

Improving Student Learning by Teaching Note-Taking and Study Skills

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Since 2003 I have been developing a new technique to help students in an introductory, non-majors class (General Biology, 60 students per section) be more effective at taking notes and studying. Initially I had been using this technique on an individual basis with students that were underperforming (D/F) in the class. As I tracked the progress of these students (compared to other students), I observed an average increase of over 20 points (out of 100) on their future exam scores and an increase of 1-2 letter grades in the class. These results led to the following SoTL research questions:

- 1. Can teaching an entire class how to take notes and how to study improve student learning?*
- 2. Can a strategy for taking notes and studying that improves learning for individual students, improve the learning for an entire class?*

This study examined how teaching students to take notes and study affected student learning and course performance in an introductory course for non-majors that involves understanding diverse content and the concepts that tie them all together. The project involved 5 lecture sections from 2003-06 when techniques were taught to individual students, but not the whole class, and 3 lecture sections from 2006-07 when techniques were taught to the entire class. Early in the semester during class time, students from the latter 3 sections were taught a new technique for taking dynamic notes and active studying. After each exam students filled out a survey form regarding their study habits and use of the techniques. After each semester, survey responses were paired with the appropriate student exam score(s) for analysis. Individual exam scores and course performance were compared between those students that used the new approaches and those that did not. Additionally, overall course performance was compared between the 3 course sections when students were taught the new approaches and those 5 previous sections when they were not.

A 90% survey response rate revealed that use of the techniques was highly variable and more than 60% of students only used portions or certain aspects of the techniques when taught to them in a classroom setting. Of the 25% who strictly followed the techniques, most were inclined to use the note-taking skills versus those for studying. While students that used the note-taking techniques had higher overall course performance, there were no significant differences among students using all, some, or none of the study skills. However, when sections taught the techniques were compared to the previous sections not taught the techniques significant differences emerged. Average exam scores and overall course grades were significantly higher for students taught the techniques versus those that were not. There were also significantly fewer students that scored less than 80% on exams when the techniques were taught to the class.

This project suggests that when note-taking and studying techniques are used on an individual basis with underachieving students, learning is improved. However, when taught to the entire class, use of the techniques is highly variable among students, and most students do not follow them rigorously. Regardless, teaching note-taking and studying techniques to an entire class, does appear to reduce the overall number of underachieving students and improves overall course performance.