

Common Misconceptions: Timed Tests (and Other Instructional Activities) Cause Math Anxiety

MISCONCEPTION

Many educators believe math anxiety is caused by instructional activities and timed tests.

In schools, educators may interpret students disengaging in math activities or saying they dislike math as math anxiety. Educators may reduce the difficulty of a math lesson or remove timed tests as a way to reduce math anxiety.

TRUTH

No studies have determined that timed tests cause math anxiety - defined as feelings of apprehension, tension, or fear that may interfere with performance on math-related tasks.^a In fact, timed tactics improve math performance.^b

Why are timed tests helpful?

- 🕒 Timed tests provide critical information for student mastery of key skills and concepts.
- 🕒 Once a student reaches 100% accuracy, the metric cannot capture additional learning.
- 🕒 Rate-based metrics are reliable and better indicate a student's instructional level.^c

Why are timed activities helpful?

- 🕒 Timed tasks are fluency-building activities.
- 🕒 Timed activities are necessary to promote math mastery when students have established a high level of accuracy and conceptual understanding.
- 🕒 Fluency is a necessary dimension of math mastery associated with robust understanding and flexible problem solving.^d

HOW DO YOU ADDRESS MATH ANXIETY?

Promote skill development through effective instruction.^e

Use language focused on working hard and showing growth rather than attaining a benchmark criterion.

Include fluency-building tactics in core instruction every day.

Avoid tasks where students have to "figure it out," and save those tasks for students who have mastered the fundamentals.

Support practices with tasks that increase in difficulty as students master skills.

^aNamkung et al. (2019)

^bGrays et al. (2017); Tsui & Mazzocco (2006)

^cVanDerHeyden & Coddling (2019)

^dBurns et al. (2006)

^ePassolunghi et al. (2019)

