

BREADTH OF COVERAGE

SEQ Factor: 6

Targeted Teaching Strategies
Improving Academic Teaching Project

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BREADTH OF COVERAGE

This factor reflects students' responses to items concerning the contrasting of implications of various theories, the provision of the backgrounds of ideas and concepts, the presentation of different points of view and the discussion of current developments. These all have to do with substantive qualities of instruction. Each would seem to have the potential to increase student knowledge and understanding through facilitating generalization beyond the confines of the specific situation, to clarify the material to be learned and its meaningfulness to the learner.

The following ideas are suggested and used by outstanding university lecturers across a range of institutions and disciplines. Lecturers participating in the "Improving Academic Teaching" Project found these strategies most beneficial when, *after considering all the ideas*, they selected *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 Breadth of Coverage

1. Select a textbook which represents one theoretical viewpoint and build your lectures around an opposing set of ideas.

A professor of Economics, for example, assigns a textbook that represents the point of view of liberal economists, but designs his lecture presentations around the opposing views of leading conservatives or radicals.

In addition to assuring a balanced presentation, this approach adds variety and interest to the course and stimulates students to think critically. Because the lecture material complements rather than repeats the textbook, it has the added benefit of increasing attendance at lecture.

2. Telephone colleagues who are conducting state-of-the-art research on key course topics to get the latest information.

Before giving her lecture on the heart, a Physiology professor calls researchers at Royal Prince Alfred and Royal North Shore to get the most recent statistics and findings on heart transplants. Similarly, a Law professor directly contacts lawyers involved in important cases pending or under adjudication, making her lectures even more up-to-date than the Advance Sheets which give the first printed results of court decisions.

A professor in Geography routinely calls his contacts in Canberra to get the latest information on environmental legislation which he incorporates into his lectures.

This kind of up-to-the-minute reporting on a few major developments relevant to course content can help you convey a sense of the excitement of research to your students.

3. Invite guest speakers whose viewpoints differ from your own.

A professor of Education makes a point of doing this in his courses so that his students are exposed to a variety of positions. "I want them to understand what the different points of view are," he says, "and one of the best ways I have found to do this is to invite a colleague or practitioner whom I know to be an adherent of each view to make a presentation to the class."

"I always take detailed notes during a guest lecture," says a professor in the biological sciences. "In this way I am able to answer student questions about the material during later sessions and may learn something new myself!"

4. Assign multiple readings to represent a variety of viewpoints.

"Because the most controversial issues covered in a course are ones on which my students have strong opinions but little information, I try to expose them to diametrically opposite positions or theories," says one professor of Political Science.

"Developing a set of readings takes time. However, I can usually use it for two or three years with only minor modifications.

5. Assign readings directed toward revealing the reasons behind differing points of view.

A professor of Business Administration says, "I use a semi-Socratic technique to lead my students through an analysis and critique of each theorist's position." The focus is not on opinions but on the reasons behind them. "Sometimes my own view is apparent either explicitly or implicitly; other times it is not."

"Sometimes it is not possible to find a reading which gets at the basis for a particular point of view. However, any reading that presents a clear statement of the features of the theory is useful. Students can be directed to a lively discussion of reasons that are tenable. It gives them experience in learning the criteria of a good argument."

II. Teaching for Breadth of Coverage

6. Use your students' opinions to create a microcosm of society's attitudes on social, political, and economic issues.

At the beginning of the term, a professor of Economics gives his students a questionnaire in which they are asked to agree or disagree with a series of controversial statements on the functioning of the economy. "Because the introductory course is so large (over 800 students), it is impossible to invite discussion even though many students enter the course with strong views about such matters as the causes and cures of inflation," he explains.

"As a substitute for discussion, I use the survey results to introduce a variety of student viewpoints. Throughout the semester I reveal selected results from the survey as these relate to new concepts or issues covered in readings and lectures.

"This technique gives my students a sense of personal involvement in the subject matter. Students learn that some of their peers may share their viewpoint. They also learn that some of their peers don't share their viewpoint and why. Use of student data allows me to introduce most of the views currently reflected in the society as a whole."

