

Math Success with DMTI

BUILDING STRONGER MATHEMATICAL THINKERS THROUGH PROGRESSIVE FORMALIZATION

In today's edition, we explore:

- Why progressive formalization changes math learning for the better
- How it supports deeper understanding and flexible problem-solving
- Practical classroom strategies for making formal math meaningful
- Tips for engaging all students and sustaining lasting growth

Educators!

Progressive formalization is a step-by-step approach that helps students make sense of math, starting with hands-on exploration and moving toward formal methods. Instead of jumping to algorithms, **teachers use real-world problems, visual models, and deliberate transitions to support every learner.**

Research shows that students who learn math in this way build stronger reasoning skills, retain concepts longer, and can apply their knowledge in new situations. This supports schema development and prepares students to tackle challenging tasks with confidence and creativity.

Classroom Strategies for Success

Sequence learning: Start with concrete objects and authentic problems, then use drawings, visual models, and finally formal symbols and procedures.

Make transitions explicit: Help students see how their informal ideas connect to more formal math. Encourage discussion, explanation, and reflection at each stage.

Emphasize multiple approaches: Let students try different strategies and celebrate creative thinking. For example, using ratio tables, area models, and skip counting to illustrate how multiplication procedures develop from their underlying meaning.

Value struggle and persistence: Use supportive questions and prompts to scaffold learning. When students work through confusion, they develop lasting understanding and resilience in mathematics.

Tips for Engagement and Equity

- Celebrate effort, curiosity, and new thinking—not just correct answers.
- Make math visual and interactive; use manipulatives, drawings, and models often.
- Use real-life contexts to ground new concepts and encourage explanation.
- Assess understanding with tasks that measure thinking, strategy use, and flexibility—not just speed or memorization.

Keep inspiring mathematical minds!

MORE INFORMATION

This newsletter is just a preview—there is more to explore! For the full research overview and additional videos, visit the “Research Overviews” page at dmtinstitute.com/research. You’ll find deeper insights, classroom strategies, downloadable resources, and more ways to expand your math teaching.

Have a classroom story, tip, or question to share? We love featuring educator voices and ideas. Email us at mathsuccess@dmtinstitute.com to contribute a teaching tip or share your experience—your story could be in our next newsletter!

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