

Professional Development Notes for Building Social Norms
Strategies for getting students talking mathematically on day one

Materials:

Day One Video (note: to protect privacy; there are a couple of spots that will be filtered)

Transcription

First Week Problem Solving Tasks, if desired

Instructional Framework, if desired

Research article (download from NCTM)

Stephan, M. (2014). Establishing standards for mathematical practice. *Mathematics Teaching in the Middle School*, 19(9), 532-538

Context of the video

The video that you will see comes from an 8th grade regular mathematics classroom. There are approximately 24 students at the time. The video excerpt was filmed on the first day of the school year with this group of students. The teacher, Stephan, had taught 7th grade the prior year and only five of her former students were assigned to her 8th grade class in the video. Therefore, this was the first time she had met the majority of students in the video.

The prior year, Stephan and her 7th grade colleagues had worked towards creating a standards-based learning environment for their students. They were in their third year of implementing *Connected Mathematics Project 2* (CMP2) and this was Stephan's first year teaching 8th grade.

Panthers Middle School is public school located in a suburb of a large metropolitan city in the Southeast, United States. The middle school serves approximately 1000 students. At the time of filming, the school had earned an A grade by the State.

Building Norms from Day One

At the time of this video (10 years ago), the district had created their own instructional framework for middle school. Similar to the NC Instructional Frameworks, they had designed the first week of the school year so that teachers and students could establish strong social norms for communicating mathematically and learning to question and critique the reasoning of others. Stephan and her colleagues had collected a set of general mathematics problems that they had found useful for provoking good discussions and spent the first week or two teaching students to communicate both orally and in writing. These problems can be found on the nc2ml webpage.

Two weeks before the beginning of this 8th grade school year, Stephan contacted her district leader and suggested that they video tape the very first two weeks of the school year in her classroom. In this way, the district would have videotape focusing on how to establish good participation practices in class prior to focusing on the Connected Mathematics Project units. This video could then be used for PD purposes throughout the district. A companion article to this particular video can be found in the NCTM's *Mathematics Teaching in the Middle School* journal.

Potential PD Activity:

- Present the purpose of the video segment to the teachers: How do we get students to talk about mathematics and ask questions of each other?
- Tell them that the video is an example from the first day of an 8th grade class (have teachers read the context of the classroom above or describe it to them). As the students are coming into the room, the teacher greets each person and asks them to sit with someone they want to work with (desks are arranged in pairs). They are to get started on the problem on the board immediately and talk with their partner about their reasoning. Stephan chose this problem because she knew students had studied ratios in 7th grade and all students should be able to solve it in some way.



Drake found a sale on bacon at the Winn-Dixie. They were selling 4 packs for \$10.

- How much would Drake pay for 6 packs?
 - How much would he pay for 1 pack?
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- The students work for about 4 minutes as the teacher walks around, monitoring their reasoning. She is collecting data on the different strategies students are creating to solve the problem and deciding the order in which selected students will present to the class. She follows the typical LED cycle (launch explore discuss) recommended by CMP2. After four minutes, the video begins with the teacher telling the students that they were going to start discussing solutions. The 20 minute video illustrates the first whole class discussion of the school year.
 - Pass out the transcript of the episode to teachers. Since it is difficult to hear some of the students, they may want to read along.
 - If time, play the video through one time, just watching and listening. Then, have the teachers watch it a second time, and highlight/make notes on the transcript when they find evidence of norm building. If there isn't that much time, have teachers watch the video one time through. When it is over, ask them to highlight their transcript to find evidence of norm building (see suggestions below).

WHAT TO WATCH FOR (highlight):

What strategies does the teacher use to hold students accountable for listening to their peers?

What strategies does the teacher use to set expectations for participation?

When a student does not hold to the expectations, how does the teacher respond?

What gets written on the board and who does the writing?

What does the teacher do to create a risk-free environment?

How does the teacher close the first discussion of the school year?

- When teachers have highlighted their transcripts with evidence to discuss those WHAT TO WATCH FOR questions, have a whole group discussion in which their ideas are collected on the board. A list of strategies for setting up norms should be a goal for the PD.
- Create a list of next steps for teachers...what will they start implementing tomorrow and what will wait until later?