Navigate Your Way Through a Productive Lesson Study

Presented by:

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Why A Lesson Study?
Steer Teachers’ Power of Collaboration!

- Build Content Knowledge
- Utilize 5 Practices for Orchestrating Mathematical Discussions
- Lower Teacher's Affective Filter
- Participate in Practical Lesson Design
Empowering Teachers and Students

- Promote Reflective Practice
- Provide Opportunities for Student Mathematical Discourse and Growth Mindset
Teachers’ Role
Purpose

- Focus on student interaction with math and student discourse

- Focus is NOT on the teacher
Lesson Study Map

- Time allotted
- Number of Teacher Participants
- Order of Teachers
- Role of Teachers
- Planning and Debrief Area
- Share Strengths and Opportunities
Lesson Study Schedule

Lincoln Math PD 2017-18
Kindergarten
10/12/17

7:45 - 9:15 AM  |  Math PD and Lesson Development in Room 16 ½ (Arcy's Office)

<table>
<thead>
<tr>
<th>Time</th>
<th>Co-Teach Lesson</th>
<th>Room</th>
<th>Subs (Room)</th>
</tr>
</thead>
<tbody>
<tr>
<td>9:20 – 10:05 AM</td>
<td>Kim Webb &amp; Ally Stout</td>
<td>7</td>
<td></td>
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<tr>
<td>10:05 – 10:35 AM</td>
<td>Debrief &amp; Lesson Refinement</td>
<td>16 ½</td>
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<tr>
<td>10:35 – 11:20 AM</td>
<td>Kim Webb &amp; Amber Brandt</td>
<td>16</td>
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<td>11:20 – 12:20 PM</td>
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<td>LUNCH</td>
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<tr>
<td>12:20 – 12:50 PM</td>
<td>Debrief &amp; Lesson Refinement</td>
<td>16 ½</td>
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<tr>
<td>12:50 – 1:35 PM</td>
<td>Kim Webb &amp; Dave Herndon</td>
<td>6</td>
<td></td>
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<tr>
<td>1:35 – 2:05 PM</td>
<td>Debrief &amp; Lesson Refinement</td>
<td>16 ½</td>
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<tr>
<td>2:05 - 3:15 PM</td>
<td>Unit Adjustment/Next Steps</td>
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Today a lion! Tomorrow a leader!
5 Practices for Orchestrating Mathematical Discussions

0 - Selecting the Task
1 - Anticipating
2 - Monitoring
3 - Selecting
4 - Sequencing
5 - Connecting
5 Practices

Orchestrating Discussions

Five practices constitute a model for effectively using student responses in whole-class discussions that can potentially make teaching with high-level tasks more manageable for teachers.

Margaret S. Smith, Elizabeth K. Hughes, Randi A. Engle, and Mary Kay Stein

Structure of the Planning Session

- Choose standard that applies to current pacing
- Create a Notice and Wonder
- Develop the math problems
- Teachers **DO** the Math
- Discuss delivery of lesson
Who Should Be Involved?

Teachers
- Students
- Math coach
- Literacy coach

Support Staff
- Principal
- Assistant principal
- Math consultant
Literacy Coach
Let’s Explore “The Math”
Jerry was making two different types of cookies. One recipe called for \( \frac{3}{4} \) cup of sugar and the other called for \( \frac{2}{3} \) cup of sugar. How much sugar did he need to make both recipes?
There are some people going on a field trip to the museum. They are taking vans to get there. Each van holds the same number of people.
Numberless Word Problems

There are 35 people going on a field trip to the museum. They are taking vans to get there. Each van holds the same number of people.
There are 35 people going on a field trip to the museum. They are taking vans to get there. Each van holds 8 people.
There are 35 people going on a field trip to the museum. They are taking vans to get there. Each van holds 8 people. How many vans will they need?
Select and Sequence

Mistake

Least sophisticated approach

Most sophisticated approach
Kindergarten Notice and Wonder

My math story is about a sad grasshopper...
Kindergarten Select and Sequence
Caroline, Brian, and Sam want to share a box of chocolates. There are twelve pieces of chocolate in the box. How many pieces of chocolate will each friend get?

Each friend will get 4 pieces of chocolate.

Caroline: B: Sam
12 3 12 3 12 3
0 + 4 + 4 = 12

Emily, Belcher

<table>
<thead>
<tr>
<th>Caroline</th>
<th>Brian</th>
<th>Sam</th>
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<tr>
<td>3</td>
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Sequencing

CRITIQUE, CORRECT, & CLARIFY

I multiply the second one by 5. I picked 5 cause $20 \times 5 = 100$. So then you times 9 and get 45 and that make 100, which is the answer. See my picture below:

```
  20 + 20
  20 + 20
  20 + 20
  20 + 20
  20 + 20
```
I multiply the second one by 5. I picked 5 cause $20 \times 5 = 100$. So then you times 9 and get 45 and that make 100, which is the answer.
I multiply the second one by 5. I picked 5 cause 20 \times 5 = 100. So then you times 9 and get 45 and that make 100, which is the answer.
Connecting Students’ Strategies

I multiply the second one by 5. I picked 5 cause 20 x 5 = 100. So then you times 9 and get 45 and that make 100, which is the answer.

9 lines forms 20 squares. I multiply this shape by 5. I picked 5 cause 20 squares x 5 = 100 squares. Since I multiplied 20 squares by 5, I also need to multiply 9 lines by 5, which is 45 lines. I think that 45 lines will make 100 squares.
Learning Goals

I learned another way to multiply from Ethan and the teacher didn't talk a lot!
-Vincent (5th grader)

Today I learned how to draw pictures that match the math story.
-Josh (Kinder)

I learned you can learn from your mistakes!
-Adriana (2nd grader)

Today in math I learned that there are many ways to solving a problem.
-Maria (3rd grader)
Opportunities to Debrief
Post Lesson Debrief

- Celebrations first – start with teacher who taught
- Inquiry Stance – be specific
- Outcome for the model
- Opportunities
- Make adjustments to lesson
Possible Challenges

- Learning journey... we’re all learning together!
- Sustain the change
- Substitutes
- Time
How is this lesson study format the same or different from other models?

In your group, please share your thoughts.
Application

How might you apply this structure at your school?
Learning Goal

What did you find valuable/useful?
Write or tweet (@CAMathCouncil and #cmcmath).
Please be prepared to share out.
Questions and Concerns

When you improve a little each day, eventually big things occur. . . . Not tomorrow, not the next day, but eventually a big gain is made. Don’t look for the big, quick improvement. Seek the small improvement one day at a time. That’s the only way it happens—and when it happens, it lasts.

(Wooden, 1997, p. 143)
Contact Us

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