

March 17, 2026



Leveraging Student Voice to Understand High-quality Instructional Materials (HQIM) Implementation

A Framework-grounded Research Design For District Data Conversations

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Understanding High-Quality Instructional Materials (HQIM) Impact and Implementation:

- **Purpose:**
 - To build rigorous, causal evidence on HQIM student impacts
 - To understand implementation variation across and within HQIM
 - To contextualized impact with implementation data
 - To provide districts with HQIM data guidance
- **Design:** Year 1: QED in 6 districts across 4 states in the 24-25 school year (expanding for 25-26) who use Illustrative Mathematics (IM) or other HQIM in grades 6-8. 46 total participating middle schools.

Research Questions

1. How do curriculum developers, district leaders, and teachers communicate about quality implementation? In short, **what is the intended curriculum and what guidance do developers provide to educators involved in implementation?**
2. How do school districts understand curriculum adoption and implementation? **What are school districts' challenges in implementation fidelity and how do they support quality implementation?**
3. How do **teachers** characterize their HQIM implementation and support they receive? How do **students** experience the curriculum implementation, and is their experience **aligned** with the teachers' characterization of implementation?
4. **What data displays** help instructional leaders support implementation and continuous improvement?

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Today's
Focus

Curriculum as Artifact – Representations of mathematical ideas and practices around which mathematical interactions are organized and facilitated

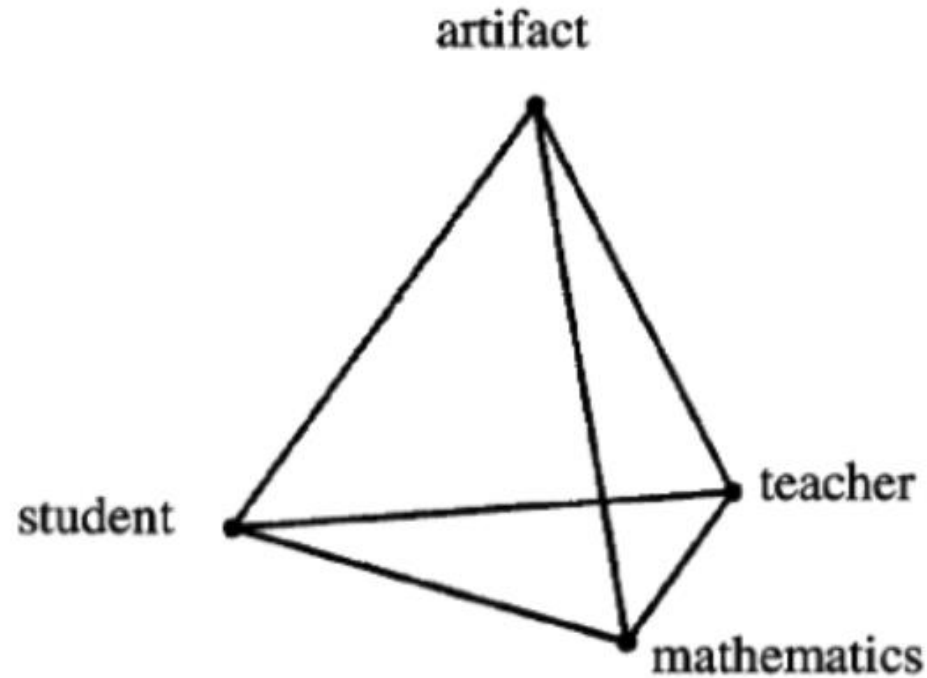


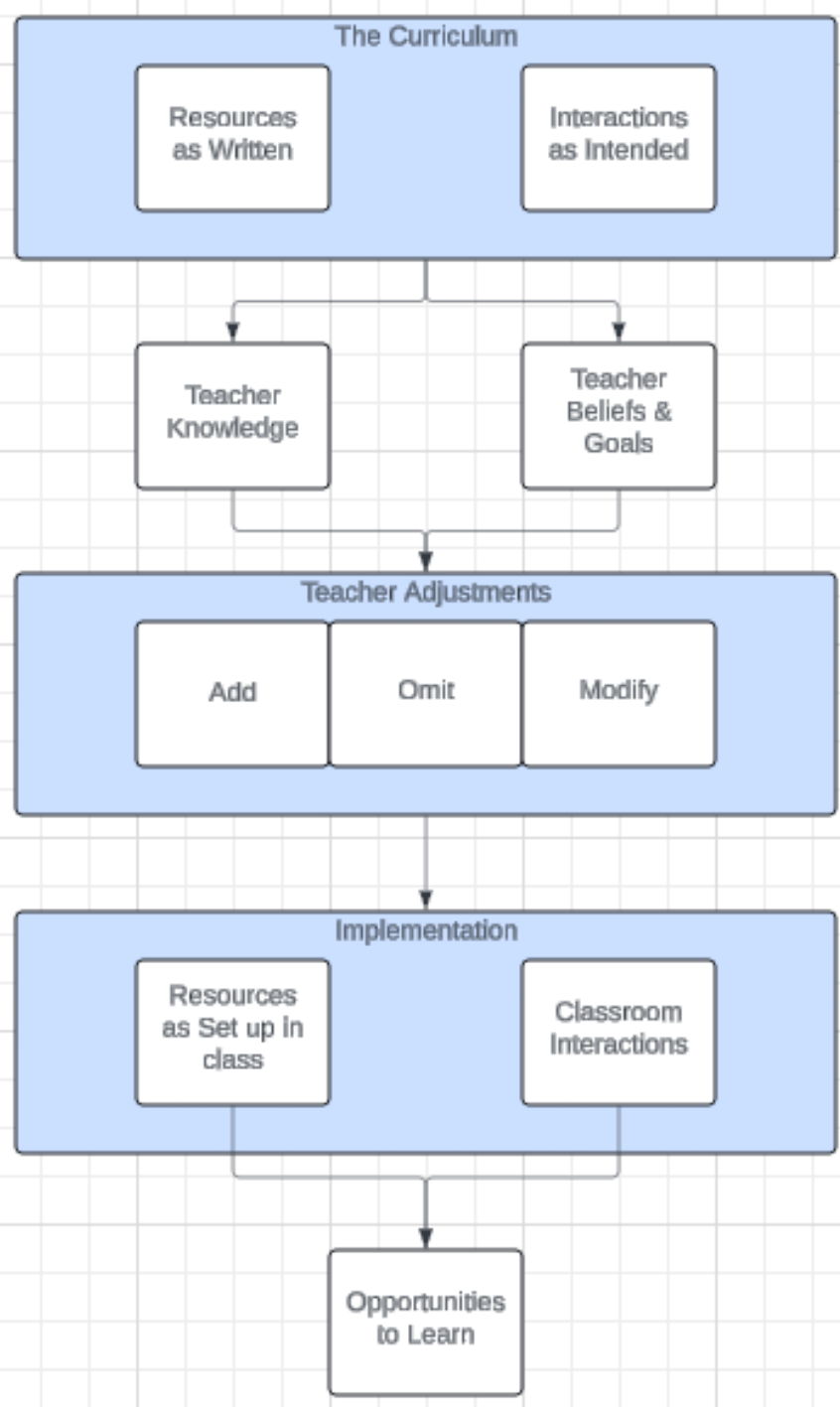
Fig. 1 Rezat and Sträßer's (2012) tetrahedron model of the didactical situation

