

WELCOME!

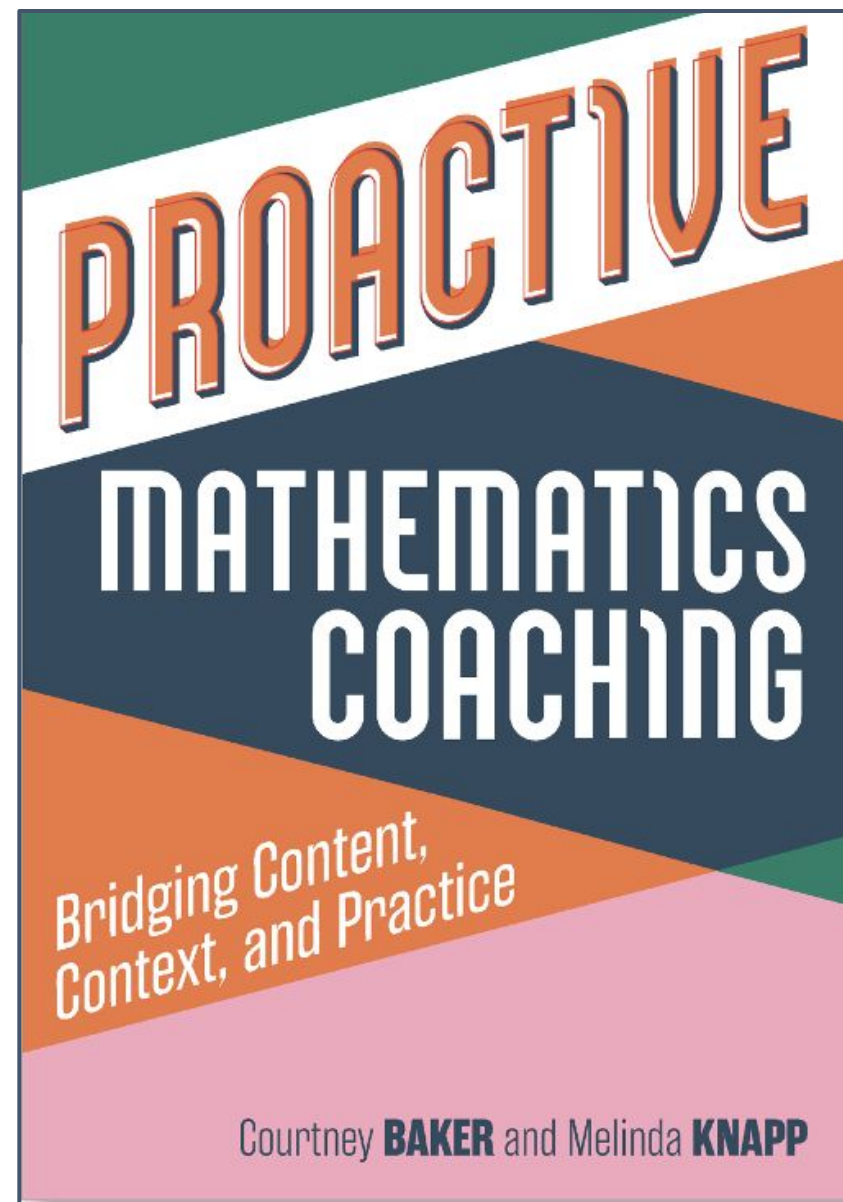
NCTM Book Study

Proactive Mathematics Coaching

Rehearsing Aspects of Practice

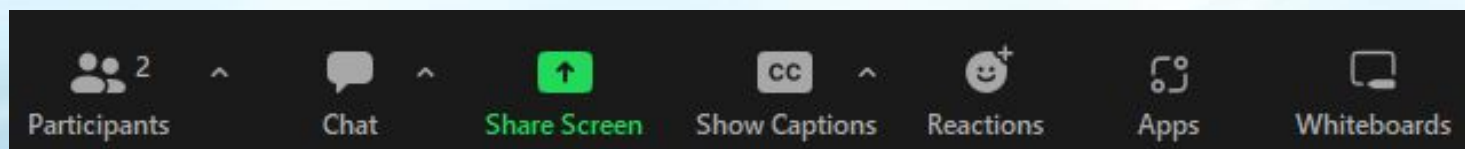
Courtney Baker, PhD

Melinda Knapp, PhD



Welcome!

