

NEWSLETTER

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WHAT DOES “HIGH IMPACT” LOOK LIKE IN A MATH CLASSROOM?

DMT Insight 13 · DMTI and Hattie: Connecting Research to Mathematics Instruction

In today’s edition, we explore:

- Why naming a strategy is not enough
- Three DMTI moves for the classroom
- A task to try tomorrow

Educators!

Teacher clarity. Feedback. Metacognition. Collective teacher efficacy. These ideas appear prominently in John Hattie’s Visible Learning research, but naming a strategy does not tell a mathematics teacher what to do with it.

What does feedback sound like when a student thinks $\frac{1}{4}$ means one out of four marks on a number line?

What does teacher clarity mean when students are developing multiplication as iterations of a unit? What should teachers be looking for when students use two different strategies?

DMTI’s framework was developed independently from Hattie’s work, but there are important points of connection. The mathematics is where those connections become useful.

Classroom Tips

- 1. Make the mathematics clear.** Do not stop at posting a learning intention. Identify the relationship students are developing. In multiplication: What is the unit? How many times is it iterated? What total is composed?
- 2. Use feedback to uncover thinking.** Instead of immediately correcting an answer, ask a question that reveals the student’s reasoning. “What does this number represent?” “Where do you see that in your model?” “Does that relationship stay the same?”
- 3. Press students to connect.** Ask students to explain, represent, connect, compare, and generalize. A second strategy matters when students can identify the mathematical relationship the two strategies share.

Try This Tomorrow

When a student gives a correct answer, do not move on immediately. Ask:

- “How do you know?”
- “Can you represent it?”
- “Where do you see that relationship in your model?”
- “Would that relationship still work if the numbers changed?”

The answer tells you whether the student is correct. The explanation tells you more about what the student understands.

What Does the Research Say?

Teacher clarity has an effect size of 0.75, feedback 0.70, and metacognitive strategies 0.60 (Hattie, 2017). Researchers caution against treating effect-size rankings as prescriptions (Biesta, 2010; Snook et al., 2009). In a cluster randomized trial, students in schools that received DMTI professional development had greater mathematics achievement than students in control schools (Brendefur et al., 2022).

Hattie’s research can point us toward practices worth examining. It cannot tell us exactly what those practices should look like in a particular mathematics lesson. That requires attention to the mathematics, the student’s thinking, and the instructional decision that comes next. That is where the DMTI framework adds specificity.

Keep developing mathematical thinkers.

More Information

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

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