



Becoming a Master Teacher: Situated Experiences of Middle Grades Science Teachers

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Abstract.

This work focuses on the development of science teacher leaders in high-needs public school districts in the state of Michigan, USA. A range of scholarly studies have discussed the concept teacher leadership. While there has been an emerging consensus about the generalized attributes that define teacher leadership, there has not been sufficient attention devoted to the meaning of this concept in specific contexts. Teacher leadership is at once a set of generalized attributes and a context specific manifestation of aptitudes. To that end, the National Science Foundation funded Michigan Middle School Master Teachers Fellowship Program (hereinafter referred to as the MTP). The MTP is designed to prepare middle school (grades 6-8) teacher-leaders to guide science educational reform efforts in their home districts. The project's professional development activities have focused on the implementation of the internationally benchmarked Next Generation Science Standards (NGSS), and ways of aligning instruction with the standards. Teacher professional development work has provided academic courses and supplemental professional learning opportunities that emphasize leadership, networking, and mentoring. The efficacy of the professional development model is assessed from a systems perspective using Activity Theory. From this perspective, an activity system embodies the personal, social, and material components that are in place to achieve shared objectives within a given context. The findings indicate the development of teacher leadership identities. We discuss the ways in which the leadership identities have developed and the factors that account the developments.

Keywords: **Keywords:** teacher leadership; education reform; professional identity; science education; Next Generation Science Standards