



# Making the Minutes Add Up

What Every Superintendent Needs to Know  
About Improving Outcomes in Math

# Joining You Today...



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# The District Leadership Forum

A Comprehensive Partnership to Help District Leaders Accelerate Progress



**Expand Team Capacity  
and Effectiveness**

**Accelerate Progress on  
Key Initiatives**

**Avoid Costly Missteps  
and Wasted Effort**

**Stay Ahead  
of the Curve**

# Where We're Helping Superintendents Make Progress

## Annual Polls Confirm Two Primary Areas of Need

### Student Success



*Signature Research Areas:*

- Raising early literacy and math
- Reducing absenteeism
- Creating conditions for positive behavior
- Supporting student mental health
- Closing college access gaps
- Scaling career readiness

*EAB helps districts to...*

- Identify common pitfalls to progress
- Implement and scale new, evidence-based practices
- Save time with ready-made resources and templates

### Organizational Excellence

*Signature Research Areas:*

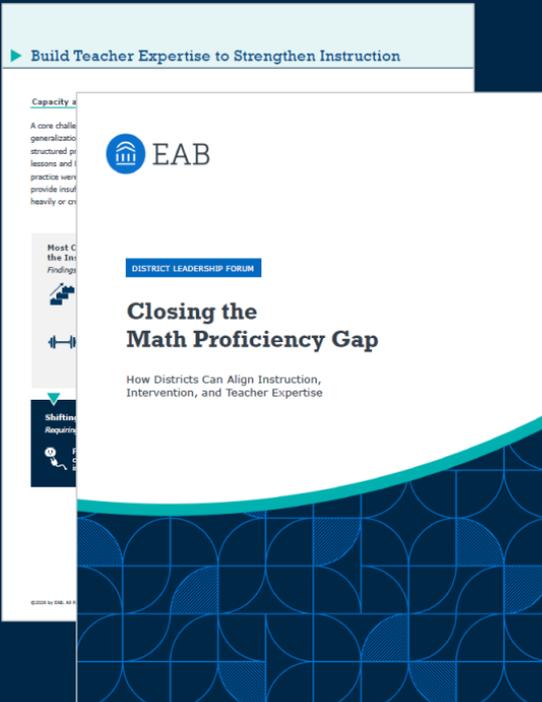
- Reimagining strategic planning
- Improving central office capacity and alignment
- Developing highly effective principals
- Boosting morale, retention, and recruitment
- Preparing for generative AI integration
- Strengthening initiative design

*EAB helps districts to...*

- Prioritize investment of time and resources
- Identify and target root causes to key challenges
- Align leadership teams around shared goals

**Finding and Scaling What Works + Codifying and Testing Innovations**

## Bring These Insights Back To Your District



## Get A Copy of Our New Research Brief

- **Pinpoints the system-level gaps** keeping capable students “below basic”
- **Shows the fastest path to skill mastery**, grounded in decades of math and cognitive science research
- **Translates research into action** with real district and state models leaders can learn from

Visit us at **Booth 806** in the exhibit hall to pick up a copy

# Superintendents Agree: We Need Help with Math



## EAB's 2025 Research Agenda Responded to Requests from Your Peers

### Findings from the 2025 Voice of the Superintendent Survey



#### How Superintendents rate the urgency of accelerating growth in Math (April 2025)



#### Percentage of Superintendents who rate accelerating growth in Math as "very urgent," by subgroup

Student Enrollment		Locale (Urban, Suburban, or Rural)		Percentage of students qualifying for Free or Reduced-Price Lunch	
20,000+	<b>81.8%</b>	Urban	<b>100%</b>	75%+	<b>100%</b>
5,000 – 19,999	<b>69.4%</b>	Suburban	<b>60.8%</b>	50 – 74%	<b>82.4%</b>
1,000 – 4,999	<b>66.2%</b>	Rural	<b>74.3%</b>	25 – 49%	<b>65.0%</b>
0 - 999	<b>75.0%</b>			0 – 24%	<b>37.9%</b>