Research Design

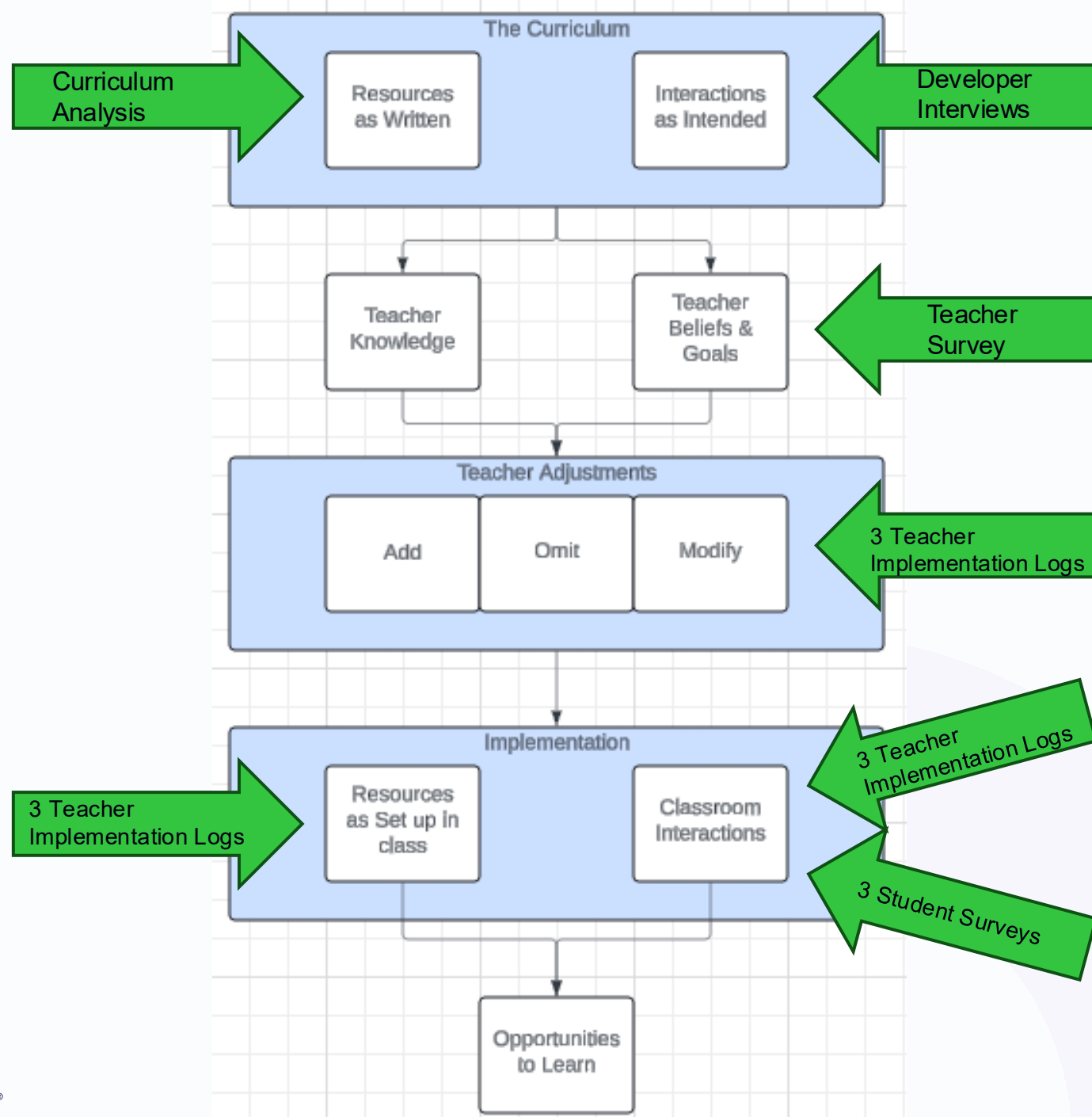


How Curriculum Implementation Connects to Student Learning

(Brown, 2009; Remillard & Heck, 2014, van Steennbrugge & Remillard, 2012)