- **Please keep your microphone muted!**
- **Chat box:** Comment, chat with other participants, and ask questions.
- **Video:** Be mindful that everyone can see your video unless you choose to stop sharing.
- **Show Captions:** Use to hide or view subtitles.



Welcome!

- A recording will be available to registered attendees for 30 days after the session.
- We will provide a certificate of participation within a few days of the session.
- Follow us on Twitter @NCTM and share your thoughts about today's session using the hashtag #NCTMPD.

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Proactive Mathematics Coaching

Today's Agenda

Part I: Welcome & Overview

Part II: Exploring The Case of Brayden, Morgan and Carys & Rehearsing Aspects of Practice

Part I: Welcome & Overview

Introductions

Mathematics Coaches At Heart

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Understanding Our Influence

Questions At The Core of Our Practice

Is what I am doing
actually effective? And
who is it effective for?

Understanding Our Influence

Developing A Proactive Practice



Our Book Study Goals

Connecting Research & Practice

- Explore a specific MCP through example cases that provide broad exposure to instructional practices and leadership approaches.
- Analyze cases that recognize a range of coaching contexts, focus on math content, and empower school communities to surmount obstacles.
- Gain insights into what it takes to plan professional learning and/or coaching interactions that advance leadership agendas for both long- and short-term goals.

Our Book Study Goals

Connecting Research & Practice

- Bring transparency to decision making and illustrate how the use of the PCF advances the vision of teaching and learning mathematics described within the Catalyzing Change series.
- Engage in discussions (network and collaborate) with peers to share common problems of practice, evaluate contexts, define a content focus, establish goals, select practices, and engage in debriefs that can inform future actions.

Maximize Your Experience

Engage in Multiple Formats

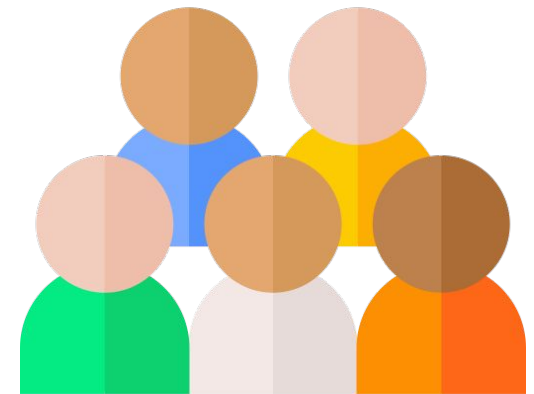
Chat &
Microphone



Jamboards &
Padlets



Breakout Rooms



Maximize Your Experience

Workshop Norms to (Re)Frame Leadership

- Assume Positive Intent
- Learn From & With Each Other
- Maintain An Asset-Based Approach
- Value Others' Experiences
- We Teach All Students & Lead/Coach All Stakeholders
- Other?



Creating Alliances

Building Your Network

 Please Share on Our
Google Sheet

- Name
- Position
- School(s)
- Coaching/Leadership Experience
- Email address





Invitation to Share

Your Turn

What did you try?

- 1-2 questions?
- A specific phase?
- The entire PCF?



Part II: Exploring the Case of Brayden, Morgan and Carys & Rehearsing Aspects of Practice as a Mathematics Coaching Practice

Rehearsing Aspects of Practice As A Coaching Practice

Defining the Practice

Mathematics Coaching Practice: Rehearse Aspects of Practice

Effective coaching of mathematics orchestrates preplanning of specific practices and conversations to provide opportunities to practice aspects of teaching and leading and provide and receive feedback.

Rehearsing Aspects of Practice As A Coaching Practice

Connecting To Your Practice



What is your familiarity with rehearsing aspects of practice?

- I have never heard of rehearsing aspects of practice
- I have read about rehearsing aspects of practice
- I have tried rehearsing aspects of practice a few times
- I regularly rehearse aspects of practice

Rehearsing Aspects of Practice as a Coaching Practice

Connecting To Your Practice

What do you notice?



What do you wonder?

	Never Heard Of	Read About It	Tried a Few Times	Use Regularly
Co-Teaching	0%	13%	67%	20%
Modeling	6%	18%	41%	35%
Examining Student Work	0%	20%	40%	40%
Engaging In Mathematics	0%	0%	40%	60%
Engaging in Math Studio	20%	60%	20%	0%
Analyzing Classroom Video	20%	20%	40%	20%
Rehearsing Aspects of Practice	17%	50%	33%	0%

Rehearsing Aspects of Practice As A Coaching Practice

Connecting to Research

- In the original conception of a rehearsal, teachers practice leading an instructional activity that they will teach, and their colleagues take on the role of students participating in the lesson.
- Because rehearsals take place outside the classroom, the lesson can be paused, backed up, and redone, and critical moments can be discussed, allowing teachers the opportunity to analyze the impact of particular decisions.
- By frequently interjecting to highlight, offer feedback, or raise questions, the leader in the rehearsal is bringing conceptual elements to bear on particular problems of practice (Kavanaugh et al., 2019).