## Today's Agenda

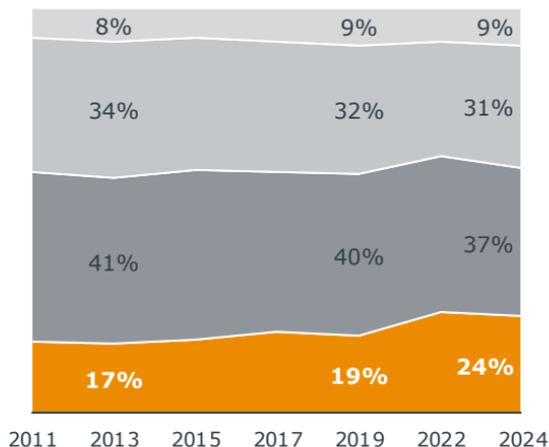
- 1 Discuss why many students fail to achieve mastery of critical math content
- 2 Cocksackie-Athens: Classwide Intervention Scales Student Success
- 3 Audience Q&A

# Too Many Students Are Stuck Below Basic

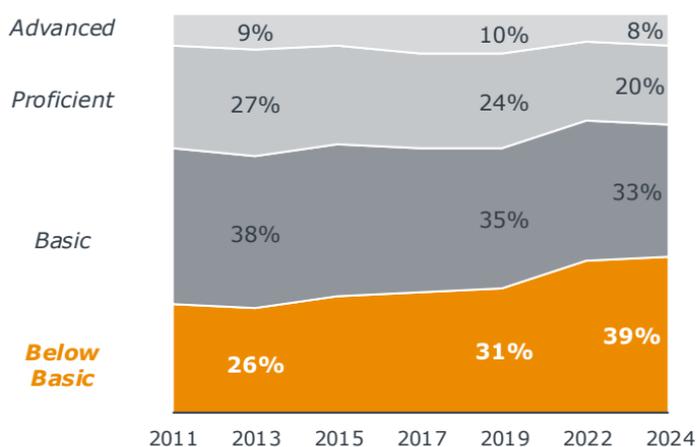


Trend in NAEP Math Achievement-level Results

## 4<sup>th</sup> Grade



## 8<sup>th</sup> Grade



### Key Insights:

▷ **Performance peaked in 2013** and has since stagnated or declined for all students.

▷ **The lowest performers are falling faster each year.** The 10<sup>th</sup> and 25<sup>th</sup> percentile of students declined faster than students at the 50<sup>th</sup> percentile or above.



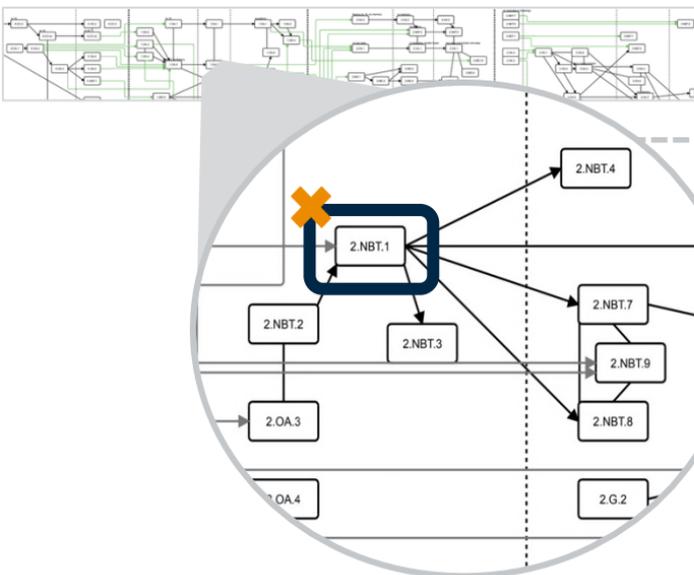
**What percentage  
of your students  
are not reaching  
math proficiency  
by the end of  
eighth grade?**

① The Slido app must be installed on every computer you're presenting from

# Skill Gaps Can Multiply Into A Bigger Problem

Math Is Relentlessly Cumulative, So A Weak Foundation Stalls Learning

**53+** longitudinal studies show early math skills predict later math skills



**Failing to Master One Standard in 2<sup>nd</sup> Grade Directly Bars a Student from Mastering Eight Others Across Three Grade Levels**

**✗ 2.NBT.1<sup>1</sup>** – Understand that the three digits of a three-digit number represent amounts of hundreds, tens, and ones; *e.g., 706 equals 7 hundreds, 0 tens, and 6 ones.*

- ✗ Write numbers to 1000 in expanded form
- ✗ Add and subtract using concrete models
- ✗ Round multi-digit whole numbers
- ✗ Multiply multi-digit numbers
- ✗ Compare 3-digit numbers
- ✗ Mentally add 3-digit numbers
- ✗ Mentally subtract 3-digit numbers
- ✗ Apply concepts of place value in division

