

Evaluation of Note Taking Method on Academic Performance in Undergraduate Animal Science Courses

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Abstract

The objective of this study was to evaluate the effect of note taking method on academic performance and attendance in undergraduate animal science courses. During year 1 of the study, students were provided with an outline of material presented in lecture. In year 2, students were provided with a detailed set of notes. Final course grade and attendance data were collected on 814 students. Note taking method data were collected on a subsample of 160 students. Least squares means for final course grades and number of absences were calculated using the mixed procedure of SAS. There was no difference in mean final course grade or mean number of absences between years 1 and 2 for the general population of students. Within the sample group, there was no difference in mean number of absences between the two note taking methods, but a significant difference in mean final course grade existed. Students that were provided with only an outline of the material had a higher ($P < 0.05$) mean final course grade (83.70) than students that were provided a detailed set of notes (80.45). Students provided with only an outline of course material performed at a higher level than students that were provided with a detailed set of notes.

Introduction

Many books and articles on how to succeed in college emphasize the importance of taking good lecture notes. Research on note taking indicates that taking notes in class and reviewing those notes has a positive impact on student learning. Students recall more lecture material if they record it in their notes (Bligh, 2000) and students that take notes score higher on both immediate and

delayed tests of recall than students that do not take notes (Kiewra et al., 1991). Considering the importance of note taking to student success, it is problematic that student notes are often incomplete and inadequate. Research indicates that students fail to record approximately 40% of the important points in a typical lecture (Hartley and Cameron, 1967; Howe, 1970).

Faculty can employ several practices to help students record higher quality, more accurate notes. These practices include: 1) pacing, 2) pausing, 3) providing visual or verbal cues and 4) providing handouts, outlines, or distributing the instructor's notes (DeZure et al., 2001). This study focused on the last two practices in the list, providing outlines of the lecture material and distributing a copy of the instructor's notes to students. Providing a copy of the instructor's notes does raise a concern about student attendance. If students are provided with a copy of the instructor's notes, then students will have little incentive to attend class. To address this concern, instructors could: 1) make the notes skeletal enough that students still need to be present in class in order for the notes to be useful, 2) provide activities or application of the material in class that cannot be reflected in simple written form, 3) document the importance of attendance on exam performance and convey that information to the students, or 4) simply require class attendance (DeZure et al., 2001).

The objective of this study was to evaluate the effect of note taking method on academic performance and attendance in undergraduate animal science courses after providing students with either outlines of lecture material or a complete detailed set of lecture notes.

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Material and Methods

This study was conducted during the 16-week fall semesters of two consecutive years. During the first year of the study, students were provided with an outline of material presented in lecture. The notes provided required students to attend class in order to record the necessary information to have a complete set of notes. In the second year, students were provided with a detailed set of notes that contained all written material utilized by the instructor. Students were not required to attend class as class attendance was not a component of the students' final course grade. However, the incentive to attend class was to gain further explanation, discussion and application of the material being presented. Final course grade and attendance data were collected on 814 undergraduate students enrolled in animal science courses. Note taking method data were collected on a subsample of 160 students that were enrolled in four upper level animal science courses. All courses were taught by the same instructor, respectively, in years 1 and 2. All graded material was similar within each respective course between the two years. Least squares means for final course grades and number of absences were calculated using the mixed procedure of SAS with means separated using the DIFF option.

Results and Discussion

Analysis of the data revealed that there was no difference in mean final course grade or mean number of absences for the general population of students enrolled in animal science classes between the two years (Table 1). Considering this information, the authors assumed that there was no significant difference in the academic ability or attendance behavior of students between the two years of the study and the differences observed in the test sample were due to the differences in the type of notes provided to the students. In this study, there was no difference in mean number of absences between the two note taking methods. As mentioned previously, there was a concern that providing a detailed set of notes to the students would result in an increase in absenteeism. However, attendance was actually better (numerically) when a detailed set of notes was provided. There was a significant difference in mean final course grade between the note taking methods. Students that were provided with only an outline of the material had a higher ($P<0.05$) mean final course grade (83.70) than students that were provided with a detailed set of notes (80.45). The most likely explanation for this is that students provided with only an outline of the material were forced to record additional information and were more focused on the material being presented. It is important

to note that the note taking action itself is part of the memorization process. It is likely that students who had actually written the information in their notes rather than just reading the notes while studying were better able to recall the information during exams resulting in higher exam scores.

Table 1. Least squares means for final course grade and number of absences for the general population of students enrolled in animal science courses and the subsample of students evaluated on note taking method by year and note taking method

	Mean final course grade	Mean number of absences
General population		
Year 1	83.35	3.73
Year 2	83.94	3.01
Note taking method		
Detailed notes	80.45 ^a	3.72
Outline of notes	83.70 ^b	3.94

^{a,b} Means within a column and category without a common superscript differ $P<0.05$

Summary

The results of this study indicate that students who were provided with only an outline of course material and took a more active role in learning by taking additional notes, performed at a higher level than students that were provided with a detailed set of notes. Both methods were effective and resulted in acceptable final course grades, however, students provided with only an outline of the lecture material had significantly higher final course grades. The authors recommend providing an outline or incomplete set of notes to students to ensure that students are aware of the most important points of the lecture material and to ensure that students take an active role in recording and learning the information. As a result, students should be more able to recall information during exams.

Literature Cited

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