## A MULTI-DIMENSIONAL GROWTH MINDSET CURRICULUM MiddSchoolMath Product Catalog 2025

## A Perfect Score on **EdReports**

Core Curriculum™ receives the highest scores possible on the latest criteria\*



## Sneak Preview The BIG International Film Series

captures students using the *Nest-O-Meter*™ to help endangered African penguins

## **Peter Liljedahl** talks how **Building Thinking Classrooms**' 14 practices can transform your math instruction

Bethel School District applies BTC's practices to their math program



Peter Liljedahl to keynote at 2025 MidSchoolMath National Conference



Core Curriculum<sup>™</sup> by MidSchoolMath

# The highest scores possible on the latest criteria on EdReports\*





## A perfect score in every gateway

#### This is:

# Core Curriculum<sup>™</sup> by MidSchoolMath

In 2021, EdReports.org released their new criteria for math curriculum. MidSchoolMath not only met expectations in all three gateways, we received a perfect score. EdReports.org, an independent nonprofit organization, conducts formal reviews of instructional materials based on indicators of high-quality content determined by school districts across the country.



# **YOU KNOW Real Engagement** When You See It



#### It begins with your core curriculum

After a decade of research into the mind of the math student, MidSchoolMath developed an unparalleled way to teach math. When you immerse students in situations where math makes sense in context, students naturally become curious. This gives students purpose and meaning to solve math problems.

You see it in the eyes of your students—a new level of engagement and authenticity in math education.

This is: **Core Curriculum™** by MidSchoolMath

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ESSA Tier I Gold Standard Research available at: www.midschoolmath.com/research

Students from Ms. Durham's class at Barret Traditional Middle School in Louisville, KY congratulate each other after solving a problem.

Dr. Peter Liljedahls author of best-selling Building Thinking Classrooms in Mathematics: 14 Teaching Practices for Enhancing Learning

# How the **Building Thinking Classrooms'** 14 teaching practices can transform your math instruction

#### MidSchoolMath's Co-Founder Scott Laidlaw sits down with Peter Liljedahl

Dr. Peter Liljedahl is a Professor of Mathematics Education at Simon Fraser University in Vancouver, Canada. Peter has authored or coauthored numerous books, book chapters, and journal articles on topics central to the teaching and learning of mathematics, and is most known as the author of the global phenomenon *Building Thinking Classrooms in Mathematics: 14 Teaching Practices for Enhancing Learning*.

hen I first began reading about Peter's 14 practices, I knew Building Thinking Classrooms was special. In terms of transformation of the math classroom, nothing - and I do mean nothing - has jumped out to me in educational research to be as effectual in fixing the problems faced by teachers on a daily basis. And, I also quickly realized that his ideas blended seamlessly with the pedagogy behind our Core Curriculum with instructional moves that would supercharge implementation of MidSchoolMath. I had the chance to sit down with Peter to dive deeper into his work.

MSM: We've been working with thousands of teachers across the country, and everywhere we go, people are talking *Building Thinking Classrooms*. Why do you think districts are so excited?

PL: My theory is this: There are a lot of really good ideas in math education, right? Like, promoting problem-based learning, problem-solving, inquiry, and numeracy. But the challenge has always been that we've tried to implement them inside of a space that hasn't changed in 150 years. We're trying to do 21st century pedagogy inside of a 19th century classroom.

And from the student perspective, what's happening is we're asking them to behave differently in a setting that throughout their entire career has told them to behave a certain way.

# We're trying to do 21<sup>st</sup> century pedagogy inside of a 19th century classroom.

I think what *Building Think-ing Classrooms* did was tackle the environment. It actually looks at the conditions that are necessary for collaborating, thinking, problem solving, reasoning, persevering, and entering into productive struggle based on what, we as teachers, have to do differently inside of the environment. And I think teachers who have a passion for implementing the *Building Thinking Classrooms* practices can then implement some of the really good ideas in math education.

#### MSM: Is there one primary thought or piece of research that underlies the *Building Thinking Classrooms* practices?

PL: I would say there are two. Number one: If students are not thinking, they're not learning, period. This is not my idea. This has existed for decades. We've known this, right? Students need to be actively and cognitively present in order for learning to happen. Of course, there's something to be said for immersion and passive learning and so forth, but not the kinds of analytic, critical, and creative thinking that we need students to do. They need to be cognitively present and actively involved in order for that to happen.

Number two: What we do as a teacher has an impact on what students do as learners. We have to start to recognize that our actions have important consequences on what students do in the classroom in ways that are explicit and implicit. And one of the things that kept coming up over and over again in the data was that students don't listen to what we say.

