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Focus on Mathematics (FoM) is a targeted Math and Science Partnership funded by the National Science Foundation since 2003. As part of the work of FoM, we are developing a long-term research program with the ultimate goal of understanding the connections between secondary teachers' mathematical knowledge for teaching and secondary students' mathematical understanding and achievement.

Our hypothesis is that teachers who not only possess strong content knowledge but also the mathematical habits of mind (MHoM) used by many mathematicians teach in a way that results in increased student learning and achievement. Recognizing the need for evidence-based research to refine and test this conjecture, we are engaged in a focused study centered on the following question: What are the mathematical habits of mind that high school teachers use in their professional lives and how can we measure them?

In this initial phase of research, we are engaged in ongoing work to identify and precisely define MHoM, and to operationalize this framework into paper and pencil assessment problems that accurately and uniquely measure mathematical habits of mind for teaching. In this session, we will focus on the development of the assessment, sharing examples of problems and data from the field tests. (Received September 22, 2011)