

THE TEACHING EXCHANGE

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Students Know How Your Teaching Helps Them Learn

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Many faculty at Brown are committed to teaching well. But, how do we know if our teaching actually facilitates learning which will empower students to exceed the mere transfer of data? Departmental course evaluations frequently fail to provide faculty and graduate TAs with information about the sort of learning environment which students find most helpful. Inspired by our colleagues at the MIT Teaching and Learning Laboratory and with the assistance of the Office of the Dean of the College, the Sheridan Center asked undergraduates to respond to an e-mail in May asking them “What Kind of Teaching Helps You Learn Best?”

The most important result of the survey was that many Brown undergraduates have a very clear understanding of how they learn best and what faculty and TAs can do to assist them to achieve their educational goals. They know a great deal about their own individual learning style and the kinds of teaching environments and assignments which will challenge them to learn. The responses to the survey fell naturally into thirteen (13) productive learning experiences. We hope that you will find the results below useful and put them to good use in your classrooms and laboratories. You may wish to take advantage of the many “Teaching Tips” on the Sheridan Center website which deal with these different learning experiences: www.brown.edu/sheridan_center/Teaching_Resources/. References to these resources are at the end of each section.

We also hope that faculty and TAs will take the time to reflect upon how your own learning style affects how you teach. With the assistance of Prof. Brian Hayden, *Psychology*, the Center has created an online “workshop” to help you define your own learning style. Designed by a Brown alumnus with amusing graphics, it takes about ten (10) minutes to fill in. When you finish, you will have a sense of the impact your learning style may have on your students and some suggestions for altering them to accommodate a broader group of student learners in your courses. Here is the url for the “workshop” – have fun! www.brown.edu/sheridan_center/workshops/cognition_wkshop.html

We hope that you will read the survey results and try the “workshop”. Please send us your ideas and suggestions for how we can be of assistance to you throughout the year. The Center is also deeply grateful to the students who took the time to reply to the survey and hope that they feel that this brief survey will help communicate their concerns and suggestions about what sort of learning environment is most constructive for them.

Survey Results

“I learn best in small classes with a lot of class participation, reading and related short papers. It is important to have high support in the class, so it helps when everyone in the class is supportive. Smaller discussion sessions with organized TAs are very helpful. Bigger classes where professors never learn their students name never have any contact with some students are never helpful or a good learning experience.”

Although the number of responses to the survey was not statistically significant 227/5754, the quality of the responses, such as the quotation above, indicates the seriousness with which many Brown students approach their education. The students themselves identified the following categories as being essential sites for their learning, listed in order of volume of responses: 1) Class Discussions, 2) Independent Work (papers, projects); 3) Effective Faculty Presentation (lectures, labs, seminars); 4) Assignments which are connected to course learning goals, 5) Active Learning (hands on experiences, process-based), 6) Faculty Mentoring (recognition of students by faculty), 7) Student Presentations, 8) Class size, 9) Material connected to “real life application” including service learning, 10) Well-organized course with clear goals and objectives, 11) Group Projects, 12) Close Reading of course materials and 13) Assessment forms which promotes learning .

1) Class Discussion

This was the number one area which students cited as an important venue for learning. They understand that the process of discussing assigned topics, whether readings or lab homework, in conjunction with well-informed classmates and under the guidance of a faculty member facilitates substantive learning for them. Sample comments: a) “I learn best when we have guided discussions within the class when the professor specifically points the discussion to a certain question or issue and guarantees that students will not stray off the topic”; b) “Small classes with discussions are the best way to learn. When you have a class of less than 20, everyone can communicate, feel familiar with each other, and therefore understand each other's trains of thought and learning processes. While lectures are good for taking notes and acquiring information, sections are a necessity to review material and apply it to discussions relevant to the course”; c) “I learn best when professors give thoughtful discussion prompts to small groups of students. In my seminar

classes this semester this has been a particularly strong way of starting class. We walk in and there is a question about the reading to discuss with the people next to you during the first few minutes as everyone settles in. A great way to get going and a good segue into larger group discussion (presenting everyone's findings) or into lecture (giving more background info)" and d) "when all the students in the class come up with answers (in paper format) for a central question treated in the course and then present their findings to the class - followed by a discussion."

