How to improve your student evaluations of teaching

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In this context, by "student evaluations" I mean standard student questionnaires handed out near the end of the semester and collected to provide numerical ratings. Research studies have demonstrated certain factors do influence student evaluations of teaching, such as class size, student's expected grade in the course, student's GPA, whether the course is a required or an elective course, whether the course is in the student's major subject or not, the time of day for the class, etc. These are factors beyond your control for a given class and we discuss them no further. Ideally you would choose to teach only majors, a small class, and an early morning section rather than an afternoon section of the same course, preferably the honors section. Despite their questioned validity as metrics for teaching effectiveness, the average scores from standard student questionnaires are officially included in promotion and tenure forms at UIC and seriously used for promotion and tenure decisions, particularly at the level of campus-wide P&T committee. Great SET ratings may not be enough to get one tenured in the absence of strong indicators of scholarship, but poor SET ratings are enough to be denied tenure even in the presence of strong indicators of scholarship. So how do you improve your SET ratings?

1. Improve your teaching (not because it will improve your student evaluations but because teaching is a major reason why you chose to be a professor)

(a) Gain mastery of your subject.

(b) Use learning-focused tools for students who are still at the concrete-operational level:
(i) Give concrete examples of abstract concepts
(ii) Point out practical applications of the principles
(iii) Use graphics and other visual aids
(iv) Repeat difficult ideas, expressing them in various equivalent ways

(c) Provide systematic organization and structure
(i) Organize your course outline for students who need structure.
(ii) Provide all the rules for the course as a hand-out on the first day of class (schedule of exams, relative weights of various parts (homework, quizzes, lab reports, class participation, exams, final exam, absences, late penalties, your office hours, etc.).
(iii) Assign homework that is more challenging than the exams. One strategy to motivate the doing of homework, is to tell the students that at least one exam problem will be a homework problem and live up to this promise.
(iv) Ease your workload and use of paper, and also maximize convenience for students by creating a Blackboard site or else a course website to which you can upload all course materials such as the first-day hand-out including assignments, solutions to homework problems, exams and exam solutions, lab experiments, etc. to be posted at pre-determined times. And you can have all of it ready before the first day of class.

(d) Use feedback to monitor improvement in your teaching methods. Embed at least one specific question in your exams solely for the purpose of feedback for how

much better your students are learning and understanding that specific part of your material from one semester to the next, as you change your visuals, examples, applications, etc. and continue to improve the course.

(e) <u>Learn about The Affective Domain</u> by attending teaching workshops, or at least visit websites set up for the purpose. One example is On The Cutting Edge, for faculty in geosciences but with resources for enhancing teaching and learning for STEM faculty outside of geosciences. (http://serc.carleton.edu/NAGTWorkshops/STEMresources.html) When you visit this website, you will note that teaching the New Millennium generation is all about the role of the Affective Domain (from the Latin *affectus*, meaning "*feelings*") in learning. Student evaluations of your course will depend almost entirely on students' attitudes and motivations. Therefore, it is to your advantage to have a better understanding of the Affective Domain and teaching. As science faculty, we naturally emphasize the cognitive domain (acquisition of knowledge, followed by the more sophisticated cognitive tasks of comprehension, application, analysis, synthesis, and evaluation) in our teaching. In formal classroom teaching, the majority of the teacher's efforts typically go into the cognitive aspects of the teaching and learning, and most of the classroom time is designed for cognitive outcomes. Similarly, evaluating cognitive learning is straightforward, using problem sets, exams, reports, etc.

<u>Pay attention to the affective domain</u> (feelings, stereotypes, attitudes, values, motivation) since it can significantly enhance, inhibit or even prevent student learning. The relevance of the affective domain in teaching is that students' attitudes toward the teacher, science, scientists, learning science and specific science topics affect their learning the topics we are teaching. From the mentioned website we learn that it is all about attitudes, motivation, communication styles, classroom management styles, learning styles, use of technology in the classroom and non-verbal communication, of how not to turn students off by subtle actions or communications that go straight to the affective domain and prevent students from engaging in the tasks in the cognitive domain. The challenge is in maintaining academic rigor and content standards while attending to student needs and backgrounds

<u>Improve student attitudes with immediacy behavior</u>: Immediacy is the perception of physical and psychological closeness between communicators. Research has shown that immediacy is positively correlated with positive student evaluations.[1] Kelly Rocca lists nonverbal behaviors which are immediacy behaviors: gesturing while talking to the class, using vocal variety (non-monotone) when talking to the class, looking at the class while talking, smiling at the class while talking, having a relaxed body posture while talking to the class, moving around the classroom while teaching, looking very little at board or notes while talking to the class, removing barriers between self and students, professional but more casual dress, appropriate to the context. (This last applies to males only. Women faculty in male-dominated subject areas should always dress professionally to be taken seriously.) Verbal immediacy behaviors are: calling on students by name, using "we" and "us" to refer to the class, asking students how they feel about things, allowing students to call professor by his first name. (This last applies to males only. Women faculty in male-dominated subject areas should not allow students to call her by other than Dr. or Prof. so-and-so.)

