Morphology and Vocabulary Acquisition: Using Visual Cues from Word Parts to Enhance Recall and Decode Newly Encountered Words

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An enhanced replication of an original quasi-experiment (Tom Bellomo, 2009b) was conducted to quantify the extent of long term retention of word parts and vocabulary. Such were introduced as part of a vocabulary acquisition strategy in a developmental reading course at one southeast four-year college. Aside from incorporating changes to the test instrument, creating a course-specific workbook, and including more detailed demographics, the emphasis of this present study was on measuring student recall of instructed items—months after the conclusion of the course. Robust results, though generalized solely to this convenience sample, warrant further investigation by those interested in strengthening students' college reading readiness.

Background

In education in general, and higher education in particular, reading is the salient skill used across the curriculum. In college, it is the primary means whereby content is disseminated. Reading efficacy, in turn, is chiefly linked to the extent of one's passive vocabulary knowledge (Sternberg, 1987). Instructors are fairly uniform in their belief that their students could profit from some form of vocabulary instruction, but there is less agreement as to what technique to use. Learning isolated words often results in short term retention; however, strategies that help to recall words learned and make the student an independent learner of new words are of far greater value.

One strategy I have employed that has demonstrated broad success within my developmental reading course is Morphological Analysis (MA). Morphological Analysis capitalizes on the physical

form (morph = form) of word parts that remain visually stable though phonologically altered. For example, aurally it would be difficult to discern that *sign* and *signature* are morphologically related (sīn; sĭg-n-chĕr) as the root is pronounced much differently in each. Nevertheless, the visual aspect (*sign*) is retained in both and offers a clue in reading that is not apparent in listening. Hence, English is morphophonemic, not solely phonetic. Since morphemes are by definition the smallest units of meaning, perceptive readers exploit their knowledge of these meaning units when visually recognizing them and mentally cross-referencing them with known words. As pointed out by Nagy, Berninger, and Abbott (2006), students will encounter increasingly complex words as they progress through school:

> More than half of the words in English are morphologically complex. Morphologically complex words are more common in written language (and especially academic language) than in spoken language . . . . Thus, with each grade children encounter an increasing number of morphologically complex words. The majority of these have meanings that can be inferred from the meanings of their component parts. (p. 134)

Consequently, proficient readers need strategies to help them deal with this morphological complexity. Not only does MA act as a strategy to unlock the meaning of unknown words, but directly instructed roots and affixes serve as mnemonics to assist in the recall of morphologically complex vocabulary introduced as part of the curriculum. "The fact that the mental lexicon of adult readers is morphologically organized suggests that morphological knowledge may serve as a framework to efficiently store words" (Kuo & Anderson, 2006, p. 162).

My personal experience serves as an illustration in the following anecdote. I recall coming across the word *deride* while reading a passage years ago. Context clues left the word ambiguous, so I looked up the word in a pocket dictionary and learned that it meant "to laugh at, mock." This being a relatively low frequency word, the next time I encountered it was perhaps a year or two later. Not having retained its meaning, I looked it up a second time. Some distant time after that, I came across the same word yet again and was bothered because I had failed to retain its meaning. It was similar to retaining a phone number in short-term memory just long enough to place a call—once used, the memory of it is discarded. This third time I came across the word *deride*, I referenced an unabridged dictionary that offered root etymologies. I learned that the word is comprised of the root *ridere*, to laugh; additionally, the entry went on to note that the word means "to laugh at, make fun of; ridicule." Instantly a light went on when I saw the synonym, *ridicule*. I knew what that word meant, and it was now obvious that *deride* and *ridicule* were derivations based on the same word part, *rid* (to laugh). It was the visual (morph = form) not the aural component that helped me make the connection. Seeing the morpheme *rid* in both *deride* and *ridicule* forever fastened the meaning of the former word in my mind.

Course Pedagogy

Based on my understanding of morphological analysis and its help to me personally, I developed a process for using MA with my developmental reading class. I created an original workbook to introduce word parts and vocabulary derived from those parts each week; this booklet served as the primary means of instruction. At the end of each weekly unit, the workbook included a vocabulary review in the form of sentence completion. Student responses to this homework assignment were later reviewed in class. The next homework assignment was a crossword puzzle—included in the workbook—that covered a mixture of word parts and vocabulary from the unit. At the end of each week students took a unit quiz. Beginning with the second quiz and on through the remaining quizzes, I added a review section comprising a sampling of word parts and vocabulary from each of the previous weeks. The intent was to strengthen memory links through intentional re-exposure. After five weeks of instruction (7.5 week semester), students had covered 29 prefixes, 20 suffixes, and 35 roots, which together, produced 147 distinct words they were required to learn (not including inflections or subtle derivations that change the part of speech). At the end of the semester, I administer a comprehensive final exam. Not only was this used as a summative assessment,

but it also offered a final means to deeply embed word parts and corresponding vocabulary into long-term memory.

In selecting the word parts that constituted the workbook, and hence instruction, I have identified critical criteria requisite for a successful program:

Criterion one: Stable form (the visual cue)

Word parts were taught as commonly seen in the target words. To facilitate this, no strict adherence to a morpheme's classical origin was made. The morpheme *malus* is almost exclusively written as *mal* and is visually evident across a broad spectrum of words—*malefactor, malignant, malfeasance,* and *malcontent*, so this word part, along with many others, was taught in its simplified and most prevalent written form.

Criterion two: Semantic Transparency (the meaning cue)

Words that were taught exhibited a clear parts-to-whole relationship, i.e., the morpheme's meaning was evident and offered a semantic clue in each of the target words. Note how the meaning of *ject* ('to throw') is evident in the following words—*eject* (to throw out), *reject* (to throw back), *interject* (to throw between), *projectile* (a thing thrown forward), and *trajectory* (thrown across).

Criterion three: Ubiquity (practicality)

Morphemes taught were found in a minimum of five words from the same family (see Holmes and Keffer, 1995), not mere derivations that change only the part of speech, as from *reduce* (verb) to *reduction* (noun). Why commit to memory a word part if it served to assist in the recollection of only one or two words? Consider the ubiquity of the word part *duc*, which means "to lead": *abduct, aqueduct, deduction, ductile, induce,* and *seduce.* Incidentally, note how each of these words meets the other two criteria.

Conclusion

In my experience over the years teaching vocabulary acquisition through morphological analysis, I have found this technique to be engaging and rewarding for students from many diverse backgrounds. In my developmental reading classes, I have seen students who were not keenly motivated in other aspects of the course to be quite engaged with learning vocabulary in this manner. I have been encouraged to see a number of these same students initiate the creation of their own index cards to rehearse the meanings of vocabulary and word parts in preparation for weekly quizzes. Students in general appeared to have also had a marked interest in discovering previously learned word parts in newly encountered words, or to recognize one of their stored vocabulary items in reading. When I have spoken with various students months after the course ended, they have commented on how the technique helped them in other classes, or how they were able to unlock the meaning of complex words that others in their class could not.

Typically, morphological instruction that has been unfruitful has either omitted the critical criteria set forth above, and/or a sound, sequential pedagogy that provides sufficient re-exposure throughout the course. Though previous research has empirically demonstrated end-of-semester retention gains (Bellomo, 2009), subsequent data is currently being amassed to assess the technique's efficacy regarding long-term retention.

References

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