Math Narrative Project

Everyday experiences are full of math—and every young person can grow as a math learner.

WYEN's Approach

Our big idea

The Math Narratives Community of Practice (CoP) aims to uncover and build strategies that support young people across Wyoming. We believe the stories we tell shape what young people reach for. Beliefs and stories can be changed, and the adults who support our youth play an important role.



- small, well-timed interventions aimed at identity can have lasting effects (Cohen et al., 2006).
- how students think about math ability affects how they respond to challenge (Blackwell et al., 2007)

Making a real impact

The Gates-funded Math Narrative Project field-tested messages about reframing struggle, normalizing mistakes, and seeking help. Early results, mostly small pre/post studies with students reported to the narrative project in grades 6-10, include:

- Beliefs about mistakes and help-seeking: Students who engaged repeatedly with narrative-based feedback gained a full point on a 7-point scale in seeing mistakes as helpful and in willingness to ask teachers for help.
- Anxiety and capability: In one test of 66 students, math anxiety decreased (3.61 to 3.32) and capability beliefs rose (3.61 to 3.90).
- Near-peers as messengers: In a peer-led afterschool program, 8th graders delivering the messages helped 6th and 7th graders shift their emotional relationship with math.



Join us to learn more



Connect with the Wyoming Enrichment Network to learn more about the Math Narratives Project and access Wyoming-specific resources.

WYOMING ENRICHMENT NETWORK

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Sign up for our mailing list to get the latest news!

This resource was created with support from STEM Next Opportunity Fund as part of its **Project R³**, an initiative designed to strengthen math relationships, relevance, and real-world application across the out-of-school-time (OST) field.

GUIDE AT A GLANCE (2 OF 2) : MESSAGING RECOMMENDATIONS

Based on the research insights and subsequent message testing, the research team developed messaging recommendations that provide guidance for practitioners working with students, teachers, and parents on how to effectively disrupt harmful narratives and replace them with more positive ones. For more detail, see page 28 -37.

- ELEVATE STUDENT AGENCY
- ACKNOWLEDGE REAL-WORLD CONTEXT
- ACKNOWLEDGE EMOTIONS IN MATH LEARNING
- MAKE MATH RELEVANT
- AFFIRM THE VALUE OF MISTAKES
- ENCOURAGE HELP-SEEKING
- REFRAME STRUGGLE AND CAPABILITY
- REASSESS ASSUMPTIONS
- PRIORITIZE BUILDING RELATIONSHIPS

Find resources at wyoenrichmentnetwork.org/thrive/uncommon-math-heroes and www.mathnarrative.org.

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Resource Excerpt

Math Narrative Project

Activity Spotlight: Change the Narrative

Change the Math Narrative

1. Pick a card. Read the “Instead of This” statement.
2. Try it. Say the “Say This” version aloud.
3. Reflect. How might this small shift change the way a young person sees themselves in math?

The big idea: Small changes in our words can help young people see themselves as capable mathematical thinkers.

Instead of...	Try...
"You just need to try harder"	"What part is feeling hardest right now?"
"This should be easy"	"Let's find a different way in"
"Did you get the right answer?"	"Walk me through your thinking"
"You're so close!"	"What would your next step be?"
“What should the next step be”	“What could your next step look like?”
“Has anyone seen this before?”	“What do you already know about this?”
“What is the first step”	“How would you start?”
“Does everyone understand?” or “does this make sense?”	“What makes sense to you so far, and what doesn’t?”

What would you add?

About This Exercise: The Uncommon Math Heroes Community of Practice helps Wyoming out-of-school programs build on what they already do well: creating relationships, making learning relevant, and connecting new ideas to real life. Six programs from across the state are building their skills and developing activities in the fall of 2026.

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STEM NEXT

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Math Narrative Project

Activity Spotlight: Math Spotter

Where do you see math happening?

When you're not sure if math is happening, ask yourself:

- Is anything being measured, counted, or compared?
- Is anything being sorted, arranged, or made to fit?
- Is there a pattern, a sequence, or a rule being followed?

One yes is enough. The math is in there.

When you find it, name it specifically

Rather than: "That's math!"

Consider:

- "You just compared two amounts to figure out which was bigger. That's mathematical thinking."
- "When you sorted those by color and size, you were organizing by more than one rule at once. Mathematicians do that."
- "Figuring out how many minutes until pickup — that's estimation and subtraction. You did that in your head."

Specific naming gives youth something to hold onto. Generic praise doesn't.

Three opening questions to shift a young person's frame into mathematical thinking

- "What do you already know about this?" Opens the door to what a young person brings — from home, their community, their experience (funds of knowledge, cultural competency)
- "How would you start?" Gives them agency over the approach. There is no one right first step (explores concepts, sense-making).
- "What makes sense to you so far — and what doesn't?" Invites them to name both what's landing and what isn't, without framing confusion as failure. This is your misconceptions door — use it.

When a youth's answer surprises you

"Tell me more about how you were thinking about that."

Before you correct, find out what they know. There is often real mathematical reasoning inside a wrong answer. Understanding their thinking tells you more than the answer does — and it tells the youth that their thinking matters.

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