Chapter 23
Using the PRIME Leadership Framework to Support Emerging Leaders in a Professional Development Project

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ABSTRACT

In this chapter, we describe how the Appalachian Mathematics Partnership (AMP) used the PRIME Leadership Framework (National Council of Supervisors of Mathematics, 2008) to inform professional development activities that respond to teachers’ content and pedagogical needs and cultivate emerging mathematics leadership. The PRIME Leadership Framework fit philosophically with the goals of the project, identifying the reflective, knowledgeable leader, including teachers as classroom leaders, as essential to committing knowledge to action. Further, AMP aligned the leadership framework with its underlying principles for professional development of engaging teachers in meaningful content connected to classroom experiences and high leverage teaching practices, providing a model for how projects can embed meaningful interpretations of leadership in content-oriented professional development.

INTRODUCTION

Though widely recognized as a key component of the success of reform in mathematics teaching and learning (Knapp, 2003; York-Barr & Duke, 2004; Valli & Buese, 2007; Barrett, Cowan, Tome, & Trotske, 2015), teacher leadership remains an elusive and poorly-defined concept (Neumerski, 2013; Smith, Hayes, & Lyons, 2016; Wenner & Campbell, 2017). As a result, many school or district leadership roles

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responsible for responding to and implementing educational change may be ill-defined, may not exist, or may not be grounded in content expertise. Thus, while teachers may be expected to act as change agents in the classroom (Fullan, 1993; Lane, Lacefield-Parachini, & Isken, 2003), their efforts may be unsustainable unless they have clearly defined roles, actions appropriately aligned to those roles (Smylie & Denny, 1990), and leadership support that recognizes how to support pedagogical content changes. Unfortunately, professional development, a key component of teachers’ continued education, frequently attends to content or pedagogical components but may not be contextualized in such a way to transition teachers into expanded roles of leadership (West & Cameron, 2013).

In this chapter, we describe how the Appalachian Mathematics Partnership (AMP) used the PRIME Leadership Framework (National Council of Supervisors of Mathematics, 2008) to inform professional development activities that respond to teachers’ content and pedagogical needs and cultivate emerging mathematics leadership. The PRIME Leadership Framework fit philosophically with the goals of the project, identifying the reflective, knowledgeable leader, including teachers as classroom leaders, as essential to committing knowledge to action. Further, AMP aligned the leadership framework with its underlying principles for professional development of engaging teachers in meaningful content connected to classroom experiences and high leverage teaching practices, providing a model for how projects can embed meaningful interpretations of leadership in content-oriented professional development.

APPALACHIAN MATHEMATICS PARTNERSHIP PROJECT DESCRIPTION

Funded by a state-level Mathematics-Science Partnership grant, AMP supported teachers in western North Carolina in improving student achievement in mathematics by realizing their visions of standards-based classrooms in grades 8 – 11. The AMP project was proposed initially as a partnership of Appalachian State University and seven area school districts but grew to include fourteen K-12 partners.

In mostly rural, mountainous northwestern North Carolina, participating districts reported common needs, namely content-specific professional development and increased awareness of current educational initiatives, including the implementation of Common Core State Standards for Mathematics (CCSSM). It is important to note that concurrent to this project, North Carolina had adopted the CCSSM and was in the process of developing an implementation and assessment schedule. Thus, teachers participating in the project were not just charged with implementing new teaching and learning strategies gleaned in professional development; they were also navigating significant curriculum changes on a fairly short timeline. To enrich the experience and promote collaboration and communication within and among districts, additional participants included instructional coaches, central office personnel, and other school and district-level personnel.

Teacher content and pedagogical development was addressed through two primary types of activities, inquiry immersion and pedagogical investigations, provided through weeklong summer institutes with follow up during the academic year. Teachers spent half of each summer day immersed in mathematics investigations as facilitated by a master teacher; this provided opportunities for them to view content through the lens of a student. The standards-based curriculum, Core Plus Mathematics Project provided the content components, and the master teacher possessed extensive experience in a Core Plus classroom and in professional development of secondary teachers. In the other half of each summer day, teachers engaged in pedagogical investigations as higher education faculty led teachers through tasks that are embedded within teaching tasks, such as analyzing student work and facilitating discussions that exemplify
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