Targeted Teaching Strategies

Dimension 9: COURSE WORKLOAD/DIFFICULTY

Course Workload/Difficulty: **Students who perceive to be academically overloaded find it difficult to experience subjective feelings of success and receive little or no reinforcement. They are likely to be forced into adopting learning strategies that minimize their ability to understand and generalize from the specific learning situation.**

The following ideas are suggested and used by outstanding university faculty across a range of institutions and disciplines. Faculty will generally find these strategies most beneficial when, *after considering all the ideas,* they select *no more than three or four* which appeared potentially most profitable and *made a commitment* to apply or adapt them to improve their teaching effectiveness

I. *Planning* for Appropriate Course Workload/Difficulty

1. Empathize with the students' difficulties in learning the material for the first time.

"It is important to distinguish between appreciating the difficulty students have in understanding new material, and the rather simpler but less effective option of allowing the subject difficulty to act as an excuse for the professor's quality of teaching or the students' quality of learning," according to an outstanding professor in Education.

A faculty member in the sciences says that he noticed that he had taught the course better the first time than he did the second time. "When I asked myself why, I realized that in preparing the course for the first time, I really had to work hard to master certain parts of the material in order to explain it to my students. The next time, however, these concepts no longer seemed difficult to me. Unfortunately, I forgot that they would still be difficult for the students. Now I color-code all of my lecture notes, keying the parts that students are likely to find difficult and making a special effort to make points very clear."

A Physics professor also tries to put himself in the students' shoes. "After I have finished writing up a set of lecture notes," he says, "I review them carefully, asking myself: 'What might my students find hard to follow in that line of reasoning?' 'What examples might make that more clear?' This has now become the most important part of my lecture preparation."

Several faculty members report making notes to themselves of explanations that worked well and those that didn't. They also keep records of the kinds of errors students most commonly make in assignments and exams as a reminder of what students find most difficult to understand.

2. Get to know your students: Where they are "at"; and what they relate to.

Knowing your students is important for a number of reasons. Several outstanding professors stressed that new learning must begin from what students are already familiar with. "Otherwise they quickly become confused, disinterested or anxious," a professor in Education explains. "Students will also open up more in class discussion if they feel a comfortable rapport with the professor."

A Physics professor noted that students will work harder to solve a problem that appears to be relevant to them. Rather than restricting problems and issues to assignment questions, she delivers many of her lectures around puzzles and quandaries.

One professor who successfully engages students this way warns that it is important, even when deliberately trying to be provocative, or "realistic", to choose topics that the students are "ready" to deal with in the context of the material being covered.

Getting to know what gets the class "fired up", or what they relate to is a strategy that several professors have recommended as a means of generating a vibrant learning atmosphere. This requires establishing good rapport and making time to chat with students in non-teaching situations (see packet 5 for more ideas concerning "Individual Rapport").

3. Divide your course into levels of conceptual difficulty.

A Zoology professor focuses the first part of his course on fundamentals and the second part on state-of-the-art research.

"The first six weeks cover basic concepts and fundamental processes all my students must learn about the subject," he says. "In this segment I eliminate many 'nice to know' concepts in favor of going over the basics in a very thorough way.

"Because my students are quite heterogeneous (including undergraduates who have taken only introductory Biology as well as graduate students in Zoology), I spend the first six weeks making certain that everyone is brought up to approximately the same level of understanding of the fundamentals. Then in the last weeks of the course, I introduce the latest research experiments in the field. In effect, the first half of the course is made up of 'little white lies,' that is, the simplified constructs of the field. In the latter weeks, the emphasis is on how research is actually done and how little we really know."

A professor of Physics uses a similar strategy throughout his lower-division courses. He divides course topics into three levels: those which are "Basic" (i.e., should be mastered by every student); those which are "Recommended" (i.e., should be mastered by every student seeking a good competence in the subject); and those which are "Optional" (i.e., need to be mastered by those students with special interest in the subject).

II. *Teaching* for Appropriate Course Workload/Difficulty

4. Stress the most enduring values or truths in your discipline.

"I stress the permanent values in literature, the emotional responses that a particular novel or collection of novels elicits from us all," says one professor of English. "I try to get my students to understand why they respond to a given novel the way they do."