7. Draw upon the diverse backgrounds and experiences of your students to introduce different points of view.

At the beginning of the term, a professor of Business Administration asks his students to give written answers to questions about their backgrounds and reasons for taking the course. He asks students to focus particularly on experiences which might give them a particular viewpoint on social, political, and economic issues to be covered in the course.

Using a seating chart he calls on students whose prior experiences or interests may be relevant to a topic under discussion. In this way a full range of views is introduced in the course. "Often, with little or no effort, I am able to get students debating between themselves. In fact, I rarely give my own point of view until there has been a full discussion of the different points of view within the class itself."

This technique has additional advantages: introducing personal experiences and opinions makes the class livelier; and the instructor is given a method for learning some of the students' names by attaching students to their backgrounds, experiences and personalities.

8. Present each of several competing theories as if you were an adherent of that position.

A professor of Psychology introduces three major approaches or schools of thought in the field. "I discuss each one historically and contrast the basic elements and implications of each," he says.

"I really don't have a point of view in this course. There is so little known with impartial certainty; I don't think one is justified in taking a position at this time. Therefore, I present the best case for each theory, then analyze each critically and comparatively."

Even though they do have a distinct point of view, several other excellent teachers report that they also present the best case for each of several competing theories before they reveal their own preferences.

9. Encourage students to take an approach different from the one you have adopted.

A professor of English uses this strategy in all of his literature courses. "I always approach literature from an historical point of view: history is a particular passion with me," he says. "At the same time, I point out that there are many other perspectives and encourage students to use alternative approaches, e.g., the psychoanalytic approach or that of the new literary criticism."

10. Point out explicitly that there are alternative points of view.

"I indicate the polar principles which guide much of the research in the social sciences as well as much of our folk wisdom, e.g., 'opposites attract' versus 'birds of a feather flock together' or 'absence makes the heart grow fonder' versus 'familiarity breeds contempt'. In doing so I point out that they should be mindful that there may be good reasons to believe the opposite of what I say; that they should analyze all arguments in terms of their opposites."

11. 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 rigorous 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."

12. 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 issues 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.

13. Share your professional "junk mail" with your students.

In his graduate courses, a professor of Education makes a point of passing around program announcements for local conferences, program proceedings, and advertisements for new books and journals in the field. "In this way I inform my students about professional activities and recent developments of which they might not otherwise be aware," he says.

"I also encourage my students to attend professional meetings and conferences and to request papers on topics of interest to them. It's simply another way to socialise them to the profession."

A faculty member teaching Introductory French also shares copies of newsletters, newspaper clippings, and announcements of French movies, plays, or other cultural events in the area. "My students are often amazed and delighted to learn that there are so many opportunities to strengthen their language skills and to expand their understanding and enjoyment of French culture," he explains.

14. Require your students to read current journal articles.

"It's important for my students to be exposed to state-of-the-art ideas even in a lower division course," says one Political Science professor. "I try to make sure that my reading list contains at least a few recent journal articles."

"In some ways I find it easier to introduce recent developments in the field to lower division students than to graduate students," says a faculty member in the biological sciences. "I do this by over-generalizing. I translate the abstract of a journal article into layman terms. I present the basic findings in a narrative fashion, using little actual data."

"I want my students to become excited by the open-ended nature of science. I want them to understand that what they are learning is not the final word."

15. Require your students to read current newspapers or periodicals.

A professor of Economics assigns the Tuesday editorials of the *Wall Street Journal* each week. She uses them as a basis for discussion and for exam questions, she has her students compare them with textbook presentations on related topics.

A teacher in the biological sciences also believes strongly in making use of articles in current periodicals. "I keep my eyes open for stories on recent developments which have become part of the 'current events' literature," he says. "For example, in a discussion of recombinant DNA, I was able to use photos from a recent issue of *Life Magazine*, as well as a story the *Wall Street Journal* did on the Genetech Corporation."