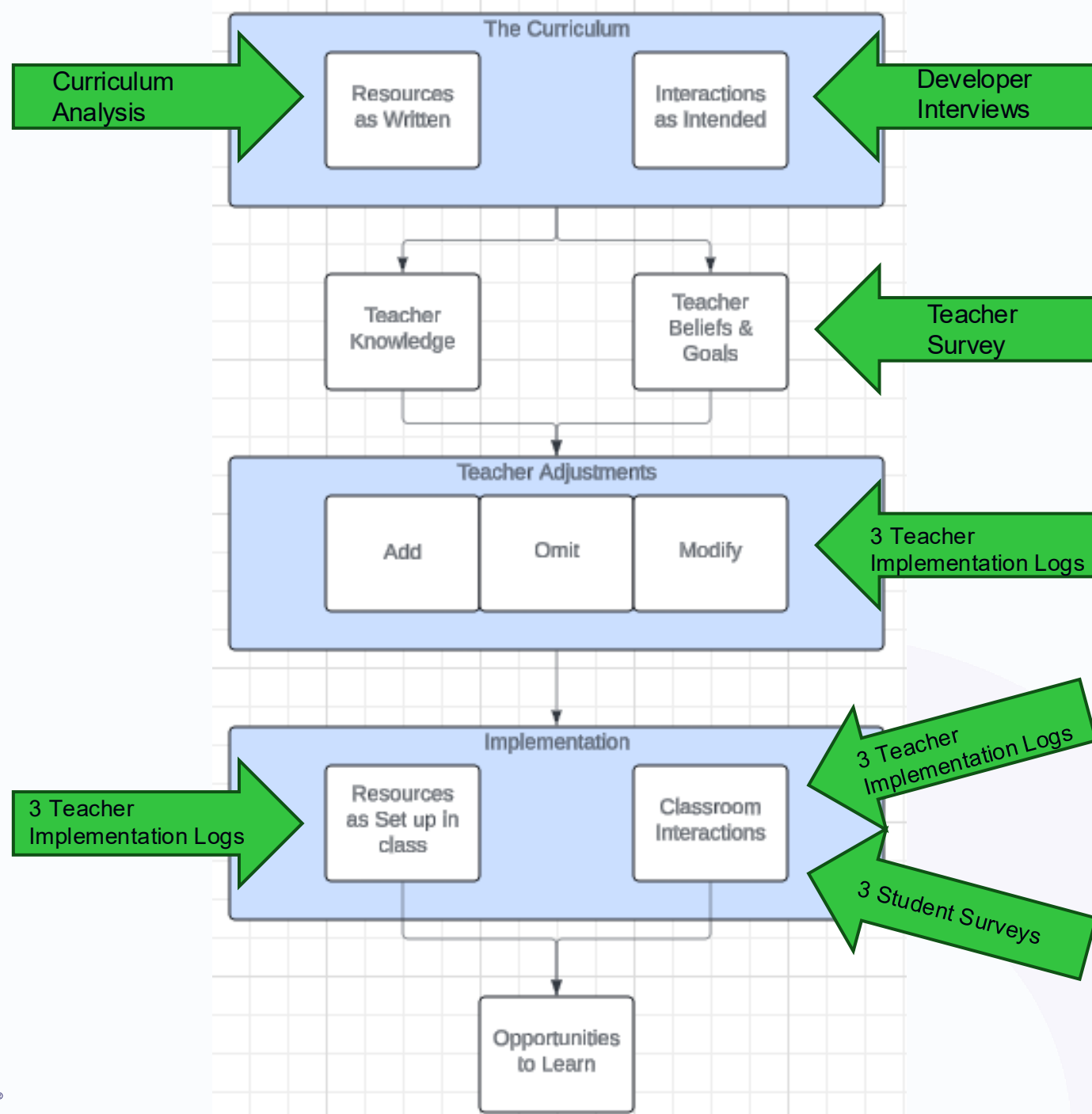


Data Generation

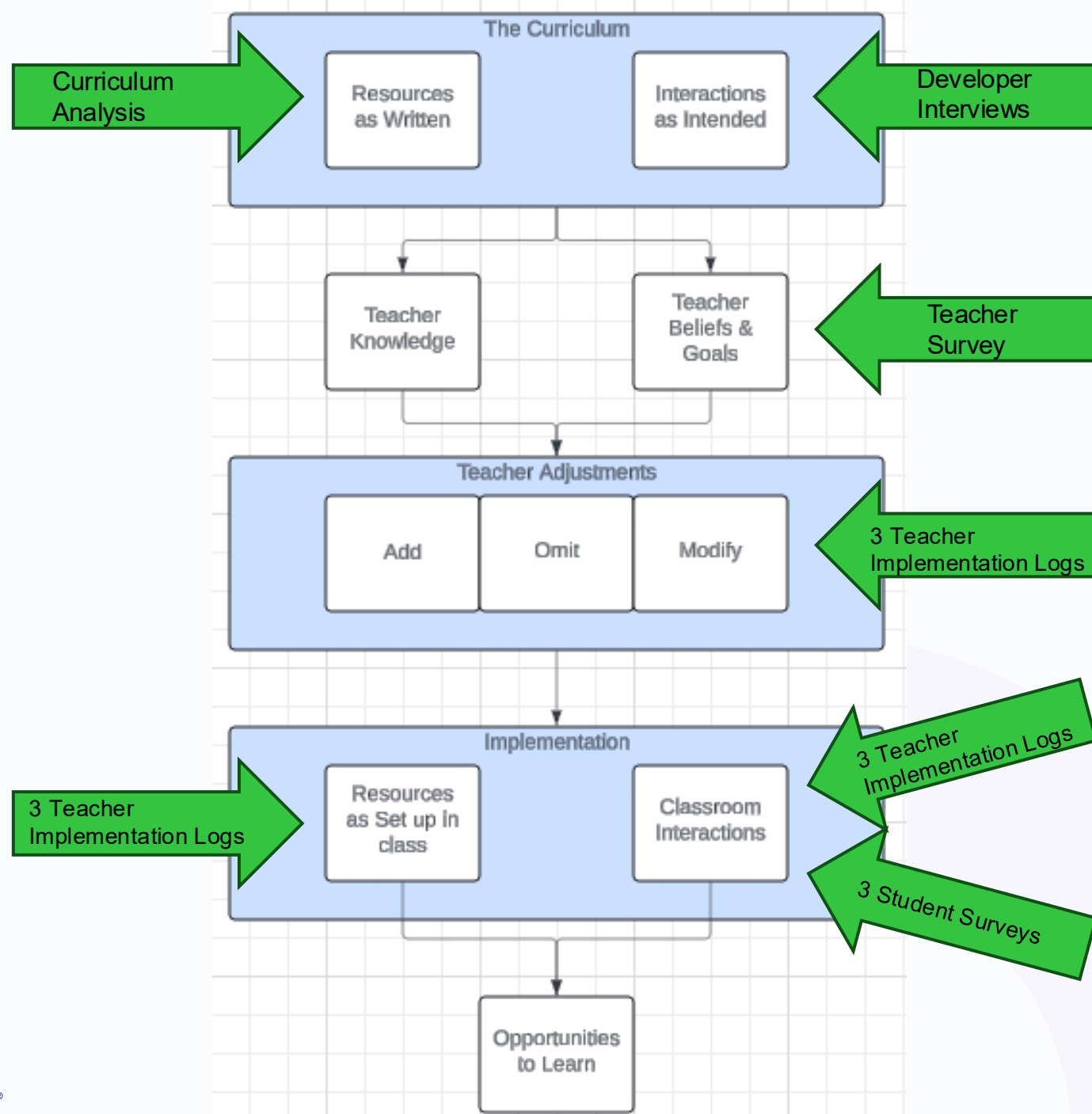


- Pacing (Units, Lessons, Activities)
- Lesson Structures
- Teacher Role
- Educative Features

Choppin et al., 2022; Doabler et al., 2012; Huntley, 2008; Quebec Fuentes & Ma, 2018



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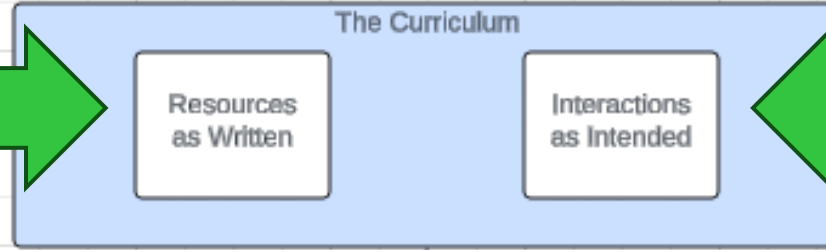


- How do they define adequate coverage?
- How do they define appropriate adaptation?
- What are the essential interactional features?

Choppin et al., 2022; Gage et al., 2020; Rezat & Straßer, 2012

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Curriculum Analysis



Developer Interviews

- How do they define adequate coverage?
- How do they define appropriate adaptation?
- What are the essential interactional features?

Teacher Knowledge

Teacher Beliefs & Goals

Teacher Survey

- **What is a teacher's understanding of high-quality math instruction?**

Teacher Adjustments

Add

Omit

Modify

3 Teacher Implementation Logs

Clark et al., 2014;

Implementation

3 Teacher Implementation Logs

Resources as Set up in class

Classroom Interactions

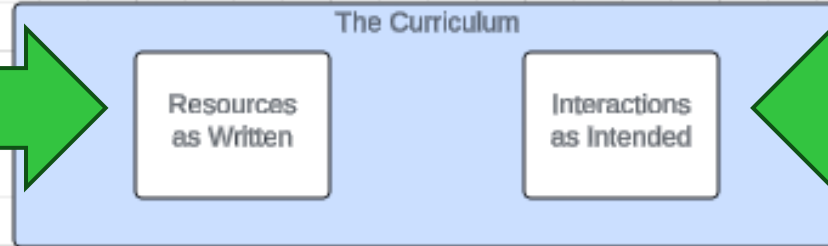
3 Teacher Implementation Logs

3 Student Surveys

Opportunities to Learn

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3 Teacher Implementation Logs

- **Unit, Lesson, Activity Coverage**
- **Frequency and Reasons for Add, Omit, Modify**
- **Instruction consistent with Interactional Intent (Focus & Coherence, Cognitive Demand, Collaboration & Discourse)**

Implementation

3 Teacher Implementation Logs

Resources as Set up in class

Classroom Interactions

3 Teacher Implementation Logs

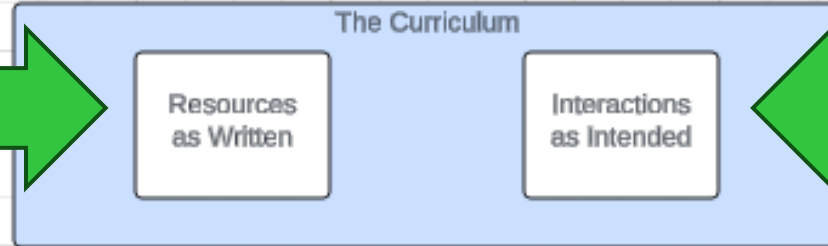
3 Student Surveys

Coverage items: Horizon Research, Inc., 2018
Interaction Items: Team created based on Curriculum Analysis and Developer Interviews

