

VIGRE report
Spring 2003
Katrina Piatek-Jimenez

I received quarter-time VIGRE funding for the Spring semester of 2003. During this semester I took and passed my oral examinations. I also took the following courses: TTE 532 - Math Diagnosis and Remediation, Math 596A - Seminar on Research in Mathematics Education: Culture and Mathematics, and Math 920 - Dissertation Units.

During the semester I made good progress on my dissertation by gathering the data for my dissertation while playing the role of a “super-TA” for Math 323 - Formal Mathematical Reasoning and Writing. My research involves investigating the beliefs, strategies, and misconceptions of mathematical proof held by college students in a beginning proofs course. I collected my data through observations and interviews. I attended the classroom lectures during the semester and took field notes while observing. I also ran a discussion session once a week and held office hours twice a week. Many times I would record field notes after such experiences. The main source of my data was through task-based interviews which I conducted with 6 of the students in the class. With each of these 6 students I conducted at least 3 interviews. During these interviews I collected data with respect to their thoughts on proof and on the course. I also asked them to prove mathematical statements which I presented to them and asked them to determine the validity of possible “proofs” for mathematical statements.

I also gave a number of talks throughout the semester. On March 12th I gave a talk at the Math Graduate Colloquium titled “Beginning Proof-Writing Students’ Beliefs and Misconceptions about Mathematical Proof.” Then on April 1st I gave a talk at the Math Instruction Colloquium titled “Gender Equity Issues in Education.” I also worked with Dr. Virginia Horak in doing a two part presentation at the Undergraduate Research Seminar on research in mathematics education. I presented the second of the two lectures due to Dr. Horak being out of town that day. Finally, I presented a poster on my research at the Mathematics Education and Mathematics in the 21st Century conference held in Tucson, AZ from February 20-22.

As coordinator of the High School Workshop Series, I organized for four high school workshops to occur throughout the semester on the following

topics: Graph Theory, Elasticity Theory, Rate of Change and Functions, and Cryptography.

In conclusion, this semester I completed my coursework and passed my oral examinations. I am currently working on my dissertation and I expect to finish my degree by May, 2004.