A Note-Taking Strategy For Introduction Soil Science Lectures

K.A. Barbarick

Abstract

The three general types of note-taking strategies for lecture courses are blanket notes, structured outlines, or traditional narrative. The use of detailed course objectives can influence the effectness of the lecture presentation and the type of note-taking. The structured outline approach along with detailed course objectives has been used in Introductory Soil Science at Colorado State University for about four years. Consequently, the objective of this study was to determine the student's perception of the effectiveness of this note-taking strategy as well as the usefulness of the detailed objectives. A three-statement mid-term evaluation which provided for comments and a final course evaluation was conducted. Results indicated that the majority of the students felt that the structured outline approach and the use of objectives were helpful. Individual comments indicated that this strategy allowed students to better organize their notes for study and to know what they were expected to learn. Based on the students' response, Introductory Soil Science will continue to be presented with a structured outline and detailed objectives.

Lecture notes are generally used for clarification, keys to thought processes, study guides, and reference material. How effective the notes are in achieving these goals is often dictated by the note-taking strategy.

Generally, three types of note-taking alternatives are used. The first approach is to use blanket notes: a student begins with a blank page, judges what information from the lecture is important, and then writes it down. This is probably the most commonly used note-taking strategy. The second method is called "structured notes." This technique involves the completion of information on printed outlines (eg. fill in the blanks). This method helps to indicate what information is important and allows all students to obtain a similar set of notes. It has been used for Introductory Soil Science by Sabey (1978) and Barbarick (1981). The third technique is called the "traditional narrative" or "completed notes." This represents a completed publication of the notes that are distributed to the students. The lecturer may use the handouts to highlight sequences or add examples. Detailed diagrams and tables are precisely presented. The lecturer, however, must be wary of just reading the handouts to the class.

Detailed course objectives could also improve the effectiveness of the learning process. If the proper verbs are used to develop objectives, then student response can be quantified (Alexander and Abedor, 1971; Mager, 1975). Barbarick (1980) has indicated that other advantages provided by objectives are that they inform students about what they should learn, organize the presentation in the course, improve exam preparation, improve the attitude of the students, and encourage students to progress to higher levels of Bloom's taxonomy of educational objectives (1956). Two of the disadvantages to consider are that a large number of objectives may be needed to cover thoroughly the material and that the preparation of good objectives requires a great deal of time and effort (Barbarick, 1980).

A structured outline and detailed objectives have been used in Introductory Soil Science (Ag 240) at Colorado State University for about six years. The objective of this study, therefore, was to determine the students' perception of the effectiveness of the structured outline and the course objectives.

Methods

Introductory Soil Science at Colorado State University usually has between 130 and 250 students enrolled each semester of the academic year. It is a required course for over 40 majors on campus. As shown in Table 1, most of the students are in agriculture or forestry and natural resources and most are sophomores and juniors.

A spiral-bound structured outline (Barbarick, 1981) has been used as the note-taking strategy in Introductory Soil Science at Colorado State University for about four years. Objectives were provided at the beginning of each section of the outline (eg. each subject matter area). A total of between 200 and 250 objectives were used to cover 23 subject matter areas.

To judge the effectiveness of this approach, a mid-term evaluation that presented three statements plus room for individual comments was given in Fall semester, 1982. The students were asked to respond if they strongly agreed, agreed, were neutral, disagreed, or strongly disagreed with each statement. Results from certain statements presented in the regular year-end course evaluation (Student Reaction Profile) were also

Table 1. College and Year of Study for the Students Responding to the Final Course Evaluation for Introductory Soil Science for Fall Semester, 1982.

College	Number	Year of study	Number
Forestry and Natural Resources	76	Freshman	0
Agricultural Sciences	51	Sophomore	74
Natural Sciences	8	Junior	40
Arts, Humanities and Social Sciences	2	Senior	21
		Graduate	4
Veterinary Medicine and Biomedical Sciences	2	Other	4
Continuing Education	4		

Barbarick is an associate professor in the Department of Agronomy at Colorado State University, Fort Collins, CO 80523.

scrutinized to determine the students' perception of the desirability of the structured outline and course objectives. Possible responses to these statements were excellent, good, average, weak, and poor.

Results and Discussion

Table 2 provides the results of the mid-term evaluation. About 95 percent of the students stated that they strongly agreed or agreed that the objectives had been helpful. Individual comments generally mentioned that the objectives helped organize their study habits and indicated what material they should learn. Over 97 percent of the respondees strongly agreed or agreed that the structured lecture note outline had been useful, while over 87 percent strongly agreed or agreed that they essentially preferred the structured outline to the blanket note approach. Individual comments for these two statements were generally very positive and included statements that indicated the students could more effectively listen to the lecture and think about the material as it was presented.

Selected responses from the course evaluation given at the end of the semester are provided in Table 3. For the establishment and achievement of objectives, the responses in the excellent plus good categories were 96 and 98 percent, respectively. An indirect indication of the students' feeling about the structured outline was that for the organization and presentation of the course, 97 and 91 percent, respectively, responded with an excellent or good rating. Since the students perceived that the lecture approach and objectives were positive, this probably contributed directly to the predominance of excellent or good ratings for the instructor (97 percent) and the course (90 percent).

The Introductory Soil Science students from Fall, 1982, responded very positively in both a mid-term and final evaluation on the use of a structured outline and detailed course objectives. Individual comments showed that the students felt that with this approach, they knew what was expected of them and what material they should be learning. Based on these responses, Introductory Soil Science will continue to be presented with a structured outline and detailed course objectives.

Table 2. Responses Concerning the Use of Objectives and a Structured Outline in Introductory Soil Science (Ag 240) at the Mid-Term of Fall Semester, 1982.

Statement	Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree
		------ Number -------			
The objectives have been helpful	84	51	5	2	0
Using a structured outline for the lecture notes has been useful	91	47	3	1	0
I prefer the structured outline approach we use in Ag 240 to my deciding what notes I should take	82	42	12	6	0

This evaluation was given at the end of the eighth week of instruction. There were 142 total responses. An opportunity to give written comments was provided for each statement.

Table 3. Selected Responses From the Course Evaluation (Student Reaction Profile) for Introductory Soil Science at the End of Fall Semester, 1982.

Statement	Excellent	Good	Average	Weak	Poor
		------- Number -------			
Establishment of clear objectives	104	33	4	1	1
Achievement of course objectives	79	62	3	0	0
Organization of the course	88	52	3	1	0
Presentation of subject matter	75	56	11	2	0
Instructor	100	40	4	0	0
Course	52	78	14	0	0

There were 144 total responses for the final evaluation.

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