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Curriculum Analysis



Developer Interviews

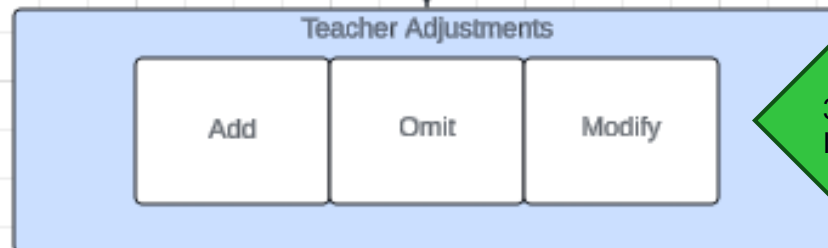
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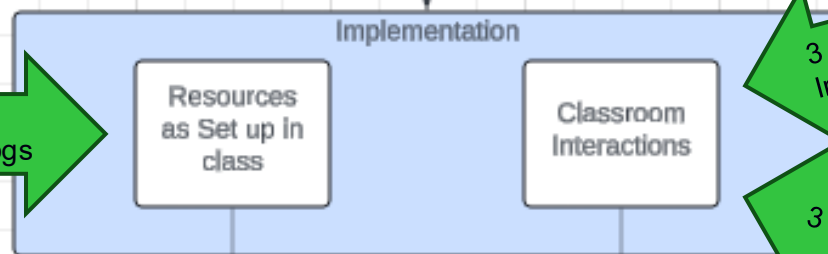
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3 Teacher Implementation Logs



3 Teacher Implementation Logs

3 Student Surveys

- **Focus & Coherence, Cognitive Demand, Collaboration & Discourse**
- **Belonging & Self Efficacy**

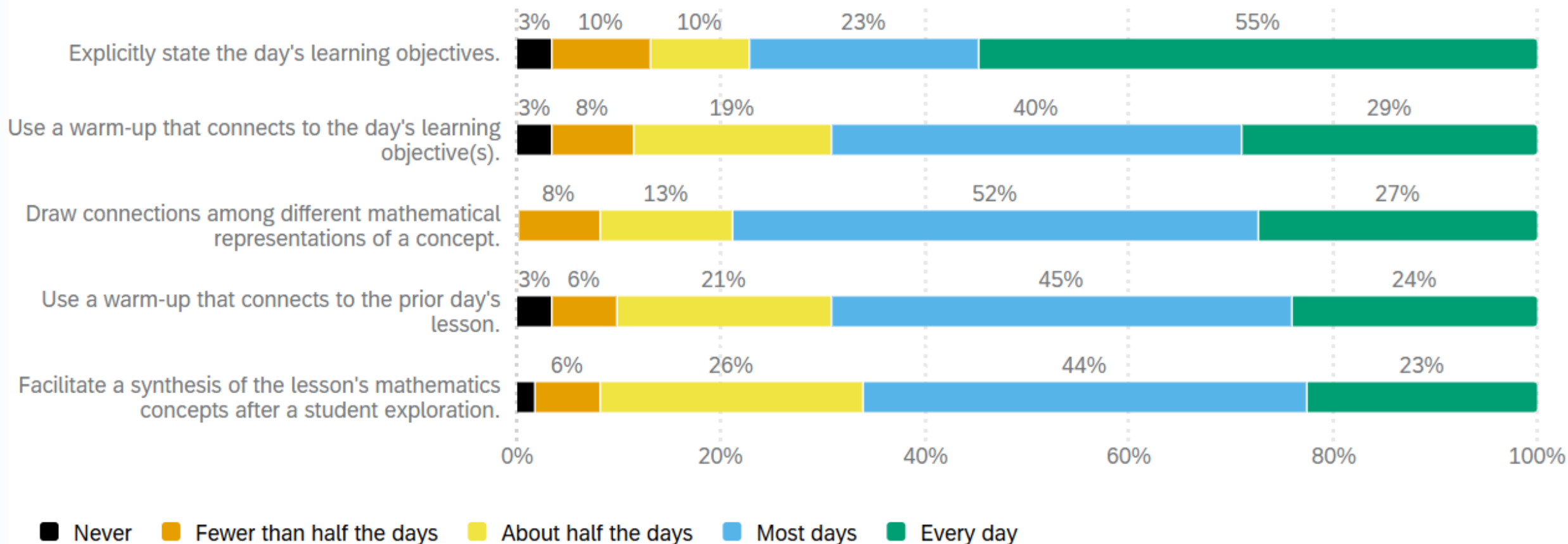
Opportunities to Learn

Teacher View of Classroom Activity



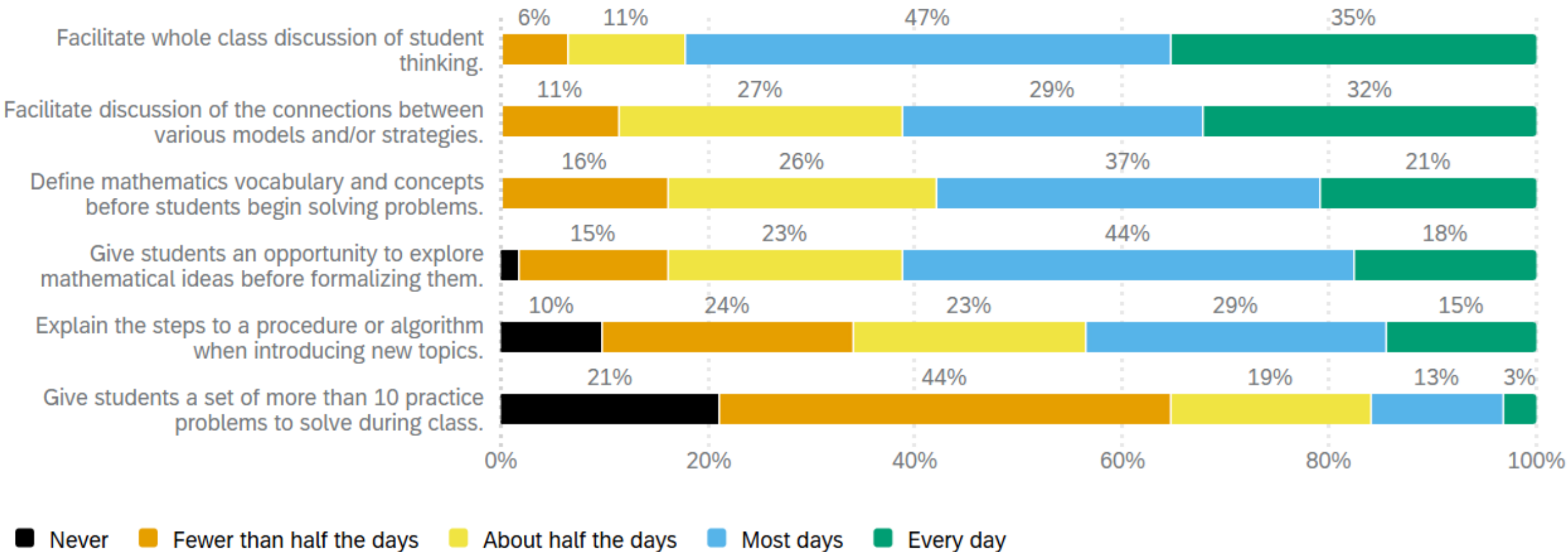
Classroom Activities in Last Completed Unit

