How AI-Facilitated Discourse Reignited Engagement in a Sixth-Grade Classroom

About Westlake Charter

- **School:** Westlake Charter School
- **Location:** Sacramento, CA
- **Grades:** K-12

Westlake CHARTER SCHOOL

CHALLENGES

- Declining math engagement
- Limited student participation in mathematical discourse
- Difficulty sustaining high-quality discussion across multiple small groups

IMPLEMENTATION

- OKO Labs
- AI-facilitated small-group discourse
- Short, standards-aligned sessions embedded into existing rotations

RESULTS

- Increased willingness to engage in math
- Normalized struggle and mistake-making
- Stronger peer-to-peer collaboration
- Improved confidence using mathematical language

“OKO was a game changer—it helped students talk through math together, even when I couldn’t be with every group.”

- Sally Hubbard, Sixth-Grade Math & Science Teacher

How AI-Facilitated Discourse Reignited Engagement in a Sixth-Grade Classroom

At Westlake Charter School, sixth-grade math teacher Sally Hubbard had begun to notice a troubling shift. While students were completing assignments and participating in lessons, their willingness to talk about math—and confidence in doing so—was fading. Math scores had started to dip, and classroom conversations often stalled just when deeper reasoning was needed most.

> **What would it look like if students had more structured opportunities to reason through math together—without the teacher needing to be everywhere at once?**

With 25 years of classroom experience, Sally knew the issue wasn't effort or ability. It was engagement—specifically, students' discomfort with articulating mathematical thinking, problem-solving with peers, and navigating productive struggle together.

Rather than doubling down on more instruction, Sally began asking a different question: **What would it look like if students had more structured opportunities to reason through math together—without the teacher needing to be everywhere at once?**

The Challenge: Strong Instruction, Limited Mathematical Conversation

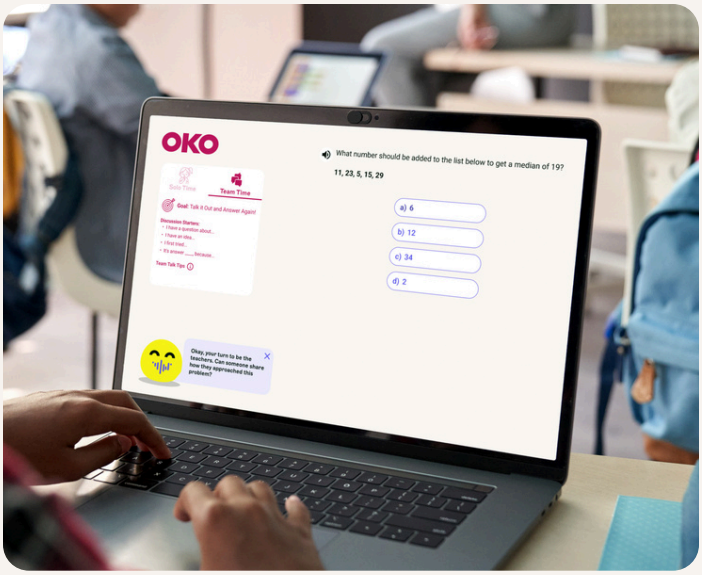
Like many middle school classrooms, Sally's students varied widely in confidence and readiness. Some were eager to share ideas, while others stayed quiet—especially when unsure. Traditional small-group instruction helped, but sustaining meaningful discourse across multiple groups simultaneously was difficult.

Students often treated math as something to complete rather than something to discuss. When answers differed, conversations ended quickly instead of evolving into reasoning, justification, or collaboration. Over time, this lack of discourse began to show up in both engagement and performance.

Sally wanted a way to:

- **Encourage every student to participate, not just the most confident**
- **Normalize confusion and mistakes as part of learning**
- **Support small-group discussion while she worked with other students**

A New Approach: AI-Facilitated Mathematical Discourse



Sally was introduced to OKO through a Silicon Schools–funded cohort study examining emerging AI tools in education. Unlike many AI programs she had seen—designed for isolated, one-to-one practice—OKO stood out as a social and collaborative tool.