16. Tell your students about local events which will expand their understanding of your subject.

"Every Monday I distribute a calendar announcing course-related events not only on the campus but in the area," one social science faculty member explains. "The events include dance troupes, plays, lectures, demonstrations, poetry readings and so forth. In this way the content of my course is expanded far beyond what I can actually cover in class. I also encourage my students to use these local resources in their research and writing assignments."

17. Create opportunities for role playing.

An Engineering professor makes use of role playing to encourage his students to develop the broad range of skills they will need in their careers. "I give my students copies of an Engineering report, for example. Then one half of the class is asked to assume the role of the authors of that report and prepare an oral presentation for the client or funding agency. The other half of the class is assigned to act as representatives of the client or funding agency and to prepare questions to be asked of the engineers.

"About a week later, during class time, I select certain students to actually enact these roles in front of the class. My students do not know ahead of time who will be called upon, so everyone has to be prepared. Those not called on join me in the role of the observer. When the students have enacted the meeting, the rest of us give a critique of each side's performance."

18. Assign provocative or controversial topics for papers.

"I find that the quality of the papers I get often depends on the quality of the assignment I give," says a professor of Business Administration. He tries to give provocative topics as paper assignments. For example, in a recent assignment he asked his students to respond to the question, "If you were working in a company that illegally pollutes the environment what would you do and why?" Giving provocative assignments not only challenges his students and makes for more interesting reading but also diminishes the chance that the papers will be plagiarised.

One lecturer 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.

The importance of getting to know what gets the class "fired up" and what they relate to, is emphasised by several lecturers in setting appropriately provocative assignments.

Lecturers also noted that such assignments are an excellent way to encourage students to consider a broader range of issues in their responses.

19. Assign "thought problems" which are typical of the problems faced by professionals in the field.

A Forestry professor assigns weekly "thought problems" which are of the same type of questions professional foresters are asked, such as, 'What is killing that tree?'; not 'Name six factors which can kill trees.'

Using real-life problems to encourage thoughtful reflection and/or discussion in this way, rather than requiring solutions in the form of assessable assignments, can be a particularly useful way to avoid overwhelming students with the complexities inherent in such tasks.

20. Use real problems and have your students solve them.

An Engineering professor presents his students with problems based on real cases. "For example," he says, "my students are told that a ball bearing failure has occurred in an airplane. They are asked to outline what steps they would take in determining the cause and correcting it.

"They tell me what tests they would make and, using simulation techniques, I tell them what the results of those tests would be and ask what they would do next. This continues until my students have either solved the problem or are stumped. Then their results are compared with those from the actual case study.

"The value of this approach is to give my students experience solving the type of practical problems they will encounter as professionals," he explains. "Also, because the problems are based on actual cases, it gives my students a chance to compare their own problem-solving skills with those of practicing engineers."

21. Give assignments which put your students in the role of another.

A History professor reports that she used to give rather standard writing assignments, e.g., "compare author X and Y's views on A," where the two authors tended to be professional historians. "Most undergraduates, however, find the arguments of current historians somewhat arcane," she says.

"Therefore, most recently I have asked my students to read a collection of the 18th century speeches on why Louis XVI should be killed and assigned them the task of writing their own speech as if they had been living during the French Revolution.

"Undergraduates really are enthusiastic about this kind of assignment and do an incredibly good job. It helps them to identify with the issues of the time; in fact many of my students went to great lengths to research the authenticity of their own empathic interpretations. Next year, I intend to take this assignment a step further by dividing my students into small groups and having them actually deliver their speeches to the group."

22. Encourage group discussion to facilitate identification of related broader issues.

A number of outstanding lecturers emphasised the importance of using group discussion or informal chats with students to identify links with broader issues which are of particular value or interest to the class.

"Questions or issues raised by students can help you identify points to emphasise or important links to make with other subjects being studied," a lecturer in Education explained. (See booklets 4 and 5 for ideas on encouraging group discussion and getting to know students).

These 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.

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