



## Using Student Evaluations to Improve Teaching

At Stanford, as at most colleges and universities, student ratings of courses are important for several reasons. By gathering evidence of teaching effectiveness, departments and deans are able to make informed and objective decisions about retention, promotion, tenure, and pay raises. Asking for evaluations regularly from students also sends a clear message that teaching effectiveness matters, and not just in personnel decisions.

Yet probably the most important benefit of student evaluations is the feedback the forms provide directly to instructors, so that they can refine their courses and teaching practices to provide students with better learning experiences. By calling attention to teaching methods and outcomes, student evaluations play a positive role in improving the climate of teaching and learning at Stanford.

Although student evaluations can show instructors what they are doing right and suggest areas for improvement, faculty are frequently not familiar with research on student ratings of teachers that might help them go about making significant changes. They do not always know how to revise their teaching methods when students request, say, more clarity in their lectures, more connection between homework assignments and examinations, or more closure in class discussions. Faculty also indicate that they often do not know how to reconcile contradictory statements found among the written comments, and how to weigh the comments in relation to scaled items.

By all accounts, the best way to use student forms to improve instruction is to consult with a colleague or teaching specialist regarding the meaning of the student data. In particular, faculty members need guidance on how to interpret open-ended comments and use them to make changes so that students learn more.

To aid those teachers who want to use student feedback to spark changes in their teaching strategies and methods, *Speaking of Teaching* has gathered suggestions about how to interpret the forms and how to make better use of them. (Sources cited are given in full at the end of the issue and are available at CTL or on the World Wide Web.) As teaching evaluation researcher William Cashin reminds us, "Student

ratings are the start of the instructor's journey toward improvement, not the end." This is because "effective student rating items do not provide answers; they provide questions."

### What the Ratings Cover

Forms used by the schools at Stanford vary, but in general they contain a mixture of general and specific questions. In some way, all forms ask students to rate the overall quality of the course and the instruction. They then break down these elements into the specific areas of course organization and content; clarity of presentation; the instructor's ability to engage, evaluate, and interact with students; and, frequently, how well the section or lab was integrated into the course.

For example, the course evaluation forms used in Humanities and Sciences departments for the first time in 1996-97 were designed to address those aspects of teaching which enable students to become critical and analytic thinkers. Accordingly, specific elements students in H & S classes are asked to rate include coherent organization of topics, value of the course content, usefulness of assignments in solidifying students' knowledge of the material, and the instructor's ability to aid students' conceptual understanding and challenge them intellectually.

### Reflecting on the Teaching Process

For student evaluations to lead to change, teachers must reflect on their beliefs and goals for the course. In the words of one faculty developer, David Way, "Reflection on the process of learning the subject matter and what is psychologically necessary to teach it adequately is crucial in improving one's teaching." As an example, he describes beginning teachers who plan courses by deciding to cover what they think the students should know and setting objectives more in terms of filling the time than in what will bring students to the point where they are ready to learn the material. "A more fruitful way to plan a class," Way says, is to "start with the students' frame of reference

and try to build a conceptual bridge from their level of comprehension” to that of the teacher.

### ***Reflecting on Goals***

The first thing an instructor should consider when reflecting on a course is, “What did I hope to accomplish in this class? How well do I think the class met these goals?” Such reflection helps to put student comments in perspective. To be useful, the ratings must be contextualized, so that instructor and students are talking in the same vocabulary and looking for the same things. Then it is appropriate to note what responses disagree with the instructor’s own assessment. Which ratings are surprising, and why do student reactions differ?

### ***Noting Strengths and Weaknesses***

The next task is to consider one’s strengths as a teacher, looking to see which of these the students point out and asking how important these aspects of teaching are. The object is to see what specific teaching behaviors led to the high ratings in these areas. After this assessment of strengths, it is appropriate to turn to areas where students mention the need for improvement. Once again, it is useful to compare students’ problems with one’s own verdicts, again asking how important these areas are and what led to lower ratings in them.

### ***Targeting Areas to Work On***

Finally, experts suggest that the instructor target one or two items for improvement in the next class to be taught. With the help of guides, such as a CTL staff member or consultant (for TAs) or a chair or colleague, the faculty member or TA can select a few strategies that seem to offer promise of change. (See below.) Faculty should not assume that all it takes to get results is to notice what students are saying. Sometimes it takes more than one quarter to see improvement, even in the areas targeted for change.

