SPEAKING OF TEACHING

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Teaching with Case Studies

In lecturing, success meant that students paid attention, laughed at my jokes, and applauded me. I told them what to learn, and they learned it. . . . When I teach now I worry about such questions as whether everyone in the group has participated. Have questions generated energetic (but respectful) controversy? Has the group really pried the case open, created an agenda for further study, and developed a strategy for addressing its own questions?

Daniel A. Goodenough,
in *Education for Judgment*

Teachers interested in involving their students more fully in classroom discussion have found that case studies can provide a rich basis for developing students' problem-solving and decision making skills. While the curricula at business, law, and medical schools have for many years been based on the analysis of real world cases, professors in a variety of disciplines have been finding that an occasional case study can help them assess students' ability to synthesize, evaluate, and apply information and concepts learned in lectures and texts. Cases can help us organize and bring to life abstract and disparate concepts by forcing students to make difficult decisions about complex human dilemmas.

What is a Case Study?

The term 'case study' covers a wide range of problems posed for analysis, but most types include several key elements. Most cases are either based on real events, or are a construction of events which could reasonably take place. They tell a story, one involving issues or conflicts which need to be resolved—though most case studies do not have one obvious or clear solution. The information contained in a case study might be complex (including charts, graphs, and relevant historical background materials) or simple—a human story that illustrates a difficult situation requiring a decision.

Traditional case studies in fields such as economics, public policy, or international affairs can contain detailed historical information, including statistical data, relevant legal or governmental policy, and the arguments by various agencies for actions to be taken. But case studies are increasingly being written from a more personal perspective, involving real characters in actual situations. Indeed, a survey of faculty and students at Harvard Business school found that what engages students most in a case is that it tell a story: "a good case presents an *interest-provoking issue* and promotes *empathy with the central characters*. It delineates their individual perspectives and personal circumstances well enough to enable students to understand the characters' experience of the issue. The importance of the compelling issue and the empathetic character reflects the fact that cases typically focus on the intersection between organizational or situational dynamics and individual perception, judgment, and action" (Boehrer and Linsky, p.45).

For example, a writing instructor wanting to teach students about the proper use of sources and plagiarism decided that rather than simply discuss these topics, a set

Campus Visit by Professor Richard J. Light Harvard University

In April, CTL and the Commission on Undergraduate Education will cosponsor two presentations by Professor Light, director of the Harvard Assessment Seminars, "Explorations with Students and Faculty about Teaching, Learning, and Student Life." Over one hundred faculty and administrators from Harvard and twenty other colleges have participated in the Seminars, meeting on a regular basis to discuss how systematic research could improve undergraduate teaching and learning. See page four for a more detailed account of the seminars and their findings.

• **Thursday, April 14, 2:15 to 3:05.** Professor Light will speak on "Concrete Ways to Improve Undergraduate Teaching and Learning: Findings from the Harvard Assessment Seminars." Room 112 (the Large Group Instruction Room), CERAS. Open to the public.

• **Friday, April 15, 12 noon to 1:30.** Lunch and Informal Discussion with Professor Light, Stanford Faculty Club. Attendance will be limited; call CTL at 723-1326 to preregister.

of examples placing the student in the grader's position would be a much more effective learning experience. Students were given several papers, and several articles used to write those papers, then were asked to determine whether plagiarism had occurred and how they would respond to the students if they were the instructor. A biology professor teaching a course in parasitology had students construct their own cases; after having worked through several chapters on parasites and their effects on humans, students developed cases of individuals suffering a variety of symptoms—cases which were then used as the basis for class discussion. The class had to evaluate the cases' presentation of symptoms, pathology, and epidemiology, and then arrive at a diagnosis.[1] In both instances, students were required to make decisions about how they would respond to complex situations involving difficult choices.

Goals

As with other teaching methods, the effective use of case studies requires instructors to determine the specific goals they hope to accomplish. In general terms, cases can assess the application of concepts to complex real world situations, including building analytic skills that distinguish high priority from low priority elements. Working in groups on cases also helps students develop interpersonal skills and the capacity to work in a team—goals that some instructors rate highly and evaluate. Cases also help students make connections between what they might otherwise consider to be separate disciplines—for example, they see the need to draw upon principles in economics, environmental studies, and ethics to solve a problem in urban planning, or the need to use historical, philosophical, and sociological materials to make a decision about carrying out an anthropological project.

Writing or Finding Case Studies

While creating an effective case study can be time consuming, basing cases on actual events or experiences can help limit the initial investment of time. As historians or physicists or philosophers, we have confronted complex issues in our own research or teaching that can often naturally lead to a story others will profit from. Turning experiences into cases can be as simple as outlining the major components of a problem to be solved, or can require gathering materials that are necessary background to the circumstances students will find themselves in as decision makers. Most case writers advise experimenting, and sharing cases with colleagues for comments and suggestions. Often, cases need revision after you've taught them once or twice and discovered their strengths and weaknesses.