*Excerpt from Common Core State Standards for Math Coherence Map*

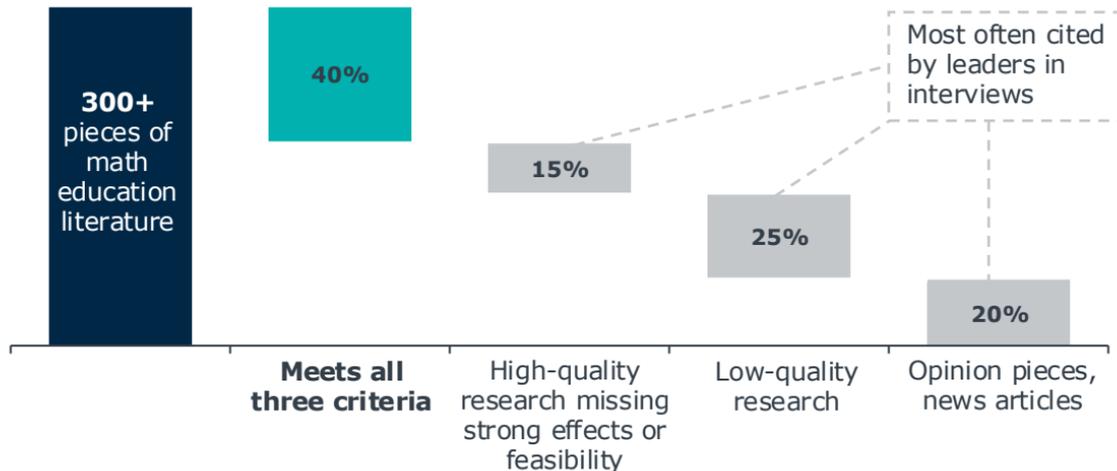
1) **2.NBT.1** refers to Grade 2, Number and Operations in Base Ten, Standard 1 from the Common Core State Standards for Mathematics

# Common Practices Based on Weak Evidence



## Popular Approaches Often Fall Short of Standards for Evidence

*Estimated Distribution of Literature on Math Instructional Approaches, by Characteristic*



## EAB's Criteria for Evaluating Effective Math Instructional Approaches

- ✓ High-quality research design
- ✓ Strong effect on validated math learning metrics
- ✓ Feasible for teachers to deliver to *in real classrooms*

Sources: National Center for Intensive Intervention, [Academic Intervention Rating Rubric](#), 2022; Kilpatrick, et al., [Adding It Up](#), 2001; Hansford & Schechter, [Evidence Framework](#), 2022; Sparks, [Picking 'Evidence-Based' Programs: 5 Mistakes for Educators to Avoid](#), 2024; EAB interviews and analysis.

# The Math Wars: Debating the Wrong Question



## Researchers and Practitioners Disagree On the “Best” Method for Teaching Math

*Schools of Thought on Appropriate Instructional Methods:*

### Teacher-Led Instruction

- “Students learn best when teachers strategically plan and deliver content.”
- “We must use the most efficient methods possible – otherwise we’re wasting kids’ time.”
- E.g., explicit instruction

### Student-Led Instruction

- “Students develop deeper understanding when they build understanding themselves.”
- “It’s impossible to teach kids everything, so we must teach kids how to learn.”
- E.g., discovery learning

## Methods Have a Right Place and Time

“Beginners aren’t ‘little’ experts; they know less and think differently than experts. Children also aren’t small adults. They see the world very differently and **therefore have to learn differently.**”