And what is that communicating to kids? What kind of expectations and norms are being communicated through what we do? What values are being communicated through what we do? When we look at student behavior and ask ourselves, what is it that we're doing as a teacher to create that behavior? And what can we do differently? What do we have to do to create the behavior we want to see?

#### MSM: What's your best, most convincing, response to the phrase "My students can't do that"?

PL: What I say is I've been in 160 different classrooms in the last two years, and we've made it work in every one of them. I find it difficult for you to convince me that your collection of students is inherently so much more different than any of those that we've encountered. But I don't think teachers are wrong when they say that, right?

Two things are true at the same time. Number one, I think their stu-



Left: Peter Liljedahl begins a school lesson with students standing and 'thinking' at a pictorial story. Right: Peter Liljedahl asks teachers how the *BTC* practice 'Making Thinking Visible' impacts their classroom.

dents are very much like every other group of students we've ever encountered. And number two, I do believe that they believe that their students can't do it.

Now, why would they believe that they can't do it? Because they have no recent evidence to indicate that they can. All of our judgment of students is based on what they show us on a day-to-day basis. But we come back to what we talked about previously. What our students are showing us is really a reflection of what we're doing, right?

But nonetheless, students are showing us that they're incapable, that they've got learned helplessness, that they are apathetic, they're uninterested, they're incapable, they don't know their basic facts, they don't know how to persevere.

But the reality is that they've shown me that in environment A. And environment A has incentivized those sorts of behaviors. In many cases, it's rewarded those types of behaviors. And in many ways, it's created those behaviors.

But what if we put them into environment B? Because who students are in our classroom is a product of who we are as a teacher and the environment that we create in the classroom and the environment we create in the school. I think this is the greatest strength of *Building Thinking Classrooms* is the tasks and the practices for teachers to try in their classrooms. Then they see how their students are different. And then they can say, "Oh, my students can do that!"

# What do we have to do create the behavior we want to see?

MSM: You also encourage teachers to "push questions back at students along with walking away" as an instructional move?

PL: So, the idea of walking away serves a whole bunch of purposes, right? At its outset, notice that, especially when you give students a hint, if you linger, you make them very uncomfortable. A hint is supposed to be cryptic. They actually need to talk with each other to process what you just said. You need to give the hint and walk away and give them processing time.

Then come back, see if the hint landed. If it doesn't, you can give another hint. If it did land, you just keep moving. One of the hardest things to do as a teacher is to not answer questions, right? We want to be helpful.

Walking away is a form of forcing function. By me walking away, it forces me not to help. And what does it communicate to kids? To drop a hint and walk away sends a clear message: "I believe you can do this." And it's also sort of a signal. The last thing that was said was really important. You guys should talk about that a bit more.

#### MSM: What advice do you have for teachers when they are giving students tasks?

PL: We don't want the task to give too much away at the beginning to make sure that everyone can be successful. So, we've got to hold a lot of cards back. But then to compensate for that, we need to have the teacher be present and be ready to step in and support and extend and provide hints where necessary so that everyone can have a positive experience with the task.

Tasks are inert. No matter how good the task is, it is still inert. It takes pedagogy to bring it to life and it takes a teacher to keep it alive.

MSM: At MidSchoolMath, we use film and a rich, narrative story to deliver tasks to students. Have you done any research on the impact of story?

PL: Love it. Yeah, I really do. So, one of the books that I wrote a long time ago that nobody reads is called *Teaching Math through Storytelling*. The role of story and narrative are really valuable. What story does is it hooks a student, because it gives students context. It personalizes, contextualizes, and temporalizes things.

Let's juxtapose that against a classic word problem. Mary went to the store to buy some eggs, milk, and cheese, right? Eggs are \$3, milk is \$4, and cheese is \$5. How much money will Mary need? Well, the answer to that question is: apparently she doesn't need any money because she already went to the store!

## **C** To drop a hint and *walk away* sends a clear message:

#### 'I believe you can do this.'"

So that story is depersonalized. Who is Mary? Like, is Mary a child? Is she my age? What's she doing buying cheese? Like, what child my age buys cheese, right? The story is also completely decontextualized. How far is this store? And the story is de-temporalized and we really don't care about it. We just want you to care about the numbers in the story.

Storytelling is doing the opposite. The narrative comes out in the mathematics and how problems are solved.

Now, why did 'story' not make it into my book? I had enough data to show that it could have been. Why was 'story' not the 15th pedagogical practice?

#### MSM: How do visual solutions promote a thinking classroom?

PL: I'm a huge fan of visual solutions. But it's not just visual. Let's call it register-specific solutions, right? What are the comfortable mediums through which a student can articulate their thinking and their solution that are specific to them? For example, this tension between chronological and logical is really about register. Students are much more adept at communicating in chronological ways and logical ways.

