

Wisconsin Teaching Fellow Final Report – John Colton, UW-La Crosse

Abstract

Exams can be given in many different formats or styles, such as open-notes, closed-notes, note-sheet permitted, etc. This project was to focus on how two styles—closed-notes vs. a one-page note-sheet—affected students' study habits, stress, learning, and retention in a sophomore/junior level physics class at UW-La Crosse.

To do this, students were divided into two groups: one group took the first exam closed-notes and the second with a note-sheet. The other group took the first exam with a note-sheet and the second exam closed-notes. The experiment was performed in this fashion to eliminate apparent differences that could arise from e.g. the second exam being more difficult than the first exam. The groups were surveyed after each exam to find out how they had studied, how they felt they had done on the exam (and why), their anxiety level prior to the exam, anticipated retention of the material, and attentiveness during lectures. Differences between closed-notes and note-sheet groups were analyzed via chi-square tests to see which if any survey responses were statistically different between the two groups. Additionally, students were allowed to make open-ended comments on their experiences and opinions.

The survey results showed that:

- The students taking the exam closed-notes studied more than the students taking the exam with a note-sheet.
- The students in general prepared for the two exams the same way, with the exception of making the note-sheet when permitted.
- There was some indication that students preparing for the closed-note exam spent more time doing homework and were more attentive in class, although these effects were not large enough as to be unambiguous.
- Students did not in general score better on the note-sheet exam, contradicting many students' expectations.
- Regardless of exam style, the vast majority of students felt like their exam score did not accurately their ability—but there was no indication that one style produced a larger adverse effect than the other.
- There was no indication that students' anxiety level lowered their exam score in the closed-note exam more than in the note-sheet exam.
- Students' estimate of their own retention did not favor one exam style over the other, contradicting many students' expectations.