Making a Party of 400 Seem Intimate
Using an E-Mail Discussion Network in Introductory Psychology

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An e-mail discussion network, used in two introductory psychology classes, increased the interest level of students and provided socialization to college life. An active manipulation of the instructor's role between semesters suggested that such discussion networks can also improve the critical thinking skills of students. Such technology may help us to recreate the feel of a small class, and some of the advantages of a small class, in the large lecture courses typical in major universities.

Large classes are a fact of life in many universities--some as large as 500 students. Such large classes inhibit the kind of discussion and active learning activities that improve retention and increase understanding (Benjamin, 1991). But there are ways that an instructor can enhance the learning experience even in these factory-like environments. This paper describes the use of a listserv discussion network in two introductory psychology classes.

The ready access to computers in modern universities offers another means of enhancing active learning. Computer discussion groups expand the time available in a large class for discussion. Furthermore, these electronic discussions have advantages over traditional in-class discussions, including (1) the time frame allows students to consider their contributions, review them before sending, and modify them to make their points more clearly; (2) the quiet student is often able to overcome their shyness using an electronic medium; (3) discussions can continue as long as interesting points are being made, and therefore the normal time constraints of the classroom environment are transcended; and (4) students have a hard copy of comments, which minimizes misinterpretation of material.

This paper compares two semesters using electronic discussion groups in large introductory psychology courses, where the instructor manipulated his involvement between semesters to see whether an active shaping strategy can enhance the development of critical thinking in students.

Method

Subjects

The subjects in this study came from two large introductory psychology classes, each taught in the fall semester by the same instructor. The class sizes were 224 and 336 students. Most of the students were first semester freshman (81% and 83%, respectively). Just over 50% in each class were female. No actual data are available on ethnic background, although the courses did appear to accurately reflect the ethnic distribution for the university as a whole (about 79% white, 9% black, 12% other minorities).

Procedure

Each student was required to subscribe to a listserv discussion list for the class and contribute at least two messages over the semester. Students received points for subscribing by a deadline and for contributing up to two messages. Messages were not graded, and contributing more than two messages did not enhance the grade. Students were given a detailed handout describing the process, and the instructor and TA helped students who had difficulty. Most students (74% and 79%, respectively) received full credit for this assignment, and over 95% of students in each class received at least some of the credit for this assignment.

Students were encouraged to bring up any topic that they wanted. The only rules were that (1) the topics should have some connection to psychology and (2) student should respect the dignity of others during the discussion. A wide range of topics were discussed including dreams, college exams, influence of rock music, abortion, sexuality, dating, stress, raising kids, jobs, adjusting to college, learning more effectively, drugs, psychopathology, social pressure to conform, what it is like to be in a minority group, limits of memory and perception, and the influence of weather on mood.

The instructor's role in both classes was to encourage discussion. In each class, the instructor contributed between 4 and 5% of the messages. In the first semester, the instructor simply promoted discussion by (1) suggesting topics, (2) moderating when the discussion got out of hand or bogged down, and (3) reinforcing unusually good contributions with

personal notes to students or a public acknowledgement on the list. In the second semester, the instructor also included an active effort to increase the critical thinking of students through encouragement, role modeling, and Socratic questioning. An effort was made to keep the total number of faculty contributions comparable in the two semesters.

Results

Each class contributed over 2000 messages to the discussion (2014 and 2426, respectively), for an average of 9.4 (sd=3.3) and 7.6 (sd=2.9) messages per participating student, respectively. These figures are well above the minimum requirement and suggest that many students really got into the discussion.

Each message was scored blindly for whether the comment was psychology relevant or not, and those messages that were psychology relevant were scored on a three point scale of critical thinking (0 = "no critical analysis of the argument" to 2 = "full critical analysis"). Mean scores were then computed for each of three 4-week periods for the two classes. The means were 0.21, 0.34, and 0.44 for the class where the instructor simply moderated the discussion and 0.18, 0.49, and 0.82 for the class where the instructor attempted to shape the critical thinking on the discussion list. The ratings of critical thinking were attenuated in the third three-week period for both classes by the students who made their only two contributions (meeting the minimal requirement) just before the semester ended. Deleting those subjects (41 and 55, respectively) raised the critical thinking indices in the third period of the semester to 0.59 and 1.03, respectively. Significance tests were difficult to perform because of the obvious violation of assumptions (each subject contributing more than one data point and different subjects contributing different numbers of data points in each period). If we ignore the violation of assumptions and conduct statistical tests for descriptive purposes, we find significant improvement in critical thinking over the course of the semester in each class, but the improvement was greater in the class where the instructor tried to shape critical thinking.

Discussion

The above data suggest that it is possible to actively shape critical thinking in an electronic discussion network and that the impact is considerably greater than the normal growth observed over the course of an introductory psychology class. Although the task of monitoring such a discussion list in a large class is time consuming (about 5 hours per week), the return to the student appears to be significant, and the return to the instructor can also be significant. The instructor often gets immediate feedback on material that students misunderstood from class and on the effectiveness of various presentations. The instructor also gets to know many more students personally through this medium because of the richness of the discussion content and because each message is signed by its author.

Perhaps one of the most impressive findings is that students contributed approximately four times as many messages as required. It is rare to have students exceed requirements, much less quadrupling the minimum requirement. Clearly, the discussion has reinforcement value for students that other forms of instruction cannot begin to match.

Finally, a discussion network may benefit students through an informal socialization process. For example, in the Fall, 1995 semester, a student posted a message just minutes after the first exam complaining bitterly about how unfair the first exam was. She noted that she had started reading the material at 4:00 PM on Sunday for the Tuesday morning exam and that she could not even get through, much less study, so much material. Over the next four hours, six other people, all of whom were freshmen, exchanged a dozen such messages until several upper-class students stepped in. Each upper-class student gave the same message, which was best expressed by a senior who simply wrote "Welcome to college. You are not in high school anymore. This is what is expected of college students."

The large introductory level classes pose a real challenge to the serious instructor—how to provide active learning with minimal resources. The judicious use of technology such as electronic discussion networks may provide a useful tool for this demanding task.

References

Benjamin, L. T. (1991). Personalization and active learning in the large introductory psychology class. *Teaching of Psychology, 18*, 68-74.