## **Emphasizing Student Learning**

When student evaluations are approached with the intention of improving teaching effectiveness, the focus is rightly on the students who stand to gain from the changes. The emphasis falls not on improving one’s teaching “performance” but on making changes that will enable students to learn more effectively or efficiently.

The primary fact to remember is that feedback is most helpful when it is provided soon after being gathered, and when the professor or TA discusses the data with a knowledgeable colleague, chair, or teaching consultant. At Stanford, CTL can provide a consultant to go through the forms with a faculty member or TA, interpreting both the scaled items and the written comments to see what stu-

dents value about a course, what areas they feel need improvement, and what specific changes they would like to see.

*William Cashin, a specialist in student ratings, says that when faculty revise a course it's not always the case that students are dissatisfied. An instructor may want to improve from a B to an A level, but B is already a high level of teaching (“Student Ratings”).*

## **Making Sense of Written Comments**

Faculty often have difficulty making sense of students’ written comments on teaching evaluations. Although such comments are usually quite rich with observations and insights, instructors frequently struggle to draw conclusions from them. Rather, they remark that the students’ comments seem contradictory; half of the students say one thing, and the other half say the opposite. Understandably, this can frustrate faculty members and lead them to believe that there is no way to satisfy everyone. As a result, faculty may choose to ignore the important messages that students’ written comments provide.

Karron Lewis explains that this problem stems from the fact that, in general, faculty do not receive students’ written comments in any organized fashion, but read through the stack from top to bottom. The first task is to impose some structure on these comments. She suggests grouping the statements according to the overall course rating given by each student evaluator, which provides some context for the comments. For example, some students who rate the course as excellent or very good may make suggestions for improvement similar to those made by less satisfied students. The instructor is less likely to discount the comment because it also comes from students who are quite pleased with the course as a whole.

At the Center for Teaching and Learning, consultants to faculty often use a method of reading through all the comments to sort them into categories, putting together those that say nearly the same thing. The result is two basic categories, strengths and weaknesses, with a list under each that begins with the most frequently made comment. Faculty say these summaries enable them to analyze students’ written statements systematically.

Tony Morrison describes a method he devised to get a visual picture of the pattern of student responses. He first determines the most common positive and negative characteristics of university teachers and compiles them into a list. To summarize students’ written comments, he makes a checkmark beside the category that corresponds to each comment so that he can give faculty an actual count of the most common comments. The resulting “graph” becomes a visual record of responses. He claims that hundreds of evaluations can be summarized in this way.

To make the written responses more useful to faculty by

showing the most likely place to make changes, Karron Lewis adds another dimension to her reporting method. She suggests choosing five characteristics of effective teaching, putting them across the top of a chart, and then listing ratings from 5 down to 1 (for Excellent to Poor) in the left-hand column. (An instructor might choose the categories of organization/clarity, challenge/engagement, interaction with students, course content, and dynamism/enthusiasm.) The instructor then places comments according to the rating the student gave to the course under the appropriate characteristic of effective teaching. When the chart is filled in, a pattern may emerge to indicate what areas the students who rated the course lower find inadequate compared to those who rate the course higher, who may have different concerns. According to Lewis, “this increased specificity could aid the instructor in determining what instructional adjustments might benefit which students.”

### **Instructor-specific Questions**

Some forms have a space for questions to be asked by the instructor. This is a good place to ask specific course-related questions, such as the effectiveness of group work and individual presentations, or of conferences in a writing-intensive class, and so forth. Karron Lewis suggests providing students with the categories shown on the horizontal dimension of the chart and asking them to comment on those areas specifically. She says, “This practice helps the students structure their written comments more succinctly and yet more completely.”

An interesting variation of this method asks students “What made you rate the course as high as you did?” and “What kept you from rating the course higher?” Responses are ordered by overall course rating, from best to worst, and then typed in a three-column format. The first column provides the overall course rating, the second the answer to the question “Why did you rate the course as high as you did?” and the third the answer to “What kept you from rating the course higher?”

All these methods offer ways to translate qualitative, subject feedback into a useful form. What they all have in common is showing student comments in some kind of pattern that instructors can interpret in order to tailor efforts to students’ needs.

