

Teaching Statement

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In 1999, I directed *Faustus*, my own one-act adaptation of Christopher Marlowe’s classic, for DramaTech, Georgia Tech’s (GT) student-operated theatre. The show swept the one-act awards (best show, actress, actor, and technical) at that year’s awards banquet. A theatre production is a complex learning situation. Cast and crew bring different experience, expertise, and creativity to their diverse roles. The director provides a vision and enables others to contribute to that vision. *Faustus* was a success because I, as director, led everyone to work together towards a common goal.

In 2002, I was the instructor for GT’s educational technology class, a small senior-level CS elective. On the last day of class, one of my students remarked, “this is the first class I’ve taken where I know everyone in the class.” This is the kind of learning environment I hope to create: one where students work together to increase their understanding. In that class, in addition to traditional lecture, students took part in small-group discussions, collaborative simulations, student-led software demonstrations, *etc.* Outside of class, students used collaborative websites to participate in discussions, to mark-up class readings, to summarize articles, *etc.* For the major design project, students worked in small groups, frequently sharing their progress with their fellow students.

Whether in the theatre or the classroom, I prefer to be the director (the guide on the side) instead of the actor (the sage on the stage). A good director enables the actor or designer to realize their potential by actively engaging the material. To the extent that it can be done, my teaching philosophy is to apply that same approach in the classroom. While lecture can be useful and engaging, learner-centered activities allow students to engage the material in a different manner to deepen their understanding.

Whether in the theatre or the classroom, I value skills and creativity over memorization. Just as an actor needs to do more than memorize lines and stage directions, a student needs to do more than memorize and regurgitate material. Though skills of debate and design are harder to evaluate on a test, they are often crucial to deep understanding. As a designer and developer, I appreciate the need for this kind of understanding. Therefore, as a teacher, I value collaborative and project-based learning. Through collaborative learning, students learn to articulate and reflect on their understanding, connecting it to course content. Through project-based learning, students learn to put that understanding into concrete practice.

As a learning scientist, there is a synergy between my research and teaching. My research is concerned with applying innovative techniques and technologies to learning and studying them in a meaningful context. A classroom can be such a context. For instance, I created a new design method for creating educational technology and studied it in an educational technology class [j3]. While that contributes to research, it also contributes to teaching. Were I to teach that class again, I would draw upon that research to inform my teaching.

This synergy is perhaps the strongest contribution I can make to teaching at any institution. As a researcher, I developed CoWeb, a collaborative website system, to support collaborative learning in university classes. CoWeb is popular at GT and at other universities; over 300 classes at GT—in fields as diverse as Architecture, English composition, Engineering, Mathematics, and CS—have used CoWeb to complement classroom learning with a variety of collaborative activities [j4]. As a teacher, I have used CoWeb to support collaborative learning in my classes.

I am confident that I can be an effective, engaging classroom teacher. I have taught two classes: the educational technology class mentioned above and a required sophomore-level class on object-oriented design. For the former, the class was entirely in my control. I created the syllabus, led class lecture and discussion, designed assignments and exams. For the latter, the class was already well established, with prepared slides and a textbook. In the first semester, I taught from the prepared slides. Over the next two terms, I modified the course content and lectures to better fit with what I felt were the essential goals of the class and what problems students had with the current content. In addition to lecture, I prepared the assignments and had course-ownership responsibilities, such as managing the five teaching assistants. I believe that these diverse experiences prepare me well for teaching a variety of undergraduate courses.

I feel comfortable teaching introductory programming and object-oriented programming. Based on my research, I feel comfortable teaching educational technology, computer-supported collaborative learning, mobile and ubiquitous computing, and human-computer interaction at the graduate and undergraduate level.