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Welcome!

Prioritizing Student Engagement in COVID-19 Learning Recovery Efforts

SAMANTHA BOOTH | KAYLA FULGHUM | CLAIRE GOGOLEN

Center for Education Policy Research
HARVARD UNIVERSITY

Pandemic learning recovery

- The coronavirus pandemic has had a significant impact on our students' social, emotional, and academic needs

- Today we are going to discuss learning recovery efforts and students' academic needs, particularly in mathematics

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The Opportunity Myth

"Most students—and especially students of color, those from low-income families, those with mild to moderate disabilities, and English language learners—spent the vast majority of their school days missing out on four crucial resources: grade-appropriate assignments, strong instruction, deep engagement, and teachers with high expectations. Students spent more than 500 hours per school year on assignments that weren't appropriate for their grade and with instruction that didn't ask enough of them—the equivalent of six months of wasted class time in each core subject...

In classrooms with more access to these resources, students did better—particularly if they started the school year behind their peers."

-From TNTP's September 2018 report, The Opportunity Myth

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Four crucial resources

- grade-appropriate assignments
- strong instruction
- deep engagement
- teachers with high expectations

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-TNTP, 2018

The Mathematical Quality of Instruction (MQI)

Teacher

Working with Students and Mathematics

Richness of Mathematics Errors and Imprecision

Students

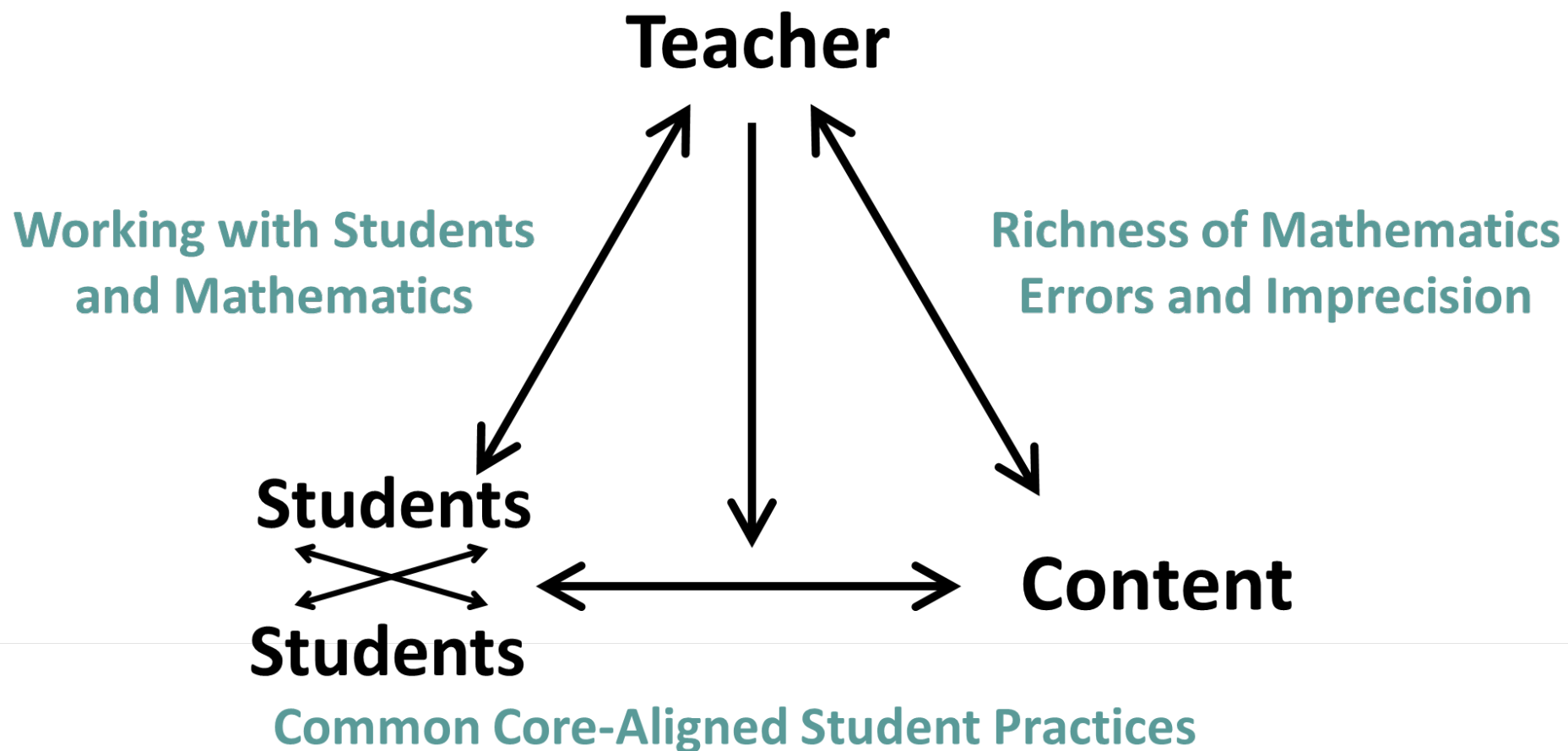Students

Content

Common Core-Aligned Student Practices

Image adapted from Cohen, Raudenbush, & Ball (2003)

