How Students Learn: Study Groups and Tests

Now, what I want is, Facts. Teach these boys and girls nothing but Facts. Facts alone are wanted in life. Plant nothing else, and root out everything else. You can only form the minds of reasoning animals upon Facts; nothing else will ever be of any service to them.
(Thomas Gradgrind in Charles Dickens' Hard Times)

Teaching would, perhaps, be an easier job if teachers followed the pedagogical principles of Gradgrind and only felt obliged to impart “facts” to the students, facts which the students, in turn, would merely have to parrot back in order to pass the course. If, indeed, this were the case, a computer could probably “teach” a class as well if not better than most teachers—but this is not the case. This kind of rote learning ignores two central mechanisms of the learning process: analysis and comprehension. Teaching cannot be merely a matter of imparting a quantity of facts but also must provide students with a way of understanding these facts, of integrating the material into their own experience. Teachers who are alert to the ways their students learn can endeavor to structure their courses to these needs.

According to The New York Times (March 5, 1990), a recent study by Harvard University tried to “determine[e] the conditions under which students do their best work.” The results of the study indicated that with a few small changes in the structure of a course, faculty can help increase student learning significantly in most cases. By making just two small changes, teachers can give their students a big boost in learning.

First, it was found that students perform best in classes where they are frequently checked on their knowledge. This means that courses which have only a midterm and final, with no other opportunity for evaluation, do not provide the students with as effective a learning environment as courses where tests are more frequent. The use of weekly quizzes and/or writing assignments helps the students to focus on the material, and to grasp more quickly those areas where their understanding is weak and recognize where it is strong. Important here is quick turn-around time. Whenever you give a quiz, make sure that you return it to the students by the next class. There is no need for overly lengthy comments or analy-
Working with Groups:
Making Groups Work

The value of group work for students, both for in-class assignments and for homework, has by now been firmly established by educators. Effectively transforming the conventional teacher-centered class into a student-centered one entails, for most teachers, a radical alteration of the classroom situation, with both a revision of pedagogical strategies and a reformation of classroom dynamics. To begin, teachers must deliberately work to alter the traditional model of classroom activity, that is, be willing to change the traditional patterns of teacher/student interaction. In doing so, the burden of responsibility for student achievement shifts from the teacher alone to both teacher and students, as learning becomes a collaborative enterprise. Some general guidelines for establishing and maintaining effective groups are discussed below.

1. Analyze your role in the class and the goals you have set. For groups to work successfully, the teacher must be willing to give up some control. In group situations, the teacher’s role is one of unobtrusive guide: determining the final destination, mapping out the trail, and then signaling to the students when they are getting off the track or stopping them when they are pursuing a false trail. Try not to lead students by the hand, but don’t abandon them either. You are the person with the special knowledge, and you have to make sure that the students acquire this special knowledge. With careful preparation, a teacher can meet both of these goals—giving strong support while allowing students the freedom to make discoveries on their own—when working with groups. For example, at the beginning of class, the teacher can provide each group with an outline of the materials that need to be covered. This outline should reflect the same degree of preparation that a lecture on the topic would demand. The job of the students then is to work together to fill in the blanks in the information, to go through the process that leads to the conclusions you are suggesting.

2. Establish groups with care. The easy way to divide up the class would be to separate the students into groups according to where they are sitting in the class; this is not, however, the best way. These groups too often will contain students who are friends and have very similar backgrounds, or students with the same level (high or low) of motivation and commitment. Usually it is more effective to organize them according to interests, ability, and academic background, ensuring that each group has the skills necessary to perform well on the tasks you will set out for them. By using the information you gathered from your students on index cards on the first day of class—majors, minors, special interests, related courses they have taken, etc.—you have the ability to organize effective groups. Try to be creative in matching students and in your efforts to suit the assigned tasks to the talents of the group. Consider, too, for out of class assignments, where students live; don’t make it too difficult for them to meet.

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3. Work to overcome students' natural reluctance to group activities. You will find that students are frequently quite resistant to working in groups. Over the years, they have been conditioned to look to the teacher alone for all the answers and so perceive group work as a waste of time. Teachers often find it difficult, even in class discussions, to persuade students to talk to each other—more often than not they look at and speak to the teacher, even when they are, in fact, directly responding to a statement by a fellow student. Work to have the students listen and speak to each other. In class discussion, ask them to relate their answers to other students' answers, thus forcing them to attend to the responses of others. In groups, use your knowledge of the strengths of the students to show them ways to work through a problem together; don't just give them the solution.

4. Be patient. Students cannot unlearn behavior overnight. Trusting their own ideas or the ideas of their fellow students may be a new experience for them, but it will, in the end, be a rewarding one.

The second finding of this study is that students learn better when they work and study in groups. Students who work in groups are more inclined to go through every question or problem they need to know; it is more likely that they will, among them, have a range of knowledge that covers all the necessary problems. Students studying alone may have gaps in their knowledge, causing them to skip over complicated problems, or they may get stuck and spend far too much time struggling with difficult material. Teachers cannot force students to study together, but they can use certain strategies to encourage students to adopt this effective study habit. Some teachers organize the groups themselves at the beginning of the semester, pairing up students, having them exchange telephone numbers, and explaining the benefits of group study. Others divide their class into sections and have students begin work on problems in class, with the recommendation that the students continue to work together after class. (See page 2, "Working with Groups", for more suggestions.)

All classes, all students are different: strategies that work in one class, for some students, may not work for all. If, however, you believe that learning is more than just rote memorization, and if you want to help your students develop critical thinking skills, it makes sense to try to find ways to implement these techniques.
Video

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ments were made for a TAP video-technician to tape one of their classes. After viewing a representative section of each videotape, the TAs and faculty in attendance engaged in a discussion of the tape. This exchange was, however, more a discussion of teaching strategies and situations than a detailed critique of the individual TA’s performance. Apparently inspired by the experience of watching a colleague in action, other TAs began to reflect upon, evaluate, and discuss their own performances.

As a result of this workshop, other TAs in the program expressed a desire to have one of their classes videotaped. Those TAs who had already been videotaped felt reassured by the feedback that their teaching was reasonably successful but expressed a desire to go over the videotape in more depth with a member of the faculty. Perhaps most importantly, the videotapes worked as a catalyst for a lively discussion on teaching and dealing with students.

Any TA or group of TAs who would like to arrange to have a class videotaped should contact Beth Griech or Jim Orsini (ext. 7034), Office of the Dean, The Graduate School, 25 Bishop Place.

DATES TO REMEMBER

November

22 Thanksgiving Day
23 No classes
27 Beginning today, requests for course withdrawals will not be approved. Students are subject to final grades assigned by the course instructor.

Teaching Assistant Project

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