- Paul Kirschner, *How Learning Happens*

# Early Skills Develop in Predictable Stages to Mastery

Decades of Research Confirm Need to Align Instruction to Stage of Learning

## The Instructional Hierarchy: An Empirically-Validated Learning Process



### Stage Goals

**Accuracy:** Perform skill accurately and understand concept(s)

**Efficiency:** Increase speed and accuracy

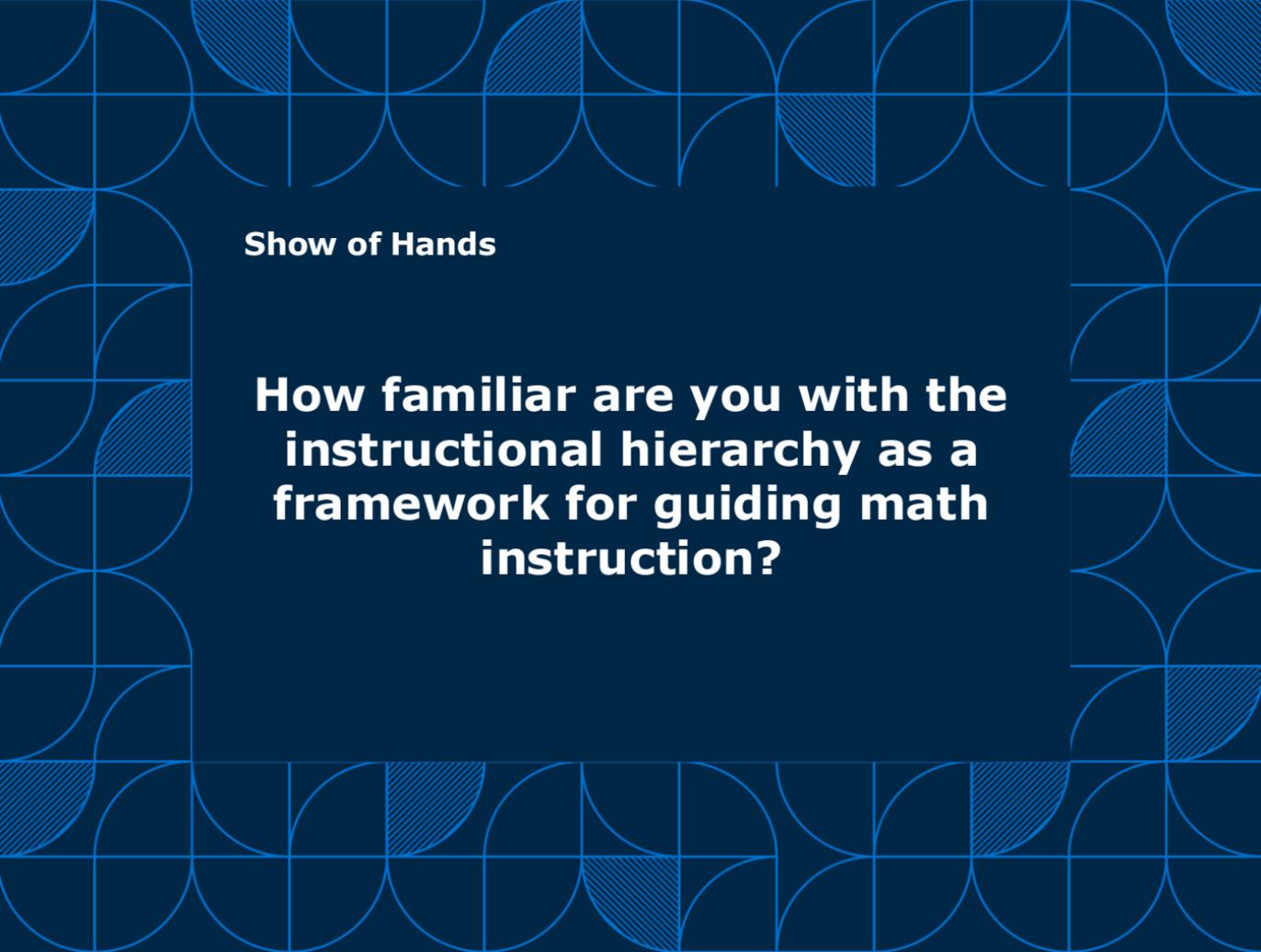
**Novel application:** Apply the skill flexibly in unstructured situations

### Instructional Tactics

**Explicit instruction** (modeling, guided practice, immediate feedback)

**Maximum practice opportunities,** favoring independent and/or timed practice

**Novel problems and student-led tasks;** spiraling to ensure skill maintenance



**Show of Hands**

**How familiar are you with the instructional hierarchy as a framework for guiding math instruction?**

# Missteps Often Bar Students from Full Mastery



## Common Missteps in Acquisition Phase

Using fluency tactics in acquisition (i.e., timed activities)



Using generalization tactics in acquisition (i.e., unstructured tasks)



## Results



**Rote memorization** and unfinished learning



**Student participation** but unfinished learning

## Common Missteps in Fluency Stage

Stopping at acquisition, never reaching fluency



**Inefficient problem solving** and unfinished learning

# Skill Gaps Create Impossible Choice for Teachers



Return to Re-Cover Gaps or Forge Ahead?

