

Teaching Statement

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My goal as a teacher is to foster the learning experience of my students. My approach to teaching, however, is constantly evolving as I gain more experience. When I first started teaching my approach was to adopt methods that benefitted me as a student. With experience I have learned that teaching methods and styles should adjust to accomodate different students with different mathematical backgrounds.

I have had the opportunity to teach many different classes, in various capacities to students from diverse backgrounds. Currently, I am instructing the second course in the calculus sequence at the University of Arkansas. Last year, at the College of the Holy Cross, I was the instructor of calculus classes with two different emphases. Calculus for Physical and Life Sciences is designed for students majoring in the natural sciences and it is a rigorous tour of single variable calculus with an emphasis on examples from the natural sciences. In addition I taught a two semester sequence calculus course for students in the social sciences. I have also been an instructor with full responsibility for courses in algebra, statistics and business mathematics. As a graduate student I was a teaching assistant for all levels of calculus courses. As an instructor, I have taught at public universities and private liberal arts institutions in the US and abroad to audiences of various sizes, from large lecture classes of about 100 students to smaller classes of about 15 students.

I have found that class participation is a key factor in helping students understand concepts and keep up with the material presented during lectures. I have worked hard toward this goal and achieved a high level of student participation in my classes. When I first began teaching I realized that it was difficult to know which students truly understood the material. Grading the first assignments showed me that even though students might say they understand when asked, many times they do not grasp the concepts in depth. When students participate in class by answering my questions or asking their own, I am able to be a more effective teacher and help them understand the material. To achieve this goal, when I prepare my classes I am flexible and allow for additional discussion time, and demonstrate the concepts using many examples.

I also design group assignments on which students work together at the end of each class. I learned about this method from one of my professors. As a teaching assistant for one of his courses I noticed that his class was very interactive. To find out how he achieved this, I attended several of his classes one semester and discovered that he assigned group work at the end of each class. Since then I have adopted his method with much success. I have students work in small groups at the end of each class while I go around visiting the groups and providing help as needed. All students benefit from working together. The influence good students have on their peers is great. Moreover, working together during class helps students know each other and many of them begin studying together outside class. As an added benefit of group work, students realize much faster where they have difficulties and come to office hours to get help in a timely manner.

As a teacher of mathematics, I believe my primary responsibility is to convey mathematical ideas and help students think and reason logically. Towards this goal, the appropriate use of technology can be very beneficial. In the past, I have used graphing calculators as well as computer software programs, such as Maple, to enhance my teaching. I have found that using programs like Maple is very helpful in clarifying many ideas from calculus. I have been coordinating lectures and labs for optimal use. For example, I have my students use Maple to experiment numerically with some concepts before I introduce them in class. Gaining familiarity with a concept by numerical means helps students understand and appreciate it when we discussed it in class. As a teaching assistant at Texas A&M University, I was responsible for computer labs and recitations, but not lectures. Although the longer Maple projects helped students, very often they felt a disconnect between the mathematics learned in class and the computer laboratories. Being in charge of lectures as well as labs allowed me to use both meetings in a way that benefited students most. I always make a point in showing students that technology is only a tool, a useful one, but not a substitute for understanding mathematical concepts.

I believe the role of an educator should extend beyond teaching, to include duties such as student advising and mentoring. In order to further equip myself for this role, I have attended several teaching and advising workshops. The academic advising workshop I attended while at the College of Holy Cross gave me a better understanding of how to take a broader view of such responsibilities.

I constantly strive to improve the quality of my teaching. The profession of an educator is one I hold in high regard. I am fortunate to have a career I value and enjoy.