



Orienting Students to Another's Reasoning

What is it?

This move involves asking students to engage with another student's idea.

Why do we use it?

To create space for students to interact with peers, to value multiple contributions, and to diminish hierarchical status among students. Orienting positions students as competent thinkers, supports students as they learn to listen and make sense of their peers' thinking, provides an opportunity to clarify ideas for the student and others, allows for linking ideas and advancing a mathematical discussion.

When Orienting Students to Another's Reasoning...

Teachers are...

- asking students to add on to or revise another student's explanation or conjecture asking the class to use a particular student's strategy to solve a similar problem
- asking students to pose clarifying questions to a classmate
- asking students to agree or disagree with a student's solution and defend their position

Students are...

- listening to, commenting on, and questioning the contributions of others
- learning to ask questions of each other explaining and reflecting on their own and other's thinking
- developing a positive math identity

How about Carlos, does he have the same picture as you?

What is alike and what is different about your method and Stafanie's?

Jalen, make sure Max knows where your numbers are coming from.

Turn and talk to your group about how you would solve this problem.

Caleb, take your idea and apply it to Jen's picture.



Discourse Move: Orienting Students to Another's Reasoning



In collaborative classrooms, everyone listens intently to what students are saying. Individuals or groups compare and contrast ideas and work together as a class to determine the best way forward.



How do we use it?

If you are new to providing wait time, try this: Orienting positions students as competent and encourages students to listen to each other's ideas. It includes asking students to compare or contrast different strategies or ensuring others understand a particular student's strategy. If two students have solved a problem in different ways, ask **“What is similar and what is different about your strategies?”** You can also ask students to add on to a particular student's idea or to pose questions to the another student about their idea.

An Example of Orienting to Another's Reasoning in Action

Solve for x and y :

$$2x + y = 5$$
$$-5x - 4y = 4$$

Scenario: Imagine students have individually solved the system of equations to the left using any method of their choice.

Teacher: Class, go find a partner who solved the system using a different method than you, Take 2 minutes each to explain your process and why you chose that method. (Student 1 and Student 2 partner up).

Student 1: I solved the system using substitution because I only had to subtract $2x$ on both sides to get y by itself...(continues her explanation).

Student 2: I solved the system using elimination, because I only had to multiply the top equation by 4 on both sides, then I could eliminate the y 's.... (continues his explanation).

Teacher: (brings class back together and has Students 1 and 2 each share their strategies to the whole class). **Now, discuss with your partner: How are these two strategies the same? How are they different? (After time for discussion) Let's solve two more systems: #1 using Student 1's strategy and #2 using Student 2's strategy. Which do you prefer? Why?**



Things to Remember

- This move is closely connected to “Attributing Students' Mathematical Ideas.”
- Ensure the mathematical ideas and questions are truly student generated, so they have the voice and authority in the classroom.
- Asking students to pose questions to each other is another way to orient students to another's reasoning.
- Support multilingual learners and exceptional students by using gestures, representing ideas visually, or writing new vocabulary on the board.



Questions to Consider with Colleagues

- 1 In what ways do you encourage and build support for your students to listen carefully to another's ideas?
- 2 How are you intentional about giving students mathematical authority? How do you support students to make connections to each other's ideas?
- 3 How do you see Orienting Students to Another's Reasoning relating to the Standards for Mathematical Practice? Consider SMP 1, 3, and 6 specifically.