# NEWSLETTER

Issue 16 · 2025 · Math Success with DMTI

## PRACTICE MATTERS: WHAT STUDENTS PRACTICE MATTERS

### DMT Insight 16 · Beyond Drill and Practice

**In today's edition, we explore:**

- What a DMTI study found
- One example: building 7 × 8
- Three classroom moves and a task to try tomorrow

### Educators!

Students need multiplication facts they can access efficiently. Practice matters. Our research raises another question: What do students have available to reason from while they practice?

In a DMTI study, third- through fifth-grade classes practiced multiplication facts for five weeks. Averaged across the three grades, both groups gained, and the strategy-based group gained substantially more than the traditional drill group.

The difference was not practice versus no practice. Students in the strategy-based group learned to build unknown facts from known relationships and representations while they practiced.

### One Example: Building 7 × 8

A student does not immediately recall 7 × 8 but knows two related facts: 5 × 8 = 40 and 2 × 8 = 16.

$$\mathbf{7 \times 8 = 5 \times 8 + 2 \times 8 = 56}$$

The student decomposed seven iterations of the unit 8 into five iterations and two iterations. With repeated use, that relationship can become increasingly efficient until 7 × 8 is recalled automatically.

### Classroom Tips

1. **Start with what students know.** Ask: What fact do you already know that could help?
2. **Ask for the relationship.** Ask: How does the known fact help you build the unknown fact?
3. **Practice for efficiency.** Return to related facts frequently and watch for students using fewer steps and retrieving more facts automatically.

## Try This Tomorrow

> Write 7 × 8 on the board. Ask: “What fact do you already know that could help?”
>
> Record two or three relationships students use. Then ask: “Which one is most efficient for you, and why?”
>
> Return to 7 × 8 later in the week. Look for whether students need fewer steps or retrieve the fact automatically.

## What Does the Research Say?

For five weeks, third- through fifth-grade classes in Title I schools practiced multiplication facts for 10 to 15 minutes a day. Some classes used timed tests, flash cards, songs, and mnemonics. Others built unknown facts from known facts with arrays, a blank multiplication grid, and strategy cards. On a one-minute test, the strategy-based group gained an average of 6.08 correct facts and the drill-based group gained 0.79 (Brendefur et al., 2015). Both groups practiced. The difference was what students had available to reason from as they practiced.

Students need facts they can access efficiently. Relationships give them something to reason from when recall is not immediate. Practice makes those relationships increasingly efficient. Understanding and automaticity can develop together.

**Keep developing mathematical thinkers.**

## More Information

This is a quick overview. To download the full research overview on multiplication fact fluency 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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