Classroom Activities in Last Completed Unit: Focus and Coherence



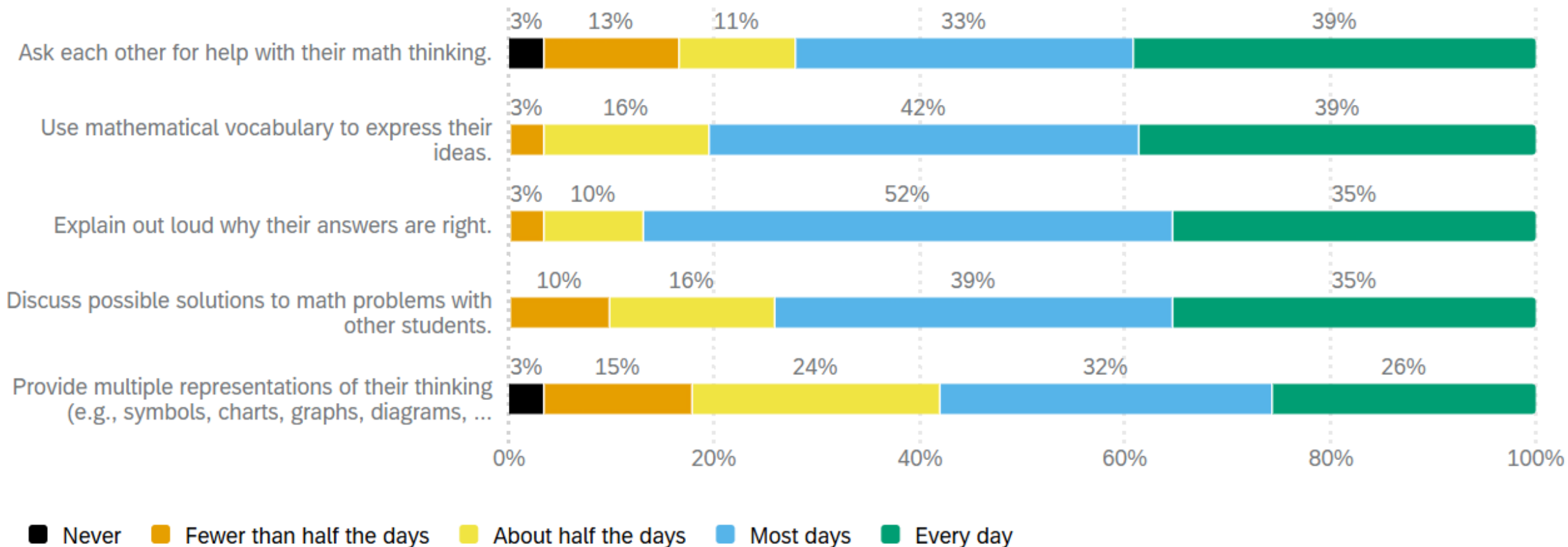
Classroom Activities in Last Completed Unit

Classroom Activities in Last Completed Unit: Collaboration & Discourse/Cognitive Rigor



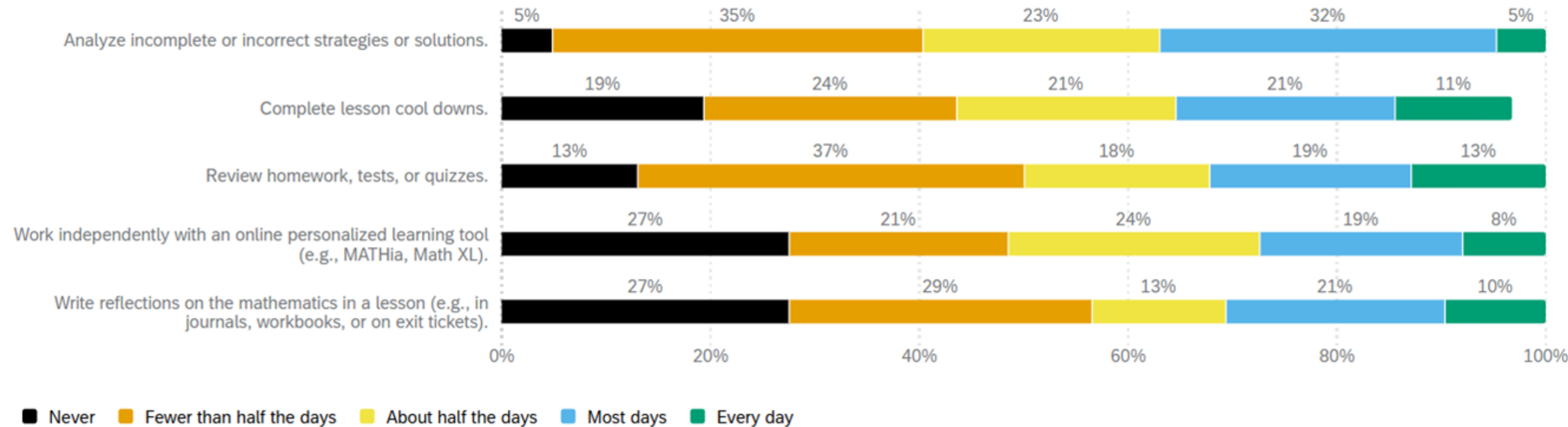
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During the last completed unit, how often did your students do each of the following in class?



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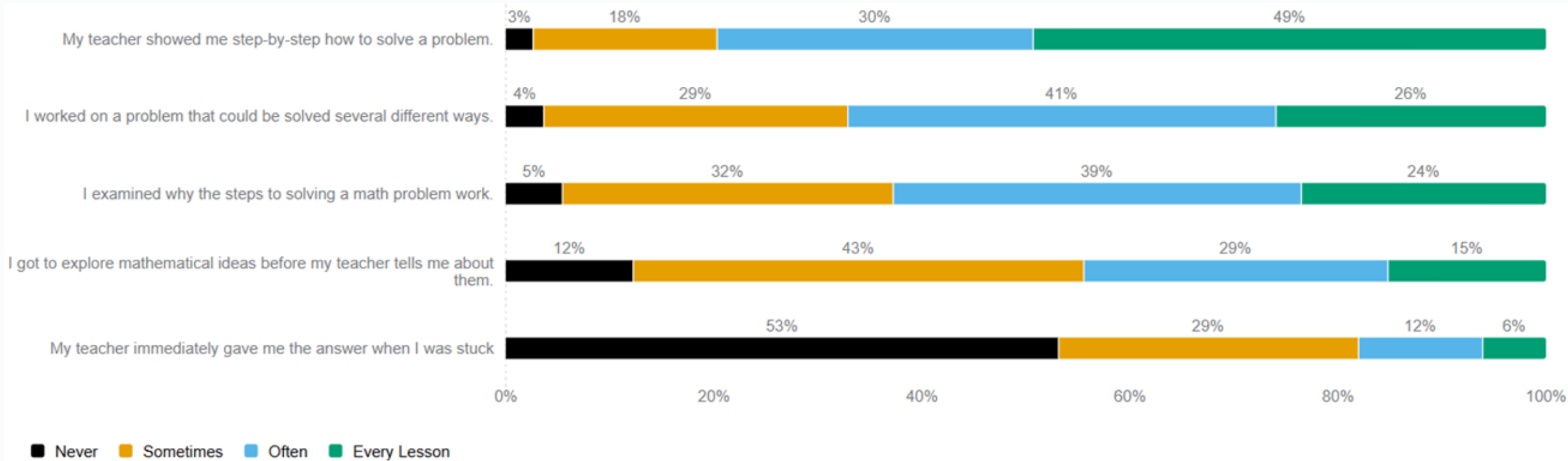


