

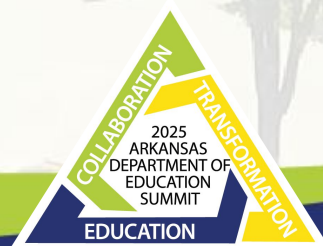
The Power of Practice: Math & Science Coaching Labs

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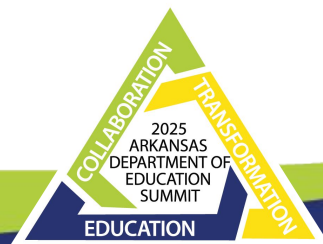
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VISION & MISSION

The Arkansas Department of Education is transforming Arkansas to lead the nation in student-focused education.

The Arkansas Department of Education provides leadership, support, and service to schools, districts, and communities so every student graduates prepared for college, career, and community engagement.



Session Norms



- Focus on what you can control/have influence.
- Value different perspectives, make space and listen to all voices.
- Admire solutions, not problems.
- Challenge and be challenged.
- Zoom In and Zoom Out (What is the focus? Big Ideas or Small Details?)

Session Objectives

Participants will...



- Gain an understanding of the components of a content coaching lab
- Review teacher growth data from math & science lab participation
- Explore implications for hosting coaching labs in your district

Content Coaching Framework

How is content coaching different than what teachers may have experienced in the past?



What is Content Coaching?



Content coaching specifically addresses how teachers and leaders approach grade-level content standards, instructional levers, and leverage HQIM to effectively deliver subject-specific instruction. All feedback and supports are aligned to the development and demonstration of strong pedagogical and content knowledge.

Educators are active participants in their own growth, while focusing on student achievement.

What is Content Coaching?



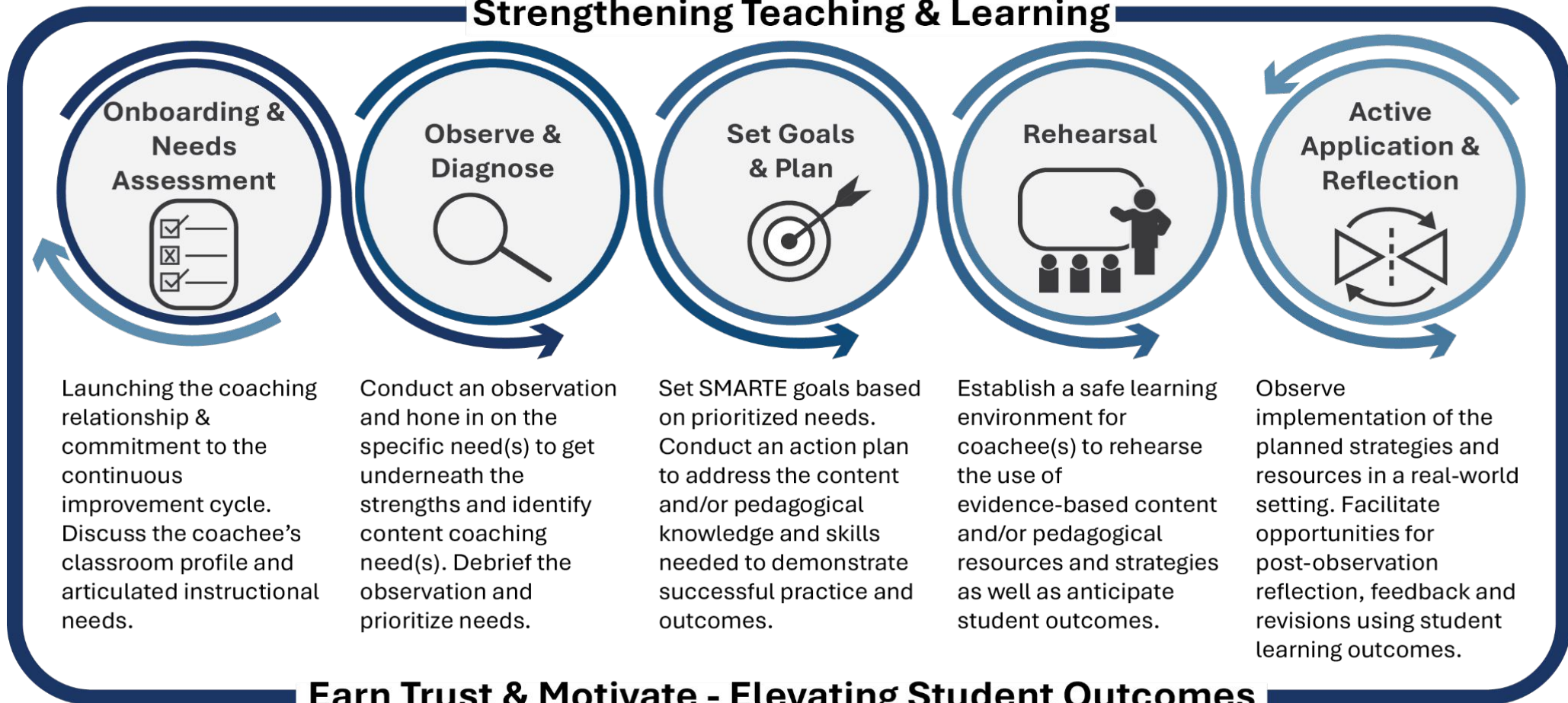
Content Coaching IS	Content Coaching IS NOT
• Supportive and non-evaluative	• Evaluative
• Focused on building teacher content and pedagogical knowledge	• A checklist of things teachers need to do
• Focused on student learning	• Focused on teacher-centered compliance
• Focused on providing students access to grade-level content	• Focused solely on curriculum fidelity
• Research-based and data-aligned	• Opinion-based
• Focused on active listening	• Focused on the right answer
• Flexible and responsive	• Inflexible and fixed
• For all teachers/leaders, regardless of performance levels	• Exclusively for low-performers (and levels of experience)

