



The 5 Practices

Reading either the article or the book, *5 Practices for Orchestrating Productive Mathematical Discussions*, is a beneficial experience for teachers.

In order to maximize the effectiveness of engaging in the 5 Practices it is ideal for school professional learning communities (PLCs) to work through the process together.

A great place to start is through engaging with problems you would like to try in your classroom. To find some suitable problems visit:

<http://oame.on.ca/math4theNines/>

Professional Development Guide

In the book by Smith and Stein (2011) there is a professional development guide that offers suggestions for how to use the different activities in the book. This would be a great place to start when first learning about the 5 Practices. Most chapters also have a *Try This* activity that connects to each of the 5 Practices:

- Chapter 4: anticipating and monitoring
- Chapter 5: selecting, sequencing, and connecting students' responses
- Chapter 6: asking good questions and holding students accountable
- Chapter 7: putting the 5 Practices in a broader context of lesson planning

OAME Grade 9 Applied Project

The school PLCs involved in the OAME Grade 9 Applied project were first introduced to the 5 Practices during a summer institute between Year 1 and Year 2 of the project. During Year 2 of the project different teams used the 5 practices in different ways. There different methods included:

- Lesson study
- Article study
- Book study

More information for engaging with the 5 Practices can be found online at:

<http://oame.on.ca/math4theNines/>

'It's made me more of a complete teacher in that I've been able to focus on those areas that are perhaps weak in my lesson. That consolidation piece which in our school we've been working on for a number of years. Ok we have these great activities, these kids are engaged, let's make sure that when they walk out of that room they've taken all they can from that lesson"

-Mathematics department head

Book Study

Several PLCs purchased the 5 Practices for each member. The group would read a chapter a month and meet to discuss these readings as a team. Often teams would engage with mathematical problems, such as EQAO questions, to focus their work and to allow them to experience the problems as their students might.

"The more you read through [the book] the more you look through students eyes"
-Grade 9 Applied Teacher



Lesson Study

Some PLCs used *The 5 Practices* as a framework for a lesson study. Teachers would set to completing mathematical tasks themselves in order to anticipate some of the different solutions their students might produce. Together the participants would select and sequence different solutions they felt would best connect the different mathematical ideas of the tasks. Observation of students engaging with the task in the classroom would follow.

In sessions following the class the PLC would debrief as a team, allowing the participants to reflect on their selecting and sequencing and discuss unanticipated responses and observations that the teacher may not have been able to observe while teaching. This process would be repeated again at their next PLC meeting with a different task, teacher and classroom; carrying forward lessons the PLC learned from engaging with the previous task.

Article Study

Many PLCs found the 2008 article by Stein, Engle, Smith, & Hughes to be a more appropriate vehicle for engaging with the 5 Practices. Members were given time on their own to read through the article and together as a team they discussed the ideas in the article. One teacher described how the article helped to relieve anxiety she felt around problem solving lessons in her class

"[The 5 Practices] caught our attention mainly because it...provided a process or a framework that could take away some of the anxiety involved with conducting problem solving in your classroom. It can be messy and chaotic; it's a little bit harder to set up a lesson plan for problem solving"
-Grade 9 Applied Teacher