

Proposal ID: 0809-053

***Are Essays Superior to Multiple-Choice Tests
in Promoting Learning & Retention?***

This study seeks to test the time-honored belief that ‘assessment drives learning’. More specifically, the purpose of the present study is to identify whether medical students’ study strategies are influenced by the type of test that they expect to receive. Secondly, the study seeks to measure whether the type of test that students prepare for and complete makes a difference in terms of retention of information and application to clinical performance.

A total of fifty-six students will be recruited to participate in this study after their first year of medical education at Case Western Reserve University School of Medicine. Prior to receiving instruction in case-based learning activities, half the students will be instructed to prepare for an assessment consisting of a free response essay question test and the other half will be instructed to prepare for a multiple choice question test. The tests will be administered after a 10-day study period and each test will assess the outcomes of the learning activities. Half (n=28) the students will receive the test for which they prepared and half the students receive the test for which they did not prepare. Following the test, students will receive answers to the test which they completed and spend as much time reviewing the answers as they need while in the classroom. Three months later, students’ knowledge and retention as well as application of the concepts learned will be assessed in the clinical setting (using standardized patients). Insofar as students adapt their study strategies to the anticipated format of test, one might expect that taking the test for which students prepared would increase performance on that type of measure, but not on the test of the alternate type. It also seems reasonable that students preparing for a multiple-choice test may attempt to study in a manner that will enable them to recognize the correct answer from among a list of alternatives whereas students preparing for an essay test may focus on storing material in long-term memory for retrieval (rather than recognition). If students store material in long-term memory differently as a function of the format of the test, students’ abilities to retrieve and apply the information after a considerable lapse of time may also differ.

This study contributes to our understanding of assessment theory and will enable medical educators to recognize and identify the benefits of choosing one format of assessment over another, if, in fact, differences between them may be found. This study identifies best practices in testing medical students to become competent doctors. Competent doctors provide effective care. This study identifies whether testing methods influence learning and retention of medical information and whether essay examinations are superior to multiple choice tests in promoting more desirable study methods and higher performance on tasks requiring organization and deeper comprehension and analysis of information.

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HYPOTHESIS OR RESEARCH QUESTIONS

1. When compared to students who prepared for a multiple choice examination, do students who studied for an essay examination score higher on a standardized patient based exam requiring application of the concepts learned to clinical problems?
2. When compared to students who prepared for a multiple choice examination, do students who studied for an essay examination adopt different study strategies?