Content Coaching Framework



Arkansas Content Coaching Framework

Strengthening Teaching & Learning



*Adapted from TNTP's Content Coaching Framework

Coaching Labs

What are the components of a coaching lab?



The Coaching Lab Experience



The Coaching Lab Experience is a non-evaluative, collaborative opportunity for TNTP to support Arkansas State and Regional Specialists in an authentic setting and engage all parties involved in reflective planning, teaching, and learning best practices.

The Coaching Lab Experience

Benefits for All Stakeholders



The intended outcomes of these experiences are as follows:

Schools	Experience the use of a strong content coaching cycle with clear goals for teachers to improve student outcomes.
Teachers	Strengthen content knowledge and implementation of strong instruction using HQIMs.
Students	Improved outcomes resulting from stronger core instruction using HQIMs.
Arkansas Math or Science Specialists	Strengthen curriculum and content coaching expertise using the Arkansas Coaching Framework to improve evidence of strong classroom instruction.

Content Coaching Lab



3-Day Experience

Day 0

Onboarding & Needs Assessment

Meet with school leaders and teachers to discuss the key levers, the lessons to be taught during the duration of the lab, and the content coaching needs.

Review the lessons and do the work prior to observing.

Day 1

Observe & Diagnose
Set SMARTE Goal

Conducting an initial observation of a lesson for each teacher, looking at student work produced from the lesson, and a coaching conversation with each teacher to set a goal.

Day 2

Plan & Rehearse

Supporting coachees to leverage the feedback and student work to engage in intellectual preparation that includes lesson internalization and planning as well as opportunities to rehearse the strategy they plan to implement in the classroom.

Day 3

Active Application & Reflection

Observing each teacher actively apply the strategies from the internalization session, looking at student work produced from the lesson, and engaging in a coaching conversation with teacher to assess progress towards goal and a plan for next steps.