### **Tips for Improving Particular Teaching and Learning Areas**

Once faculty have reflected on course feedback in light of their own goals and objectives and have targeted a few areas in which they would like to improve, they can turn to certain strategies used by the most effective teachers in promoting student learning. One way to get these suggestions is to talk

to faculty who receive high ratings in the areas under consideration. If a faculty member rates lower in clarity of explanations, for example, and she teaches in the sciences, she could locate ideas from faculty who rated highly in explanation in scientific or technical fields. Knowing that there are strategies to try has been shown to encourage instructors to follow up on their evaluations and use them to alter the learning environment and vary the style of presentation to accommodate students’ different learning styles.

Here, for example, are some general tips on delivering clearer explanations of material:

- Don’t assume that students have a level of background that might not exist. Check out their level of existing knowledge. Incorrect prior learning can actually interfere with new learning.
- Use *verbal cues* to introduce topics and provide context, to order your ideas, to provide or ask students for a summary, to highlight important points, to make connection between lecture and the text, to clearly define the content to be understood and the skills to be developed, to explicitly state the organization of the lecture.
- Demonstrate or have students demonstrate how to solve problems rather than just describe how to do them.
- Use visual and written aids such as pictures, diagrams, outlines for yourself and your students.
- Check student understanding throughout class.
- Be concise when answering questions.

### **Four Areas of Teaching to Target**

What follows are four areas of teaching that appear on most rating forms, which require different kinds of skills from the instructor—two relatively straightforward and two more difficult to change—followed by suggestions for improvement drawn from teachers judged excellent in those areas by their students.

#### ***To set out course objectives clearly and follow them:***

- Use a three-question process to plan the course and each class: Where do I want students to be by the end of class? What activities will help them get there? How will I know if my goals have been achieved?
- Review your course organization with a colleague.
- In class be explicit about how each class session fits into the course as a whole.
- Be direct about how you expect students to prepare for the class.
- Give students a “road map”: outline the class session for the students at the beginning of class.

#### ***To present material at an appropriate pace:***

- Introduce an idea or topic at the beginning of class

and try to focus your lecture around this concept.

- Create back-up assignments/topics of discussion in case you misjudge the time.
- Try to maintain a limit of 3-5 points to discuss in a single class session.
- Consider dividing your lecture or discussion into 10-minute segments.
- To help keep students focused, take a 5- to 10-minute break after about 50 minutes if the class period is longer than one hour.

### ***To develop students' conceptual understanding and/or critical thinking:***

- Give students application problems which require comprehension of material.
- Request that students prepare questions about the material.
  - Ask students to verbalize their ideas and thought processes. This can enhance their critical thinking skills and enable them to notice flaws in their reasoning.
  - Encourage multiple opinions and answers and allow students to question you and the "experts" in the field.
  - Model your thinking processes and how you approach the material or problem.
  - Commend students for critical and analytical thinking during class and in grading.
  - Allow students to discover their own errors. Create a classroom environment in which students do not fear making mistakes.
  - Give field experience assignments.
  - Ask students to keep journals to record their ideas, thoughts, and difficulties in understanding the material.
  - To enhance critical and creative thinking, try some of the following:
    - examine case studies
    - debate conflicts or controversies in the field of study
    - ask students to present analogies of relationships between topics to help them integrate information
    - create hypothetical situations for discussion
    - ask students to explore both sides of an issue
    - have students invent dialogues between important characters or figures that you have discussed.

### ***To plan assignments that solidify students' understanding of the material:***

- Do the methods of testing you use measure different skills and abilities that relate to your course objectives? Are they directed at mostly one style of learning or have you incorporated multiple methods of evaluation?
  - Analyze the difficulty level of assignments and exams and try to incorporate problems that require basic knowledge in addition to those which require synthesis

and a deeper comprehension of material.

- Create assignments that focus on comprehension, application, problem solving, and applying existing knowledge to new situations, rather than recall.
  - Use multiple testing methods (essay, open-book, take home for in-depth work, multiple-choice) because different students prefer different formats. Consider combining formats (e.g., ask students to explain the answers to multiple choice questions).
  - Ask students to pose a question or problem they wish had been on the exam and grade them on the level of difficulty and quality of their question.
  - Have students retake exams in small groups (after completing the exams individually) to give them another learning opportunity. Give students extra credit for scoring well on the group exam.
  - Spend time summarizing what you learned from grading students' assignments (points which were most understood, common misconceptions).

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