PERC Summer 2008, Targeted poster session organized by Catherine Crouch

## **Does PER-based Instruction Help Underrepresented Groups Succeed, and How Can It Do So Better?**

## Gender Differences in both Force Concept Inventory and Introductory Physics Performance

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We will present data from a decade of introductory calculus-based physics courses for science and engineering students at the University of Minnesota taught using cooperative group problem solving. The data include 40 classes with more than 5500 students taught by 23 different professors. The average normalized gain for males is 0.4 for these large classes that emphasized problem solving. Female students made up approximately 20% of these classes. We present relationships between pre and post FCI scores, course grades, and student background factors for females and males. Examples of background factors include major, high school physics, and math preparation. We will compare our results with previous studies from Harvard [1] and the University of Colorado [2]. Our data show there is a significant gender gap in pre-test FCI scores that persists post-instruction although there is essentially no gender difference in course performance as determined by course grade.

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