Student View of Classroom Activity

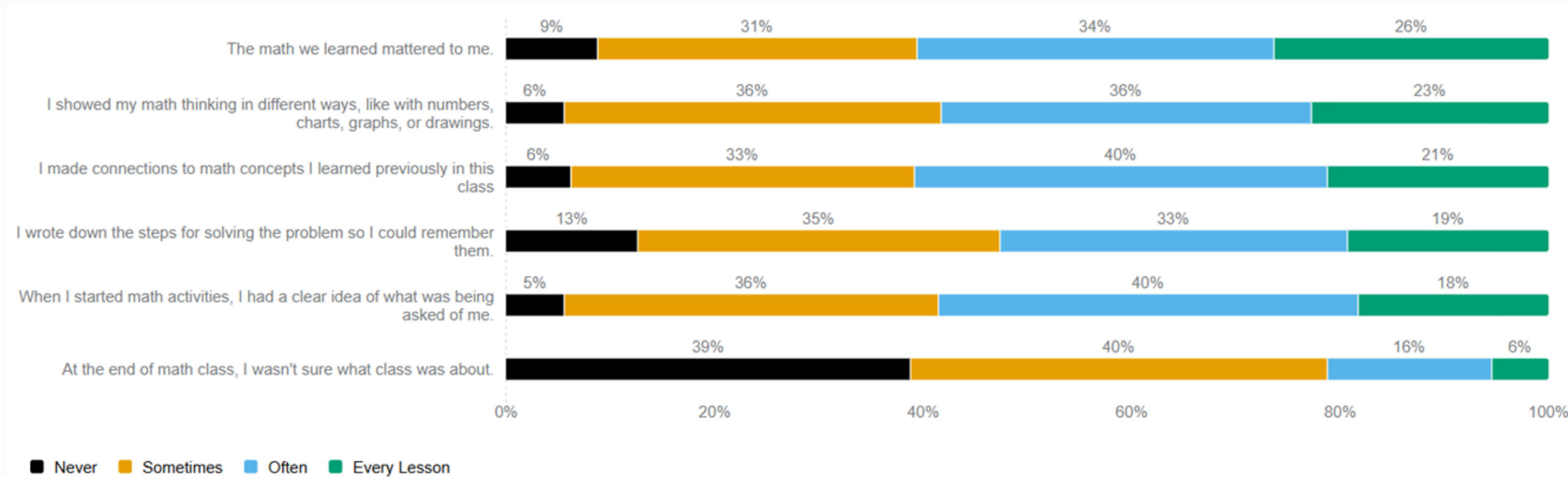
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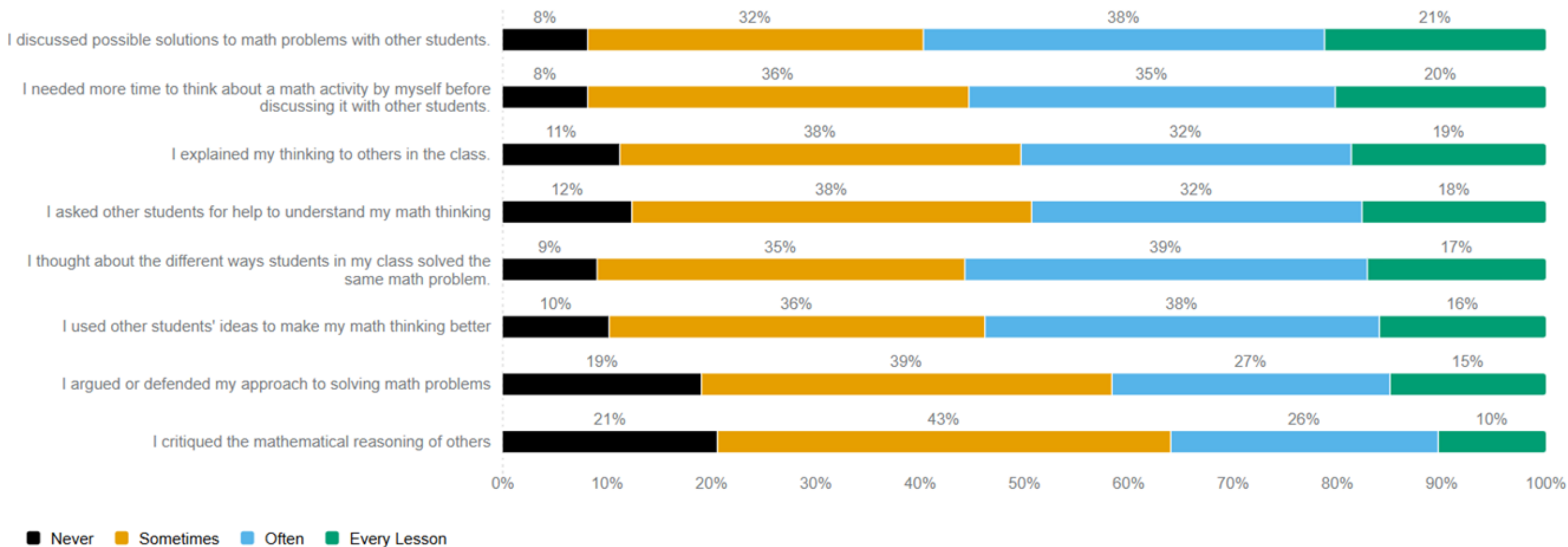
Cognitive Demand and Rigor