Coaching Tools – Day 1

Key Levers for Instructional Leaders



The Key Levers for Instructional Leaders tools highlights **five impact areas** with content-specific look fors.

- Structures For Learning
- Science/Math Aligned Content
- Teacher Practices
- Student Practice
- Assessment & Differentiation

Targeting K-12 Science Instruction: Key Levers for Instructional Leaders	
5 Impact Areas: • Structure for Learning • Science Aligned Content • Science Teacher Instructional Practice • Student Practice • Assessment & Differentiation Ratings: • Strong Evidence: Most look-fors are observed with skillful application. • Partial Evidence: Some look-fors are observed with skillful application. • Little Evidence: Little evidence of look-fors are observed or inconsistent application. • No Evidence: No evidence of look-fors are observed.	
Impact Areas	Indicators
Structure For Learning	1. Students are engaged in the work of the lesson from start to finish; there is a sense of urgency about how time is used. Look Fors: • Students complete instructional tasks, ask appropriate questions, and engage in scientific discourse. • The pace of the lesson is intentional, providing students many opportunities to engage in activities with little downtime. • Students know and follow the behavioral and academic expectations for the science classroom setting. • Students execute transitions, routines, and procedures in an orderly and efficient manner. • Students demonstrate joy, excitement and/or interest in what they are learning.
	Strong EvidencePartial EvidenceLittle EvidenceNo Evidence
Science Aligned Content	2. Teacher skillfully delivers grade-level appropriate lessons that reflect the three dimensions of Arkansas K-12 Science Standards. Look Fors: • The purpose and focus of the lesson support students in making sense of a phenomenon and/or designing solutions to problems. • The content of the lesson deepens students' understanding of Disciplinary Core Ideas. • The lesson uses elements of the Crosscutting Concepts to support students in making connections across disciplines. • The lesson is designed to engage students in Science and Engineering Practices. • The lesson explicitly provides all students access to content that is accurate and appropriately complex.
	Strong EvidencePartial EvidenceLittle EvidenceNo Evidence
Science Teacher Instructional Practice	3. Teacher employs instructional practices that allow all students the opportunity to demonstrate their learning of the lesson content. Look Fors: • There is a clear articulation of the objective to students (stated verbally, written on student work, displayed visually, etc.) • Students complete most of the cognitive work. • Students use prior knowledge and experience to make connections with the content of the lesson. • Students use high-quality tools and resources (including grade-appropriate texts, data, models, graphs, manipulatives, problem sets, etc.) to make sense of the lesson content. • Students have multiple opportunities to demonstrate their understanding throughout the lesson.
	Strong EvidencePartial EvidenceLittle EvidenceNo Evidence
Student Practice	4. Students exhibit key scientific practices while authentically engaging with the content of the lesson. Look Fors: • Students spend most of the time actively doing science and as little time as possible on passive tasks (lectures, note taking, etc.) • Students use scientific language appropriate to the content in their explanations and discussions. • Students use evidence and models to support their thinking and answers. • Students have multiple opportunities to engage with peers to share their thinking and build on each other's reasoning.
	Strong EvidencePartial EvidenceLittle EvidenceNo Evidence
Assessment & Differentiation	5. Teacher collects and responds to student data to adjust instruction for all student(s). Look Fors: • Teacher checks for understanding throughout the lesson, and applies strategies in response to student need(s). • A data collection system is in place (checklisting, exit tickets, monitoring of student work, etc.). • Formative assessments ask students to explain phenomena, not recall facts. • Teacher provides on-the-spot feedback, correction, and confirmations of student answers. • There is small group instruction and/or differentiated tasks as appropriate.
	Strong EvidencePartial EvidenceLittle EvidenceNo Evidence
¹ The three dimensions of the Arkansas K-12 Science Standards include the disciplinary core ideas, crosscutting concepts, and science and engineering practices.	
Source: Adapted from the TIMP Reading Foundational Skills Look for tool Arkansas Division of Elementary & Secondary Education Targeting Foundational Skills	

Coaching Tools – Day 2



Lesson Internalization Guide

Lesson internalization is the intellectual prep work teachers do before presenting a lesson to students.