N.B. Although class discussions may seem easy to manage effectively, in fact they require considerable skill by the leader, whether faculty or TA. Chris Amirault's excellent *Teaching Exchange* article from several years ago provides useful suggestions for both experienced and novice discussion leaders:

www.brown.edu/sheridan_center/pubs/teachingExchange/jan2003/discussion.shtml

2) Independent Work

Students are well aware of the value of writing, whether in the humanities or the sciences, as a means of learning both data and methodology. The preponderance of students preferred frequent short papers throughout the semester to provide a way of keeping up with the assignments and track their progress. Here are some of the comments: a) "I learn best when I write papers or complete projects/problems sets. It forces me to process what it is being taught and helps synthesize concepts"; b) "I learn best with short response papers because it makes me read the book/material closely"; c) "I love frequent (like every week) short papers that demand constant expression of ideas - so that when it comes time for a longer paper, I have lots of topics and ideas that I have already been getting into, and I have the professors comments on all of those shorter papers, such that the long paper (maybe a research paper) is easier to get into and comes out far more developed than perhaps in a class that asks for only one or two long papers." Many students also appreciate the chance to do in-depth research and write a substantive paper based on their study: a) "I learn best with long research paper because, unlike with an exam, I go in-depth and don't forget the information once it is over"; b) "I learn best when researching something I care about, so longer, self-directed research papers are best."

N.B. Regardless of which length paper faculty assign, rubrics and carefully developed prompts can ensure that the assignment is substantive. There are several Teaching Tips on Student Writing and Assessment which faculty and TAs may find helpful.

3) Effective Faculty Presentation (lectures, labs, seminars)

Students care deeply about the effectiveness of faculty presentations of material in their courses. They commented on structure, use of technology and the value of using a

variety of media to the ability of a faculty member to reach a broad spectrum of learning styles. Sample comments included: a) "Lectures should be well organized and outlined"; b) "I learn best when the teacher mixes the media and approaches: slides + video + lecture + discussion all in one class in small, organized chunks"; c) "I learn best whenever professors are enthusiastic and actively engage the class instead of monotone lectures. PowerPoint presentations and handouts also help immensely".

N.B. The Center's *Teaching and Persuasive Communication: Class Presentation Skills*, available in both hard copy and online forms, may be a useful reference tool for faculty and TAs concerned about their effectiveness in this area. A revised edition will be forthcoming this fall. For those who are planning to use instructional technology in their courses, including PowerPoint, the Teaching Tip "Preparing to Use Instructional Technology" may be useful.

4) Assignments which are connected to course learning goals

Respondents were aware of the kinds of assignments which were most likely to help them learn the material, both outside and inside class. Students stated that they learned 1) "when the readings and assignments match up well with what's going on in class"; b) when they know "what the instructor wants me to get out of a particular assignment -there are set milestones on the way to completing a large assignment"; c) "when I think that the material from outside of the class, predominantly reading, are neither summarized during lecture nor neglected from being engaged"; d) "when I am held accountable for readings" and e) "most in classes in which there are frequent assessments of understanding, be they daily/weekly quizzes or active discussions of the reading materials."

N.B. Teaching Tip "Redesigning Course Assessments" by Eileen Landay and the *Teaching Exchange* article "Constructive Student Assessment and Course Evaluation" are available on the Center's web site.

