TITLE: How Many Words Should I Teach?
A Research-in-Practice Project Investigating ABE Vocabulary

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QUESTIONS POSED:

Level 2 Communications students often do not have sufficient vocabulary to accurately express their ideas and feelings let alone vocabulary needed for an academic journey or for professional situations. Since it is partly the job of an English instructor to address this problem, I ask the question, "How can I maximize the learning and retention of vocabulary?" One variable involved in this question is the number of words students should be engaged with. This variable is explored with the question, "What is a reasonable number of vocabulary words to present to Level 2 Communications students in a five week semester?" To explore this, I set a baseline with the first group of learners then sought to determine whether increasing the number of words from the baseline group to the experimental group would allow students to perform just as well with a larger vocabulary list.

In brief: "What is the reasonable number of words I should present for Level 2 Communications?"

FINDINGS:

To answer the question posed: "What is the reasonable number of words I should present for Level 2 Communications?" a number of relevant factors need consideration, but in the context of this study, **five words per day was more appropriate than ten,** primarily due to time available and the relative importance assigned to vocabulary as compared against the importance of other aspects of the course.

Significantly, students in both groups—the baseline group and the experimental group—increased their scores on the vocabulary tests after they studied their words during the semester, but the second group with more words increased their scores

to a lesser degree. In other words, **doubling the number of words for which students were responsible did not double the number of words learned**. However, even though the rate of performance was significantly poorer for the group with the larger vocabulary list, that group still learned more words overall because the pool of words to be learned was larger.

Background to the Study:

This investigation occurred within an ABE Level 2 Communications classroom context with 10 to 20 students enrolled per five-week semester. The usual instructional and evaluation strategies for vocabulary acquisition include the use of print and online dictionaries, internet searches for pictures to represent new words, student presentations to classmates on word meanings and usage, and written assignments and tests to demonstrate skills.

In each semester, students choose a novel: either *Melanie Bluelake's Dream* or the novel, *Crabbe*. One novel requires 114 words to be understood and used during the semester, and the other requires 120 words. Learners are exposed to these words multiple times. They encounter the words:

- when they read the novel,
- when they complete the assignments for each chapter,
- when we discuss the answers to the assignments,
- when we play bingo to review the words,
- when we review for the exam,
- when they write the exam.

Baseline:

For this study, students saw 40 of the words from the novel at least three times in addition to the exposures listed above. Students wrote a multiple choice pretest before the course began, a post-test at the end to measure learning, and a test five weeks after they completed the class to assess retention. These three tests were identical, but students were not given the answers after writing them, so they could not simply memorize the right answers for the next writing. The baseline for this study was established using the scores from the multiple choice pretests and posttests.

Intervention: Two Study Groups

After establishing the baseline in the spring of 2009 with 21 of the study's 44 participants, I continued with the *experimental portion* of the study in the fall of 2009 and winter of 2010 with the second group of 23 participants. While the baseline group was responsible for learning the words from a single novel, the second group was asked to learn the vocabulary for both novels, therefore approximately doubling the number of required words to 234. On average, the baseline group was responsible for knowing about five additional words per day, and the experimental group learned ten. My regular teaching approach described above was used for both groups.

The purpose of the study was to determine whether increasing the number of words would allow students to perform just as well with a larger vocabulary list. The pretests and posttests directly evaluated the learning of the vocabulary, and final marks for the course helped indicate whether increased vocabulary learning occurred at the expense of other parts of the course.

OUTCOMES:

Students in the baseline group who were responsible for vocabulary words for only one novel increased their posttest scores by 49% (approximately 57 words). After five weeks, the increase had dropped to 45% (53 words), indicating that more than 90% of the meanings of the learned words were still retained after five weeks.

Students in the experimental group who were responsible for the 234 words in both novels increased the number of words learned by 38% (89 words). After five weeks, the increase had dropped to 28% (66 words), indicating that approximately 74% of the learned words were retained.

Students in the experimental group were responsible for words from both novels, but they read only one novel, so the data were divided into two sections, one for the words from the novel they read (primary list) and another for the words from the novel they did not read (secondary list). The results showed an increase in the number of words learned from the primary list of 41% (96 words) and from the secondary list by 33% (77 words). After five weeks, the increases dropped to 30% (70 words) and 28% (66 words) respectively for these two lists.