After a class has discussed how they feel about a novel - the common emotions it arouses - he tries to lead them to analyze, understand, and explain why nearly everyone feels the way they do. He poses questions such as: What must literature be like in order to get us to respond the way we do? Why does a particular novel effect everyone in the same way?

"Behind all my questions is the search for a way of analyzing and discussing literature that will explain the most with the fewest assumptions."

5. Acknowledge the difficulty of concepts students are likely to find hard to understand.

"Acknowledging difficulty avoids the risk of belittling the students' efforts in mastering the concept, or the students themselves if they do not master the material easily," according to an exceptional Chemistry professor. "It is important to admit to the difficulty of understanding material for the first time, but not to make that difficulty an excuse. A good way of achieving this aim is to offer a specific 'strategy' for mastering the material, such as '...so listen carefully...', or '...so remember this simple example'."

One Engineering teacher says, "I consciously cue students to the most difficult ideas by saying such things as, "Almost everyone has difficulty with this one, so listen closely.' Because the level of students' attention varies throughout the hour, it is important to get everyone listening carefully before introducing a new concept or explaining a difficult point."

A Forestry professor agrees. "I make a special effort to slow down and get everyone's attention when I come to a concept I know students will find difficult."

6. Touch base repeatedly with the fundamentals or basics.

One Engineering professor believes that too much of science and engineering is presented to students in a rote, plug-in-the numbers way.

"There are thousands of formulae," he points out, "but all of these are variations on a limited number of basic ideas or theories." "These basic ideas are 'ideal theories' from which are derived all the 'approximate' or 'technical theories' which engineers use."

"I try to teach my students how to judge when they can use an approximate theory with confidence and when they are obliged to go to a more rigourous level. In this way, I keep touching base with the fundamentals to reinforce students' understanding of them."

Another Engineering teacher concurs. "Students typically are presented with 100 different equations in each course they take. They are exposed to 1100-1200 equations overall. Rote memorization is futile; no one can remember that many equations. You have to point out over and over again that these 1200 equations are all embedded in about 8 basic ones."

7. Focus your course on the classic issues and concepts in your discipline.

A History professor explains that she has moved away from presenting the most esoteric and up-to-date concerns of professional historians in her undergraduate courses.

"The most interesting issues and themes for undergraduates," she explains, "generally turn out to be those which originally excited historians about a particular person, event, or epoch, not the historiographical controversies of present-day historians. The classic issue are the ones which attracted me to the field," she says, "and I find that they are still the most exciting for my students."

Following this approach does not mean that you cannot introduce new research findings where they are relevant, of course. Nor does this suggest that ideas which have little or no

current validity should be taught. It does mean that, in limiting your coverage, you select the major classic themes and concepts wherever possible.

8. Explicitly call attention to the most important ideas in each lecture.

"I began to emphasize the main points about ten years ago," says one Political Science professor, "when I discovered that you can't rely on undergraduates to intuitively know what the most important points are. You have to tell them."

Faculty members in several disciplines stress the need to call students' attention to the most important ideas being presented. Some teachers announce the importance of an idea before presenting it, saying such things as "This is really important, so you have to be alert." Other teachers emphasize the most important ideas when summarizing, saying "The most important thing to remember here is..." or "This is so important that everyone of you should have it engraved on a gold plaque and hung over your bed!" as one professor of Computer Science puts it. "There is no point in my students having to guess what is important if I can tell them," he says.

This workbook is based upon materials developed by H.W. Marsh and used with permission. The strategies are part of a package of materials available in:
Marsh, H. W., and Roche, L. A. (1994). ***The Use of Students' Evaluations of University Teaching to Improve Teaching Effectiveness.*** **Canberra: Department of Employment, Education and Training. Further information on the Improving Academic Teaching Project can be found in Marsh, H. W., and Roche, L. (1993). The use of students' evaluations and an individually structured intervention to enhance university teaching effectiveness.** ***American Educational Research Journal, 30,*** **217-251 (1993).**