Rehearsing Aspects of Practice As A Coaching Practice

Connecting to Research

In recent years, adaptations of the research on rehearsals have begun to make their way into professional development settings. Teaching rehearsals can frame the idea of “practicing teaching.” In addition, rehearsals can provide a means for teachers to project activities in their classrooms and better anticipate students’ responses. They are what Goffman (1974) called spaces of utilitarian make-believe, allowing for the development of classroom interactional skills in a less consequential and more supportive setting.

Rehearsing Aspects of Practice As A Coaching Practice

Understanding the Practice: The Possibilities

Consider these variations

- In pre-service education when students rehearse parts of lessons. A student can rehearse the launch of a lesson, or teach a number talk routine while their peers act as students and the instructor as coach.
- With practicing teachers, rehearsals can happen during PD days when learning or refining a teaching routine such as a data talk or launching a lesson with a numberless word problem. The teachers plan and then “practice” this routine with each other before teaching with a group of students.
- Another variation we have used is with coaches. Starting with a pre-designed scenario and having coaches playing different roles to discover solutions to a problem of practice.

Rehearsing Aspects of Practice As A Coaching Practice

Connecting To Practice



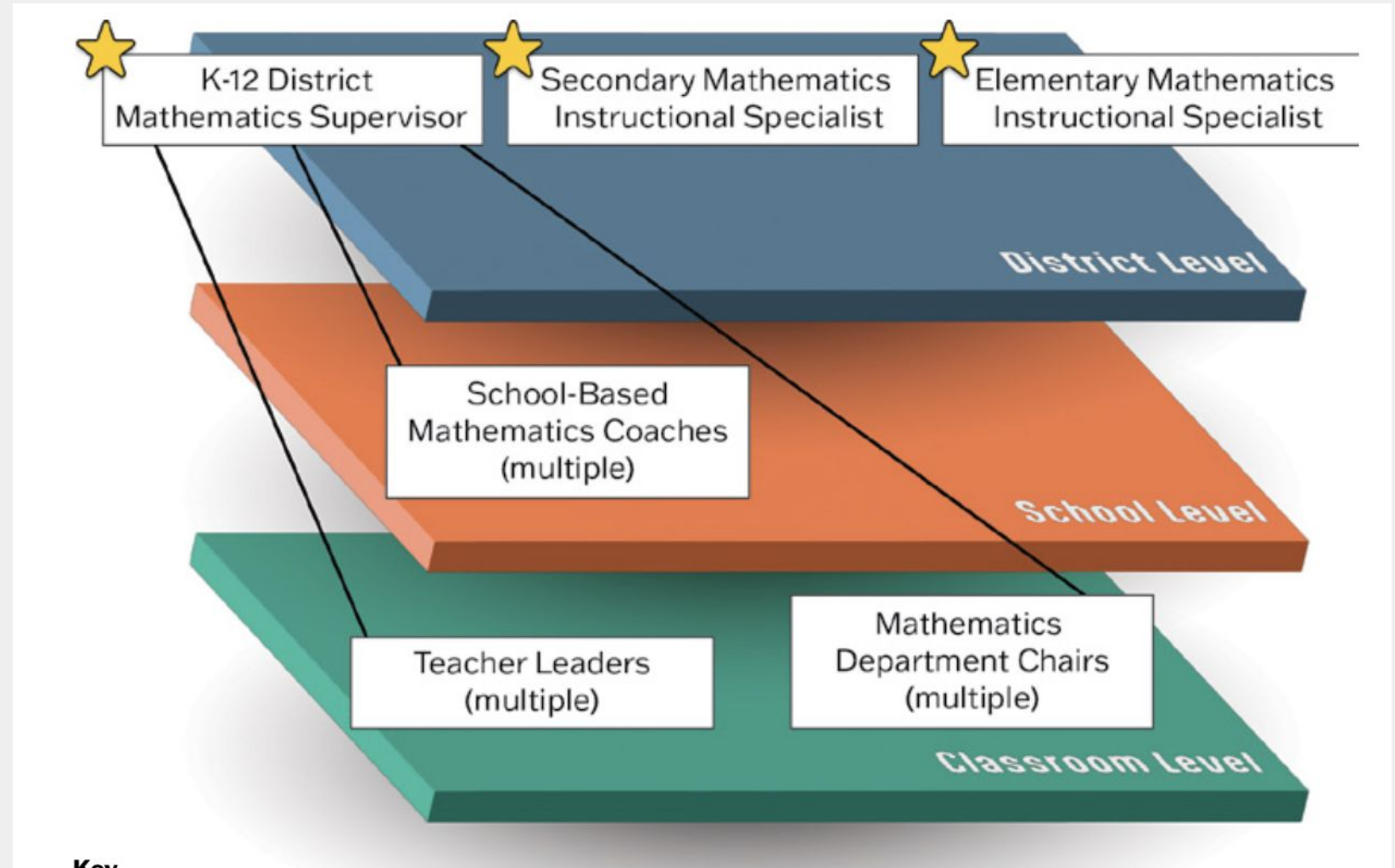
What insights or questions do you have about rehearsing aspects of practice?