- Lesson Purpose
- Standards & Objective
- Sensemaking Opportunities
- Assessment Opportunities
- Lesson Activities

Lesson Internalization and Preparation

Step	Aligned Questions/Tasks
Lesson Purpose	What are students working to figure out? ● Is there a lesson-level phenomenon? ● If so, how does the content in the explanation of the lesson-level phenomenon add another piece of the puzzle to the anchor phenomenon explanation?
Standards and Objectives	What standard(s) does this lesson address? ● What DCI(s) do students figure out? What should they KNOW by the end of the lesson? ● What is the prioritized practice (SEP) of the lesson? What science are students DOING? ● What CCC are prioritized? What connections can be made to other science lessons, units, and/or content areas?
Sensemaking Opportunities	What content knowledge will students be “figuring out”? How will they do that? ● What problem are students trying to solve? ● How does it connect to the anchor phenomena? ● How is it relevant to their lives?
Assessment Opportunities	How will students demonstrate their learning? (Review sample student responses) ● What activities/tasks will be utilized to check for understanding? ● How will you gather data? How will you use this formative assessment data? ● Do the assessment opportunities have students explain phenomena rather than recall facts?
Lesson Activities	Identify each lesson activity. ● What is the purpose of each activity? How will you engage students in it? ● What strategies will you use to make sure ALL students can engage in each activity? ● How will you summarize the learning at the end of the lesson?

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Coaching Lab Data

What growth can be achieved during a coaching lab?