**Pause to remediate**  
skill gaps – but run out  
of time for important  
grade-level content



**Stay on pace** with  
grade-level content –  
but struggling students  
fall further behind



*Students are walking into the classroom with a wide spectrum of mathematical skills. And we're telling teachers, 'Oh, just differentiate.' That's an easy label to put on it, but we're not helping them do that."*

Head of Assessment,  
Northeastern School District

# Districts Need a New Approach to Move Forward



## When >20% Students Need Intervention, Common Math Solutions Fall Apart

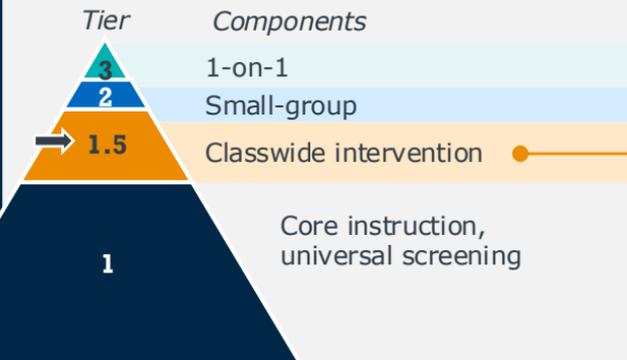


When more than 20% of students need extra math support, Tier 2–3 interventions can't keep up—there simply aren't enough resources



Core overhauls rarely lead to major gains, and most math curricula are not designed to help struggling students catch up

## "Tier 1.5," a Classwide Intervention, Scales Support For Critical Missed Skills



- ✓ Pre-test to identify which key skills were not mastered by a majority of the class
- ✓ Dedicate daily class time to target key missed skills
- ✓ Use the correct instructional tactics for each learning phase for efficient mastery



## Providing Skill Recovery at Scale

# Applying the Right Instructional Method at the Right Time



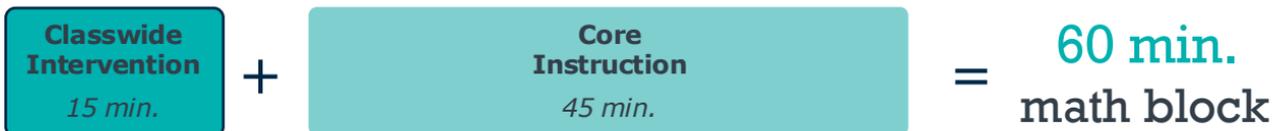
**Coxsackie-Athens Central School District**

Inspiring Extraordinary Success

# A Promising Practice In Coxsackie-Athens (NY)



Can A Simpler Approach Improve Results At Scale?



## What It Is



**Daily, systematic instruction along a sequence of key foundational skills** that closes mastery gaps for everyone in a classroom, instead of only targeting struggling students in 1:1 or small groups.

## Why It Works



**Feasible & Scalable So Teachers Can Be Consistent**

- ✓ Requires 15<sup>1</sup> minutes per day
- ✓ Instruction precisely matched to learning stage
- ✓ Students of different mastery levels work in pairs to help **both partners improve outcomes**



**Stronger Outcomes than Curriculum Change or Digital Instruction**

- ✓ High-quality research finds strong effects on validated math achievement measures **when teachers implement in their real classrooms**

1) May require 20 minutes in first few weeks of year, as teachers are still establishing classroom routines.

# How a Teacher Delivers Classwide Intervention



## Example Classwide Intervention Schedule

Mon	Tues	Wed	Thu	Fri
Deliver pre-test for new skill	Acquisition intervention	Acquisition intervention	Acquisition intervention	Progress monitor (post-test)

>50% of students above acquisition criterion, so teacher **shifts to fluency intervention**

Mon	Tues	Wed	Thu	Fri
Fluency intervention	Fluency intervention	Fluency intervention	Fluency intervention	Progress monitor (post-test)

<50% of students above fluency criteria, so teacher **continues fluency intervention**

Mon	Tues	Wed	Thu	Fri
Fluency intervention	Fluency intervention	Fluency intervention	Fluency intervention	Progress monitor (post-test)

## Key Characteristics:

- Instructional tactics can be **identical across days** (e.g., flash cards for fluency every day)
- Instructional tactics are **aligned to student learning stage** (e.g., maximized practice during fluency)
- Pre-test and progress monitoring assessments are **1-2 min. and identical in format**, but each have different problem sets
- **EAB will help you connect intervention tactics and student data in comprehensive resources**