Coherence, Focus, Content, and Access



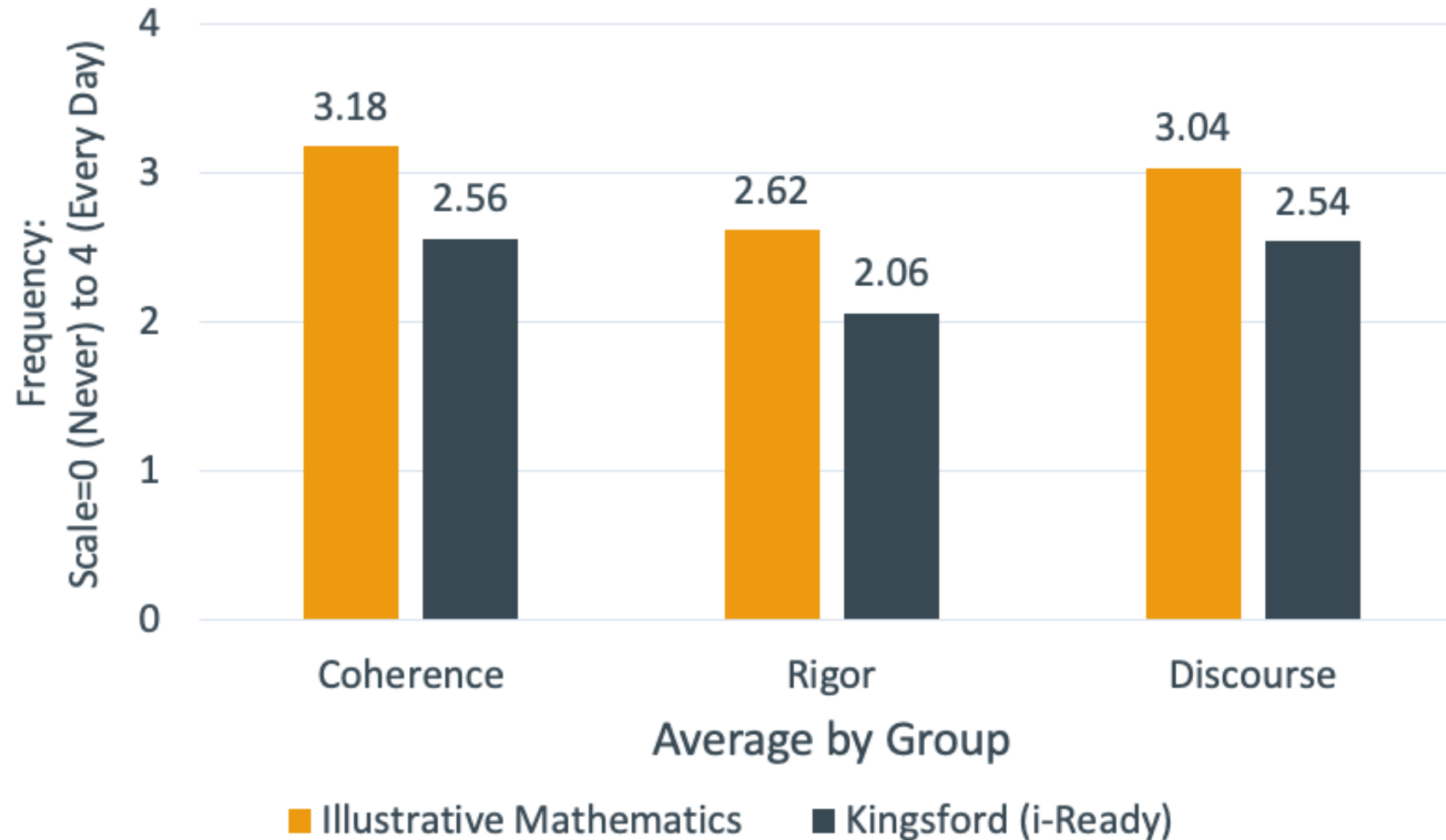
Collaboration and Discourse



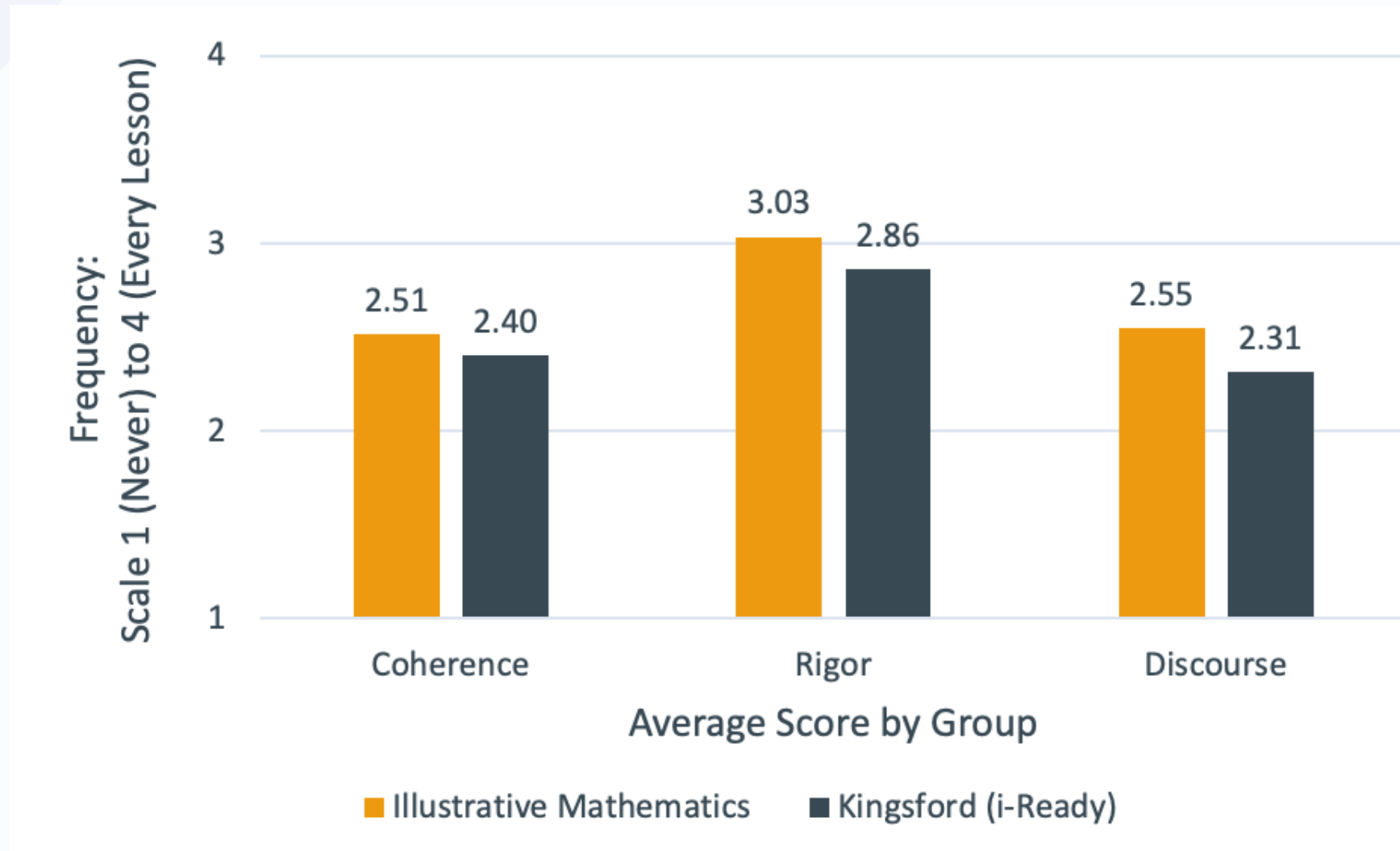
Preliminary Findings: Teacher-Student Crossover



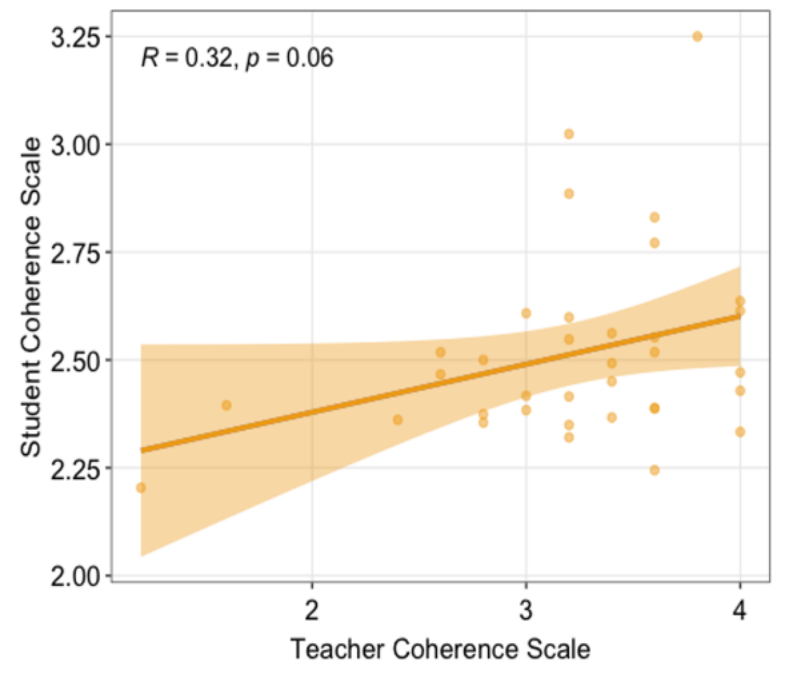
Teacher-reported Frequency of High-quality Practices



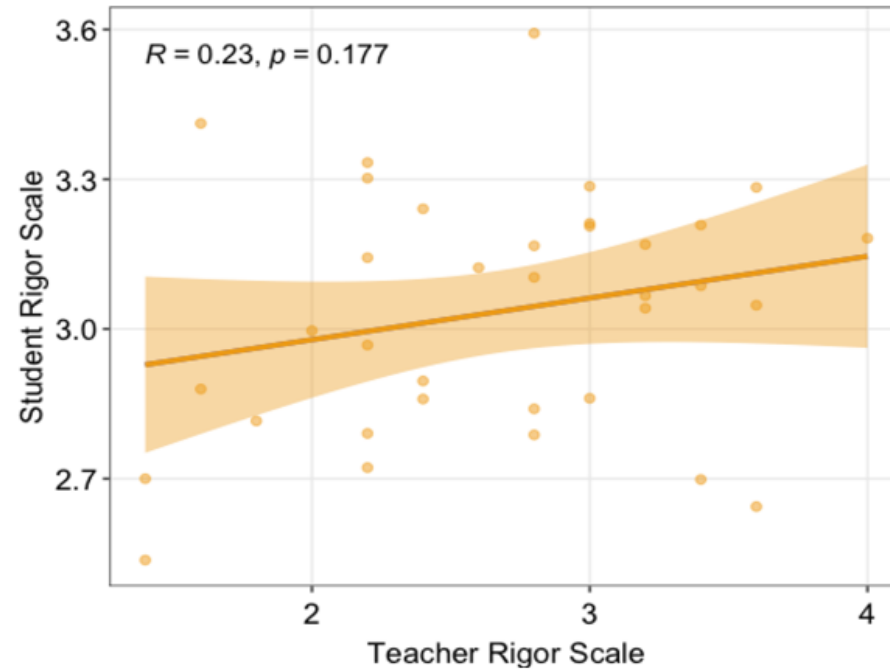
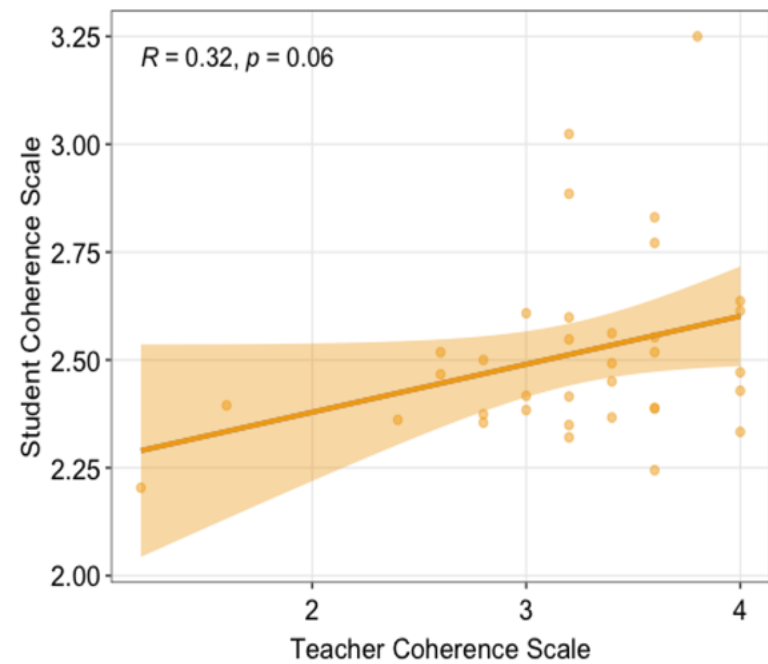
Student-reported Frequency of High-quality Practices



