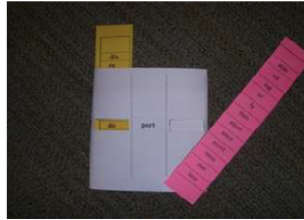
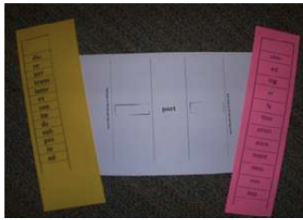
A multisensory-guided discovery approach, as well as the use of an affix card deck, are recommended for teaching affixes. Using this approach, the teacher reads a series of derivatives that have a common trait (e.g., *joyful, careful, helpful, graceful, cheerful*). The students "discover" the similar sounds and then visually discover the sound-symbol correspondence. The similar sounds and letters are then identified as a prefix or suffix, and the student verbalizes these discoveries to anchor the learning.

Finally, the teacher writes the affix on a card that is added to the affix card deck that is reviewed in a systematic manner, daily, weekly, and periodically thereafter (Carreker, 2005).

Foldables (<http://www.mswinston.com/fold.pdf>)

Yoshimoto (2009) suggested the use of a foldable model for the study of affixes and roots. In the example shown in Figure 1, the root "port" was used as the central focus, and adjustments were made to the prefixes and suffixes added. "De-port-ment" was created in the photo model. Other arrangements that might be created by sliding the inserts to new positions include "trans-port-ation" and "im-port-ance."

Figure 1. Foldable for teaching affixes.



Matching Games (<http://www.fcrr.org/curriculum/PDF/G4-5/45VPartTwo.pdf>)

A number of matching and memory games may be found on the Florida Center for Reading Research website (follow the link above). Templates are included with directions for assembly. The games include *Affix Concentration* - an activity that involves matching affix and meaning; *Meaningful Affixes* - a foldable to assemble with affixes, roots, and definitions; *Word Dissect* - an activity that involves discussion and discovery with partners; and *Make It Meaningful* - an activity that involves an affix and root meaning discovery within the context of a sentence.

Benefits of Morphology Instruction

Students who understand how words are formed by combining prefixes, suffixes, and roots tend to have larger vocabularies and better reading comprehension than peers without such knowledge and skills (Prince, 2009). Nagy (2007) proposed that the teaching morphological awareness and decoding in school may be the way to narrow the achievement gap for children whose families differ in education and income levels, and ethnic or racial backgrounds. A deep and full knowledge and understanding of vocabulary will improve outcomes for students who struggle.

References

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Resources

Reading in the Disciplines, Final Report from the Carnegie Corporation of New York's Council on Advancing Adolescent Literacy: http://carnegie.org/fileadmin/Media/Publications/PDF/tta_Lee.pdf

Florida Center for Reading Research, Advanced Phonics, Morpheme Structures: http://www.fcrr.org/FAIR_Search_Tool/PDFs/4-5AP_018.pdf

Florida Center for Reading Research, Vocabulary, Morphemic Elements: <http://www.fcrr.org/curriculum/PDF/G4-5/45VPartTwo.pdf>

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