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MORPHOLOGICAL ANALYSIS AND VOCABULARY DEVELOPMENT

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The important link between the extent of one's vocabulary range and reading comprehension is well established. Incorporating direct instruction of vocabulary into the curriculum, both to adults (Folse, 2004) and children (Beck, McKeown, & Kucan, 2002; Biemiller & Boote, 2006; Nagy, Berninger, & Abbott, 2003), is proliferating. With the adult in mind, logic dictates that instruction in strategies is perhaps the most prudent use of class time.

The content of this article addresses the author's successful use of morphological analysis as a vocabulary instruction strategy among foreign born and native English speaking college preparatory students (see Bellomo, 2005). Discussed in detail is the case for prudent selection of word parts and corresponding vocabulary; also covered are specifics of the program and results of an original study.

Vocabulary strategies are techniques employed by the reader to unlock the meaning of an unknown word when encountering it in text, and/or a deliberate attempt to learn a word for the purpose of future recall. Schmitt (1997) compiled a list of 58 vocabulary acquisition strategies, and then in the form of a questionnaire, asked English language learners (ELLs) to identify from among those strategies the ones they themselves employed. Strategies that were selected were then to be rated based on their perceived helpfulness. The sample was comprised of 600 Japanese students. A total of 150 students were drawn from each of the following age groups: middle school, high school, university, and adult (professionals in language programs that were sponsored by corporations). The study was designed to "isolate changes in strategy use and perceptions as Japanese learners progress through the school system and into adult English classes" (p. 223). Broadly, the list of strategies was dichotomized between discovery strategies (n = 44) used to unlock the meaning of unknown words, and consolidation strategies (n = 14) used to commit words to memory once they had been learned. Schmitt noted that the analysis of affixes and roots was one of only a few strategies that clearly

functioned as both a discovery and consolidation strategy. Of the 58 total strategies, 8 of them would most likely be used exclusively by non-native speakers of English, e.g., "using a bilingual dictionary." The remaining strategies were representative of those used by both native English speakers and ELLs.

Resultant trends yielded through the survey indicated that certain strategies appeared more beneficial than others relative to student age. For example, word lists were used progressively less often and deemed less helpful at each subsequent stage of the four levels. Conversely, student perceptions of the helpfulness of root/affix knowledge—as both word attack and mnemonic strategies—increased noticeably up through the levels. Schmitt concluded, "Given the generally favorable response to strategies utilizing affixes and roots, both to help discover a new word's meaning and to consolidate it once it is introduced, it may be time to reemphasize this aspect of morphology" (p. 226).

Morphological, or Structural, Analysis is the process of breaking down morphologically complex words into their constituent morphemes (word meaning parts). For instance, the word worker is comprised of two meaning units, the base work, and the inclusion of –er, which conveys the meaning of an agent (person or thing) that does whatever is implied in the base. Thus, the worker is one who works; a film projector is that which projects film onto a screen. As students proceed through the grades, course texts will take on increasingly sophisticated language. Oftentimes, these multi-syllabic words will be of the Graeco-Latin origin, which collectively, comprise approximately two thirds of the English lexicon (Carr, Owen, & Schaeffer, 1942). Studies have shown that moving along the word frequency continuum from more frequent to less frequent displays an increased percentage of Graeco-Latin words, while the percentage of Germanic, mono-syllabic words decreases (Carr, et al., 1942; Oldfather, 1940). It is in the academic arena that students will come across an influx of content specific vocabulary throughout the curriculum. Recognizing frequent roots and affixes that transfer among the disciplines can support students as they make sense and attempt to retain the meanings of this deluge of new words. Corson (1997) noted, pedagogical process of analyzing words into their stems and affixes do seem important in academic word learning. These processes help to embody certain conscious and habitual metacognitive and metalinguistic information that seems useful for word acquisition and use. Getting access to the more concrete roots of Greako-Latin academic words in this way makes the words more semantically transparent for a language user, by definition. Without this, English academic words will often remain "hard" words whose form and meaning appear alien and bizarre. So this kind of metacognitive development that improves practical knowledge about word etymology and relationships seems very relevant for both native English speakers and non-native speakers development.