How can they communicate their thinking not just in terms of the solution but how can they communicate their thinking to each other when they're working together? And you know text isn't going to be it. Symbolic may not be it. We have to think about this as multi-modality. And it's what the student themselves use as a medium to help cue up their own thinking.

#### MSM: Which *Building Thinking Classrooms* practice do you believe has the most impact?

PL: Depending on what we're talking about, it's a different answer, right? I think that formative assessment is one of the most powerful tools we can give students to help them with their own learning. I often say if you do nothing else in my book, do that because the greatest inequity in education is not the inequity between students, it's the inequity between the teacher and the students. Why should teachers have all the knowledge of what students are capable of? We need to put that power into the hands of the students.

#### What random groups does is it *builds* community and community unlocks empathy.

But I still hold that the most important practice is using visibly random groups when implemented consistently. What visible random grouping does is communicate to students that we believe in all of you. We think you're all capable. And it communicates it through our actions, not through our words.

What random groups does is it builds community and community

unlocks empathy. And when that happens, we start to see that real collaboration doesn't actually begin until students care as much about their peers' learning as their own learning.

When that happens, we can actually get on with the learning. It is the engine that drives everything.

#### MSM: What is one of your favorite stories about how the *Building Thinking Classrooms* practices transformed the classroom?

PL: I have so many. I'll tell a story about Alex. Just a little over 10 years ago, I presented at the Canadian Math Education Forum. It was a collection of teachers, mathematicians, math education researchers and leaders. So, Alex is a math teacher. Alex was at the forum for the very first time I presented on *Building Thinking Classrooms*.

Alex talked to me after the session. At the time he introduced himself as being three years away from retirement. That was 2014. I saw him about three months ago. And he's now three years from retirement! It's been fun for me to hear those stories. Like, I was going to retire. And now this has given me that life.

#### MSM: Thank you Peter! We are looking forward to seeing you in March at our 2025 MidSchoolMath National Conference!

PL: Yeah, I am too. See you in Santa Fe!



## MidSchoolMath presents

# The BIG International Film Series



#### Students use the **Nest-o-meter™** to save African Penguins

#### Behind the scenes of the new math film series from across the globe

By Scott Laidlaw, Co-Founder

f there were any species on our planet to hold the title for both the cutest and funniest, the African Penguin would certainly be a verifiable contender for the top spot.

African Penguins are also among the fastest declining endangered animals anywhere on the globe.

"Cape Town is the place everyone knows about in South Africa," says Maya, a 7th grade middle school student at Curro Academy School, a two-hour drive west of Cape Town.

"We have the coastline with the mountains. And we also have the African Penguin," adds Calem, Maya's peer. "But the population declines every year."

"Our task," Kaylin, another Curro student, shares passionately, "is to make a video of the penguins... it was mainly to get the idea that penguins are starting to go extinct." Maya considers more variables penguins are facing, "We look at how few African Penguin breeding pairs there are, as well as their chances of survival with little food because of the overfishing."

The three of them chatter, explaining what they've learned from the data they collected in the field with the penguins over the past week - a week that started as an improbable idea three months before, 10,066 miles away from Cape Town.

#### African Penguins are also among the *fastest* declining **endangered animals** *anywhere* on the globe.

Big ideas sometimes come from seemingly insignificant moments. For the MidSchoolMath team, the concept of a new film series was already tossed around as one way to tackle the new California framework in mathematics. Yet, as the team talked, something else took hold... the idea that the changes needed for California could fundamentally enhance the curriculum for clients across the country... and even around the world.

And that's when Martha Riecks, our Director of National Conference, jumped in. "Well, if you are going international, you know I helped train an African Penguin." The idea was born. Martha had helped raise 'Stanley' the famous, first African Penguin to live at the National Aviary in Pittsburgh, PA. Her story of this penguin waddling around her cubicle was infectious.

Two months later, our team decided to embark on traveling to five different countries to film middle



# SAPERICONNE SouthAstroc

school students exploring some of the world's most prevailing topics, such as animal extinction, electricity load shedding, and trade economies.

We knew immediately upon arrival to film the penguins just how important the BIG International Film Series would be to our teachers and students in the US to bring a multicultural lens to math.

"South Africa is really unique because it's got a really unique culture," Kaylin says excitedly.

Together, Maya, Calem, and Kaylin dig deep into the math of penguin survival by calculating their diminishing population, where the best nesting sites are located, and rehabilitation efforts to create new penguin colonies.