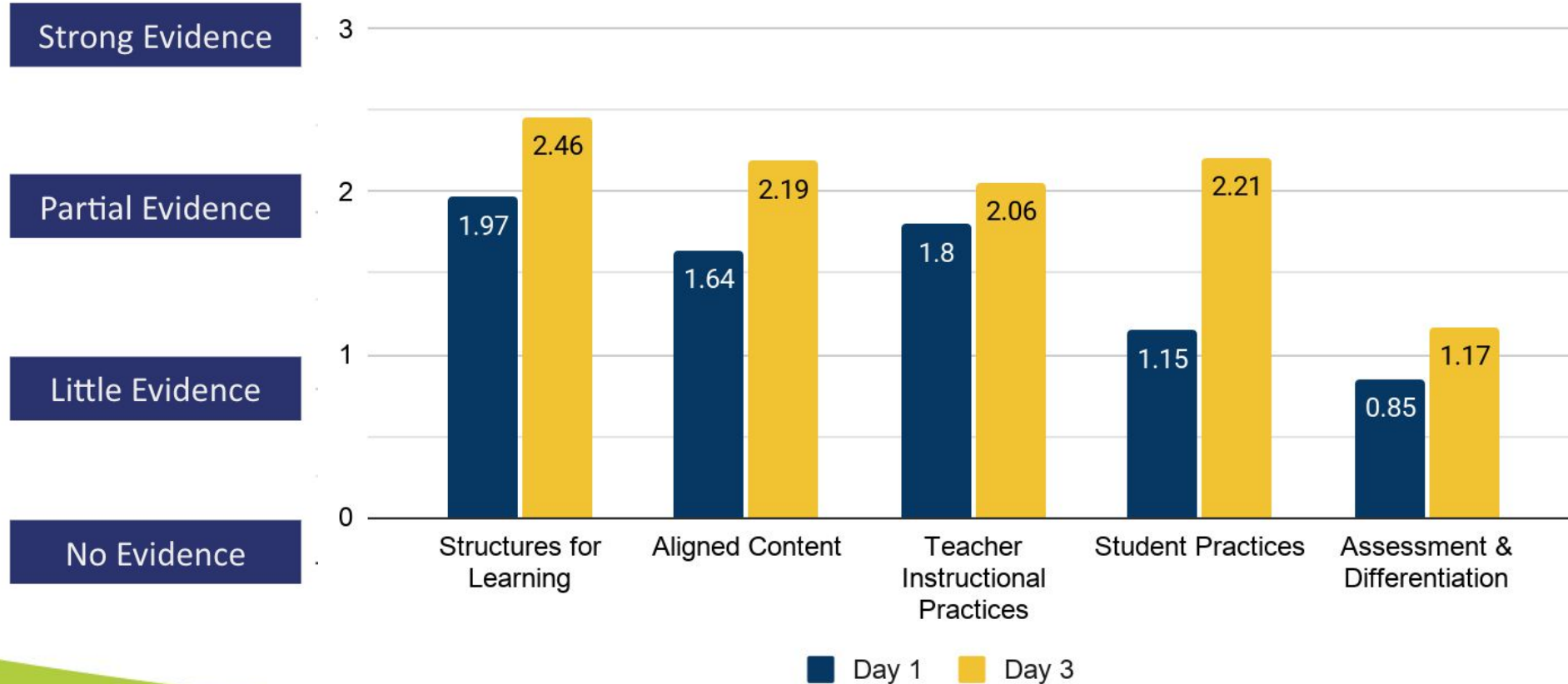


Science Coaching Labs Average Growth

2025–2026 School Year



Average Impact Area Growth: Science Coaching Labs



Science Lab Profile

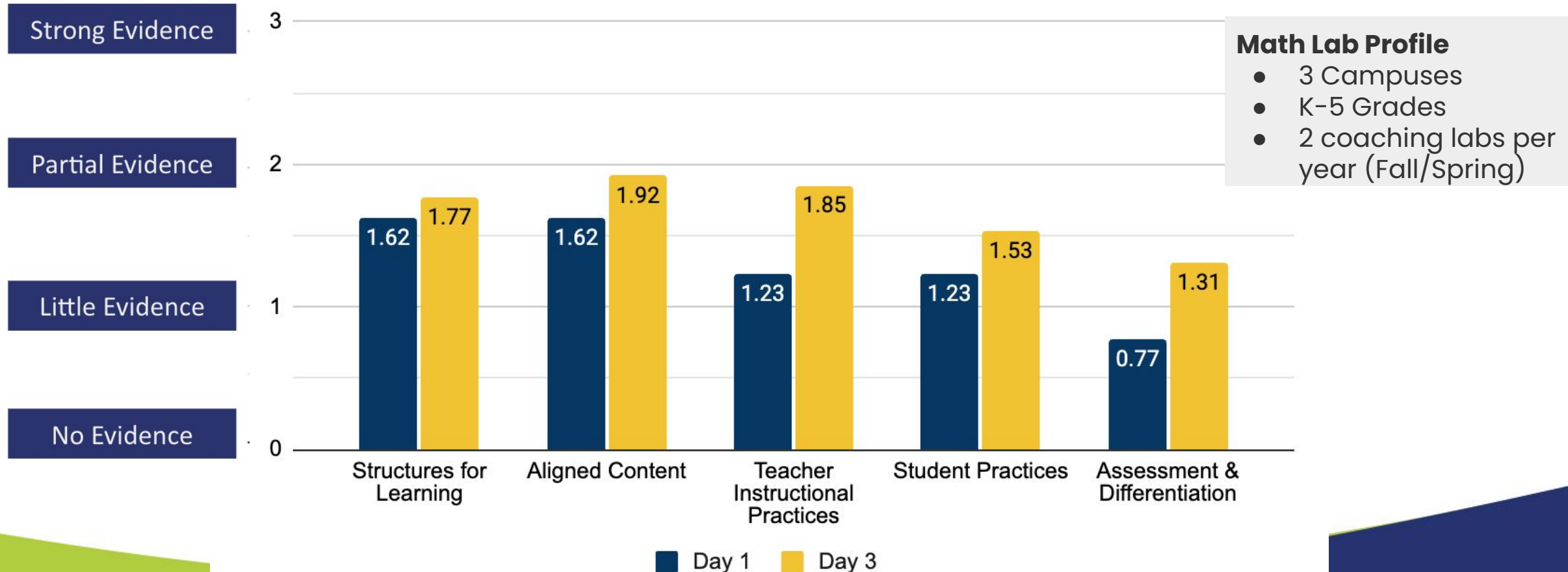
- 3 Campuses
- 6th–8th Grade
- 1 coaching lab total

