Math Teachers' Circles (MTCs) are collaborations between mathematicians and K-12 mathematics teachers. During a MTC session, mathematicians and math teacher leaders organize and lead a mathematical problem solving session with a group of mathematics teachers. Many MTCs offer a summer workshop that lasts 3-5 days, and all MTCs have regularly scheduled sessions periodically throughout the school year.

The goal of the Math Teachers' Circle Network at the American Institute of Mathematics is to create a community of problem solvers that includes mathematicians and K-12 mathematics teachers. There are approximately 80 MTCs in the U.S., each run by a team of mathematicians, math teachers, and/or math educators. While MTCs share a common purpose and structure, there is variation from circle to circle, shaped by the tastes and local needs of leaders and participants.

The theory behind MTCs is that by creating a professional community that includes mathematicians and mathematics teachers, teachers will have an opportunity to learn more about mathematics, and participation will impact their attitudes and dispositions about mathematics and mathematics teaching and learning. A natural question is, what is the actual impact of MTC participation on teachers and their classroom practice? Findings from this project indicate that participation in an MTC can have a measureable impact on Mathematical Knowledge for Teaching. Additionally, surveys of participants examining their attitudes and dispositions provide evidence that, among other things, MTC participation may impact their views on mathematics, increase their willingness to try new teaching strategies, and support their professional engagement beyond their participation in MTCs. Evidence from in-depth case studies suggests that for those teachers who are ready, participating in a MTC can serve as a catalyst for changing their views of mathematics, classroom practice, level of professional engagement, or even all three.

The MTC model is a relatively low-cost model that is intended to be sustained indefinitely through local personnel and funding sources. Each MTC involves between 15 and 25 teachers and thus has the potential to reach between approximately 1,500 and 2,500 students per year. The model centrally focuses on the Common Core Standards of mathematical practice and so could have broad applicability for school districts across the U.S. The American Institute of Mathematics has successfully disseminated the model to a number of sites nationally, and findings from this study will contribute to implementing the model on a broader scale.

Last Modified: 10/30/2015
Modified by: J. Brian Conrey