One of their challenges is to think about how to improve awareness and their actions to protect the African Penguin nesting habitat.

Their potential solution? "The Nest-O-Meter (TM!)" they shout in unison, **a hypothetical software application**, that would help people understand the underlying math in habitats from the perspective of the penguin.

"An African Penguin has to take 6.5 steps for every human step," Calem informs us. "So, if a penguin has to walk a long distance to go fishing, it wasn't such an ideal nest," Kaylin adds. "And then they have predators and other dangers," says Maya. As they finish their calculations for the chapters of their documentary (Penguin Populations, House Hunting Penguin Style, and A New Hope at De Hoop (a restoration project)), the three students start recording their introduction: "We hope you enjoy our penguin adventure as much as we have!"

# <sup>CC</sup> The Nest-O-Meter<sup>™</sup>... would help people understand the underlying math

## in habitats from the *perspective* of the penguin. **\***

Next stop: The MidSchoolMath team is now headed to Medellín, Colombia to explore how large wall murals transformed a once dangerous neighborhood into an international destination for art and tourism.

"People talk about bringing 'realworld' problems to math. We chose a documentary film style for this project that brings middle school students together from different countries around the world to investigate big problems," says Jennifer Lightwood, MidSchoolMath's Co-founder and Executive Producer.

Other planned destinations include São Paulo, Brazil; Tokyo, Japan; and California, USA to explore the speed of deforestation of the world's largest and most biodiverse rainforest, mountain geology and international commerce.

It works like that sometimes, where a very big idea comes from something so simple and adorable as a little penguin that symbolizes, perhaps, the most important part of why we teach mathematics: to help students not only navigate their world, but to take care of it.





#### Core Curriculum<sup>™</sup> by MidSchoolMath is a blended online digital

**and print solution** featuring an expansive lesson for every standard in grades 5-8. Combining **scripted video content, tailored interactive problems,** and **high quality printed workbooks** that complement each of the online components, our curriculum streamlines lesson planning and engages students in a way not possible before. With this approach, Core Curriculum has some of the **largest effect sizes** across measured curricula.<sup>1</sup>

1. Cooney, J.B., Laidlaw, J. (2019) A curriculum structure with potential for higher than average gains in middle school math

#### This is:

# Core Curriculum<sup>™</sup> by MidSchoolMath

## A multi-dimensional growth-mindset curriculum

When it comes to fixing 'the mid school math cliff', where from 5th to 8th grade, U.S. students exhibit the largest decline in test scores in the world, breaking through fixed mindsets is foremost. Core Curriculum<sup>™</sup> brings math to life through its visual and interactive multi-dimensional components.

With over 270 immersive films designed to create purpose for math, Core Curriculum<sup>™</sup> includes lessons specifically designed to foster growth-mindset through student collaboration. The mindset where students believe that their ability in math is 'fixed' or permanent in nature is overcome as students learn new concepts not only from their teacher, but also from each other. Built with formative assessments that help teachers and students determine where and how to make improvements, and assignments that light up the mathematical part of the brain, Core Curriculum<sup>™</sup> by MidSchoolMath is the antidote to students saying they are just "bad at math."

## Take a **deep dive** into Core Curriculum's key **components** on the following pages

The Math Simulator™ Simulation Trainer Teacher Instruction Practice Printable Clicker Quiz Test Trainer Pro Milestone Assessment Progress Monitoring

# The Math Simulator™

#### Part of **Core Curriculum™** by MidSchoolMath



#### **Real-life, visual hooks**

Real-life means live actors—sets from the Old West to outer space to modern L.A.—and a 'problem' that isn't just math; it just requires math to solve it.

#### **Professionally animated worked examples**

As Jo Boaler says, "Visuals light up the mathematical part of the brain." So, we worked with professional animators and cinematographers to design, create, and deliver the strongest visual worked examples in the field.



## A 3-part film series

for every standard in grades 5 through 8

With classroom discussion resulting in the highest effect sizes in learning, nothing will encourage your students to talk math more than film, with live actors, where the math makes sense in context.



Every lesson starts with a story and a question



Data is suspended until students grapple with need-to-know







Math is solved in context to the story





# Learning effects are **3x greater**

when we give students an opportunity to fail safely with **individualized visual feedback** 

Modeled on research from real flight simulators, the *Simulation Trainer* taps into one of the most powerful pedagogies possible. Like a flight simulator, a "sim" trainer contextualizes math in a coherent scenario that allows students to experience how the input (math answer) is directly related to the outcome. And it works. On randomized controlled trials supported by the National Science Foundation, the *Simulation Trainer* elicited learning effects 3 times greater than typical interventions.<sup>1</sup>



1. Cooney, J.B., Laidlaw, J. (2019) A curriculum structure with potential for higher than average gains in middle school math

# **Simulation Trainer**

Part of **Core Curriculum™** by MidSchoolMath

### **Varied inputs**

Answers are not just multiple choice. From drawing a 'line of best fit' to building equations, *Simulation Trainer* has almost every input imaginable.