Common Core-Aligned Student Practices

Captures the ways in which students engage with mathematical content

- Students Provide Explanations
- Student Mathematical Questioning and Reasoning
- Students Communicate about the Mathematics of the Segment
- **Task Cognitive Demand**
- Students work with Contextualized Problems

Describe this clip using language from just one MQI code:

- Task Cognitive Demand
  - From the **Common Core Aligned Student Practices** dimension of the MQI

To access the code and a transcript for the video:

bit.ly/MQIhandout (link is case sensitive)

General Principles for Discussing Instruction using the MQI:

- "Take off your glasses, put on ours"

- Respect for teachers in these videos

- Respect for teachers generally

  - Assume the best –

    - Do not assume a teacher error unless you are certain it has been made
    - Recognize that even the best teachers make occasional missteps or have less than perfect instruction
    - Recognize that each teacher has strengths and weaknesses

- Criterion ≠ perfect instruction

  - Impossible to enact
  - Instead, faithfully capture what happened in the lesson

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Elevating Instruction

- What might this clip have looked like if it had been stronger on Task Cognitive Demand? **What would the students be saying or doing?**

- **What would the teacher do to achieve that?** What could the teacher do to make the instruction more cognitively demanding?

Discussion Note: Don't reinvent the lesson or describe an entirely different way to teach the topic, rather, try to describe incremental improvement on <u>this code for this clip</u>, using the language of the MQI as a guide

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Task Cognitive Demand

This code captures student engagement in tasks in which they think deeply and reason about mathematics. This code refers to the *enactment* of the task, regardless of the initial demand of the curriculum/textbook task or how the teacher sets up the task for students.

Notes:
*Student confusion does not necessarily suggest that students are engaging with the content at a high cognitive level.
*Working on review tasks or on ideas discussed in previous lessons does not necessarily mean that students use lower order thinking skills.
*This code should not be confounded with the difficulty of the task or whether it is appropriate for a certain grade-level.
*Code a student presentation of a solution method at the same level of cognitive demand as the task itself was coded.

Not Present	Low	Mid	High
Students are engaged in cognitively undemanding activities. Examples of cognitively *undemanding* activities include: **Recalling and applying well-established procedures **Recalling or reproducing known facts, rules, or formulas **Listening to a teacher presentation with limited student input **Going over homework with little additional student work (e.g., reporting numerical answers) **Unsystematic exploration (i.e., students do not make *systematic and sustained progress in developing mathematical strategies or understanding*)	There is a brief example of a cognitively demanding activity, e.g. **A momentary think-pair-share where students define a term **Direct instruction with one or two examples of student explanations or SMQR **Tasks with a momentary high cognitive demand element **Tasks that are not completely routine, but are heavily scaffolded for students with hints or directions	Segment features mix of demanding and undemanding tasks and activities, e.g. **Tasks with variable enactment (e.g., demanding tasks followed by a transition to undemanding tasks; or, when working in small groups, some groups work on a high-demand task while some groups work on an undemanding task) **Direct instruction with student explanations and/or SMQR input at certain points **Tasks with middling cognitive demand	Students engage with content at a *high* level of cognitive demand. Examples of cognitively *demanding* activities include when students: **Determine the meaning of mathematical concepts, processes, or relationships **Draw connections among different representations or concepts **Make and test conjectures **Look for patterns **Examine constraints **Explain and justify

