

## Alternative Strategies and Active Learning\*

As you consider various modes of instruction, keep in mind that student learning depends primarily on what the students do, both in and out of class, rather than what the teacher does. Your task is to select activities through which students can master course objectives. Lectures, discussions, written exercises, reading assignments, tests, group work, individualized instruction, field trips, observations, experiments, and many other kinds of experiences may be necessary for students to learn the things you want them to learn.

Your choice of strategies is affected by a number of considerations: the level of the objectives, the abilities of the students, your teaching skills and preferences, the size of the class. However, since college is supposed to help students sharpen their higher-order thinking skills, strategies that promote active involvement in learning should be the goal of every teacher.

### *Peer teaching*

Research has shown that students who are required to teach something learn concepts better than if they are taught the material in conventional ways. In other words, teaching is a more effective learning strategy than being taught, and it makes sense to use this principle in the classroom to increase learning. Pairing students at learning tasks is more effective than having students work alone (a good reason for having lab partners in the natural sciences).

Peer teaching can easily be incorporated in most classes. For example, you could make an assignment in which students must prepare their own questions on the main points of a reading selection; in class, have students work in pairs or small groups, alternately asking and answering questions they have prepared. During the session, you can move from group to group, giving feedback and asking and answering questions yourself. Students are more willing to share their views in small groups and often develop deeper insights about the material than they would working alone.

In math-related courses, students could be required to make up original problems to solve (after completing a regular homework assignment). Instead of the dreary oral report so often used in social science classes, why not require students to prepare a lesson on the topic? Their grades could depend, in part, on how well the class answers test questions on that topic. Exercise caution in using this strategy, however, for undergraduates not only need instructions about how to teach a lesson, they also should know the criteria you will use for evaluating their performance.

### *Cooperative Learning Groups*

Many teachers will occasionally break their classes into small groups for discussions, but only a few use the technique as a fundamental teaching tool. A class can be divided into learning teams that are periodically given instructional tasks to complete, either in or out of class. Research has shown that, with careful planning, this technique increases the efficiency and effectiveness of learning. □

Groups of six or seven work best because this size is small enough for everyone to participate in problem solving or debate, yet large enough for a spectrum of views to be represented. To work successfully, groups require a wide variety of viewpoints and intellectual skills, so it is important to make them as heterogeneous as possible. The individual data cards you collect on the first day of class can yield important information about your students' backgrounds and preparation and make it easier to create heterogeneous groups. A professor of political science who uses long-term groups in his class tries to insure that each team has someone with a math background and at least one political science major. He creates groups with maximum diversity with respect to major, gender, race, and other characteristics.

The tasks you assign for group work should challenge students to analyze phenomena, solve problems, apply theories, exercise judgment, or perform some combination of these activities. Clearly written instructions are vital to the success of this kind of exercise, which means the teacher must analyze the task carefully and break it down into its component parts. During the exercise, the teacher moves from group to group, answering questions, clarifying instructions, giving advice, and observing the group process. Group exercises can be designed for 15- to 20-minute periods, and need not consume an entire class period.

In a well-designed group activity, there should be little need for direct intervention by the teacher. It is true that many teachers are uncomfortable with the loss of direct control that accompanies small-group work, but you still govern the process and outcome by the instructions you provide for the groups. Small groups can be used with a variety of other techniques, such as peer teaching, case studies, and simulations; imaginative teachers are discovering new ways to use the technique every day.

### ***Case Studies***

Case studies are appropriate for learning about information analysis, decision making, or problem solving. The method, made famous by the Harvard Business School, requires the development of a set of cases that reflect problems or issues in the course material. For example, in an anthropology course, a case might describe the artifacts discovered in a real or hypothetical excavation. The students, as a group, would be expected to infer information about the life and culture of the people who lived at the site, based on knowledge and techniques they had learned in other parts of the course.

Depending upon the nature of the material and the sophistication of the students, cases can be quite lengthy and complex. You can divide the class into small groups to work on the case and circulate among them to facilitate the process. Over the semester, cases can be made more complex and challenging as students become more knowledgeable.