#### Individualized problems & feedback

Every problem is a remarkable feat of design, emphasizing the interconnectedness of mathematics in which both the problem *and* the solution are individualized.

#### **Failing safely**

Neuroscience research shows that the biggest single determinant factor in growth mindset development is the ability to fail safely. The *Simulation Trainer* does exactly that.



# Instruction with a **visual connection** doubles the learning effects of traditional lecture

Guide your students through a PowerPoint version of a lesson, or play the video version with Mid-SchoolMath Instructor, Ryen Jackson. In the classroom or remotely, our *Teacher Instruction* product offers you a versatile tool for providing clear visual explanations for each math standard, grades 5 to 8. Both versions are also available in Spanish.



PowerPoint version for synchronous teaching



Video version for asynchronous teaching

# **Teacher Instruction**

Part of **Core Curriculum™** by MidSchoolMath



You and your students will love seeing math concepts come alive with visual representations in front of your eyes.

charges her a members 0 74 5 per transaction. fes a \$5 per hot dog and a \$3 ordon's credit union charges him \$1.50 per transaction and a members fee of \$0.75. 5) Jaqueline and Jenae are shopping for accessories. The prices Jaqueline buys 4 bracelets and 2 necklaces. Each bracelet costs \$8, and Jaqueline's total is \$70. Jenae buys Write an equation that could be used each and to find n, the cost of each necklace. Jenae's to cost of each ne

## The most advanced technologies in the world cannot replace the importance of an **exceptionally written math problem**

With every math problem created by a teacher with years of classroom experience, the *Practice Printable* creates the opportunity for students to engage with every math concept from grades 5 to 8. Available in both digital and print forms.



Every *Practice Printable* includes a *Worked Example* in the form of a tutorial video in which a student solves one of the problems and provides explanation and reasoning.

# **Practice Printable**

Part of **Core Curriculum™** by MidSchoolMath

# Drawable, write-able, annotate-able, digital printable

Developed in response to the pandemic, our digital *Practice Printable* has actually evolved into one of our most functional technologies in, or out, of the classroom, allowing students to draw, write, annotate and save their work.



All the way down to the glue used to bind the spine, whether it's a student workbook or a teacher guide, the quality of the print is second to none.



## A formative assessment that promotes classroom discussion

Nothing works better than a quick wholeclass *Clicker Quiz* to check in with students prior to wrapping up a lesson. This low-stakes test (comprised of six multiple choice math problems) facilitated through any device gives a teacher real-time evaluation data to ensure the class is ready to move to the next standard. Not to mention, the *Clicker Quiz* itself is a learning tool that enhances longterm recall of concepts.



Top: A student prepares to select a Clicker Quiz answer with the virtual clicker. Bottom: Ms. Rowland discusses the multiple choice question with her class at Barret Traditional Middle School.

# **Clicker Quiz**

#### Part of **Core Curriculum™** by MidSchoolMath



#### Immediate feedback

See individual and whole-class results instantaneously with a six-question *Clicker Quiz* for each lesson. This quick tool is excellent for having students discuss strategies. Don't be surprised when your students cheer as they celebrate a solution together.





Students in Ms. Hodges' class at Barret Traditional Middle School begin the period with five minutes of *Test Trainer Pro* before the day's lesson.

## A no-prep bell ringer that adds almost a **year of growth**

The mantra for *Test Trainer Pro*, 'low dose, high consistency' and the simplicity of the system means that each day, students have a routine of practice that builds fluency and creates ease of use for teachers. Students work at their own ability level, while teachers and administrators receive real-time data about their progress.

# **Test Trainer Pro**

Part of **Core Curriculum™** by MidSchoolMath



#### Precise proficiency data for every student, class & school

*Test Trainer Pro* provides proficiency data for each student and aggregate data for classes and schools over time.







## To determine what students have learned, **we have to know** where they were before

We automated monitoring of pre-test to posttest learning gains for each *Milestone Assessment*, because it's about seeing growth, not just a score. And, we automated recommendations for follow-up too, making the game plan for improvement a little bit easier.

# **Milestone Assessments**

Part of **Core Curriculum™** by MidSchoolMath

#### Editable pre-tests and post-tests

For every summative evaluation, we have a parallel pre-test to gauge the learning gains of students. Every assessment is editable to meet the needs of individual classes.