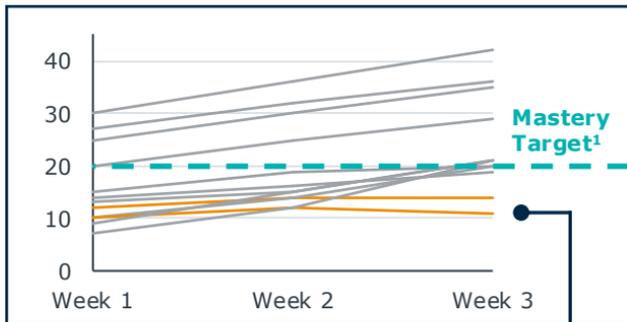
>50% of students above fluency criteria, so teacher advances to **next skill**

# The Result: Students Make Progress at Every Level

## At the Classroom Level

### Classwide Intervention Accelerates Learning for All, Shows Who Needs Tier 2-3

*Individual Student Progress Across 3 Weeks of Classwide Intervention, Skill: Addition 0-20*

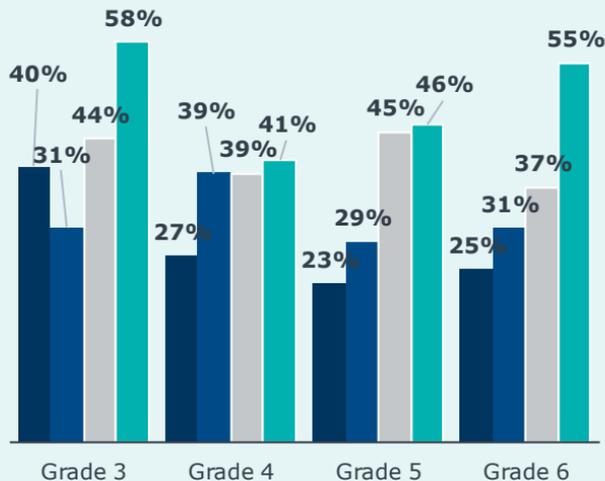


**After 3 weeks of classwide intervention, these students need intensive support.**  
The rest of the class meets mastery target.

## At the District Level

### State Test Proficiency Rises in Year 1 of Classwide Intervention

*% of Students Scoring Proficient, Before vs. After SpringMath*



■ 2021-22 ■ 2022-23 ■ 2023-24 ■ 2024-25

Sources: SpringMath Accelerate, [Data-driven success: How strategic implementation and collaboration boosted math proficiency in Covasackie-Athens Central School District](#), 2025; EAB interviews and analysis

1) Mastery targets are defined in Digits Correct Per Minute (DCPM), an empirically validated fluency benchmark aligned to student learning stage.

# Q&A

## First Questions

- 1 This approach goes against a lot of **common thinking about math instruction**. What made you believe in it?
- 2 What **advice would you give** to another district starting to implement the classwide intervention model?
- 3 What would you have **done differently** in your first year of implementation if starting again?



# What is one change you're considering making after hearing today's discussion?

① The Slido app must be installed on every computer you're presenting from

# Thank you!

To learn more and find copies of our latest research...



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Our Booth**



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## Lay the Groundwork for Math Success

Pilot a proven, scalable program for recovering missed foundational math skills

### What You'll Come Away With



**Math  
Leadership Lab**  
*Summer 2026*

- Research-backed progressions for priority skills
- Evidence-based instructional practices
- Data analysis and teacher training materials
- Pilot planning, evaluation, and scaling tools

Speak with our team to

**SAVE YOUR SPOT** for the Math  
Leadership Lab

# 2026 Executive Roundtable for District Superintendents

Washington, DC: May 12-13, June 16-17

Chicago, IL: July 14-15

*Debuting EAB's latest research on:*



**Student Readiness and the Workforce in the Age of A.I.**



**Financial and Operational Stability in a Volatile Landscape**

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Speak with our team to  
**SAVE YOUR SPOT** by April 30<sup>th</sup>



## Ways to Continue the Conversation



### Join a Virtual Coffee Chat

Small, informal conversations with district leaders on shared challenges. **Upcoming sessions focused on math.**



### Visit our Booth

Come see us at **Booth 806** – we'd love to chat.



### Cocktails & Conversation

Join us for a drink at **NashHouse** tonight

## Let Us Know How We Can Help

### Scan the QR code to...

- 1 Learn more about registration for the **Math Leadership Lab**
- 2 Save your spot for the 2026 **Executive Roundtable** in DC and Chicago
- 3 Get an invite to our upcoming **virtual coffee chat** for district leaders to discuss math



Visit us at **Booth 806** to pick up a copy of the Math Research Brief



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