

Setting Up the Mathematical Community

Helping Students Prepare to Share Ideas

The sharing of ideas and strategies during math discussions is an important component of a productive math community. However, as second-grade teacher Betty Jane O'Donnell discovers, many students need help figuring out just what to share during whole-group discussions. In this case, Ms. O'Donnell reflects on how she helps her students prepare for math discussions by raising specific questions for them to focus on as they work on activities prior to the discussion.

The first month of the school year is when everything is possible. It is also the month for introducing routines and fostering habits of work that will transform the possibility of the first month into the satisfaction of the last. At the start of each school year, I gather the students together with the goal of generating a list of how we work together during math time. Their ideas usually include statements like the following:

“We use materials and supplies.”

“We think and explore.”

“We clean up.”

“We share ideas.”

It was a lovely list, but I wasn't convinced that everyone was actively engaged in bringing such ideas to life, or whether my students understood the extent of what they said. I explained that from time to time I would choose an idea from the list, and we would talk about what it looks like in our math class.

After talking about the easier items on the list, such as materials and cleanup procedures, one day I asked students to think about how they share ideas. I wanted them to get a picture in their heads of a time when they shared ideas in math. Here is part of that conversation:

Kaitlyn: We share ideas at the end of Math Workshop.

[There was a long pause. I waited.]

Lacey: It's fun to get to know each other better.

[Another long pause followed.]

Michaela: We usually sit in a circle so that we can see each other and share ideas.

Teacher: So what are some of the ideas that we've shared lately? What have we been learning about in math?

Bodies started shifting. A general sense of unease was spreading around the circle. I decided to bring the class back to the specifics of what they had been doing over the past several days.

Teacher: This seems to be kind of a tricky question. Let me say it in a different way. What have we been doing in math?

David: Card games.

Teacher: Yes, we've been playing card games. And what have those games been about?

Sherry: Making tens.

Hannah: We add the numbers up.

Teacher: We've been adding the numbers on the cards. Today will be the last day that we will play those card games for a while. What are you going to be thinking about when you play those games?

The blank looks and long pause told me that my second graders were having a hard time making sense of what I was asking. I reminded myself how important it is to be explicit to help students focus on the mathematical ideas. Especially this early in the year, once I have identified the central mathematics in their activities, I need to share this focus with my students.

Teacher: As you play the games, I would like you to think how you know what card you need in each game. How do you know what card you need when you play *Tens Go Fish*? How do you know what card to pick to play *Make 10*? That is what we will be talking about when we share our ideas.

As my students set off to Math Workshop, I thought about my role in helping them participate in our discussions and making their participation meaningful. By explicitly articulating questions about the math focus, I help all students prepare to share their ideas.

In this case, Ms. O'Donnell reflects on her role in helping her students have successful math conversations. She realizes that "What are you going to be thinking about when you play those games?" was too vague. She decides that for all students to have a point of entry during sharing time, she needs to ask clearer and more explicit questions so that her students can focus on the math ideas embedded in the games. Helping students with this focus is a first step toward deeper math conversations.

Questions for Discussion

1. What information did Ms. O'Donnell provide to her students before they began the games *Tens Go Fish* and *Make 10*? How did she hope this information would help them prepare for the math discussion to follow?
2. What are the different purposes math discussions serve in your classroom? How do you make the focus of a particular math discussion explicit for your students?
3. What strategies do you or could you use to help students prepare in advance for math discussions?

Seizing the Moment

Setting up a math community is a process that unfolds over time and can take many different avenues, depending on the teacher and students. Some teachers, like the one in this case, model the behaviors they would like their students to develop and highlight instances when students embody these behaviors. Here, second-grade teacher Linda Thomas reflects on the challenges she encounters and the strategies she uses to help her students become a community of math learners.

The school year begins with a group of energetic second graders. After a few days, it is apparent that the idea of focusing on tasks will be a challenge. One of my most important goals is to jump-start the classroom culture, which will allow students to take ownership of their behavior, thus allowing our work to flourish. As I reflect on the behaviors and attitudes I want my students to develop, I make a mental list:

- Respecting others
- One person talking at a time
- Listening to each other's ideas; restating an idea
- Rethinking an answer
- Valuing asking questions
- Considering a problem over time
- Enjoying a challenge
- Persisting to solve a problem

I remind myself that creating an atmosphere that supports these behaviors is a process that will unfold over the next several months, and I realize that my role will be a powerful model for the attitudes and behaviors I want my students to develop. I will set the tone for how we will interact with each other by listening to and restating their ideas, by asking questions to help them articulate and develop those ideas and to understand where their mistakes come from, and by persisting in solving problems with them.