In creating a workable vocabulary strategy curriculum that capitalizes on the strengths of morphological analysis, one must be cognizant of three underlying criteria requisite for a successful program. These components were touched upon by Orleans (1922), but appear to have not been implemented in many books and

programs that have deservedly earned the rebuke of cynics discrediting word part analysis. Orleans stated, “The possibility of transfer from the Latin to the English is determined by such elements as similarity of form, similarity of meaning, and perhaps number of derivatives” (p. 559).

Similiarity of form

According to Webster’s Third International Dictionary (1993), the root morph in morphology is defined as form. In Venezky’s (1967) article on the patterns of English orthography, the author observed that “Orthography is not merely a letter-to-sound system riddled with imperfections, but, instead, a more complex and more regular relationship wherein phoneme and morpheme share leading roles” (p. 77).

As students learn the meaning of a particular word part and corresponding words, the visual cue of the morpheme serves as a mnemonic when encountering those same words later on in text; also, it can often assist as a word attack device when encountering new words derived from the same morpheme. For the latter, this association often will be viable only to the degree that the instructed word part is visually similar to the part found in the derivation, or word family.

To take advantage of similarity of form, a word part should be taught in the form it appears throughout the vocabulary curriculum and will most likely appear in the words students are apt to encounter in their own reading. For instance, the word part /malus/, which means bad, would be taught to students as /mal/, which is visually evident in such words as malign, malignant, malicious, malediction, and malefactor. Practical utility, not Classical purity, should be the aim of such instruction.

Similiarity of meaning

Nagy and Anderson (1984) grouped words into six divisions based on semantic relatedness. A zero would indicate a perfectly clear parts-to-whole relationship, while six would suggest that no evident relationship exists between the word parts and the overall meaning of the word itself. Words from half of the six-point continuum were deemed semantically transparent (SEM 0-2) and the remaining divisions were deemed semantically opaque (SEM 3-5). Semantic relatedness was defined in terms of the following question: “Assuming that a child [grades 3-9] knew the meaning of the immediate ancestor, but not the meaning of the target word, to what extent would the child be able to determine the meaning of the target word when encountering it in context while reading?” (p. 310). According to their scheme, it was determined that multiple words from the same family in the SEM 0-2 category would be inferable if the child already knew only one of the related words. For older students (late high school and beyond), it is quite possible for a number of words in the SEM 3 category to be grouped within the transparent word family due to the older students‟ advanced decoding capabilities and enriched schemata.

Number of derivatives

Building a vocabulary strategy program based on morphological analysis that includes word parts that are stable in form and transparent in meaning will not

be of much use if these parts assist in recalling or learning only a few words. Ideally, selected morphemes should transfer to multiple words that will allow the student to obtain much mileage from this strategy. Holmes and Keffer (1995) sought to increase Scholastic Aptitude Test (SAT) scores through a computer program that enlarged students‟ vocabulary by using classical word parts. In determining which roots to incorporate into the program, the criterion for root selection was determined by whether or not a minimum of five English derivatives per root were found on a particular frequency list.

Ubiquitous word parts, like high frequency vocabulary, may assist in automaticity. Morphologically complex words appearing on the low-end of a frequency list are often more easily recognized when one considers its overall family—those derivations based on the same roots.

Prior research has demonstrated that college-level content words tend to be morphologically complex, singular in meaning, and likely to be Classical in origin. Reading is the salient skill utilized across the curriculum and often the primary means of content dissemination. Reading, in turn, is principally linked to the extent of one's vocabulary. Consequently, teaching morphologically complex vocabulary at the college preparatory level along with providing a working knowledge of morphemes can assist students toward college readiness.

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