

1023-I1-1409 **Elizabeth C Rogers*** (brogers@piedmont.edu), P.O. Box 907311, Gainesville, GA 30501. *Using Research Projects to Develop Mathematical Knowledge While Expanding Communication Skills.*

This paper presents a broad-based research course in which middle grade teacher candidates read synoptically and write about topics with historical, pedagogical and societal context. Candidates are introduced to topics that add depth and breadth to their mathematical knowledge while contributing to their understanding of multicultural facets of mathematics in society. Research ranges from historical study of mathematics in Central and South America, Arabic and African countries to the mathematics of today's voting and apportionment. Other topics include Mathematics in Music and Fibonacci Numbers. Students research pedagogical issues such as Calculators in the Classroom. Each area includes a research paper and a related lesson plan. These are presented using appropriate technology. On completion of the course, students are better able to reflect on mathematics instruction, its historical basis and present-day applications, provide intellectual challenge in their classrooms, develop lesson plans based on unique topics and use a variety of communication techniques and technologies. Syllabus, scoring rubrics, sample research papers and lesson plans will be available. The course is consistent with CMBS recommendations and NCTM/NCATE Standards. (Received September 26, 2006)