

ABSTRACT

THESIS: Effects of Study Time and Levels of Processing on Test Performance

STUDENT: Zachary Cole

DEGREE: Master of Arts

COLLEGE: Sciences and Humanities

DATE: May 2016

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Increased study time and deeper levels of understanding lead to improved test performance. Some research has suggested that deeper levels of processing were a consequence of increased study time, which led to improved test performance. However, educational research suggests that study strategy is more indicative of academic performance than study time. Two experiments were conducted in order to disentangle the effects of study time and study strategy on test performance. For both experiments, participants read an article, were randomly assigned to study elaboration or memorization flashcards, and took a test. In Experiment 1, study time was not controlled. Experiment 2 followed the same procedure as Experiment 1, except participants were randomly assigned to study for 7.5 or 15 minutes. For Experiment 1, the elaboration group studied longer ($t(68) = 2.06, p = .046, \text{Cohen's } d = .44$), but spent less time than the memorization group processing the study material ($t(68) = 3.04, p = .003, \text{Cohen's } d = .73$). The elaboration and memorization groups scored better on the test than the control group ($\chi^2(2, N = 97) = 23.71, p < .001, \text{Cramer's } V = .25$). For Experiment 2, the extended study group scored better than the brief study group ($F(1, 119) = 7.62, p = .006, \eta^2_p = .06$), and the elaboration group scored better than the memorization group ($F(1, 119) = 16.25, p < .001, \eta^2_p = .12$). These results were supported when the test scores were adjusted for the number of words in the study materials. These findings suggest that study time and study strategy acted independently to affect test performance. Additionally, the effect of total time appeared to be nullified when processing time was not controlled.