In all cases, words that are considered to be 'not learned' are a combination of words the students already knew on the pretests (these were excluded from the

data) and those the students tried to learn but were unable to demonstrate understanding on the posttests.

These results are summarized in the tables below:

Upon conclusion of the course

	110 words (1 novel)	220 words (2 novels)		
		Primary list	Secondary list	Combined primary and secondary lists
% increase in number of words learned	49%	41%	33%	38%
Number of words learned	57	96	77	89

Five weeks after conclusion of course

	110 words (1 novel)	220 words (2 novels)		
		Primary list	Secondary list	Combined primary and secondary lists
% increase in number of words learned	45%	30%	28%	28%
Number of words learned	53	70	66	66

On a graph where number of words actually learned is shown as the dependent variable plotted against the number of words required to be learned, two data points could be plotted: (110 words available, 54 words learned) and (220 words available, 84 words learned). These points would be consistent with a logarithmic graph showing the law of diminishing returns.

Finally, the course averages for the participating students were calculated. These averages, which include a 25% vocabulary component, were 77% for the baseline group and 76% for the experimental group.

Reflection:

(i) Small vs. large vocabulary lists

Students in both groups increased their scores on the vocabulary tests after they studied their words during the semester, but the group with more words increased their scores to a lesser degree. In other words, **doubling the number of words for which students were responsible did not double the number of words learned**. Even though the rate of performance was significantly poorer for the group with the larger vocabulary list, that group still learned more words because the pool of words to be learned was larger.

(ii) Vocabulary Retention

Students forget some of the word meanings over time as indicated by the decreased scores on the final posttest five weeks after the conclusion of the course. What is surprising is the high rate of retention (over 90%) in the group with the smaller number of words even after five weeks. Only four words were lost (57 – 53 = 4). Also surprising is that for the group with the larger number of words, the loss of words is substantial: 23 words were lost after five weeks. When the vocabulary list was doubled, the number of words lost after five weeks increased by almost a factor of six.

(iii) Reading words in context

The number of words learned from the secondary list was 20% lower than for the primary list at the completion of the course (96 words – 20% = 77 words). This significant difference might be explained several ways. First, students chose the book they wished to read, so they may have been more interested in the vocabulary taken from that book. Also, they were exposed to the words in the secondary list less often because they did not read a novel with those words and were not required to do assignments containing those words. They learned them through class discussions and reviews only. This 20% gap suggests that reading words in context and doing assignments that focus on those words is a more effect strategy for teaching students than relying solely on review games and class discussions/notes, although this 20% difference nearly disappeared after the five week delay.

(iv) Other aspects of the course

Since the course averages for the baseline and experimental groups were nearly identical (77% and 76% respectively), it appears that increasing vocabulary

requirements had no effect on performance on other aspects of the course, such as completion of non-fiction assignments and literary elements questions.

However, even though overall course grades were not compromised by the increase in vocabulary expectations, fewer non-vocabulary learning activities were able to be completed during the semester due to lack of time. To allot time for an increased number of words using the activities outlined above (BINGO, reviews, etc.), the instructor in this particular study needed to reduce the learning in other areas for the experimental group. Any instructor would need to balance the benefits of teaching extra vocabulary with the time required for teaching those words and reflect on the question, "Would the ever-diminishing rate of words learned as time invested in vocabulary is increased be worth the sacrifice to other aspects of learning?"

Finally, "What is the reasonable number of words I should present for Level 2 Communications?" This project *suggests* that students learn more vocabulary when ten words per day are presented and that these words are learned better when derived from a novel that they have read. *However, limits of time, poorer student retention for larger lists, and particularly the necessary concomitant diminishing of focus on other skills required for the course lead me to recommend approximately five words per day* (rather than increasing to ten words per day) for a context such as mine.

Further Study:

While this study relied on a substantial number of pretest and posttest questions (more than 6500), it examined only two sizes of vocabulary lists. Further studies might be done to examine learning and retention with other numbers of words. Rate of learning (number of words introduced per day) and length of retention beyond five weeks might also be investigated. Finally, replication of this study would be important to further validate the results outlined.