

# A RATIONALE FOR REPLACING HIGH STAKES EXAMS WITH MULTIPLE-ATTEMPT LOW-STAKES QUIZZES

## Why It Works

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The “testing effect”, in which students recall more information about a topic after testing than after re-reading the material, was first reported by Abbott in 1909. Subsequent studies have confirmed that repeated testing is an effective way for students to recall material (see Roediger and Karpicke, 2018 for an overview of the literature). In 2006, Roediger and Karpicke compared student recall of the information in a short essay among students who re-read the passage multiple times and/or answered short-answer questions about the essay. Studying by re-reading the passage benefited students who took a test about the material five minutes later. However, these students recalled significantly less after one week than did those who read the essay one time and took short-answer tests without feedback three times.

This and other studies raise some questions about common teaching and assessment strategies:

1. In a traditionally structured course, where students’ grades are determined by performance on 3 or 4 exams, is student output demonstrative of deep, long-term knowledge?
2. Are comprehensive end-of-semester exams “weeding out” students who have been given poor advice by instructors, advisors, and tutors to simply re-read their notes and texts?
3. Can we shift the onus of learning from being a “good student” to the instructor by encouraging the use of low-stakes repeated testing rather than occasional high-stakes exams?
4. If instructors provide learning activities and assessments that encourage long-term recall, might they begin to see other improvements in student performance?
5. Might repeated testing be used as a strategy to mediate the negative effects of grading?

Variations for using this type of online quizzing abound. Recommended quiz settings include:

- Pulling quiz questions from a pool to discourage students from memorizing the answer pattern
- Randomizing question order and answer order
- Creating unique questions or modifying those provided by publishers
- Applying a time limit to the quiz that precludes students from looking up most of the answers before the time runs out (the quizzes are open book, but the time limit forces students to be familiar with the material)
- Leaving the quiz open to students for a finite period of time (48 hours, one week, the duration of the unit)
- Indicating which questions have answered correctly or incorrectly
- Allowing an unlimited number of attempts on the quiz

Record the student’s highest grade on the repeated quiz.

## Blackboard Settings

Use the following settings:

- Set timer (one minute per question unless the questions are difficult enough to merit additional time)
- Choose Auto Submit, not Forced Submission
- Allow unlimited attempts
- Do not allow backtracking
- Show one question at a time
- Record the highest score
- Show all answers and incorrect answers
- Extend the time limit for students with accommodations by using the Exceptions feature.

## Additional Notes

You can create this type of quiz using essay questions, as well. Blackboard will not be able to grade for you; however, students could compare their answers to sample responses provided in the feedback portion of the quiz and self-evaluate their preparedness. Benassi, et al. (2014), found that “preceding a multiple question with a[n ungraded] recall question on the same topic boosts performance on a major exam compared to questions that were quizzed with only multiple choice questions” (summary statement from notes to the author of this document on June 6, 2019).

## References

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*Note: The 2018 overview of Roediger and Karpicke’s research (Reflections on the Resurgence on Interest in the Testing Effect) is a good starting point if you wish to learn more about the testing effect.*