

1035-97-957

**Richard Millman\*** (millman@ms.uky.edu), Dept of Mathematics, POT 715, University of Kentucky, Lexington, KY 40506. *Influence on Content Courses for Preservice Teachers resulting from the participation of mathematicians and math graduate students in the ALGEBRA CUBED project.*

The ALGEBRA CUBED program is a three year project in which ten STEM graduate students work with teachers and spend ten hours weekly giving help or presenting lessons in middle or high school classrooms in two poor, rural counties of Kentucky. A concrete understanding of what mathematical and student life really is in 6-12 education provides a far more meaningful platform for teaching preservice courses than just observing from the University and allows the instructor to emphasize the content while linking some content issues to the classroom ones. Observations, such as the use of manipulatives, the role of proof, the need for careful definitions, the need for "Responding to Students" questions, and the realization of different learning styles, provide material for the preservice teacher courses such as the "Math for Future Elementary and Middle School Teachers" and "Problem Solving for Middle School Teachers" courses. We will also explore, from observations in the schools, the political and policy issues of the 7-12 curricula including rural influences. Some topics for this part of the talk are the enormous influence of the Statewide Student Assessment tests, the role of homework, and factors that influence the ability of the teachers to present material conceptually. (Received September 17, 2007)