Teaching Statement

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As an undergraduate, I sought out classes taught by professors who were passionate, knowledgeable, and engaging. I try to be the type of educator whose class I would have been excited to have taken, through a combination of preparation, interactivity, and flexibility.

Lecture

I use several strategies to communicate lecture material to as much of a class as possible, regardless of the number of students or the breadth of their backgrounds. My teaching philosophy is to deliver project-based courses where students work in small teams on practical term-long projects. Examples include:

- **Energy.** I prefer an enthusiastic presentation style because I've observed that students typically rise to the energy level of the instructor. I cultivate this in lecture preparation: I start by reminding myself, at a very high level, why the material (which I may have learned a long time ago) is interesting. I also use change-ups and humour to help maintain student concentration.

- **Questions for the students.** When preparing a lecture, I note points where it might be beneficial to pose questions to the class, and I look for such opportunities on the fly. I always wait for a student to volunteer an answer before moving on, and I am upfront about this policy so that the students will not try to wait me out. This strategy works remarkably well for encouraging widespread participation. In my experience, waiting an additional few seconds for answers strongly increases the probability that non-"front row" students will raise their hands.

- **Questions from the students.** I often stop to check for questions, making sweeping eye contact, especially with the back row. I repeat student comments and questions to make sure that the entire class can hear them. I also work hard to find the insight behind a question to explain why it is interesting so that I can give every participant meaningful praise. My lecture speed is deliberate and includes frequent pauses, which allows students time to take notes and ask questions. I developed this habit in my first year of graduate school when I taught a section that included a hearing-impaired student; speaking slowly and pausing frequently was necessary to give his interpreter time to translate.

I have used these strategies as a teaching assistant in a variety of course types and sizes, including a large lecture-based introductory course; a smaller, upper-level technical elective. The class sizes have varied from 30–50 students.

Research Mentorship

As a research mentor, I work with undergraduates and junior graduate students to identify and scope research problems, design experiments, and analyze results, with the goal of successful paper submission. To date, I have worked with three Honours students, one Masters student and one PhD student, leading to a successful Honours degree, two publications in preparation, and one published conference paper.

As a mentor, I try to be flexible and tailor my management strategy to the student. For example, I found that one bright student needed closer supervision than his initial performance would suggest. I discovered that the issue was actually of technical problem: he (silently) stuck to programming challenges when doing program analysis. I requested a meeting with this student to discuss his progress. This allows me to communicate with student individually so I can better understand what factors are affecting their progress. When I know what causes students to underachieve, I can directly teach the student how to do the experiments. Although the students were very different, they both contributed meaningfully to published conferences and journal papers.

Conclusion

In short, I enjoy teaching. I try to be a prepared, mindful teacher; I interact with students to keep them engaged and tailor the material to their needs, and I think flexibility is important. My experience so far suggests that I am effective as a lecturer and a mentor, and I hope to have many more opportunities to serve as both.