Welcome fellow Recovering Traditionalists to Episode 219 - What 13 AI Lessons Taught Me About Teaching Math.

Over the past few weeks, I've had AI generate 13 math lessons. And what I learned might surprise you.

Now, before you shut this off because you're anti-AI, hear me out. I'm not saying AI should replace you or your teachers. But teachers ARE using AI—whether we like it or not. They're going to ChatGPT to generate lesson plans, create worksheets, write emails to parents—all of it.

So instead of pretending that's not happening, I decided to put AI to the test in one area. I wanted to see: Can it actually create good math lessons?

The short answer? Not really. But the insights I've had from evaluating those 13 AI-generated lessons? Those apply to ANY math lesson—AI-generated or straight from your textbook.

So today, I want to share the three biggest things I learned, how AI CAN actually help educators, and two people I'm excited to learn from about using AI to help us in math education.

Let's dive in.

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.

WHAT I LEARNED FROM 13 AI-GENERATED LESSONS

I've been doing a YouTube Shorts series called "AI Made This Lesson, Let's Make It Better." By the time this episode airs, I'll have published 12 of these shorts, the 13th is scheduled to go out today at 3:30 PM Pacific. My plan is to continue this for 30 days…or more.

The premise is simple: I give AI a math standard and ask it to create a lesson. Then I show you—in under 2 minutes—one way (or multiple ways) I'd make that lesson better.

And here's why I'm doing this: Teachers ARE using AI to generate lessons. So instead of pretending that's not happening, I want to show you how to spot what needs to be improved.

And here's something I've realized: The ways I'm modifying these AI-generated lessons? Those same modifications apply to textbook lessons too.

So even if you never use AI to generate a lesson, these insights I share in the YouTube series will help you spot ways to adjust the lessons you already have.

Now, let me share the three big things I've learned so far:

LESSON #1: Put as much detail as possible in your prompt

When I started this series, I intentionally made my prompts very plain. I just said, "Create a lesson for [this standard]."

I wanted to see what AI would give me on its own, without any guidance.

And what I got was... not great. The lessons were surface-level, they lacked the conceptual understanding we want students to build.

So I started adding just a little more detail to my prompts: "give me a lesson to **start my students in their development** of this math standard:"

And the lessons sometimes were better.

However, in order to get a great lesson you need to put LOTS of details in about what you are wanting and I don't want to do that for this series because I want to see what AI generates on its own.

Which brings me to my next point...

LESSON #2: AI doesn't know the progression of learning

This is the biggest problem I've seen.

I give AI a standard—for example the one I did on the 3rd grade standard about becoming fluent with multiplication and division within 100.

And even though I told it I wanted a lesson to "start my students in their development," AI created a lesson where students are solving multiplication and division problems and comparing the answers to see how they're related.

But here's the issue: The standards are where students need to be at the END of the year.

At the start of 3rd grade, most students don't even know what multiplication IS yet. They're not ready to compare multiplication and division.

Even though my prompt did say, "Give me a lesson to START my students in their development of this math standard," it still didn't get it right. It created a lesson showing how multiplication and division are related—but these kids don't even know what multiplication is yet!

AI doesn't know the learning progressions. It doesn't know where students typically are at the beginning of the year versus the end. It doesn't know what foundational concepts need to be in place before you can teach something more complex. And it definitely doesn't know where your students are individually in their progress through the learning progressions.

LESSON #3: AI-generated lessons are a starting point, not a finished product

So here's my bottom line: I would NOT recommend teachers or math coaches go to AI for lesson plans.

But if you do, you need to give it so much detail that it knows exactly what you are wanting and by that point you basically could have just written the lesson yourself.

And then, you need to evaluate it with a critical eye and make modifications based on what you know about your students and the learning progression.

SO WHAT IS AI ACTUALLY GOOD FOR?

Okay, so if I don't recommend AI for lesson plans, why am I even talking about it?

Because AI CAN be incredibly helpful—just not with lesson plans in my experience.

In a prior episode, I talked about how to help teachers shift from "they should already know this" to "here's where they are and here's how we move them forward."

And one of the strategies I shared was about building forward—helping teachers address foundational gaps within the context of what they're currently teaching. Not going back, but scaffolding as they move forward.

Now, that sounds great in theory. But in practice, teachers are thinking, "How am I supposed to find time to modify all these lessons?"

I want them to know you don't need to totally overhaul lessons. That's why I'm continuing to do the YouTube series even though I don't like the AI-generated math lessons. In under 2 minutes I'm giving you ways to tweak lessons in small ways so that we can bring in that foundational work.

For example, one of the AI-generated lessons I reviewed for the series was solving word problems in Kindergarten. The warm-up for the lesson was just having kids count out 7 counters and then 5 counters. Well, why not have a ten-frame mat they can put those counters into? Yes you still get to see which kids can count out quantities but it gives the students and the teacher an opportunity to see and talk about number sense ideas also…specifically numbers that make 10 which is another Kindergarten standard.

That advice applies whether people are using AI-generated lessons or regular textbook lessons and no matter what grade level - incorporate number sense any chance you get AND see what other math content you can connect to.

