

Teaching Statement for Steve Zdancewic

Besides having taken many courses—good ones, taught with enthusiasm, clarity, and purpose, and not so good ones, taught without interest, organization, or direction—my perspective on teaching has been influenced most by three experiences.

The summer of my second year of graduate school, I presented twelve lectures on category-theoretic semantics of programming languages to a group of graduate students. I had been reading the material, and, since the others in the research group were interested, I volunteered to give a mini-course on the subject. Preparing the lectures after having so recently learned the material really showed me that the true test of understanding an idea is the ability to communicate it to others. I found that I learned the material much more thoroughly in the process of trying to explain concepts and answer questions.

I have twice been the teaching assistant for the graduate level class that covers programming-language semantics, the lambda calculus, and type theory. In addition to working closely with the professors (Greg Morrisett and Andrew Myers) to design and grade homework problems and exams, I also gave lectures on the SML programming language. Office hours, because they offered a chance to work one-on-one with the students, were the most enjoyable part of teaching these classes. Both times I was awarded an Outstanding Teaching Assistant award by Cornell's Computer Science Department.

The most extensive teaching experience I have had was instructing a four-week pass/fail course that prepared sophomores for upper-level classes that use Java. I decided on the course material, prepared three one-hour lectures per week, designed the homework projects, and managed three course graders. There were approximately 40 undergraduates enrolled in the class, most of whom had never programmed in Java but did have some programming experience in Scheme or C++.

As this was my first “real” teaching job, I was a bit nervous about the first day of class. I started the lecture by confessing to the students that it was my first time teaching and that they should let me know whether I did anything wrong. I think doing so helped break the ice and made the students more comfortable. From the outset, I was able to encourage classroom interactions (starting with comments that my hand writing was crooked!), which paid off because the students were at ease with asking questions. As a result, I was able to tailor the class to what the students already knew. I learned that it is important to establish rapport with the students, to be up-front with them about your expectations, and that a little humor helps immensely.

These three experiences have convinced me that teaching is challenging, fun, and rewarding. They also strengthened my belief that honing teaching skills is a valuable goal in itself. To that end, I have participated in two day-long workshops, sponsored by Cornell's Engineering Graduate Student Association, dedicated to improving teaching proficiency. One workshop focused exclusively on different ways of assessing students—homeworks, exams, projects, peer-evaluation, *etc.*—depending on the goals of the course. The other gave a broader view of the life-cycle of a course, from determining content and textbook selection, through lecture preparation and course pacing, to evaluation and feedback from the students. The ideas in these workshops should be a fruitful starting point for designing future classes of my own, but I also look forward to learning how to be a better teacher the same way, in my opinion, students learn best: by hands-on experience.