The development of case studies for an entire course requires research into the method to master its subtleties. Cases must provide enough information to elicit analytical thought, but not so much that the solutions are obvious. This process can be very time-consuming, but once the cases are written, they may need only a few revisions to run successfully semester after semester. Remember that students need to master a common knowledge base before they will be ready to tackle a case study, and they need to understand clearly the steps in the analytical process they will use. Finally, managing the discussion of case studies requires techniques that differ from generalized discussion methods, and it would be helpful to observe a teacher experienced in the method before trying it yourself.

### ***Simulations***

Like case studies, simulations provide students with practice in decision making, but in a different, more engaging, format. Since simulations are based on real-life situations, they present students with choices and constraints that reflect real-world problems. For example, a class in political science might simulate a city council meeting to decide on the location of a halfway house for juvenile offenders. Students are given particular roles to play: members of the police department, representatives of neighborhood associations, social workers trying to reintegrate juvenile offenders into society, and others with conflicting concerns. The task facing the class is to come to agreement about the placement of the halfway house. The instructional objectives are to practice negotiation skills, engage in problem solving, and discover techniques for reaching compromise. □

Simulations are more difficult and time-consuming to write than case studies, and they usually take more time in class, although the teacher's role is less directive than in the case study method. They also require more explanation before the exercise and, when completed, a careful exposition of what has been learned by relating students' experiences to the general principles involved. Nonetheless, simulations can be very effective in teaching problem solving and in developing students' self-confidence.

### ***Games***

Games and simulations are closely related, and there are mixed varieties: simulation games, non-simulation games, and non-game simulations. Games are activities in which there are winners and losers, definite sets of rules for "moves," and frequent use of props or other paraphernalia. For example, in a game used in sociology classes, players are randomly assigned to several different groups and provided with colored markers that represent money. They are told to maximize their cash through negotiations and trade with other groups, but the rules for trading markers are actually stacked against certain groups — they literally cannot win. This game allows students to experience in a small way life in a rigid class society in which improvement of one's condition is made difficult or impossible by the society's economic rules.

Although it is possible to devise games yourself, hundreds of instructional games and simulations have been published by organizations involved in education and training.

### ***Written Assignments and Out-of-Class Exercises***

Written assignments can be more original and exciting than the usual term papers, book reports, and homework assignments. Students are capable of producing fairly sophisticated work if the assignment is clearly explained and carefully structured. For example, you might require students to observe and report on a city council meeting, fundamentalist revival, ballet, construction site, archeological excavation, bus station, or protest march. Of course, you would need to teach them how to take observational notes and suggest an organizational framework for the final report. □

To help students sharpen writing skills, you may decide to assign shorter papers and allow rewrites until their work is acceptable. In general, many short writing assignments are preferable to a single long paper, depending upon the goals of the course and the level of student skills. Regardless of the length of the assignment, clearly written instructions are indispensable (giving such assignments orally is usually not effective). For more on using writing in your teaching, see pages 76-79.

Class time can be used for focused activities in which students can practice essential skills. For example, in math-related subjects, after fifteen to twenty minutes of instruction on a particular kind of problem, you could require students to work examples alone for fifteen minutes. This technique forces them to try to apply the concepts that have just been taught, and usually produces questions they didn't think to ask during the lecture (and also provides a powerful antidote to boredom). Since students typically defer their homework problems until the night before the next class, they often lose the thread of the explanation by that time — immediate practice in class helps reinforce the explanation.

Also in math-related courses, requiring students to work homework problems on the chalkboard provides an opportunity to correct their errors and misconceptions and to ask questions about other homework problems while they are at the board. □

In the social sciences and humanities, requiring short in-class writing exercises is analogous to working math problems in class. These exercises can take many different forms — for example: a paragraph defending or attacking a particular point of view, a one-page analysis of a reading assignment, or a short essay summarizing the student's impression of a class discussion. The variety of these short writing assignments is endless, and they need not take huge amounts of class time — many can be accomplished in ten minutes or less.

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