Rather than replacing instruction, OKO was designed to facilitate student-to-student mathematical conversation, prompting learners to explain reasoning, respond to peers, and work toward shared understanding.

Sally decided to integrate OKO into her existing classroom routines.

Traditional small-group instruction helped, but sustaining meaningful discourse across multiple groups simultaneously was difficult.

Implementation:
Short Sessions, High Leverage

OKO was used during brief, targeted rotations embedded into Sally's math block:

- **Group size:** 3–5 students
- **Number of groups:** 3–4 at a time
- **Session length:** Approximately 10 minutes
- **Teacher role:** Working with another small group or observing independently

The platform allowed Sally to differentiate instruction by assigning:

- **Below-grade content** for foundational support
- **On-grade content** for practice and reinforcement
- **Above-grade content** for challenge and extension

Students moved between independent thinking and team discussion, with OKO prompting individuals by name to ensure all voices were heard. When answers differed, students were guided to negotiate, explain, and reach consensus together.

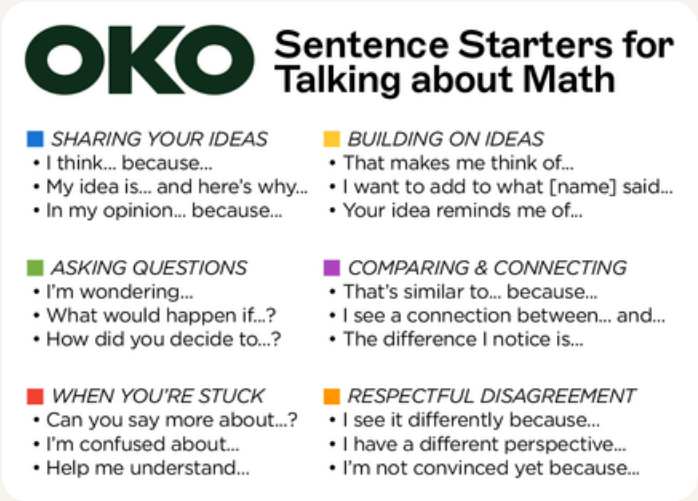
Importantly, discourse continued even when Sally was supporting another group—something that had previously been impossible to sustain.

Building the Skills of Mathematical Conversation

To deepen the impact, Sally paired OKO with explicit instruction aligned to Speaking & Listening Standard 1. She created a reference table of sentence stems to help students:

- Build on classmates' ideas
- Ask clarifying questions
- Disagree respectfully using evidence

Over time, students began using domain-specific math language more naturally and confidently. They weren't just solving problems—they were learning how to talk about math.



What Changed for Students

The shift in classroom culture was noticeable. Students began to:

- Engage more willingly, even when unsure
- View mistakes as part of learning rather than something to avoid
- Support one another through peer explanation

Sally observed that struggle became normalized, and students who had previously stayed quiet were more willing to participate. The environment felt low-stakes, scaffolded, and positive—a sharp contrast to the anxiety that often surrounds middle school math.

Perhaps most telling, students started asking for OKO time. As Sally described it, the tool became a “game changer”—not because it taught math for her, but because it created space for students to think, talk, and learn together.

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Why It Worked

Several factors contributed to the success of the implementation:

- **Intentional group size supported real conversation**
- **AI facilitation ensured equitable participation, even without constant teacher presence**
- **Short sessions fit naturally into existing routines**
- **Explicit discussion norms helped students engage productively**

Most importantly, OKO aligned with Sally’s core belief: that learning happens best when students reason together.

A Classroom Model With Broader Implications

Many schools face the same challenge Sally identified—students who can complete work but struggle to articulate understanding.

This case demonstrates that AI-facilitated discourse, when thoughtfully integrated, can:

- Strengthen student confidence
- Support collaborative learning
- Reduce instructional strain on teachers

Rather than isolating students, OKO helped reconnect them—to each other, to mathematical thinking, and to the learning process itself.