



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



This world calls for problem solvers. Math classrooms can cultivate the thinkers we need. Empowering students to find their math identity.



Support for Administrators

NC Professional Teaching Standards

Orienting Students to Another's Reasoning aligns to Standard 2 and Standard 4.

2a. Teachers encourage an environment that is respectful.

2c. Teachers appreciate the differences and value the contributions of each student in the learning environment by building positive, appropriate relationships.

4b. Teachers engage students in the learning process.

4e. Teachers help students understand connections.

NC Portrait of a Graduate

Orienting to Another's Reasoning aligns to the Adaptability, Collaboration, Communication, and Empathy competencies.

- Demonstrate flexibility when navigating challenging situations.
- Contribute and respond to diverse perspectives to achieve a common goal.
- Use public speaking to express ideas and connect with others.
- Articulate thoughts and ideas effectively using oral and written skills.
- Value and embrace diverse cultures and unique perspectives.

Standards of Mathematical Practice (SMP)

Mathematically proficient students...

Make sense of problems and persevere in solving them.

Understand the approaches of others to solving complex problems and identify correspondences between different approaches.

Construct viable arguments and critique the reasoning of others.

Listen to or read the arguments of others, decide whether they make sense, and ask useful questions to clarify or improve the arguments

Attend to precision.

Communicate precisely to others.



When working with a teacher, here are some questions to help coach the teacher to implement the discourse move of Orienting Students to Another's Reasoning in their classroom.

Clarifying Questions...

- How do you help students understand connections between different mathematical ideas that are shared?
- How do you model the importance of embracing diverse cultures and unique perspectives and richness in mathematical pathways?
- How do you intentionally use questioning and classroom discourse to connect student ideas towards the learning target?



Digging Deeper for Discourse

- How do you guide students in recognizing and appreciating the interconnectedness of mathematical knowledge?
- How do you use your position as a teacher to model the importance of embracing diversity in mathematical solutions to help students learn from each other?

In orienting students to another's reasoning, rather than memorizing a set of steps prepared by the teacher, students think independently and then strategize with classmates to solve problems, by talking about math together.

Note: This resource is being co-designed by the NC math education community. We welcome feedback to inform its refinement at <https://forms.gle/8PBWGsVqJQzcdtCF8> Check the website (nc2ml.org/high-school-teachers) for the most up to date resources.

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