- From reading Chapter 11?
- From your own experiences?



Introducing the Case of Brayden, Morgan & Carys

Case Essentials



Key

Introducing the Case of Brayden, Morgan & Carys

Case Essentials

Rehearsing aspects of practice for school-based mathematics coach professional learning in a monthly meeting for the purpose of examining pacing guides as they connect to creating equitable structures in mathematics.

Long-Term Goal

Redesign pacing guides in a way that inhibits ability grouping/tracking and promotes rich and rigorous mathematics resources and instruction.

Short-Term Goal

Have the Vertical Math Team consider, via a rehearsal, the perspectives of school stakeholders (classroom teachers; administrators; mathematics coaches, department chairs, and teacher leaders) regarding use of district pacing guides.

Introducing the Case of Brayden, Morgan & Carys

Case Essentials

Using the PCF to Catalyze Change

In this case, Brayden, Morgan, and Carys have just returned from annual conferences where they attended sessions that enhanced their understanding of inequitable structures in schools. Brayden, the district K–12 mathematics supervisor, is ready to reimagine the district pacing guides to explicitly promote equitable mathematics teaching and learning. Though not intended to promote inequities, pacing guides can perpetuate barriers and obstacles for some students to receive rigorous and relevant mathematics instruction because pacing guides often include elements that are problematic, such as rigid timelines and content allocation recommendations across the school year, including high-stakes common assessments. Together, Brayden, Morgan, and Carys use the PCF to analyze the district pacing guides for embedded inequities and examine how they might be limiting students' success in math.

Introducing the Case of Brayden, Morgan & Carys

Case Essentials

Mathematics Coaching Practices

(adapted from Baker & Knapp, 2019; Gibbons & Cobb, 2017; TDG, 2010)

- Engage in Mathematics
- Examine Student Work
- Analyze Classroom Video
- Rehearse Aspects of Practice
- Engage in Lesson Study/Studio Day/Math Labs
- Co-teach
- Model Instruction

Mathematics Teaching Practices (NCTM, 2014)

- Establish mathematics goal
- Implement tasks that promote reasoning and problem solving
- Use and connect multiple representations
- Facilitate mathematical discourse
- Pose problems and questions
- Build procedural fluency and conceptual understanding
- Support productive struggle
- Elicit and use evidence of student thinking

Introducing the Case of Brayden, Morgan & Carys

Case Essentials

Mathematics Coaching

Practices (adapted from Baker & Knapp, 2019; Gibbons & Cobb, 2017; TDG, 2010)

- Engage in Mathematics
- Examine Student Work
- Analyze Classroom Video
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- Co-teach
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Catalyzing Change

Recommendations (NCTM, 2018, 2020a, 2020b)

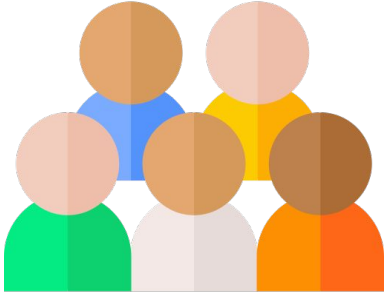
- Broaden the Purposes of Learning Mathematics
- Creating Equitable Structures in Mathematics
- Implement Equitable Mathematics Instruction
- Develop Deep Mathematics Understanding

Rehearsing Aspects of Practice As A Coaching Practice

Pause & Ponder: Breakout Session



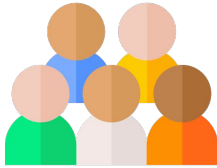
Breakout Rooms



Reflect on and discuss the questions on the next slide. You can also use the linked Jamboard to record your ideas.