It's not specific to that Kindergarten math concept, it's something we should be doing at every grade level. I just happened to be talking about a kindergarten lesson that was AI-generated, but it applies to all grade levels and all math lesson plans.

So whether you're a math coach or a teacher. Watch all the videos in the series to help you spot little ways to adjust lessons—so you can learn small ways to scaffold and help students make connections.

If you find one that meets the needs of a teacher you're working with, pass it along to them. Even if it's a kindergarten lesson and you're sending it to a 5th grade teacher.

The videos are all less than 2 minutes—a quick piece of advice so you can spend your time looking through lessons for ways to make them better.

And that's really where AI can actually help.

Not by generating the lessons themselves—but by freeing up your time to work on the things that matter.

Let AI handle the mundane, time-consuming tasks that take you away from the human work.

AI can't replace what you bring to your job as a human. It can't build relationships. It can't read the room during a coaching conversation. It can't make nuanced instructional decisions based on what you know about a specific teacher or student.

But it CAN save you time on certain tasks—so you have more time for the work that truly matters, cuz we all know there are so many tasks you have to do that really don’t move the needle in Building Math Minds.

HOW AI CAN HELP EDUCATORS

Here are a few ways you can use AI as a coach to save time and work smarter:

1. Analyze data to find patterns

Let's say you've got a spreadsheet with coaching cycle data—which teachers you've worked with, what topics you've covered, what strategies you've introduced.

You can upload that spreadsheet to AI and ask it to find patterns. "What topics am I coaching on most frequently? Which teachers have I worked with the least? Are there any trends in the types of support teachers are requesting?"

AI can do the work of finding the patterns. But then it's up to YOU to make decisions using that data based on what you know about your teachers and your school.

2. Generate differentiated materials

Let's say a teacher needs practice problems for students working at different levels. You can ask AI to generate 10 problems at three different levels of complexity.

Does AI always get it right? No. But it gives you a starting point that you can then refine based on what you know about those specific students.

3. Draft communication and handouts

Need to send an email to a parent? Ask AI to draft it. Need to create a notetaking document for teachers to use when they are observing you teach a lesson. Ask AI to draft it based off what you and the teacher have discussed. Just make sure you edit it…I don't think there's been a time that AI got it right the first time. Always use AI as a guide only, not the end all be all.

The key here is: AI handles the mundane tasks so you have more time for the human work—the coaching conversations, the relationship-building, the instructional decision-making.

GO WATCH THE YOUTUBE SERIES

That's why I'm continuing my "AI Made This Lesson, Let's Make It Better" YouTube Shorts series. Because even though I don't recommend using AI for lesson plans, I love that it gives me a way to show you small tweaks you can make to ANY lesson—without talking bad about specific textbooks and only taking 2 minutes of your already limited time.

So here's what I want you to do: Go watch the series on YouTube. You can find it in a playlist on my channel called "AI Made This Lesson."

Now, if you're a classroom teacher, your instinct might be to skip the ones that aren't about your grade level. But I'd encourage you to watch them all.

Because it's not always about the specific content. Remember that my advice can usually be used for ANY grade level. It's not specific to that math concept.

Same goes if you're a math coach. Watch them all to help you spot little ways to adjust lessons—so you can help your teachers modify their textbook lessons.

WANT TO GO DEEPER? JOIN US AT THE VIRTUAL MATH SUMMIT

Now, everything I've shared today? It's just scratching the surface. I do not know it all about AI in Education.

If you want to dive way deeper into how AI can help you coach smarter and how to use AI in math education, we've got two incredible sessions at the Virtual Math Summit that will take you further.

Dr. Kristopher Childs is doing a keynote called "Teaching Mathematics in the Age of AI: Enhancing Classroom Experiences." He's going to show you how educators can use AI to create meaningful tasks, personalize learning, and ignite engaging mathematical conversations. This is about using AI as a co-teacher—saving time on planning while increasing engagement and understanding for every child. I'm really excited about this one because from my experience doing the YouTube series I have NOT liked AI for math tasks, so I can't wait to learn from Dr. Childs.

And Dr. Nicki Newton is doing a session specifically for coaches called "Coaching Math Smarter: The AI Advantage." She's diving into how AI tools can transform your coaching practice—from analyzing student work to generating differentiated resources to providing personalized feedback. This is about amplifying your expertise so you can focus on what matters most: building teacher capacity. See, doing the mundane stuff so you can do you.

AI isn't going away. So, let's learn how to use it well.

Both of these sessions are at the Virtual Math Summit, which is completely free. Go to VirtualMathSummit.com and get registered.

The summit starts February 28th, and there are over 30 sessions for coaches and teachers. If you can't attend live there is a limited replay time, so get registered now at VirtualMathSummit.com.

Alright, my fellow Recovering Traditionalists, here's what I want you to remember:

AI is a tool. From my experience so far, it's not great at creating math lessons—but it CAN help with the mundane tasks so you have more time for the human work.

Use it wisely. Help your teachers use it wisely. Go watch my "AI Made This Lesson, Let's Make It Better" series. And join us at the Virtual Math Summit to learn even more ways AI can support your work.

I hope this helped build your math mind so you can build the math minds of students.

Have a great day!

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