Because the case study method is now being used in many disciplines, relying on published cases can save preparation time. CTL can assist you in finding suitable teaching materials or developing cases of your own.

[1] Zeakes, S.J. "Case Studies in Biology." *College Teaching*, 1989, 37 (1), 33-35.

Preparing to Use a Case Study

Students will need clear instructions on what their responsibilities are in preparing to discuss a case in class. If students can depend entirely on the information present in the case to develop solutions (and do not need to do extra research), let them know. And if supplementary research is required, emphasize this and give directions on what might be appropriate sources of information. Some instructors prepare a set of questions ahead of time, and pass these out in order to give students a general sense of the major issues to be discussed. In addition, students are often asked to prepare a brief statement outlining their sense of the central problem and their plans for resolving it. Some instructors have found it useful to have students form study groups to analyze and prepare comments before the class discussion takes place.

In the same way that students prepare a case, it's important that the instructor know the directions the discussion might take. Since one of the goals of teaching with a case is to monitor students' ability to apply knowledge and principles to real experiences, it's useful to identify the handful of major concepts that students should be relying on.

Teaching with a Case

Case studies usually generate animated class discussion, especially if students feel that the case will serve as a basis for wide-ranging exploration. A good classroom atmosphere will help generate and sustain students' participation, and this atmosphere can be quickly created by setting some ground rules for participation. Instructors can emphasize that the analysis will be a group project, and that no one will be criticized for raising naive questions or uncertainties. The group must recognize the significance of cooperation in working toward the goal of making sense of the problem, and that everyone is required to actively work together on the analysis. Without a clear sense that they are free to experiment with hypotheses, students will tend to remain silent until they feel that the 'right' answer has been identified.

As preeminent case study teacher C. Roland Christensen points out in his analysis of case discussion, student involvement develops on at least three distinct levels: "At the first level, students explore a problem by sorting out relevant facts, developing logical conclusions, and presenting them to fellow students and the instructor. The students discuss someone else's problem; their role is that of the commentator-observer in a traditional academic sense" (Christensen, 1987, p. 35). On the second level, students can be assigned roles in the case, and take on perspectives that require them to argue for specific actions from a character's point of view, given their interests and knowledge. Finally, on the third level, students will take the initiative to become fully involved, so that topics are no longer treated as abstract ideas, but become central to the student's sense of self—of what they would choose to

do in a specific real world situation.

Given the complexity of many cases, it's useful to begin class discussion with questions that require students to review and organize information on the first level: what are the relevant facts and how do they translate into major themes or issues. Once students have agreed on the most significant information in the case, you can begin to pose more challenging questions.

Keeping the Discussion Alive

Once the basic information in a case has been reviewed, discussion can center on objectives and solutions. Good discussion can be generated by the kinds of questions that you ask to make sure that all the angles of the case are carefully considered. Open-ended questions are especially useful, because they demonstrate that you don't have a predetermined conclusion that you're aiming for.

It's also important to ask exploratory and relational questions—questions that probe into the reasoning behind conclusions, since some students may want to jump quickly to a solution without carefully examining the evidence or their assumptions.

As students identify key concerns, these can be listed on the board for future reference—along with a separate list of possible actions. As a facilitator, you can organize the discussion by seeing if the class is satisfied that each of these action recommendations is discussed fully before moving on to the next. As in all discussion leading, it's important to listen carefully to students' responses, paraphrase when necessary, and give students sufficient time to reflect on questions or issues that are raised.

Of course, leading discussion on a case can be difficult at times. Students uncomfortable with ambiguity and interested solely in having the instructor offer up appropriate facts and truths may be unwilling to participate. Some students may also fear suggesting inadequate solutions, and so wait until someone else figures out 'the right' response. And even if the discussion is lively, the open-ended nature of a case can sometimes lead the discussion on tangents that are inappropriate. But by preparing students well for what is expected of them, and then by preparing yourself with good questions, these difficulties can be minimized or eliminated.

Wrapping Up

Summarizing a class discussion on a case should focus not only on the content of the case, but also on the process of analysis and evaluation. You can take charge at this point and offer an assessment of the case, or you can ask the students themselves to pull together the various strands of the discussion. If some issues weren't resolved fully, or if answers to questions seemed to demand more information, students can be assigned research tasks for the next class session.

And to get the most out of this kind of class discussion, it's helpful to give your students feedback on how you think the discussion itself went—that is, on how you saw the group interact and progress. This is especially useful if you plan to use several cases during a quarter. The more specific you can be in strategies that worked and didn't work, or in group behavior that helped or hindered the discussion, the more likely it is that students will improve their ability to understand future cases and participate in analyzing them.

ON CASE STUDIES AND DISCUSSION

Boehrer, J., and Linsky, M. "Teaching with Cases: Learning to Question." In M. D. Svinicki (ed.), *The Changing Face of College Teaching*. New Directions for Teaching and Learning, no. 42. San Francisco: Jossey-Bass, 1990.

