

NEWSLETTER

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DON'T DO THE THINKING FOR THEM

Three ways to leave more of the mathematical decisions with students.

In today's edition, we explore:

- Why the first step may be the decision the student most needs to make
- Three classroom moves: try first, ask before giving hints, and mix the practice
- A teacher move that keeps the decision with the student
- What the research says

Educators!

A student says, "I do not know what to do." The easiest response is to give the first step. But that first step may be the decision the student most needs to make.

Productive struggle, restraint with hints, and mixed practice leave more mathematical decision-making with the student. The work may look less fluent in the moment. That does not mean less learning is taking place.

Classroom Tips

- 1. Let students try before you show.** Give students enough time to represent the quantities, try a relationship, or test an idea before demonstrating the method. Ask what they tried and where their reasoning stopped.
- 2. Ask a question before giving a hint.** Before supplying a step, ask: What are you trying to find? What do you know? Can you represent the relationship? Keep as much of the mathematical decision with the student as possible.
- 3. Mix problems so students have to choose.** When every problem is the same type, students may know the method because of where the problem appears. Mix problem types so students have to read the structure and decide which method applies.

A Teacher Move

Student: "Can you tell me what to do first?"

Instead of: "This is division."

Try: "What is the question asking you to find?"

The first response gives the method. The second keeps the decision with the student.

What Does the Research Say?

Research distinguishes between performance during practice and learning that remains afterward. Students can benefit from attempting a problem before receiving instruction (Kapur, 2014; Kapur & Bielaczyc, 2012). Mixed practice can also improve later learning because students must discriminate among problem types and retrieve an appropriate method rather than repeat the one just demonstrated (Rohrer & Taylor, 2007). The important point is simple: work that looks fluent during the lesson is not always the best evidence of what students will retain and use later.

Keep developing mathematical thinkers.

More Information

This is a quick overview. To download the full research overview on the learning trifecta and watch the short video, go to DMT Insights at mathsuccess.io/dmtinsights.

Do you want to share ideas or contribute a teaching tip or story for the next newsletter? Please email us at mathsuccess@dmtinstitute.com.

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