

Teaching Statement
Emille K. Davie

I have always known that teaching would be a part of my life's work. At the onset of my collegiate years, I chose Secondary Education as my minor and have been interested in how students learn ever since. At every stage of my education I have had an opportunity to teach. In high school I was a Teacher Cadet. In college I was a Student Teacher at North Atlanta High School in Atlanta, Georgia. In graduate school I was responsible for my own Calculus and Precalculus classes. Now, during my postdoctoral studies I have had the pleasure of teaching a variety of classes that include Non-Euclidean Geometry, Point-Set Topology, and Introduction to Higher Mathematics. These opportunities have allowed me to develop my own set of teaching principles and ideologies. They have also enabled me to distinguish effective pedagogy from ineffective.

When in front of a class, I have two main objectives. The foremost is to convey the material as clearly as possible, while motivating students towards deeper exploration. I believe that my job as a teacher is to plant a seed that will lead to a deeper investigation and appreciation of mathematics. According to the theories of Benjamin Bloom, an educational psychologist, there are six levels within the cognitive domain: **knowledge, comprehension, application, analysis, synthesis, and evaluation**. In this hierarchy, knowledge is the lowest level in the cognitive domain and evaluation is the highest. In my courses, I strive to push my students to master the material on all of these levels.

My second goal is to encourage participation and inquiry during class. Keeping the lines of communication open will benefit both student and teacher. Most students are too busy taking notes to ask themselves questions about what is being presented. By pausing to pose questions throughout the lecture, I not only evoke thought on the subject matter, but I also give them the

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chance to process the information that they are taking in. Additionally, it gives me the opportunity to gauge how much they are actually understanding.

The overwhelming majority of the feedback and comments in my teacher evaluations has been positive and even complimentary. If, however, I find that a student gives me a suggestion for improvement, I sincerely look myself in the mirror and self-evaluate. If the suggestion is valid, I commit myself to making this improvement for the next time around. As a result of my efforts, I've been recognized formally and informally for my teaching by the University of Georgia and by mathematics department at University of Georgia. In 2005 I was awarded a University of Georgia Outstanding Teaching Award, and in 2007 I was awarded the departmental Outstanding Graduate Teaching Award. I am extremely proud to be honored in this way.

I am also committed to increasing the number of minority students who study mathematics, as well as ensuring that my class is a positive learning environment for all students. The Enhancing Diversity in Graduate Education (EDGE) program is a four week summer program for women who are about to enter their first year of graduate study in mathematics. Its main objective is to prepare students for graduate level mathematics and for life as a new graduate student. In 2001 I was selected to participate in this program as a student, but in 2006 I was selected to participate as a mentor for the program at New College of Florida in Sarasota, Florida. As one of three mentors, I ran problem sessions in which I answered any questions they had about the material they'd learned that day, and I also answered their homework questions. Having participated in this program as a student and as a mentor, I better understand the importance of having heterogeneity in a department among faculty and students, alike. This not

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only benefits the school in an academic sense, but it also addresses the much larger societal issue of promoting cohesion between people of varied cultures.

It is my hope that interacting with undergraduate and graduate students will be a sustainable part of my career in mathematics through teaching, conducting research collaboratives like REUs, and eventually overseeing a young researcher's thesis. Teaching allows me to look introspectively and take personal inventory of how I relate to others. Without fail, I acquire a deeper understanding of the material that is to be presented each time I prepare a lecture. It is this love for gaining and sharing knowledge that makes me passionate about teaching.