Christensen, C. R., and Hansen, A. J. *Teaching and the Case Method*. Boston: Harvard Business School, 1987.

Christensen, C. R., Garvin, D. A., and Sweet, A. (eds.) *Education for Judgment: The Artistry of Discussion Leadership*. Boston: Harvard Business School, 1991.

Some Final Tips

Once you've taught a case, it's helpful to reflect on students' responses, to see if the case can be developed further, or whether more background information can or should be provided. Sometimes a new case will seem to naturally spring from the first, so that a single complex issue can be developed into several phases that students analyze over the course of a quarter. You can even invite students to participate in the creation of the next installment, and build the case's story for use in future classes.

Using cases can be an invigorating approach to teaching, and can help your students take much more responsibility for their own learning in your class. But because cases are not necessarily the best way to communicate large amounts of new information, they should not be seen as replacements for lectures. And in this sense they are probably not always appropriate for introductory level classes, since students usually need a good deal of background knowledge to be able to adequately interpret and resolve a case.

What cases can do that lectures can't is test to see whether students are capable of using the information that they've been studying in your discipline. By placing students in real situations, and asking them to make critical decisions, case studies force students to connect their knowledge of facts with the need for evaluative skills. And perhaps this connection is one of the most important we can demonstrate for students, for as Alfred North Whitehead notes, "The details of knowledge which are important will be picked up *ad hoc* in each avocation in life, but the habit of the active utilisation of well understood principles is the final possession of wisdom."

LESSONS FROM THE HARVARD ASSESSMENT SEMINARS 1990-1992

In 1986, at the request of then Harvard President Derek Bok, Professor Richard Light organized a seminar series for faculty and administrators to examine undergraduate education. Bok's belief was that universities on the whole do not "routinely engage in research, assessment, and program evaluation within their own colleges," practices that Bok wanted to see affect policy decisions. The seminars, then, were designed not simply to evaluate what students knew; instead, the Seminar's goal was "to encourage innovation in teaching, in curriculum, in advising, and then to evaluate the effectiveness of each innovation."

The more than 100 participants, including students, faculty, and administrators, divided into working groups to design, carry out, and evaluate projects using various techniques for gaining information on Harvard students. When the data were gathered in the Seminar's first year, five main findings were examined in *The Harvard Assessment Seminars: Explorations with Students and Faculty about Teaching, Learning, and Student Life*, published in 1990.

- Gender differences in the college experience were significant in at least four areas, including what students want in a relationship with an advisor, the ways students study, how self-critical students are, and in how academic performance correlates with general satisfaction with college.
- Current students and alumni tend to agree when rating their satisfaction with their undergraduate educational experiences, including their academic and extracurricular experiences, and their interactions with faculty.
- Highly respected courses are ones in which students receive quick and detailed feedback. Students feel they learn best when they are offered criticism of early efforts and are allowed to revise their first attempts. They also prefer frequent evaluation to the limited feedback a midterm and final provide.
- Many faculty do innovate and are interested in discovering how students learn best. However, these faculty members are not simply interested in adding more material or new technologies to their courses; they seek ways of more actively engaging their students in the learning process.
- Students who become actively involved in extracurricular activities are more satisfied with their undergraduate educational experience overall.

Furthermore, data from the Seminar showed that a large majority of undergraduates and alumni were "pleased with the availability of faculty members and also with the quality of these interactions." Perhaps most important for faculty members interested in enhancing students' learning, dividing students into small groups—four to six students—and assigning them to work on projects substantially increases their involvement in a course, and "their pursuit of topics to a more advanced level."

In the second report, published in 1992, several more important findings, building upon the earlier report, were outlined.

Students are more satisfied with their undergraduate education when they are able to have at least one, if not several, intense relationships "built around academic work with other people." These relationships can be with professors, advisors, or fellow students—the individual, however, is less crucial than the fact that the relationship involves substantive academic work.

Writing is a crucial concern of students studied in the seminar, and they were concerned with improving their writing skills through intensive work with professors and other students. As Light notes, "the relationship between the amount of writing for a course and students' level of engagement—whether engagement is measured by time spent on the course, or the intellectual challenge it presents, or students' self-reported level of interest in it—*is stronger than any relationship we found between student engagement and any other course characteristic*."

When attention was turned to academic advising, seminar participants found that advisors could help students is several specific ways. While students, especially freshmen, are good at choosing classes, they often need help choosing an entire schedule wisely. Those students who are told to "get the requirements out of the way" are more often disappointed in their education, since they feel they haven't been given the opportunity to explore areas in order to decide which to pursue for advance work. In addition, students should be encouraged to join study groups outside of class. And finally, many students need help developing good strategies for managing their time and organizing their work.

In analyzing students' views on science courses, researchers found that students who choose, and remain in, science courses generally join study groups. Such students also rate highly courses in which professors help undergraduates work collegially.

The Assessment Seminars have been valuable for administrators and faculty in getting important specific feedback on ways of helping students learn better—and have helped faculty reflect on methods of improving classes and teaching approaches.