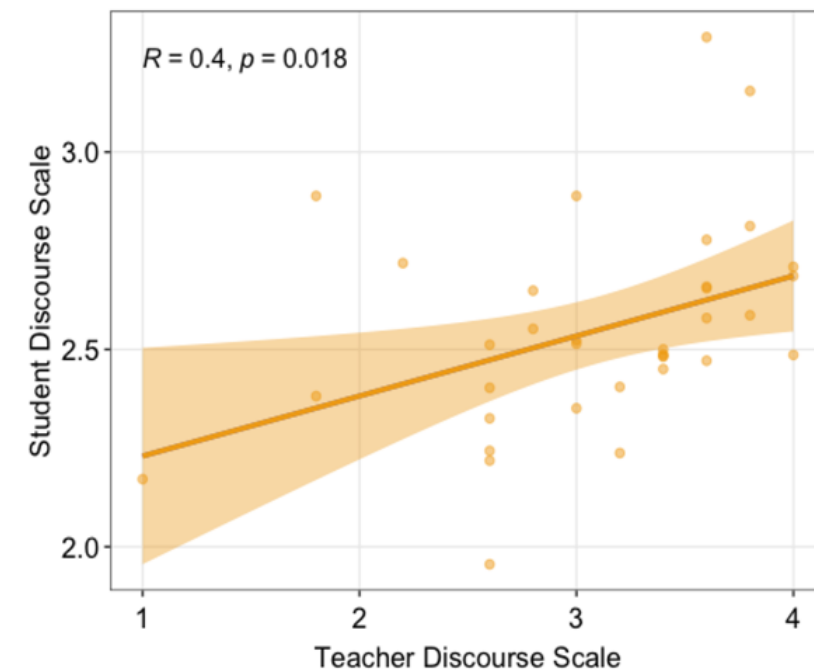
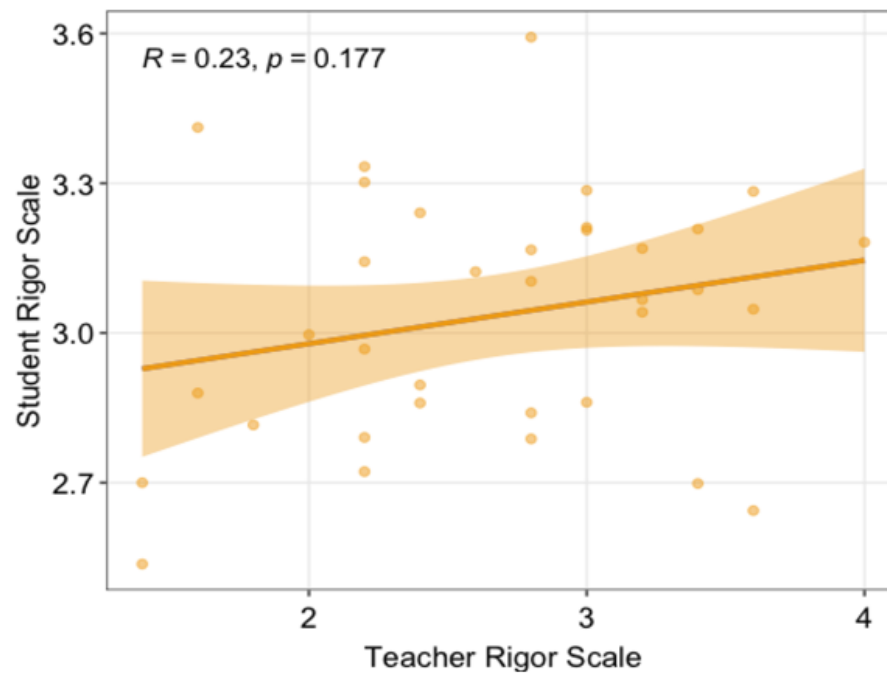
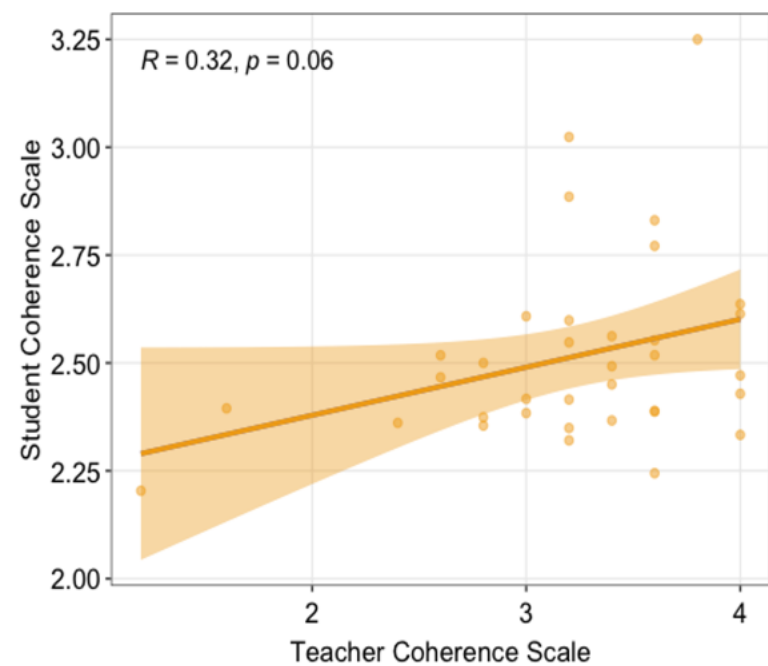
Teachers and Students Characterizations of Classroom Practice show a Small to Medium Positive Relationship



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What we are learning and next steps

- **District leaders want to know more about individual teacher curricular decision-making than our data provide.**
 - All cited walkthroughs as a key part of their implementation strategy. Our data helps bring a lens to that important work.
- **District leaders wonder about which additional professional learning supports to provide**
 - Our data showed that teachers cite coaching as the most helpful for curriculum-based professional learning, but district budgets are stretched tight.
- **Our next steps include an expansion on sample for year 2 and a focus on districts' professional learning supports.**

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