

1056-Q1-1773

Gary Fowler and **Sommer Gentry*** (gentry@usna.edu), 572-C Holloway Road, Mailstop 9E, Annapolis, MD 21402, and **Amy Ksir** and **Will Traves**. *Calculus Acquisition through a Problem and Activity Based Learning Experience (CAPABLE)*. Preliminary report.

The U.S. Naval Academy has begun an experiment to incorporate active-engagement activities such as guided worksheet projects for individual and cooperative use in required calculus courses. By creating new projects and aligning existing project resources with the standard syllabus, the team encouraged instructors to select from a wide range of activities and spend less class time using traditional lecture instructional methods. Students took a survey, before and after the first semester calculus course, about their perceptions of mathematics, mathematical self-efficacy, intellectual autonomy and study skills. Instructors kept a time use log to quantify changes in the classroom environment, reporting time spent variously on classroom discussion, group activity, individual activity, and exposition. This preliminary report will present typical project worksheets, review student and faculty survey results, and demonstrate to what degree instructors adopted active-engagement strategies. (Received September 22, 2009)