Siegmyer, Maryann. "Knowledge and Characteristics of Emerging Mathematics Teacher Leaders: Becoming a School-based Middle School Teacher Leader." Unpublished Doctor of Education Dissertation, University of Houston, May, 2011.

Abstract

Mathematics teacher leaders and their capacity to facilitate significant change within secondary mathematics classrooms on a campus is affected by mathematics, pedagogical content, curricular, and contextual knowledge. It is also influenced by teacher leadership characteristics that support clear communication, reflective practices, and the building and maintenance of collegial relationships with peers. Deep understanding of instructional content, of effective practices that foster improved student achievement, and of the coaching process and its practices aids their work with peer teachers.

The study's purpose was to describe perceptions about leadership characteristics held by novice mathematics teacher leaders participating in a middle school master mathematics teacher program. The study participants were candidates from a 17-member cohort in a major urban southwestern university's 24-month master middle school mathematics teachers program, a collaboration between the departments of curriculum and instruction and mathematics at the university to provide graduate courses and associated embedded practicum-hours for this certification program.

Qualitative methodologies were used to infer what characteristics and dispositions do emerging middle school mathematics teacher leaders perceive as important to their

work with peer teachers in a school-based learning situation, and the alignment of these perceptions with state and national standards for mathematics educational leaders.

The study found that characteristics that all of the participants valued for their future work as school-based teacher leaders were approachable, collaborative, and reflective. Aspects of these three attributes were cited by all, but several also commented about their understanding and valuation of others. These perceptions were in alignment with several of the characteristics prominent in the state's recommendations regarding the work of mathematics teacher leaders. The participants indicated that other characteristics might develop or be of more value later in their careers. Their understanding of the principles and the action indicators of national standards for mathematics teacher leaders was not as clear.

The study provides information of potential value about the development of emerging mathematics teacher leaders to state and national agencies and researchers, to professional development providers, to universities working with pre-service and in-service mathematics teachers, and to individual campuses and school districts.