Discourse Moves for Fostering Confident Math Learners

We ALL speak math

North Carolina Collaborative for Mathematics Learning www.nc2ml.org

Assigning Competence

What is it?

A specific form of praise where teachers catch students being smart and praise them in a way that is public, specific to the task, and intellectually meaningful. This move is essential to interrupting assumptions based on simplistic views of smartness, developing math identities, and students recognizing strengths in themselves and their peers.

Why do we use it?

Assigning competence is used to disrupt structures and language that marginalizes students. This move is not one to use for all students, rather it is used to intentionally interrupt assumptions about particular students and to diminish hierarchical status among students (i.e., perceptions of differences in smartness and ability to participate).

When Assigning Competence...

Teachers are...

- expanding their ideas for what counts as smartness
- making sure the praise they give is public so it is heard by other students
- making sure that praise is specific to the task so that students can make the connection between their behavior and their mathematical contribution
- making sure praise is given with sincerity

Students are...

- developing confidence in their learning
- expanding their ideas of what counts as smartness
- seeing their peers ideas as valued contributions
- developing a positive math identity

Notice how Emily converted all of her measurements to the same unit. It simplified her calculations and helped her interpret the parameters of her function. That was clever Emily – well done!

Wow Noah! Your group was having trouble figuring out the rule for this function. That was great that you figured out that -5 was the rate of change. That was a really important connection that moved the group forward.

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Discourse Move: Assigning Competence

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

How do we use it?

If you are new to providing wait time, try this: With diverse groups of students, assumptions of "smartness" are common. This move addresses power dynamics among students and aims to encourage a positive math identity for students whose ideas are regularly overlooked. **Once you identify an important mathematical contribution by a student, say "[Name] contributed (specific idea) that is a really important idea for us to pay attention to, because..." and then explain why the idea is important.**

An Example of Assigning Competence in Action

Scenario: Imagine students are working in small groups on the following task: A species of dragonfly can fly about 88 feet/second. One of its biggest predators, a bat, can fly about 75 miles/hour. If the bat is trying to chase and catch a dragonfly for lunch, is it fast enough to catch it?

Student 1 (discussing with group): The answer has to be no, because 88 is bigger than 75.

Student 2 (discussing with group): Are you sure? The dragonfly's speed was measured in feet, and the bat's speed was measured in miles. Don't we have to make them the same unit and see?

Student 1 (discussing with group): Nope, I'm pretty sure I'm right.

Teacher: Student 2 said something really important, the dragonfly's speed is measured in feet but the bat's speed is measured in miles. Student 2 suggested that we need to make them the same. Since we are talking about the speed of the creatures, attending to the units is crucial. I really appreciate that attention to detail Student 2, it is going to be very helpful.

Things to Remember

- Assigning competence should be authentic and genuine. It must be public, specific, and meaningful. Saying "good job" is not enough.
- Be cautious of assigning competence to a student that was revoicing another's idea.
- Support your multilingual learners and exceptional students by intentionally using this move to elevate their confidence and diminish the hierarchical status within the classroom.
- Smartness can show up in many ways (e.g., strategies, representations). Consider all the ways that students can be smart at math!

Questions to Consider with Colleagues

1. How might you plan so you are ready to notice a moment where a students' idea can be used to assign competence?
2. How do you create an environment that empowers students to see themselves as doers of mathematics?
3. What does it mean to be "smart" in your classroom?
4. How do you see Assigning Competence relating to the Standards of Mathematical Practice? Consider SMP 1, 3, and 8 specifically.

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.