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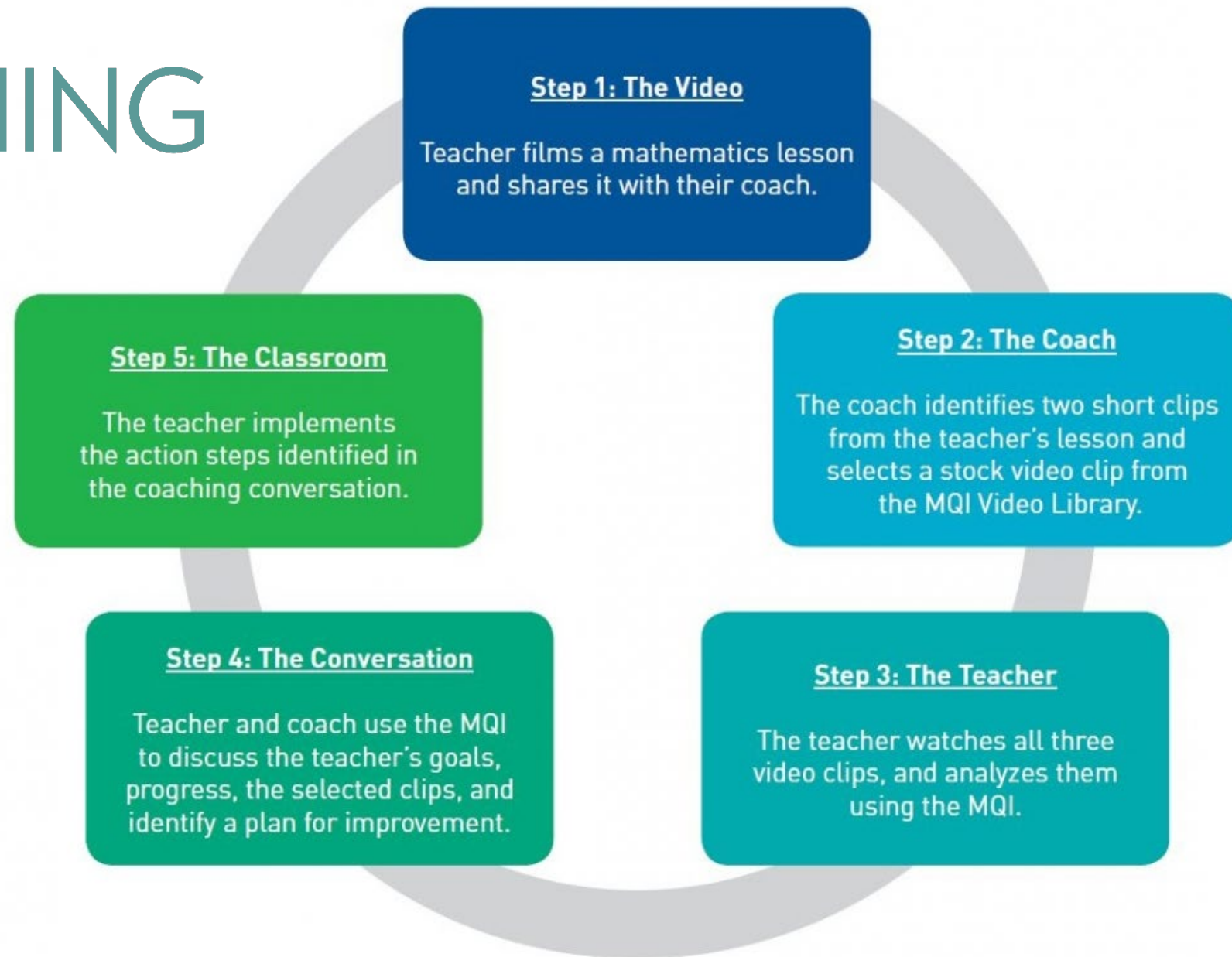MQI COACHING

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We just:

- Watched and discussed a clip
- Described it using the MQI and <u>evidence</u> from the video and transcript
- Discussed how it could have been stronger on one particular MQI code
- Discussed what a teacher might do to achieve that stronger instruction

This is the same process that teachers and coaches do together during their coaching cycles.

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Coaching Cycle

As part of a year-long experience, teachers learn about the MQI rubric, use it to critically analyze video, and then work with an MQI-expert coach to improve their own instruction.

Step 1: The Video

Teacher films a mathematics lesson and shares it with their coach.

Step 2: The Coach

The coach identifies two short clips from the teacher's lesson and selects a stock video clip from the MQI Video Library.

Step 3: The Teacher

The teacher watches all three video clips, and analyzes them using the MQI.

Step 4: The Conversation

Teacher and coach use the MQI to discuss the teacher's goals, progress, the selected clips, and identify a plan for improvement.

Step 5: The Classroom

The teacher implements the action steps identified in the coaching conversation.

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- The **MQI rubric** provides teachers with an **evidence-based framework** for planning, enacting, and reflecting on their mathematics instruction.

- Watching and evaluating stock video clips from our library allows teachers to see a wide range of examples of practice.

- Stock video also serves as a norming process for when they look at video of their own instruction, thus developing a **shared language and lens**.

- Teachers will watch video of their instruction, and they will use the lens of the MQI rubric to evaluate and reflect on their own practice using this more objective lens.

- Teachers and coaches will collaborate to produce **specific and actionable steps for improvement**.

- Goals and action steps will be guided by the MQI, but chosen by the teacher.

Question from Registration form/ Q & A with Kayla:

Four Crucial Resources from The Opportunity Myth

- grade-appropriate assignments
- strong instruction
- deep engagement
- teachers with high expectations

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Coaching/PD strategies

- Use of video
- Use of transcripts
- Teacher self-reflection
- Use of a rubric
- Shared language/lens
- Content-specific support
- Incremental tweaks

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Share out:
Which of these strategies might you adopt in your context? Which crucial resource(s) would it help?

Questions?

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Thank you! If you want to learn more:

Learn more about our coaching work: http://mqicoaching.org

SAMANTHA BOOTH

Center for Education Policy Research at Harvard University

Samantha_booth@gse.harvard.edu

CLAIRE GOGOLEN

Center for Education Policy Research at Harvard University

Claire_gogolen@gse.harvard.edu

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