2. Know what factors influence student evaluations and adopt non-verbal behaviors that are consistent with your own personality but which are known to enhance student ratings. Many studies have shown that non-verbal behaviors dramatically affected student evaluations.[2, 3, 4] The way in which a professor walks into the room or smiles at the class can affect student ratings much more substantially than what the professor says or writes on the board. Evaluations collected from individuals after no more than 0.5 minutes exposure to a silent video of a professor's lecture accurately predicted assessments gathered from students in the course at semester's end. [2, 5] Some nonverbal behaviors generate positive student ratings: (speech patterns, facial expressions and humor had the greatest impact). [6] With training and practice, some faculty members can improve their evaluations by mastering these kinds of actions. That is to say, using the exact same syllabus, lecture content, audiovisual materials, assignments, and exams, you the lecturer can improve your student evaluations by varying your vocal pitch and the extent of your hand gestures, for example, i.e., use non-verbal immediacy behavior. This has been demonstrated by Prof. Stephen Ceci, an eminent psychologist.[7] This case study by Prof. Stephen Ceci illustrates the substantial connection between a professor's nonverbal behaviors and student evaluations of teaching. Ceci used the identical syllabus, lecture content, audiovisual materials, assignments and exams in sections of the course. Videotaped lectures from both semesters confirmed identical content. <u>He only altered his vocal pitch variability and the extent of his hand gestures</u> between the two versions of the course. These small stylistic changes dramatically improved his score from overall 3.08/5.0 to 3.92/5.0 and dramatically improved his score on EVERY aspect of the evaluation form, including items such as instructor knowledge, organization, accessibility, textbook quality, fairness in grading, and other qualities unrelated to vocal pitch or gestures. For example his average rating in the category regarding instructor knowledge improved from 3.61 to 4.05, level of organization from 3.18 to 4.09, accessibility from 2.99 to 4.06, textbook quality from 2.06 to 2.98 and fairness from 3.03 to 3.72.

3. Accept the fact that lecturing is one of the performing arts; to the extent consistent with your nature, attempt to <u>entertain</u> while still maintaining academic rigor and content standards for the cognitive domain. This suggestion is based on a research study of students completing student questionnaires on teaching which reveal what students say about these instruments.[8] In this study, the categories were the usual ones found in most SET questionnaires. Rating sheets used had the following general categories (1) "the course as a whole," (2) "the course content," (3) "the instructor's contribution to the course," and (4) "the instructor's effectiveness in teaching the subject matter." Many students report that rather than reading the actual rating items, they locate a column on the form to reflect their general level of enjoyment in the course and then mark all of the rating items in that same column at that same value: "I find that it wastes my time, and it's boring, and anyways, the whole time I just fill in the fair or the good circle if I like the class, and I don't pay attention to the questions." Because their sense of enjoyment is so widely used by students as the sole criterion by which they rate every item on the form, their level of pleasure becomes conflated with teaching quality. The ratings these students give are not considerations of specific teaching behaviors; instead, their ratings represent their general opinion of the instructor's acceptability and likability. The students say so. A typical quote from a student in this study: "I would say personality would be the biggest contribution to a course an instructor could give, to make the course interesting by trying to entertain us while we're learning."

4. Understand that the best teachers do not get the best ratings. If, despite having acted on suggestions 1-3, your SET results are still not commensurate with your teaching efforts, do not be discouraged. Two recent studies found that, when learning was measured as performance in subsequent related courses (i.e., when deep learning was measured), teachers who made relatively large contributions to student learning received relatively low teacher ratings [9, 10] If the main goal is to instill deep, long-term learning, then student evaluations of teachers have serious limitations; research has shown that the best teachers do not get the best ratings.[11]

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[2] Nalini Ambady & Robert Rosenthal, Thin Slices of Expressive Behavior as Predictors of Interpersonal Consequences: A Meta-Analysis, *Psychol. Bull.* **111**, 256–274 (1992).

[3] Part I of Deborah J. Merritt, Bias, the brain, and student evaluations of teaching, *St. John's Law Rev.* **82**, 235-287 (2008) and references therein. This article is a thoughtful, very comprehensive review of research studies of nonverbal behavior and student evaluations.

[4] W. M. Williams and S. J. Ceci, How'm I doing?, *Change*, **29**, 12-23 (1997).

[5] Nalini Ambady & Robert Rosenthal, Half a Minute: Predicting Teacher Evaluations from Thin Slices of Nonverbal Behavior and Physical Attractiveness*, J. Personality & Soc. Psychol.* **64**, 431-441 (1993).

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[7] W. M. Williams and S. J. Ceci, How'm I doing? *Change*, **29**, 12-23 (1997).

[8] Jordan J. Titus, Student Ratings in a Consumerist Academy: Leveraging Pedagogical Control and Authority *Sociological Perspectives*, Vol. **51**, Issue 2, pp. 397–422 (2008)

[9] S. E. Carrell and J. E. West, Does professor quality matter? Evidence from random assignment of students to professors. *J. Polit. Econ.* **118**, 409–432 (2010). DOI: 10.1086/653808

[10] M. Braga, M. Paccagnella , M. Pellizzari Evaluating students' evaluations of professors. *Econ. Educ. Rev.* **41** 71–88 (2014)..DOI:10.1016/j.econedurev.2014.04.002

[11] N. Kornell and Hannah Hausman, Do the Best Teachers Get the Best Ratings? *Frontiers Psychol.* **7**, article 570 (2016) DOI:10.3389/fpsyg.2016.00570