STATEMENT OF TEACHING EXPERIENCE, PHILOSOPHY, AND INTERESTS

Alan Wagner
Georgia Institute of Technology

1. TEACHING EXPERIENCE

My philosophy as a teacher is informed by my experiences instructing a diverse set of students ranging in age, nationality, and educational experience. Prior to attending Georgia Tech I was an instructor at Boston University. I taught a 3 hour course one night a week to adults working part-time towards an undergraduate degree in computer science. The students in this course were tired, yet driven souls focused on completing their degree, but also dealing with the challenges that plague an adult learner with a fulltime career. I have also taught students abroad. While working on my PhD I had the opportunity to travel to Korea with my adviser to assist in teaching a graduate level course in robotics to students at Korea University. Success meant navigating the language and cultural barriers that tend to impede learning. When issues related to plagiarism arouse, I counseled and educated these students on how to create original work. This meant not only conveying and communicating the idea behind the term 'original', but also educating the students on how to create work that is original.

In addition to teaching courses, I have also mentored two doctoral students and several undergraduate students. I have learned that mentoring students required me to individualize their guidance and personalize the way that I motivate and evaluate each student. One current PhD student that I advise is extremely independent and thrives when working through problems himself. My other PhD student prefers to have an agreed upon list of predefined tasks. For me, adjusting my style of advising to the student's needs has resulted in a harmonious and productive collaboration. I have also had the unique pleasure of coaching five different elementary school Lego robotics teams. Focusing the excitement and energy of 10 year olds requires dedication, patience, and predilection for silliness.

2. TEACHING PHILOSOPHY

My previous teaching experiences have strongly influenced my conception of how learning occurs. Moreover, my research related to social interaction and trust has taught me the importance of modeling my students and trying to understand their motivations. I feel that learning transforms a novice with an interest in a topic into an individual which can conceptualize, relate, and synthesize ideas from a field to meet their personal or professional goals. To me an instructor should try, as much as possible, to understand their student's individual motivations and use this information to adjust their instruction to the needs of the student. My aspiration as a teacher is to develop courses which transform to meet my student's diverse needs and goals. Fostering mastery, when mastery is valued, fostering competence when competence is needed.

Not all students have the same motivations. For instance, I recently developed a new social robotics course that I hoped would nurture the skills necessary for success in Georgia Tech's robotics doctoral program. Yet, only Master degree seeking students registered for the course. I used the first two class periods to learn about the students and discover their goals, reasons for

taking the course, and how I could shape the course around their needs. Instead of focusing on research papers, I included exercises such as one-minute presentations that afforded them an opportunity to hone the presentation and communication skills necessary for job interviews and a research project that allowed them to gain experience developing tools for a robot simulator.

Having taught students from different backgrounds, I find that it is important to use a broad range of methods when communicating and assessing students. My experiences managing language barriers, for example, helped when I later taught a continuing education course to program managers from the Naval Systems Air Command (NAVAIR). Creating material that was engaging and informative for individuals making decisions about our nation's investments in science and technology forced me to once again adjust my instruction to the needs and goals of the students. For this course, I began by introducing terminology to ensure that I could communicate with the students. Throughout the remainder of the course I continued to emphasize the terms used in the field to aid the student's understanding. Typically, I also utilize a variegated set of measures to assess students. These assessments range from participation in panels and debates about research topics to software development projects which engage independent thinkers. Moreover, the diversity of today's students challenges even the most experienced teachers to find new and interesting ways to present, engage, and be spontaneous. With this in mind, last year I completed a 24-week course on improv in order to become a more instinctive and dynamic lecturer.

3. Teaching Interests

As my philosophy implies, I enjoy teaching courses that span different academic levels and disciplines. One of my goals as an instructor is to develop curricula for undergraduates that is both challenging and engaging. For example, I hope to teach a hands-on course for undergraduates that require the students to design, construct, program, and test a socially interactive robot. The course would require that students consider the needs of the system's users from the beginning.

My research is inherently interdisciplinary and I strongly believe that courses which bridge different disciplines can offer a valuable experience to students. I hope to grow as an instructor by co-teaching cross-disciplinary courses that introduce students to different perspectives, while also creating a collaborative relationship between the instructors. Recently, I collaborated with Professor Ayanna Howard on a proposal to create an undergraduate minor in Biomedical Robotics. The minor would offer students an opportunity for interdisciplinary education that bridges the medical and robotics domains. As part of this program, one of my goals is to develop a course with a healthcare practitioner that focuses on the application of methods from human-robot interaction to healthcare settings. The course would focus on patient-robot interaction examining the vast challenges associated with robots attending to physically challenged, infectious, or cognitively impaired patients.

In summary, my pedagogical philosophy is strongly influenced by the methods I have been developing as part of my research. These methods highlight the importance of individualizing one's social behavior to facilitate interpersonal collaboration and learning. Whether the student is a novice or an expert, I am dedicated to providing material that will impact the pupil and resonates with their diverse backgrounds and educational needs.