Using Tests to Promote Retention of Information Acquired While Watching a Video

Rachel A. Rogers, Victor A. Benassi, Center for Excellence in Teaching and Learning, UNH and Gary S. Goldstein, Division of Social Sciences, UNH Manchester

Background

Tests assess students’ knowledge of course-related material. They also promote long-term retention of that knowledge and reduce forgetting, a finding referred to as the testing effect.

Is there a difference on final test performance between participants given an initial test and those who are given additional study time instead of a test?

Two theories make different predictions (4):

Amount of Processing Approach: Testing effect occurs because people who take a test after being exposed to the to-be-learned material simply spend more study time on the material than people who only take the final test.

Retrieval Approach: Testing effect occurs because the testing serves to “reactivate and operate on memory traces either by elaborating mnemonic representations or by creating multiple retrieval routes to them.”

Participants:

Forty-five students enrolled in lower-division undergraduate psychology courses.

Method:

Procedure:

Students watched a video on judgment and decision making in a classroom and worked on a distraction task for 5 minutes.

Three conditions:

Quiz condition: students completed an initial cued recall and recognition test on the video content. They received no feedback on their test performance.

Study condition: students read through a study sheet that included the same content as the initial test, but the answers to the questions were provided as part of the text.

Control condition: students did not take an initial test or read the study sheet.

Students returned 2 days later and completed a cued recall and recognition test.

Results:

Cued Recall Test
Percent correct responses on the final test differed across conditions.

- Students in the quiz condition performed better than students in the no-quiz condition.
- Students who were provided a study sheet performed better on the final test than students in the no-quiz condition.
- Students performed better in the quiz condition than students in the study condition.

Recognition Test (Multiple Choice)
Percent correct responses on the final test differed across conditions:

- Students in the quiz condition performed better than students in the no-quiz condition.
- Students who were provided a study sheet performed better on the final test than students in the no-quiz condition.
- Students’ performance in the quiz and study conditions did not significantly differ.

Conclusions & Implications:

- Replicated the testing effect using video stimulus material (1).
- Students who studied a review sheet after watching the video scored better on the final retention test than students in the control condition (1, 2, 3).
- Re-exposure to material does not produce the same long-term retention benefits as taking a test shortly after exposure to the to-be-learned material (1, 2, 3, & 4).
- The benefits afforded by testing students shortly after watching a video are restricted to items that they had successfully retrieved on the quiz (5). (Results not shown here)
- Giving a test shortly after watching the video promotes long-term retention even when no performance feedback is given and when students are not given opportunity for further study (4)

This work is made possible by a grant from the Davis Educational Foundation.

The Foundation was established by Stanton and Elisabeth Davis after Mr. Davis’s retirement as chairman of Shaw’s Supermarkets, Inc.
References


Contact Information

Send correspondence regarding the Cognition Toolbox to Victor Benassi, *Victor.Benassi@unh.edu*; or call 603-862-3180.