

CALIFORNIA STATE UNIVERSITY, LONG BEACH

# THE MATHEMATICS COLLOQUIUM

presents

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speaking on

**Motivating Prospective Elementary School Teachers to Learn  
Mathematics**

**Friday April 27, 2007**

**12:00noon - 1:00PM**

**FO3-200A**

**Abstract:** Historically, content preparation and pedagogical preparation of teachers in California and many other states have been separated. At San Diego State University we have implemented and studied a model for integrating mathematical content and children's mathematical thinking earlier, so that prospective elementary school teachers engage with children's mathematical thinking while enrolled in their first mathematics course. This session will report the result of a study of 159 prospective elementary school teachers enrolled in the first of four mathematics-for-elementary-school-teachers courses who were randomly assigned to either concurrently learn about children's mathematical thinking, visit elementary school classrooms, or to a control group. Using a web-based belief assessment survey, a paper-and-pencil content instrument, and qualitative data, we found that prospective elementary school teachers who studied children's mathematical thinking while learning mathematics improved mathematical content knowledge and changed their beliefs to reflect more sophisticated views about mathematics, teaching, and learning than prospective elementary school teachers who did not study children's mathematical thinking. Implications for the mathematical and pedagogical preparation of prospective elementary school teachers will be discussed, and video clip examples of children engaged in mathematical thinking will be shown.