

Meeting: 1003, Atlanta, Georgia, MAA CP G1, MAA Session on Drawing on Our Students' Thinking to Improve the Mathematical Education of Teachers

1003-G1-447 **Joyce Faye Fischer*** (jf10@txstate.edu), Texas State University, 601 University Drive, Room 470 Mathematics Building, San Marcos, TX 78666. *Evaluating Problem Solving Skills and Processes in Pre Service Teachers In Order to Inform Classroom Teaching.*

One of the main vehicles for examining critical thinking skills and processes is problem solving ability. In this presentation, research data, collected from different classes of pre service teachers at the elementary, middle, and high school levels, are examined through quantitative analysis and supported by qualitative procedures. Two problems involving different problem solving and reasoning processes are investigated using Bloom's Taxonomy as a basis. Three reflection questions reveal the pre service teachers' ability to predict their own perceived difficulty versus their actual difficulty relative to the two types of problems. Results indicate that, as teacher educators, we need to rethink the types of problems we use in our classrooms in order to guide pre service teachers' development of problem solving skills and reasoning processes. Implications for future teacher preparation point to a need for increased problem solving opportunities presented in mathematical, scientific, and real-world contexts, with special consideration given to difficulty level, varieties of conclusions, and dissimilar situations. (Received September 14, 2004)