Eyes on Learning: A Lab Approach to Improving Mathematics Achievement

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#learnfwd19
Welcome!

Before we begin, please…

• Introduce yourself to others
  - Name
  - Where you’re from
  - Your role in your school/district

• Share why you chose to join this session.
Instant Survey #1

Winter is my favorite time of year. Bring on the snow!
I feel prepared to support teachers in improving their mathematics teaching and student learning.
Instant Survey #3

It is challenging for educators to see the impact of their actions on student learning.
Instant Survey #4

I currently help teachers to see the impact of their teaching actions.
Essential Questions

How can we support teachers in measuring their impact on student learning?

What are the advantages to taking a “lab approach” to improving mathematics teaching and learning?
## Overview

<table>
<thead>
<tr>
<th>Welcome</th>
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<tbody>
<tr>
<td>Analyze and Evaluate Sample Data Collection Tools</td>
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<tr>
<td>Create a Data Collection Tool</td>
</tr>
<tr>
<td>Tools and Processes for Coaching</td>
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<tr>
<td>Plan A Classroom Investigation</td>
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<tr>
<td>Reflect on Learning</td>
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</table>
“It is the specific mind frames that teachers have about their role – and most critically a mind frame within which they ask themselves about the effect that they are having on student learning.”

John Hattie,
Visible Learning for Teachers:
Maximizing Impact on Learning
How can we support teachers in measuring their impact on student learning?
Task

Examine the tools and discuss:

• How does the data collection process support the question the educators are exploring?

• What are your wonderings about data collection and data collection tools at this point?
Key Characteristics

• Brief (no more than two pages long)
• Easy to understand
• Non-evaluative
• Descriptive
• Focused/Specific
• Measurable

Talking Points: Data Displays are an Effective Way to Engage Teachers, JSD, February 2015.
Create a Data Collection Tool

Student Learning Target:
Students persevere in making sense of rigorous problems
Read and Discuss

1. **Read**: the CCSS description

2. **Discuss**: What would students look like and sound like if they were *persevering in making sense of rigorous problems*?

List somewhere separately to use shortly.
Select a Data Point

<table>
<thead>
<tr>
<th>Data Points</th>
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<tbody>
<tr>
<td>Examples of students continuing to work through a problem even when they get stuck.</td>
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<tr>
<td>Examples of students continuing to work on problems even after finding initial solutions.</td>
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<tr>
<td>Examples of students asking each other questions about mathematical ideas when working with a partner/small group.</td>
</tr>
<tr>
<td>Examples of students using mathematical tools to think about challenging problems.</td>
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</table>
### Choose a Teacher Action

<table>
<thead>
<tr>
<th>Teacher Actions</th>
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<tbody>
<tr>
<td><strong>Ask questions to support sense-making:</strong></td>
</tr>
<tr>
<td><em>What do you know about the problem so far?</em></td>
</tr>
<tr>
<td><em>How have you solved similar problems?</em></td>
</tr>
<tr>
<td><strong>Acknowledge students for effort, not intelligence.</strong></td>
</tr>
<tr>
<td><strong>Encourage students to verbalize what they learn from mistakes and how they will apply this learning.</strong></td>
</tr>
<tr>
<td><strong>Encourage students to ask questions of their peers and their teacher.</strong></td>
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</tbody>
</table>
Create the Data Collection Tool

1. Design your Data Collection Tool together

2. Include:
   - Data Point
   - Brief description of your Data Collection Process
   - Teacher Action Step(s)

BONUS: Include a measurable goal
Gallery Walk

As you review the data collection tools, discuss…

• What was easy and what was difficult about this process?

• What will teachers need the most support with when engaging in this process?
A Lab Approach to Improving Mathematics Teaching and Learning

<table>
<thead>
<tr>
<th>FOCUSED REFLECTION: A LAB APPROACH TO IMPROVING STUDENT LEARNING</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>PLAN FORWARD</strong></td>
</tr>
<tr>
<td>• What can students do now?</td>
</tr>
<tr>
<td>• What do we want to see them do more?</td>
</tr>
<tr>
<td><strong>LEARN TOGETHER</strong></td>
</tr>
<tr>
<td>• What are we going to try?</td>
</tr>
<tr>
<td>• What is our data collection process?</td>
</tr>
<tr>
<td>• What measurable goal are we shooting for?</td>
</tr>
<tr>
<td><strong>APPLY AND MEASURE</strong></td>
</tr>
<tr>
<td>• What happened?</td>
</tr>
<tr>
<td>• How do we know?</td>
</tr>
<tr>
<td><strong>REFLECT</strong></td>
</tr>
<tr>
<td>• What did we learn?</td>
</tr>
<tr>
<td>• What are our next steps?</td>
</tr>
</tbody>
</table>

Teaching ———> Learning
What are the advantages to taking a “lab approach” to teaching and learning?
Tools for Coaching

Focus

Safety

Visibility

Accountability
Instructional Practices Inventory

- Learning Environment
- Reasoning and Sense Making
- Focus and Coherence
- Formative Assessment
Think about a team or a teacher you work with. How might you use the lab approach, IPI, and/or Goal Setting Tool to support them?
What supports might you need to try out this process back at your school?
Five Steps for Getting Started

1. Find a partner or team.

2. Start simple!

3. Be focused.

4. Celebrate success!

5. Make students part of the process.
Call to Action

What’s your personal next step in learning from the experiences in this session?

A. Find a team/partner
B. Share what you learned in the session with someone else
C. Choose a goal and create your first data collection process
D. All of the above (You overachiever!)
We want to hear from you!

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Winter Webinar Series
by Math Solutions

From Great Teachers to Great Coaches

January 8th, 5pm EST
Take our 3 minute survey!

Session Feedback

Session Learning
- Title: This session had an appropriate balance of research, theory, and practical application to the topic and content.
- The content and pace were well-balanced.
- The instructor effectively engaged the audience.

Session Relevance
- The materials and context in this session were real-world examples.
- The instructor used appropriate examples and analogies.

Overall Feedback
- The course was highly engaging.
- The course was relevant to the topic.

Your responses power our kickup.co/2019LF

Session ID: 2320
Thank You

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