Rehearsing Aspects of Practice As A Coaching Practice

Pause & Ponder: Breakout Session Qs



- Not every district is organized in the same way or has the same support structures in place? If you are not working in a place that has a similar structure to Brayden, Morgan, and Carys, how might you still accomplish this type of work?
- How does the rehearsal structure promote school-based leader learning— especially during high-stakes conversations?
- When designing the rehearsal, Brayden, Morgan, and Carys want to consider outside perspectives? How does this influence the Phase II goal setting of the professional learning experience?

Rehearsing Aspects of Practice As A Coaching Practice

Pause & Ponder: Discussion

What ideas did
you have?

What ideas did
you hear?



Rehearsing Aspects of Practice As A Coaching Practice

Chat Box Discussion

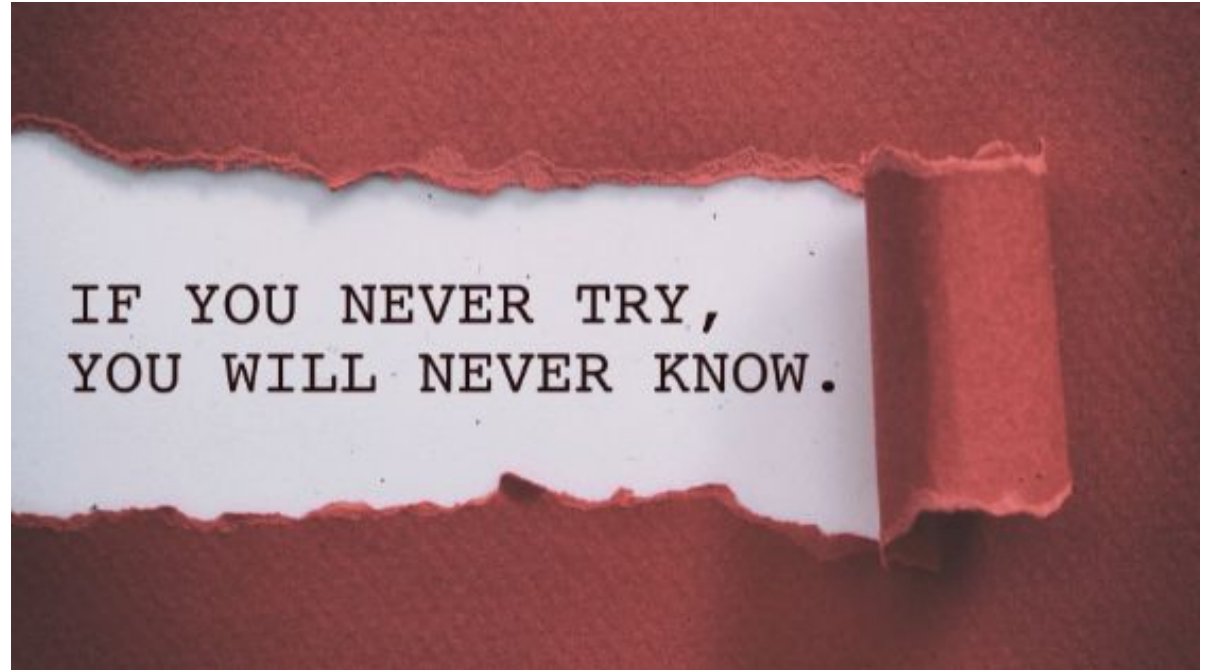


- How did the PCF encourage you to embed strategic goal setting and intentionality into your practice?
- How do you envision yourself as a “catalyzer of change,” no matter your role?

Future Actions

Consider Implementing the PCF

It is okay to take smaller, actionable steps to change your coaching practice to one that is more proactive and reflective. We recommend selecting some of the aspects of the Framework so that you are focused on only one or two aspects at a time.



Future Actions

Try the PCF

- One guiding question at a time
- One phase at a time
- Focus on the content or context questions
- The Framework with others that you are familiar or comfortable with
- The Framework with other mathematics leaders or individuals in a similar role ([maybe folks here](#))

Understanding Our Influence

Questions At The Core of Our Practice

Is what I am doing
actually effective? And
who is it effective for?

