

THE TEACHING EXCHANGE

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Faculty Forum: Teaching at Brown

Brown faculty have much to share with colleagues about the innovations they have introduced into their pedagogy. This forum addresses questions about student learning in higher education. How do faculty effectively teach students who enter Brown with widely diverse levels of preparation in basic skills and subjects; Many thanks to Beth Zielinski-Habershaw (Bio-MPPB), Andries van Dam (Computer Science/ Vice President for Research), Bil Johnson (Education) and Josef Mittlemann (Engineering). The "Faculty Forum" is a regular feature of The Teaching Exchange and we hope that YOU will be inspired by these ideas to share yours in a future edition.

Diverse Preparation (and Levels) for Learning at Brown

Beth Zielinski-Habershaw (Adjunct Assistant Professor Bio-MPPB)

Teaching students that have entered my course with disparate levels of preparation is probably my most difficult issue. I tend to try and teach the subject matter in the most direct and comprehensive way possible. Students who are eager to grasp new ideas and are very new to the subject matter really seem to appreciate and enjoy this particular method of teaching. Students who are a little more advanced tend to get a little frustrated. Is there a happy medium?

Andries van Dam (Computer Science/ Vice President for Research)

In the intro Java course CS15 I have a "newbie" sections for students w/o any background in the subject (none is strictly required but most students have some, leaving the novices at somewhat of a disadvantage). Hence we provide choices for which kind of section a student participates in.

Bil Johnson (Senior Lecturer: Social Studies/History, Education)

Input vs. Output: Are secondary school students prepared to benefit from Higher Education?

Well-known educator Grant Wiggins often asks the question in his work with teachers - "If students took their final exams one year later, without their courses in front of the test, how would they do?"ⁱ The question is based on an assumption that if a student has scored well on a final exam --- even an exam like the New York State Regents (in any given subject) --- they somehow "know" the material; they have "learned" that subject. Yet when I ask this question of teachers in workshops around the country I consistently get the same reaction: eyes roll, heads shake, sheepish smiles unfold. We all know that the way most secondary schools work is that students spend about 179 days preparing for a three-hour Brain Dump in some gymnasium in June. So, if we all **know** this, why does it persist? Why do we continue to go through the motions of educating our students when we are relatively sure that one year later they will have forgotten just about everything from the year before? The power of the unquestioned assumptions strikes particularly hard here --- and is at the core of what this question is about.

The way this educational system is designed --- from curricular organization, to scheduling, to assessment --- puts an emphasis on **INPUT** [data] rather than **OUTPUT** [learning]. What's important in most classrooms is that the Teacher Teach, not necessarily that the Students Learn. It's not that teachers don't want students to learn - it's that the system is so entrenched in the Unquestioned Assumptions we are examining here, that people don't really know *why we do what we do the way we do it*. Like any good institution, schools continue to operate *because they are there*, not because they are necessarily fulfilling their purpose.

This is a harsh indictment, I know, but if we look at the facts, if we go into the secondary schools in this country (and, yes, even many of the independent schools) we will basically see what we have seen there for at least the last half-century. Teachers are at the front of the room, behind their big desk, often at the blackboard, talking, talking, talking while students sit (often in straight rows, despite the fact that desks are seldom bolted into the floor as they used to be) listening (or giving the appearance of listening), sometimes taking notes (particularly if the Code Phrase "This is going to be on the test" is issued) and basically never seeing the connection between what goes on in the classroom and their "real" life.

For all the talk of "accountability" in education, there is little that focuses on discussing what substantive *evidence* of student learning would look like - other than more test scores. This is the OUTPUT model that I would ask people to focus on and talk about, rather than how many more tests we need to give students to make teachers more accountable. A clearer focus on what students need to **be able to do** (rather than just what data they should know) in a discipline, course or essay assignment would provide a clearer

path to the kind of evidence teachers should be collecting to prove, in fact, that students are actually learning anything in school [or later in college or universities].

Josef Mittlemann (*Engineering*): Engineering and the Field Case Study Assignment

I created and assigned an innovative new term project for EN 9 this past spring. It took the place of a final paper but was also woven into the entire semester as you can see from the website syllabus and other website documents. The course is paper free so please feel free to surf the website [www.engin.brown.edu/courses/en9/spring]. The assignment is in three parts and the grading criteria are at the end.

Part I: An important part of this course involves the preparation of a *Field-based case study (Field case)* - in other words, a study that includes contact with the individuals and companies involved. Historically, case studies have been created as discussion-based teaching tools to support the application of concepts and learning to specific subject matter or situations. These cases will be no exception. At the same time, they provide a medley of opportunities:

A. Case Study

1. To learn how to distinguish and articulate a critical issue(s) in an organization. Each case study will concentrate on a specific issue critical to the organization students will be working with.
2. To learn how to research this issue, including questioning of participating parties and developing conflicting analytical positions and alternatives. Case studies are meant to be mimetic of real situations.
3. To deepen knowledge and understanding of course concepts by applying principles students have learned while dealing with issues of newly emerging data.
4. To develop the ability to exercise judgment and discretion as students manipulate the flow of information necessary to producing the best teaching product for potential future readers and users of their case study.
5. To work with and develop a relationship with a volunteer alumni protagonist within their existing company.

B. Teams

Students will be assigned to teams of three or four, based, as best as possible, on their stated preferences for the type of case or area of study. For example students will indicate preferences for cases about: *strategic planning, marketing, operations, entrepreneurship, finance, human relations and culture or social enterprise*. Three documents are due from you to fulfill this assignment.

1. The case: In your teams, prepare a case study of no less than 7 pages, single spaced (font and size-Times New Roman 11) and no more than 11 pages. In addition to the body of the text, you should include relevant exhibits. They should not exceed 8 pages in length. There will be ample support for you in this project. Details to follow.
2. The Teaching Notes: In addition to the case study, which is group produced, you are expected to hand in, individually, your own teaching note of approximately 500-600 words. This will be explained in part 2 of the assignment.
3. Takeaways: Last, you are expected to hand in, individually, your takeaways. Takeaways (250-500 words) are what you have learned from doing this project. This will be explained in part 2 also.

Part II: In Part II, the assignment from Part I is recapped and expounded upon. The second focus of Part II is to provide students with support materials covering: how to engage with alumni; what makes a good case study and preplanning for the interviews.

Part III: Purpose - To give guidance for holding the interviews and writing the case.

ⁱ Grant Wiggins was a lecturer in Education at Brown in the M.A.T. program from 19...**