5) Active Learning (hands on experiences, process-based)

Many students indicated that they have a well-developed sense of their own learning style: visual, kinesthetic, or auditory, as well as active versus passive reception of data. Here are some sample responses: a) "I learn best when I am a partner in the learning process, rather than a receptacle to be filled with information"; "I learn best when there's no pressure to be perfect, to have to get everything right. I write best when I think of a paper as a work in progress - that one's always doing what one can, at this moment, to make it as good as can be. The process, not the finished product, helps me learn" and c) "I work hands-on with what ever I'm studying. I really like to apply what I learn and not just talk theory."

N.B. Interested faculty and TAs may find Prof. Brian Hayden's Handbook "Teaching to Variation in Learning" (available in hard copy and online forms) useful. Making sure that your courses reach the broadest range of learning styles are also addressed in two other resources on the Center's web site: "Implementing Universal Instructional Design in College Courses" and "Signs of Diverse Learning Styles: Hints for Instructors."

6) Faculty Mentoring (*recognition of students by faculty*)

Brown students are clear that they believe that direct contact with faculty and TAs, whether in sections or labs, as advisors/mentors or even large lecture classes, improves the quality of their learning experience. Amongst the respondents who stated this view were the following thoughts: a) "I learn best when the teacher seems to care about how I apply the material, whether he or she explains to me why my paper/project is significant or interesting or goes out of the way to give me solid feedback. I tend to learn best when the teacher knows my name and asks me personal questions before class. That makes me think 'If I get stuck, this professor is going to know my name and will probably try as hard as possible to help me.'"; or b) "Close professor-student relations give me the opportunities to ask questions about and offer interpretations on the material, and such opportunities greatly add to my learning experience. In large lecture classes, in which such relations are impossible, accessible TAs and faculty members are extremely valuable in improving my learning experience."

N.B. Faculty and TAs may find that starting the course off with a questionnaire for students about their learning goals as well as their level of expertise, useful. The Teaching Tip "Identifying your Audience - Student Questionnaire" provides a sample you may adapt for your own course.

7) Student Presentations in class

Presentations by students in class were frequently mentioned by students as a useful means of rehearsing what they were learning to solidify learning. For example, students stated that class presentations offered a) "a creative way to present it, or teach it to the class. I feel that when I can effectively teach something, I really get an understanding of the material" or b) "student presentations force you to describe an issue that you understand at great depth at a level that makes it approachable for people with little to no background in the subject. That means that you really understand the topic."

It was clear however, that students were aware that presentation assignments needed to be well-planned by the faculty member to ensure that the experience was a productive one: a) "Student presentations are good, but need structure to ensure participation by other students (such as requiring other students send in questions about the reading beforehand) or b) "Preparing presentations is useful, but listening to other student

presentations is less helpful. They can take up a significant amount of class time and are often on highly specific topics that only the presenters have enough background knowledge to understand.”

N.B. There are two “Teaching Tips” on the Center website dealing with Student Presentations.

8) Class size

Class size proved to be an important issue for many students, in particular small classes, regardless of whether or not they are seminars or lectures. In fact, one student expressed the opinion that even large lecture classes could be made more effective through a thoughtful teaching strategy. Here are some examples of how students believe they learn best: a) “This means that the classes have to be small. The best class I’ve ever taken here was my first-year-seminar because the teaching was so accessible to all of us’; b) “I learn best in smaller classes where students realize that discussion is an integral part of the course are much more interesting because the students do the work since it is obvious if they don’t, and everyone learns much more through this dynamic interaction”; and c) “I learn best when discussions or problem sessions are done in small groups of about 5-10. Of course lectures and sections exceed this size, but I think large classes can be broken down into more effective, small groups. Then the small groups can share their solution/conclusion to the larger whole.”

N.B. There are several books in the Sheridan Center Resource Library on how to manage lecture courses to simulate small class sorts of learning experiences. In addition, faculty may wish to see the suggestions of their colleagues in the Teaching Tip “Strategies for Teaching Large Classes: Recommendations from Brown Faculty” on the Center’s web site.

