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**Catherine M Miller\*** ([millercc@math.uni.edu](mailto:millercc@math.uni.edu)), University of Northern Iowa, Mathematics Department, Cedar Falls, IA 50613-0506. *Developing Pedagogical Content Knowledge in a Modern Geometry Course*. Preliminary report.

I will discuss my efforts to create a mathematics course where secondary pre-service teachers can begin to develop pedagogical content knowledge. I teach, Modern Geometries, required of mathematics teaching majors. They are the majority of students enrolled. I use NCTM and MET recommended pedagogical strategies, so future teachers have an opportunity to learn mathematics in ways similar to how they will be expected to teach. We consider a variety of topics, including a survey of two non-Euclidean geometries. The evaluation includes two projects where students, working in-groups, solve or investigate a geometry problem, prove their results, present their work to peers and write a paper. I stress content knowledge, problem solving, writing proofs and communicating mathematically, all necessary tools for secondary mathematics teachers. Data I have collected while teaching this course will be used in my presentation to document what I have learned about teaching the course and the progress of the students. I believe pre-service mathematics teachers can develop pedagogical content knowledge in a mathematics course while learning mathematics. By sharing the results of Modern Geometry courses I have taught, I hope to show that this can happen in a Modern Geometry course. (Received July 26, 2000)