

MATHEMATICS TEACHERS' CIRCLES AS A PROFESSIONAL DEVELOPMENT MODEL CONNETING TEACHERS AND UNIVERSITIES

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Short description of the workshop: aims and underlying ideas

Mathematics Teachers' Circles (MTC) are professional development communities of mathematics teachers and professors who meet regularly to work on rich mathematics problems. Each MTC includes approximately 15 to 20 teachers. Most are middle school teachers, but many groups also include some high school or elementary school teachers. Groups also include several mathematics department faculty from a college or university, or other professional mathematicians from academia or industry. Ongoing research has begun to demonstrate the benefits of MTCs for teachers' confidence, knowledge, and teaching of mathematics. Mathematics professors gain an opportunity to share their enjoyment of mathematics with teachers, contribute to teacher education and enrichment, and become more involved in the local education community.

During this workshop we propose to introduce participants to Mathematics Teachers' Circles professional development models, engage them in MTC-type mathematics, share some results of MTC interventions, and open the discussion to further ideas and/or questions on implementing MTC in various cultural contexts.

Planned structure:

Planned timeline	Topic	Material / Working format / presenter
15 min	Description of the MTC professional development model	PowerPoint Nathan Borchelt
30 min	Activity: MTC Brownie Problem	Brownie manipulatives, small group Axelle Faughn & Nathan Borchelt
15 min	Results from MTCs in NC	PowerPoint Nathan Borchelt
15 min	Small group discussions aimed at targeting adaptation to	Axelle Faughn

Last names of the organizers

	cultural contexts	
15 min	Whole group discussion, sharing of resources	Internet Nathan Borchelt Axelle Faughn

The key questions and issues that we want all participants to consider include:

- In what ways can MTCs contribute to the increase of mathematics content knowledge of teachers?
- How can participation in MTCs impact the type of experiences or level of mathematics that teachers share with students? In other words, is there transfer to the classroom and what form does such transfer take? What resources used in professional development are particularly conducive to this transfer?
- How can the US MTC model be modified and implemented in other cultural contexts?