9) Material connected to “real life application, including service learning

Many students expressed a preference for learning about a subject through “real life” application in class or having a service learning component be carefully incorporated into the course goals and objectives. They were clear that such a learning experience could occur in courses across the curriculum, not just those traditionally associated with social service work. For example, students stated that they learn best when a) “learning takes place in a real life setting with real life consequences and accountability” or b) “I learn best experientially, when I am learning through hands on, first hand experience with the material. I learn best through service learning and when I feel as though my knowledge will lead to positive change in the world, when I feel as though the knowledge I am accruing is relevant” and c) “Service learning has been a powerful learning tool for me.”

N.B. Faculty wishing to learn more about how to incorporate service learning into their courses should contact the Swearer Center. Swearer Center Senior Associate Director's Kerrissa Heffernan has written a helpful manual on how to accomplish this goal and a copy is available in the Sheridan Center Resource Library.

10) Well-organized course with clear goals and objectives

Students feel that courses in which the educational goals and objectives are transparent facilitate the quality of their learning: a) "I learn best when provided a clear and accurate syllabus so I am not required to frantically check a wiki or blog multiple times a day wondering if I have missed something" and b) "I learn best when a course is highly structured and the professor makes use of outlines or visual materials to help organize class content. In addition to helping me understand how the parts of the lecture fit together, this format tends to prevent instructors from straying too far from the topic at hand."

Students value courses in which "the professor is organized with a power point, important picture slides on webct, etc.; sticks to the syllabus very well; the paper questions are posted far in advance so that the students can organize their time (with their other classes and extracurriculars)" and those in which the faculty member has carefully planned the structure of the course assignments in order to ensure a productive learning experience, as in "I learn best when everyone has done their reading prior to the class meeting, and we use class time to solidify and expand our understanding of the material through small group and class wide discussions. ...the best course format for my learning. The material was presented in case study form; we held study group meetings to discuss the material prior to the seminar meeting. We also wrote short memos prior to class (which could be amended after class if our views had changed). [the professor] acted more as a facilitator of class discussion than a lecturer."

N.B. The Center's "Constructing a Syllabus Handbook" (available both in hard copy and online forms) may provide useful suggestions to address these concerns.

11) Group Projects

While the preponderance of students expressed a preference for independent work, especially papers, many students also expressed a preference for group projects. They understood the educational value of such collaborative work, "Group projects are also beneficial, as I have found that collaborating with other students helps me in further understanding material brought up in class." On the other hand many students stated that group projects require careful monitoring by faculty in order to ensure that everyone is learning, "Group projects are great in small seminars in which the course itself is a group project of sorts and working in smaller groups allows students to focus even more and to

enter even further into meaningful dialogue with each other (an extension of the dialogue that has been going on in class). I dread group projects in larger classes wherein not all the students may be as "integrated" into the course and as interested in it."

N.B. The Sheridan Center Resource Library contains several articles on teaching through group projects.

12) Critical Reading of course materials

Explicit "critical reading" during class is deemed a useful learning tool by a number of students. They value the chance to use class time to develop a deeper level of understanding of a text, as in a) "I learn best when assigned reading is dissected and discussed in class rather than left for students to interpret on their own" or" when the class focuses on examples specific enough to go in-depth (rather than "breezing through" a thousand topics per day, barely touching on them). This is the greatest flaw I have seen in my classes here at Brown."

N.B. There are two Sheridan Center "Teaching Tips" on this methodology on the website.

13) Assessment forms which promotes learning

Finally, several students addressed the issue of assessment and how it impacts their learning. Comments included concerns about rigorous feedback on writing and the types of tests which students found helped them master the material assigned in the course. For example, one student remarked "all tests should have some problem solving or short answers- only multiple choice is very impersonal and does not access the creativity of our understanding, both in science and the humanities."

N.B. Faculty and TAs may find several of the Center's Teaching Tips on Assessment of Students helpful as they design and teach their courses.