

## Teaching Philosophy

Teaching became an unexpected pleasure for me in my second year of graduate school, when I was offered the role of primary instructor for the Introduction to Human Factors course. Although one's first semester teaching is often a hectic and nerve-wracking experience in itself—withstanding the additional workload of preparing and giving lectures, grading, and answering students' questions—I found it extremely gratifying. As that first semester ended, it was clear that my students had learned a great deal, and that we had formed a small, but real, connection. I was eager to teach the class better a second time, and in fact I have had the good fortune of being able to teach the class for another six semesters.

I believe that students learn best by doing, and this forms the most central tenet to my teaching philosophy. A significant proportion of the final grade in my human factors course has always been a group usability test. After students are introduced to the basic principles of good design and given common examples of how these principles are frequently violated, students are asked to look at the systems and devices that fill their everyday lives—to choose and then evaluate one of them according to the standards from class. As they are introduced to the human-centered iterative design cycle and human factors methods, they organize into groups that practice what they have learned on one of those unfriendly systems. After completing a full usability test, the project culminates in a formal presentation of their work, as though to corporate clients for whom they have consulted. Students also prepare an APA-style manuscript of the research as though it would be published in a journal for other academics and professionals in the field. As one student wrote in an end-of-the-semester evaluation comment: “I thought the semester-long project was a great way to integrate everything that we learned.”

Students' active learning is not merely an activity carried on outside the classroom, but is also incorporated into the class. In the unit on research methods, nearly half of the instructional time is devoted to hands-on activities. Students learn key steps and mistakes to avoid in each method by practicing in groups and discussing afterwards as a class. In more content-focused units, students paraphrase concepts in their own words and generate real-world examples and applications. This approach has proven more effective in student retention and engagement—as well as in transfer to applied assignments—than simply offering my own expert definitions and examples.

I also subscribe to the inverse of an aphorism often attributed to Lord Kelvin, that “what doesn't get measured, doesn't improve.” Before working as a primary instructor, I served in an assistive role for online sections of two different courses: Introduction to Psychology and Introduction to Research Methods. In the former, the only grades were three exams; the latter included weekly assignments. Student engagement was markedly higher in the research methods course, as students were regularly held accountable for the material they needed to learn. In my

own classes, when the material from course readings relates directly to what students themselves will do in their group project, they know they can expect to be quizzed on it and otherwise held accountable for the material. Moreover, the group project itself is carefully scaffolded. The project is broken up into smaller components that build upon each other, with regular due dates, and quick feedback that may be implemented into the next component. I have found that this model emphasizes accountability not only for students, but also for the instructor. I strive to provide an opportunity mid-semester for students to honestly and anonymously communicate what is helpful or counterproductive in my classroom. I take this feedback seriously and consider how it can be implemented for the remainder of the semester without undermining the other pedagogical goals of the course.

A psychology course ought to train students to think as researchers. It is important that students are exposed not only to the condensed and synthesized results of research, or to the general concepts of reliability and validity, but also to the studies themselves—the construction of their hypotheses, and their methods and designs. If possible, teachers should provide relevant, brief, and readable scholarly articles and other primary sources, as appropriate to the class's ability, to give students experience in the skill of critically reading research. In my class, students are constantly generating hypotheses in response to the phenomena that they observe: they often hear me ask, "How would you test that?"

Because I have been able to teach a course in what is also my primary field of study, my teaching has benefited from a natural enthusiasm for the subject. In an end-of-semester evaluation, one student wrote, "He made it interesting and enjoyable to learn—something that is difficult to do with an 8:30am class. He definitely has an interest in the material, and I could tell he put an effort into preparing for his lectures which I found helpful." Perhaps most encouraging is that several former students have decided to pursue further study in human factors, and gone on to work as some of the more productive research assistants in our lab. In my own mentorship of undergraduate research assistants, I have striven to adapt and continue honing the principles of my teaching philosophy: learning by doing, keeping accountable, focused on the student, focusing towards research. One former student who worked closely with me for several semesters is now enrolled in a master's program. Witnessing the long-term impact of your teaching on others has been the single most rewarding aspect of this experience. I look forward to more students like these in the years to come.