

Optimum Study Strategies

Overview

Simpson (1984) reported that a majority of college freshmen lack the study skills necessary for successful learning from textbooks and tend not to exhibit effective awareness of optimal study strategies. The bias among students and faculty seems to be to use additional learning time for restudying to-be-learned material. Recently, several researchers (e.g., Roediger & Karpicke, 2006) have argued that students tend to underestimate the power of testing for enhancing learning. Although testing is generally seen as a method of assessment, Roediger and Karpicke presented impressive evidence revealing that testing can have a strong effect on memory for the material. After reading a short article, their participants either reread the article a second time (for five min) or tried to free recall the contents of the article (for five min). A final free recall test was then given. When the final test was given after five min, participants in the reread condition performed slightly better than those in the testing condition; however, if the final test was given after either two days or one week then participants who had been previously tested on the material performed significantly better than those who had only read the material (see also Dunlosky & Nelson, 1992). These results suggest that it would be helpful for memory to introduce some testing into your studying.

References

- Dunlosky, J. & Nelson, T.O. (1992). Importance of the kind of cue for judgments of learning and the delayed-JOL effect. *Memory & Cognition*, 20, 374-380.
- Roediger, H.L. & Karpicke, J.D. (2006). Test-enhanced learning: Taking memory tests improves long-term retention. *Psychological Science*, 17, 249-255.
- Simpson, M.L. (1984). The status of study strategy instruction: Implications for classroom teachers. *Journal of Reading*, 28, 136-142.

Purpose

The purpose of this lab is to determine whether adding testing to the reading of an article improves long-term retention of that article.

Procedure

At the first lab, we had you study one passage for 5 min and then study it again. We also had you read another passage for 5 min and then test your memory for 5 min (by recalling as much of it as you could). One week later, we had you take a test on each article. Our dependent measures were (1) your ratings of how well you had learned each article and (2) the number of correct items for each article.

Requirements and/or Questions

1. Using the data from the entire class, list the mean and standard deviation for each of the two conditions and for each of the two measures.

Number of correct answers

Study, Study Study, Test

Mean _____ _____
Standard
Deviation _____ _____

Rating of amount learned

Study, Study Study, Test

Mean _____ _____
Standard
Deviation _____ _____

2. For analyzing the **number of correct answers** measure

- a. state the design, statistical test, and SPSS procedure.

Design _____

Statistical Test _____

SPSS Procedure _____

- b. Perform the appropriate statistical test to determine whether there is a significant difference between the study/study and the study/test conditions in the **number of correct answers**. Report the results of this statistical test as you would in the “Results” section of a paper. (Turn in your data sheet along with your output.)

- c. Create a bar graph (using APA guidelines) that captures the means of the two conditions (use the number of correct answers measure).

3. For analyzing the **ratings of amount learned** measure

- a. State the design, statistical test, and SPSS procedure.

Design _____

Statistical Test _____

SPSS Procedure _____

- b. Perform the appropriate statistical test to determine whether there is a significant difference between the study/study and the study/test conditions in the **ratings of the amount learned**. Report the results of this statistical test as you would in the “Results” section of a paper. (Turn in your data sheet along with your output.)

4. If testing increased memory for the article, suggest two reasons for why it was beneficial for learning. If testing did not increase memory, suggest two reasons for why it did not improve memory.

5. Which measure of learning/memory (number of correct answers, rating of amount learned) is the better measure? Why?

6. In this experiment, you read two passages (Sun and Sea Otters) and you read one first and one second. Half of you read the Sun passage first and half read the Sea Otters passage first, but everyone read the first passage using the study/study strategy and the second passage using the study/test strategy. Is this the ideal method? How would you improve on this design?

7. Do you plan to adopt a self-testing strategy for your textbook reading? Explain why or why not?
