

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

1003-G1-489 **L. Christine Kinsey** (kinsey@canisius.edu), Department of Mathematics and Statistics, Canisius College, 2001 Main St., Buffalo, NC 14208, and **Teresa E. Moore*** (moore@ithaca.edu), Mathematics and Computer Science Department, Ithaca College, 1212 Williams Hall, Ithaca, NY 14850. *Geometry for Future Teachers.*

This paper describes some content and procedures used at two different institutions for courses in euclidean and noneuclidean geometry taken by prospective teachers. In these courses, we have attempted to integrate content and pedagogy and to teach the future teachers as we want them to teach. While the geometric content is paramount, we have tried to provoke discussion with these students on how to approach key concepts at different grade levels and how to encourage an active learning style. We use geometric software and a number of inexpensive manipulatives to demonstrate many concepts and to give students frequent opportunities to formulate conjectures on their own. We ask them to write formal proofs and to modify these to informal explanations more appropriate for the middle and lower grades. This facilitates discussions on the spectrum of rigor to be expected at various stages of mathematical maturity. (Received September 16, 2004)