1) Carter wants reflections, c	MidSchoolMath Milestone Assessment Post-Test 8.G.A to define a transformation that takes Figure A to Figure B, using only rotations, r translations. Which statement is true about the transformation?	
a) It can be b) It can be d) It		Image: state in the state interaction of the state int

#### Print & digital versions

We offer two formats of *Milestone Assessments* for students: a digital version for ease with automatic grading, and a print version that allows teachers to evaluate more indepth questions and responses which cannot be evaluated by a computer.

# **Progress Monitoring**

#### Part of **Core Curriculum™** by MidSchoolMath



#### An unparalleled assignment communications system

Communication with students about assignments can be challenging to say the least. View student work, the assignment, and respond, all in one place.



# Data from the beginning to the end of the year

Rather than students taking tests a few times during the year with limited information, *Progress Monitoring* delivers multiple data points for every student; all the time, on demand.



Every school, every grade, every class, every student with individual and aggregate proficiency data all in one place

BELL SCHEDULE IST 7:40 - 8:40 2ND 8:45 - 9:40

945-1040

10:45 - 12:0

120 - 2:20

320

4TH

CTH

Keeping track of students has never been easier. Drill down to a single assignment to see specific work, or view the aggregate proficiency scores across an entire school or district. Many assignments even have real-time updates that work in remote learning, or allow for teachers to share student work in class.



# Professional Development & Implementation Training

Part of **Core Curriculum™** by MidSchoolMath



#### **On-site training, full service**

Nothing is as effective as on-site training where teachers have an opportunity to experience the curriculum in the student role and then have time to practice delivering lessons. A 1-day training is a great introduction or refresher; a 2-day training allows teachers to go more in-depth; a 3-day training allows for valuable planning time. All trainings are customized to meet district needs.

#### **Classroom coaching**

For districts preparing for the highest levels of implementation, in-class coaching is essential. Mid-SchoolMath trainers visit classes to provide feedback, problem solve, and even occasionally model a lesson to a class. The combination of on-site training and classroom coaching is the strongest method of implementation for districts.





## Setting the standard for implementation

#### MSM's Director of Professional Learning shares her insights from the field

#### By MSM Staff

#### MSM: You've been flying around the country quite a bit?

JJ: A lot. From Cornish, NH to Louisville, KY to Corvallis, OR, I've been working with thousands of teachers from around the country, both in trainings and visiting their classrooms.

#### MSM: What have you learned by being in so many places?

JJ: Teachers have a lot of different styles, but you recognize good teaching when you see it. Classes are engaged. Students are talking and challenging themselves and each other. Students are creating mathematical visuals and teachers fill their vertical wall space with student work.

## MSM: You spoke about good teaching, and every comment was focused on students?

JJ: That's really the key. Over the past couple of decades, we've learned so much about learning and we know it goes far beyond teacher lectures. Teachers that can facilitate a good classroom discussion are leveraging learning effect sizes that are double, or even in some cases triple compared to classrooms where the primary methodology is providing information from teacher to students.



Jacqueline Johnson Director of Professional Learning

#### MSM: Some teachers think the shift to student collaboration is hard to make with their students. What advice do you have?

JJ: Launch with an immersive experience and give students time to decode a math problem without getting too 'math-y' to start. This is what gets them talking. Have them create visual solutions. Most importantly, back just a little from the tendency to provide a lot of help and allow your students to grapple. Facilitate rather than teach and watch engagement and collaboration come alive in your classroom. With MidSchoolMath, you have a curriculum structure that supports this pedagogical approach. I've been in hundreds of classrooms around the country with all types of students and it works everywhere.

#### MSM: What's the most important factor for good implementation?

JJ: Without a doubt, it's that the school or district must consider this a team effort. And cultivate excitement about making mistakes and excitement to fail! I know that may sound strange, yet it takes district level leadership to feel okay about that type of mindset.

#### MSM: What does this mindset look like?

JJ: It's a mindset that embraces the pathway of maximum proficiency through the land of mistake, revision, mistake 2, revision 2, mistake 'n'. Revision 'n'. This is almost unheard of in education. But it's what matters most.

#### 2025 MidSchoolMath National Conference THE THINKING CLASSROOM

Keynote Speaker Peter Liljedahl Author of Building Thinking Classrooms in Mathematics

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# Join Us in SANTA FE! March 7-8+2025

## About the conference

The MidSchoolMath National Conference is a unique professional learning opportunity for math educators and school/district leadership. Featuring internationally-recognized leaders in education alongside active practitioners, in the inspiring setting of Santa Fe, attendees have an unparalleled opportunity to explore best practices, discover new resources and learn how to best support their students.