Math Coaching Labs Average Growth

2025–2026 School Year



Average Impact Area Growth: Mathematics Coaching Labs



Instructional Shifts for Educators



Growth During Labs

- **Aligned Content**
 - Increased utilization of high quality instructional materials with integrity
 - Consistently utilize unit & Lesson Internalization protocols
- **Teacher Instructional Practices**
 - Deliver grade-level instruction that maintains the intended rigor
 - Design learning experiences that prioritize sensemaking and problem-solving
- **Student Practices**
 - Facilitate student discourse opportunities
- **Assessment & Differentiation**
 - Check for understanding and apply strategies in response

Power of Coaching Labs

What can coaching labs tell us about effective coaching practices?



Power of a SMART goal



Coaching Lab Experience Day 1

Specific
Measurable
Achievable
Relevant
Timebound
Evidence based

"By the end of the week, Mr. X will implement at least three student discourse opportunities from Lesson 4 of the HQIM, including Think-Pair-Share and Turn-and-Talk protocols, as evidenced by classroom observation data showing that all three opportunities were facilitated as designed in the lesson.

Practicing Internalization Protocols



Coaching Lab Experience Day 2

- Provides coaches the opportunity to lead teachers through an internalization process individually and as a team.
- Teachers gain a better understanding of the purpose of the specific lesson within the context of the unit and hone in on their goal.



If you were coaching Mr. X, which specific portion of the internalization guide should you focus on?

Practicing Lesson Rehearsal



Coaching Lab Experience Day 2

- Provides a structure and an opportunity for teachers to rehearse portions of the lesson prior to delivering to students leads to a more coherent student experience.
- What might Mr. X need to rehearse with a coach related to his SMARTER goal?
 - “What will the students be doing during this discourse opportunity?”
 - “How will you set your students up for successful discourse before it begins?”
 - “What will you (the teacher) be doing during discourse?”
 - “What are you (the teacher) listening for?”

Feedback from Participants



What are teachers and coaches saying about the experience?

"I appreciated the openness and helpfulness of the coaches. They were easy to talk to and non-judgemental." -7th grade science teacher

"The guided questions from the lesson internalization helped me focus in on what the purpose of the lesson was and also to see which science and engineering practices can be done by the students" -6th grade teacher

"The most valuable part of the math lab experience was having the expertise of my coach, helping me work through the coaching cycle in real time with a real teacher."
-Math Coach

Implications for Vendor Selection

What should you look for when selecting a vendor partner?



Vendor Selection



At the end of this partnership, what will our school be able to do independently that we cannot do today?

- Demonstrates expertise in grade-level content, standards, and learning progressions.
- Uses a structured coaching process that includes planning, observation, debrief, and follow-up.
- Supports implementation of your adopted curriculum with fidelity.
- Grounds feedback in observable teacher and student evidence rather than opinion.
- Develops the skills of teachers, coaches, and administrators to sustain the work beyond the engagement.

Interest Form

Interested in having a coaching lab on your campus?



Interest Form

Please complete if you would like consider hosting a lab experience



<https://bit.ly/CoachLab2026>



Closing: Revisiting Session Objectives



Did we meet our session objective?

- Gain an understanding of the components of a content coaching lab
- Review teacher growth data from math & science lab participation
- Examine expected instructional shifts for participants
- Explore implications for hosting coaching labs in your district

Q & A