

Supporting professional learning to
enhance Grade 9 Applied
Mathematics

Including school and divisional leaders

“Research indicates that leadership for teaching and learning has a direct impact on student learning. Leadership is widely recognized as one of the most important factors in teacher and student learning. Schools and districts that are going somewhere — toward improved student learning—have effective leaders who behave in specific ways that impact success (Leithwood, Louis, Anderson, & Wahlstrom, 2004).”

(Loucks-Horsley et.al., 2010, p. 7)

Knowledgeable other

Research indicates that teacher learning is facilitated when they have access to a knowledgeable other. This knowledgeable other helps teachers to focus on students' mathematical thinking rather than on merely technical aspects of teaching (Hart, Alston, & Murata, 2011).

“Collaborative strategies for professional learning include professional networks inside schools and across school boundaries . . . These afford teachers important opportunities to share "craft wisdom" and build a professional culture that focuses collective energy on student learning.” (Loucks-Horsley & Matsumoto, 1999, p. 264)

Key elements of sound professional learning for mathematics

- **Curriculum-based** (Cohen & Hill, 1998; CPRE, 1998)
- **Focusing on student thinking** (Fennema et al., 1996; Kennedy, 1998).
- **Collaborative**, within **supportive** school and district environments (Elmore & Burney, 1997; Joyce et al., 1993; Little, 1982; Rosenholtz, 1991).
- **Aligns** with other elements in the **system**, e.g., assessment, curriculum, administrative support (Cohen & Hill, 1998; CPRE, 1998; Kahle, 1999)

(Loucks-Horsley and Matsumoto, 1999)

Possible activities for school PLCs

- Lesson study
 - Working with the curriculum, research, & resources, teachers work together to design a lesson and implement it in different classrooms
 - Other teachers observe student learning and debrief
 - All teachers work together to make adjustments to the lesson

- Collaborative work
- Focus on curriculum & the continuum
- Focusing on student thinking

Possible activities for school PLC

- Working together to examine student work
 - written and video recorded;
 - examine and discuss student thinking & next steps

- Collaborative work
- Focus on curriculum
- Focusing on eliciting, supporting, and sharing student thinking

Possible activities for school PLC

- Book study
 - Research-based work that is connected to practice
 - May have samples of student work, lessons, etc. to discuss
 - Connections between pedagogy, math, & practice

- Collaborative work
- Focusing on eliciting, supporting, and sharing student thinking
- Connecting resource to curriculum builds curriculum knowledge
- Draws on expertise in topic – knowledgeable other

Ways to support professional learning

- Engaging with teachers during their professional learning (being present and active)
- Providing space, time, resources
- Considering ways to schedule to facilitate teacher and student learning
- Recognizing that each teacher is at a different place

This administrator “is all about supporting us and allowing us to take chances and take risks, and it’s a huge deal, and more of us are willing knowing we are not going to get burned” (Individual Interview, Apr. 22, 2015).