

NEWSLETTER

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RETEACHING THAT WORKS: RESPONDING TO STUDENT THINKING

Why repeating a lesson is not always the answer.

In today's edition, we explore:

- **Reteaching:** why it begins with how students are thinking
- **Classroom tips:** four considerations before you reteach
- **The research:** what studies of learning, feedback, and practice suggest

Educators!

When students struggle with a mathematical idea, teachers often respond by explaining the procedure again or providing additional practice. Sometimes that is exactly what students need. Other times, the difficulty is with the mathematical relationship the procedure represents.

Effective reteaching starts with understanding how students think. What quantities are they working with? What unit are they using? What relationship do they see? Their responses help teachers determine whether students need a different representation, more explicit instruction, a discussion of the mathematics, or additional practice.

Classroom Tips

1. **Examine student reasoning.** Ask students to explain their answer or represent their thinking before deciding what to reteach.
2. **Identify the mathematics.** Determine which quantity, unit, or relationship students do not yet understand. A student who writes $1/3 + 1/4 = 2/7$ may not be attending to the size of the fractional units. Ask how the student identified and partitioned the unit of 1.
3. **Select a useful representation.** Use a model, diagram, number line, or equation that makes the relationship visible.
4. **Connect understanding and practice.** Help students explain why a procedure works, and provide opportunities to become more accurate and efficient.

What Does the Research Say?

Research on learning and instruction points to the importance of prior knowledge, explicit instruction, feedback, and practice (Hattie & Timperley, 2007; Rosenshine, 2012). When students continue to struggle, teachers need to determine whether the difficulty involves an unfamiliar procedure, an incorrect relationship, or a misunderstanding of the quantities involved.

Additional practice can strengthen fluency, and understanding and fluency develop together (Rittle-Johnson et al., 2015). However, practice alone may not resolve a misconception. Student explanations, representations, and work samples help teachers decide how to respond.

Reteaching begins by examining student thinking. When teachers understand the relationships students are using, they can select instruction that develops mathematical understanding and increasingly efficient strategies.

Keep developing mathematical thinkers.

More Information

Read DMT Insight 28, watch the accompanying video, and download the Companion at mathsuccess.io/dmtinsights.

How do you decide what to reteach? Share it with us at contact@dmtinstitute.com.

For more information on professional development and curricular resources, visit mathsuccess.io.

