Welcome fellow Recovering Traditionalists to Episode 204: Timed Math Activities…Good or Bad?

Welcome to Build Math Minds the podcast, where fidelity to your students is greater than fidelity to your textbook. I'm your host, Christina Tondevold, the recovering traditionalist and BuildMathMinds.com Founder, where my mission is to change the way we teach elementary math to our kiddos. Are you ready to start building math minds and not just creating calculators? Let's get started.

Today we're diving into a controversial topic in elementary math education: timed activities. There has been so much backlash to timed activities in elementary math over the last few years, but I'd like to bring your attention to a recent document that might have us all rethinking timings in math class. The backlash started because of all the anxiety and trauma timed math activities induced. But here's the thing - it wasn't the activities themselves that caused harm. It was how we used them. I was guilty of it myself, but I've always had this thought that we shouldn't do away with them completely. So I'd like to propose a new way to view timed activities in elementary school.

In the past, we punished students who didn't meet arbitrary benchmarks. We kept kids inside during recess, excluded them from celebrations, all of which made them feel like failures. That's where the trauma and math anxiety came from - not from the brief, focused practice itself.

Today, I want to help you see how research-backed timed activities can actually support your students' math fluency when implemented *thoughtfully.* And I'll be answering some real questions from educators who are wrestling with what to do now that they are seeing students become thinkers but struggle with quick retrieval of math concepts.

Let's start with what the research tells us. In the 2021 Practice Guide put out by The What Works Clearinghouse and the Institute of Education Sciences', it gives timed activities a "strong" level of evidence for building math fluency. They analyzed 27 studies involving over 4,300 students, and the results were clear: when done right, timed activities work.

But here's the key phrase: "when done right."

The WWC outlines five essential steps you need to have in place for timed activities to be effective, and I want to walk you through each one because this is crucial so that we do NOT go back to the old ways of doing timed activities, back when it was NOT done right.

Step 1: Identify Already-Learned Topics

This is crucial - timed activities should never be used to introduce new concepts. They're for building fluency on skills students have already learned through other instruction. Think of it like this: you wouldn't time someone when they first learn how to solve a Rubix cube, right? You wait until they've developed understanding, then as a way to practice their strategies the timings help encourage them as they see themselves getting faster and faster. Same principle applies to math.

Step 2: Choose Short Activities and Set Clear Expectations

Here's where we need to break out of the "worksheet and stopwatch" mindset. Timed activities are brief - usually 1 to 5 minutes - so you do need to actually time them, but they don't have to look like traditional timed tests of the past.

Let me give you some alternatives:

- **Math Talks Speed Rounds**: Give students 45-60 seconds to generate as many "whatevers" as they can. For example, set students up in partners and they have 45 seconds to go back and forth stating equivalent fractions to one-half. If one of them can't come up with an answer when it's their turn, they lose that round. Or if you want to make it more collaborative, they work together to list out as many equivalent fractions as they can during the 45 seconds. For younger students, an example is to have them spend the 45 seconds going back and forth with a partner drawing as many different visuals for the number 7 as they can.
- **Scavenger Hunts**: Post math facts around the room on sticky notes. Students have 3-5 minutes to solve as many as possible, moving at their own pace. Can be done individually or in pairs. Alternative version, give each student (or pair) a specific 'answer' they are searching for. On their paper they write down which facts they found around the room that give their 'answer'.
- **Race Against Yourself**: Students complete a set of problems and record their time in a graph they keep in their notebook, then try to beat their own personal best. Focus is on self-improvement rather than competition with others.
- **Beat the Calculator**: Students try to solve mental math problems faster than a partner using a calculator. Use problems where mental strategies are actually faster.

The key is variety and engagement, not just rows of problems on paper. Make it fun and encourage your students, don't punish them if they don't get a certain quantity of problems correct in the time allotted.

Step 3: Ensure Students Have Efficient Strategies

This addresses a question I received from an administrator who has seen teachers slowing down to build number sense but then students are struggling on timed assessments. Now I really dislike that educators and students are judged on standardized tests that have a timing component….but that's the reality. And truthfully, here's the thing - students need both conceptual understanding AND procedural fluency. Which means they do have to have efficient strategies. Understanding is important but so is speed.

Before you give any timed activity, ensure your students actually have strategies for the concept. The goal isn't mindless memorization - it's helping students access their strategies quickly and confidently.

Step 4: Track Progress and Set Goals

Instead of comparing students to arbitrary benchmarks (like you have to get 60 problems correct in 60 seconds), we help them track their own growth. Students chart their scores over time and try to "meet or beat" their previous performance.

This addresses another educator question I received about students not doing well on computation portions of assessments. When students see their own progress, they develop confidence and persistence. They're not competing against unrealistic standards - they're growing from their own starting point and that is super powerful in anything we are trying to become better at in our daily lives…not just math.

Step 5: Provide Immediate Feedback

Research shows that immediate corrective feedback is essential. This means we can't be marking papers later - it means helping students fix errors right away and explaining why the correct answer makes sense. I like to golf but I'm not very good at it. So when I go out to play, I'm really only practicing my bad swing…we don't want that for our students. If they are doing something wrong they need to know it immediately (like when I see my ball go flying into the other fairway) and they also need instruction on how to correct it (which is what I don't get when I'm out golfing).

I actually don't mind digital tools/games/programs to help with timing students or giving them practice. But if you're using digital tools, choose ones that provide instant feedback AND please understand their purpose…they are just for practicing things kids already know…they aren't building conceptual understanding inside most online programs. If you're using paper activities, review answers immediately as a group, focusing on strategy discussion rather than just right or wrong.

Now, let's address the elephant in the room - assessment pressure. As I said earlier, I've heard from educators whose students perform well on conceptual and application tasks but struggle with computation speed on standardized assessments.

Here's what the research tells us: regular, supportive timed practice actually reduces anxiety over time because it builds confidence. Students who have frequent, **low-stakes** opportunities to practice fluency perform better on high-stakes assessments.

The key is making these activities routine and positive. When students know what to expect and feel supported, timed practice becomes just another tool in their math toolkit.

So here's my challenge for you: I want you to reflect on your current beliefs about timed math activities. What experiences shaped those beliefs? Then, try just one supportive, fun timed activity with your students - focus on growth, strategy use, and celebration of progress.

Remember, it's not about speed for speed's sake. It's about helping students access their mathematical knowledge efficiently so they can tackle math problems with confidence.

Here's a reminder of some timed math activities you can try out this week:

- **Math Talks Speed Rounds**
- **Timed Scavenger Hunts**
- **Race Against Yourself**
- **Beat the Calculator**

Until next week, my fellow Recovering Traditionalists, keep letting your students explore math, keep questioning, and most importantly, keep Building Math Minds.

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