The MidSchoolMath National Conference is a stand-alone professional learning opportunity whether or not you use Core Curriculum™ by MidSchoolMath.

## **Meet our featured presenters**



Kevin Simpson MSM Trainer



Kristy McElravy Math Teacher



Howie Hua Math Influencer



Jacqueline Johnson MSM Trainer



**Scott Laidlaw** MSM Co-founder

## **Conference schedule**

#### Thursday, March 6: Pre-Conference

#### The 14 practices from Building Thinking Classrooms in action

Come early for the pre-conference workshop to see what *Building Thinking Classrooms* looks like in a math classroom. Along with the MidSchoolMath team, work with 8th Grade Teacher **Kristy McElravy** from Bethel School District in Eugene, OR, as they dig into how to combine Liljedahl's innovative classroom strategies with your math curriculum.

#### Friday, March 7 - Saturday, March 8: Conference

#### The Thinking Classroom comes alive on the mainstage

Starting with our signature live simulation with the MidSchoolMath team, the conference will include 50+ breakout sessions designed to address 'The MidSchoolMath Cliff' where the US has the largest decline in math scores between 4th and 10th grade worldwide. Join colleagues and featured presenters from around the nation, such as math influencer **Howie Hua**, known for his math memes, for an unforgettable learning experience. Mainstage keynote features Peter Liljedahl, author of *Building Thinking Classrooms in Mathematics*.

All conference attendees will receive a copy of Peter Liljedahl's book:



Questions? 575.224.1480 Register at midschoolmath.com/conference



### MidSchoolMath + *Building Thinking Classrooms* How I found my way back to loving teaching math

By Kristy McElravy 8th Grade Teacher Bethel School District Eugene, OR



t the start of the school year I hated math," one of my 8th grade students wrote in an end of year letter. I agreed with her. At the start of the year, I had even written a letter to our HR department requesting a transfer out of my current position. In hindsight, I realize I almost missed out on my most joyful, collaborative, and engaging year of teaching. Almost.

I've been teaching some level of middle school math since 2006, and

in short, there have been good years and not-so-good years. Teaching will always have its challenges, but the last three years of my career had felt nearly impossible. The energy in my classroom was lacking, and students weren't engaged in the content. Moreover, most of their standardized test scores were showing they were two or more grade levels below where they ought to be. Many of my students didn't complete the work, and they certainly weren't willing to talk to each other about math. I desperately tried to blame COVID, the students, social media, or anything for the lack of learning. I began to doubt my abilities as a teacher, questioning whether I still had what

it takes to inspire the young people in front of me. I knew a change needed to be made.

First, I tried changing the environment. I purchased nine used dining table sets, hung twinkle lights, decorated bulletin boards; it was as close to a Pinterest classroom as I was ever going to get. It may surprise you, but...it didn't work. Next, I worked too many hours a day trying to create in-class interventions. I pored over test scores and made groups, schedules and practices to fit the wide range of needs in my class. Guess what? That didn't work, either.

Then, in the fall of 2023, my school district, Bethel, in Eugene, Oregon, adopted a new math curriculum. I felt a renewed sense of hope as I attended my first training session with MidSchoolMath to learn about *Core Curriculum*. Over 18 years of teaching different curricula, I'd never seen anything like it. I had also never attended a professional development where my colleagues were actively engaged the entire time!

#### <sup>€</sup> I found that truly, the entire Core Curriclum<sup>™</sup> works great alongside the 14 BTC practices.<sup>>></sup>

MidSchoolMath starts each lesson with a filmed short story, called *The Math Simulator*, which gives them a shared goal of solving a real world problem. I was totally in love with the curriculum when I walked away that day. I had just spent an entire day's professional development being engaged and collaborative, persevering and discussing math; everything I wanted for my students.

My new set of 8th graders showed up the following week to begin a brand-new school year and I started rolling out *Core Curriculum* lessons. Right away students were captivated by the filmed narratives in *The Math Simulator* and enjoyed finding success on the *Simulation Trainer*. However, in the midst of this new and engaging curriculum, my students weren't collaborating. I tried so hard to get them to talk; think-pair-share, write it out and then share, type it, etc. I could not get them to talk! It was crickets! The silence and the resistance made me feel like all of my efforts had been in vain. It must be me, I thought. That's when I hastily wrote the letter asking to be transferred to elementary school. The previous years had taken their toll and I desperately wanted to give up.

It turns out it's actually pretty difficult to get transferred in October, and so I was going to have to tough out another year. As I let this reality sink in, MidSchoolMath extended an intriguing opportunity to me. They wanted to film in my classroom for a week! My thoughts raced, "seriously? My classroom? I can't even get these kids to speak to one another!"

