# MOTIVATING STUDENTS TO PARTICIPATE IN A DISCUSSION-FORMAT COURSE

## Introduction

Alternatives to the traditional lecture-format college courses include courses structured so that students learn through active participation in a topical discussion. These courses generally are targeted to upper-division undergraduates and graduate students, who typically have a keen interest in the topic and the motivation to become involved in the discussion. However, a notable feature of such a course is variability in the quality of the discussion, both from one class session to the next and among classes. While many factors account for these differences, we suggest a three-component model that helps foster an interactive discussion class. The application of our model provides an atmosphere that reinforces and encourages students to prepare for and participate in the discussion. Reinforcement and encouragement of students to participate actively in a discussion is one strategy recognized to foster an increased potential for learning (Meyers and Jones 1993).

Two basic types of seminar courses are the presentation-format seminar and the discussion-format course. Our objective is to describe a model for a discussion-format course that has consistently generated critical and thought-provoking discussions. Our design is based largely on a discussion-format seminar taught while we were graduate students at the State University of New York—College of Environmental Science and Forestry, but also has been influenced by other courses. After we considered the limitations and strengths of previous discussion-format courses, we modified the model and subsequently used it for a discussion course on landscape ecology in the fall of 1993.

## Course format

In overview, students initially receive a list of assigned readings focused on a particular topic. One paper from the list is to be read in preparation for each class session. During each class session, students come prepared to provide a concise review of the assigned reading and to discuss the merits and implications of the papers' assumptions, hypotheses, results, and conclusions. As noted, our model focuses on three components to facilitate the discussion. These components are: (1) Preparation and Review; (2) Discussion of Hypotheses; and (3) Moderating the Discussion. These components and their application are discussed below. However, before attention is given to applying the model, consideration of the discussion topic is appropriate.

The discussion topic selected should be broad enough to permit students latitude in their thoughts and discussion, but focused sufficiently to select for a group of students with fairly similar backgrounds and interests. A group of students with divergent backgrounds and interests may result in a discussion dominated by the more experienced students and leave the other students feeling inadequate to participate. However, topics that transcend disciplines can result in an interesting mix of students and provide a basis for novel insights. Further, the topic should be current enough to attract students and allow the instructor to explore a new research interest. For some topics, some time may need to be devoted at the beginning of the semester to establishing a common knowledge base for all students.

## Preparation and review

The critical factor to ensure a good discussion is that students can and do participate, either by their choice or through a selection process. In our course, a student was selected randomly (we have used a 20-sided die or a free-spinning arrow on a paper "clock") to provide a brief review of each assigned reading. This review has two goals. First, by randomly selecting a reviewer during each class session, students are much more likely to have thoroughly read the assignment and thus avoid having to decline the review. Second, it refreshes class participants about the highlights of the assigned reading by identifying, for example, the hypotheses, objectives, and conclusions. The review also provides an opportunity for the instructor to grade a student; the evaluation should assess the student's ability to concisely and correctly identify the author's hypothesis and other key points of the reading.

## Discussion of hypotheses

The second component of our model is more complex than the first and involves the development and discussion of student-generated hypotheses. Following the review, or in the few minutes preceding the class, students write a hypothesis on the chalk board or overhead projector. The hypothesis is based on the assigned reading, developed prior to class, and should be of the form IF: ....., THEN: ....., BECAUSE: ..... The list of hypotheses is the basis of the discussion, and the form is particularly important to enable a meaningful discussion with minimal digression. Hypothesis formulation motivates students to critically evaluate the assigned reading and identify how they agree, disagree, or extrapolate on the concepts presented. Each class session, students should turn in a written statement of their hypotheses to provide another criterion for grade determination and to allow the instructor an opportunity to evaluate their skills. Instructors may also wish to compile the hypotheses for each assigned reading and provide them to the students for their files and future thoughts.

The IF portion of the hypothesis facilitates recognition of the underlying assumption of their hypothesis and thus the basis for that assumption from the assigned reading. The cascading effect of this recognition is that students must think about the methods used for the research design described in the assigned reading. The THEN portion is the actual statement of a testable hypothesis, and helps students to ask questions

and think about other research approaches. Surprisingly, many students have trouble writing a testable hypothesis. The BECAUSE portion provides the mechanism for the hypothesis and keeps students from formulating spurious hypotheses. The process of hypothesis development prepares students to question other hypotheses, the merits of the assigned reading, and defend their hypothesis.

The list of student-generated hypotheses is perhaps the single most important factor in fostering a dynamic and interactive discussion. When students have read thoroughly and thought sufficiently about the assigned reading to provide a hypothesis, they are in a much better position to discuss the topic, evaluate evidence supporting the author's hypothesis, evaluate student hypotheses, and defend or explain their own hypothesis. Further, because some hypotheses will invariably differ or perhaps contradict one another, a framework for a dynamic discussion is established.

## Moderating the discussion

The final component in our model is the moderator: either the instructor or a discussion leader chosen in advance of the class meeting because of his/her particular interest in the assigned reading. The moderator is independent of the reviewer (the first component) and is responsible for guiding rather than promoting discussion, because seldom does the discussion wane. However, on those occasions, the moderator may simply need to re-direct attention to one of the hypotheses not yet discussed, or to a more general question of the topic. Perhaps a more important role of the moderator is to ensure that neither a student nor the instructor dominate the discussion. Dominance of the discussion can rapidly intimidate participation by some students, and bore other students because of the digression generally associated with monologues. To the extent stated by the objective of the course, the moderator will need to periodically focus the discussion to the assigned readings and the stated hypotheses. We encourage the use of students as moderators, principally because it promotes interaction among students to resolve questions and allows students experience in guiding discussions. When the instructor moderates, the discussion is too often between individual students and the instructor.

## Perceived benefits

Course evaluations indicated that students who participated in a discussion-format course following the above model had positive feelings about the process. Fourteen of the 17 students from the Fall of 1993 returned course evaluations, all of which indicated positive support for the discussion format. (Note: We now recognize that 17 students is a few too many for a discussion class.) Students felt they were prepared to discuss the assigned reading with the group, and well equipped to critically evaluate the literature. The effort required by students generally equalled or exceeded that required by students participating in a presentation-format seminar course, and the effort was distributed throughout the semester. Also, students had a means to evaluate the logic and thought processes of their peers; less experienced students, particularly, had a sense of what would be expected of them as they developed academically.

Based on our observations of students and the perceptions of students responding to course evaluations, we feel discussion-format courses offer students several opportunities not available through either lecture-format courses or presentation seminars. Most notable is the opportunity for students to interactively and critically evaluate the literature by identifying and formulating hypotheses and discussing with their peers the supporting evidence. Also, this format allows students to voice ideas that address new but related research hypotheses. While discussion-format courses may continue to be infrequent in undergraduate curricula, and only slightly more frequently offered in graduate curricula, they nicely complement more common instruction techniques. Also, discussion-format courses offer students opportunities to practice many of the skills we value as scientists.

## Acknowledgments

We appreciate comments from Don Leopold, Paul Manion, and Dudley Raynal on an earlier draft, and the candid thoughts of students who participated in the 1993 course. Finally, we thank Alan Stam for the basis of the discussion-format model.

## Literature Cited

Meyers, C., and T. B. Jones. 1993. Promoting active learning: strategies for the college classroom. Jossey-Bass, San Francisco, California, USA.

*Peter J. Smallidge*
*Department of Biology*
*Frostburg State University*
*Frostburg, MD 21532-1099*

*Edwin M. Everham III*
*New College of Global Studies*
*Radford University*
*Radford, VA 24142-6927*