Chapter 5

DISCUSSION

Introduction

The purpose of this endeavor was to conduct an investigation that made a comparison of two different means of studying vocabulary for long-term memory acquisition. The goal was to collect data that allowed the researcher to make defensible conclusions about this comparison. The discussion that follows describes the arrived upon conclusions.

Research Question

The research question at the beginning of this document asked:

Does a study strategy consisting of a greater proportion of testing activities (retrieval attempts) produce significantly greater longer-term retention of definition/vocabulary word pairings than a study strategy consisting of a greater portion of visually-based study activities (instances of review) when employed by high school students?

While there was a small difference in the means of the Delayed Retrieve over the Delayed Review condition the lack of statistical significance in the analyses requires this question to be answered in the negative.

Hypotheses

Two research hypotheses were put forth at the beginning of this document. These hypotheses must be evaluated based on the data resulting from the investigation.

Hₒ: One week after the initial baseline assessment, the experimental treatments, and the post-assessment a final assessment will show no significant difference between
the number of word-definition pairings retained as a result of a retrieval-intensive strategy and those retained as a result of a review-intensive strategy.

The results of this investigation did not detect a significant effect and failed to disprove the null hypothesis.

H₁: One week after the initial baseline assessment, the experimental treatments, and the post-assessment a final assessment will show a significant difference between the number of word-definition pairings retained as a result of a retrieval-intensive strategy and those retained as a result of a review-intensive strategy.

The results of this investigation did not detect a significant effect and failed to confirm the H₁ hypothesis.

Summary

As seen in Figure 5.1, the means produced in the analysis of the collected data indicate a minor difference between the scores on the words that received the Retrieve treatment over the Review treatment. At the assessment immediately following the treatments, the Review treatment words were actually slightly higher than the scores on the Retrieve treatment words. After the seven day waiting period elapsed, however, the scores for the words receiving the Retrieve treatment were slightly higher than the scores on the Review treatment words.
Figure 5.1 Graph of Treatment Conditions.

At first glance these minor differences might be actually thought to be in line with what might have been expected when the results of the Roediger and Karpicke study are considered. That study identified elevated means for the Review treatment words in
the immediate assessment which then fell below the scores of the Retrieve treatment in the assessment after the extended. The difference, however, was that in the case of the Roediger and Karpicke study the findings were pronounced, were statistically significant, and were not merely barely noticeable. The error bars in Figure 5.1 show the data’s large standard deviations and therefore reveal that it would be foolish to presume that an actual significant difference between the Retrieve and Review means has been detected.

As constructed and conducted, this research study produces defensible conclusions, but not conclusions that support the original premise of the researcher’s proposal.