Despite my initial hesitance, I decided to meet with Dr. Scott Laidlaw, and I told him immediately: 1) I have imposter syndrome, why me?

2) MY STUDENTS DON'T TALK3) Are you creating what not to do videos?

Scott assured me it was going to be great and gave me some homework; he told me to read: *Building Thinking Classrooms (BTC)*.

I started reading Peter Liljedahl's research describing 14 practices to

increase thinking and engagement in the classroom. In addition to the *BTC* practices, I explored *Core Curriculum*'s *Detailed Lesson Plans*. These held a wealth of knowledge; I was able to enrich vocabulary practices, apply mathematical language routines and utilize the exclusive MSM mathematical practice tips.

My students returned from the weekend and found the classroom transformed in its de-fronted state. Nervously, I shared that they'd be working in random groups of three and hit the shuffle class button built into Core Curriculum. As the students clustered around their vertical nonpermanent surfaces (VNPSs), I used the script from BTC to introduce The Tax Collector lesson of The Math Simulator. Visibly random groups, in my opinion, is one of the best ways to enhance learning. Students are given permission to stop playing the role they've always conformed to, and as a teacher, you make a trust deposit with your students that they can do important thinking with anyone in the classroom.

## Now, my students are talking to each other '

I knew we were onto something extraordinary that first day. As the dismissal bell rang, students were jotting down parts of the task in

Left: Random groups button built into MidSchoolMath's *Core Curriculum*<sup>TM</sup>. Right: Students clustered around their vertical nonpermanent surfaces (VNPSs).





Above: Kristy with students at vertical nonpermanent surfaces (VNPSs).

order to continue working in their other classes (sorry, not sorry to my colleagues). More telling was the participation from the handful of students who had never spoken in my class, and who were now actually championing the thinking task.

...the handful of students who had *never* spoken in my class... were now actually **championing** the thinking task."

I found that, truly, the entire *Core Curriculum* works great alongside the 14 *BTC* practices. MSM's Teacher Instruction component along with *BTC*'s When, Where, and How Tasks Are Given in a Thinking Classroom, work together exceptionally well. Because *Core Curriculum* has taken special care of *Teacher Instruction* day to write a full script and create slide decks with precise visuals and video versions, I have so many options to think about how tasks are given. Instead of setting my students up to mimic work, I can use these resources to give some parts of instruction verbally at VNPSs or share rich visuals with my students.

Now, my students were talking to each other! Not just talking - they were talking about math! More still, they were thinking about math, collaborating with one another and constructing paths towards solving problems. As the year progressed, math was a class that students wanted to be a part of. Joy radiated through the room. Students were excited to see what the latest story in *The Math Simulator* would be about, and these stories brought math to life and bonded our classroom.

Below: Students discuess a math probem at their vertical nonpermanent surface (VNPSs).



They were thrilled to see who they would be working with in their random group of three at their VN-PSs. They were eager to witness each other's perseverance. Our classroom was a joyful, thinking, safe, engaging, collaborative space where students wanted to be. This was a place I wanted to be. This is exactly what I had pictured when the school year began.

I wasn't the problem and neither were my students. As Liljedahl says, we just needed a reboot. *Core Cur*- *riculum* and *BTC* transformed my classroom.

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#### where students *wanted* to be.

My student concluded her letter by writing, "...but you have changed my perspective on math. Now, because of you, I enjoy and look forward to math class. You not only helped me in math, but you helped me with my social skills and flexibility. The new seating and the overall unpredictability of this class helped me more than you can imagine." As I read and reflected on her words, I realized the transformation wasn't just hers - it was mine, too. Together, with the help of MidSchoolMath and *Building Thinking Classrooms*, we had found our way back to loving math.

## Why We Focus on Math in the Middle Grades

Nearly every district across the country shows comparable declines in the middle grades. Thus, administrators and teachers immediately recognize and connect with this phenomenon of 'the mid school math cliff.'

From a global perspective, students in the United States typically score above average in elementary school, yet the US ranks in the bottom tier of math scores for 15-year-old students. Based on nearly twenty years of evidence from The International Math & Science Study (TIMSS) and the Programme for International Assessment (PISA), among 34 OECD countries, the US decline from 5th to 8th grade is the greatest in the world.

MidSchoolMath was founded on the idea that we can change how math is taught during the middle years, when it matters most.



#### 'The mid school math cliff'

#### www.midschoolmath.com

#### Try a **no-cost 40-day pilot** with full access to print & digital materials



of districts

in 2023-2024

chose **Core Curriculum**™

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