INSTRUCTIONAL_rounds: CREATING SHARED VALUES AROUND STUDENT MATHEMATICAL THINKING
All Students Can Learn

Start the presentation to activate live content
If you see this message in presentation mode, install the add-in or get help at Poll Everywhere
All Teachers Can Learn

Agree

Disagree

Start the presentation to activate live content
If you see this message in presentation mode, install the add-in or get help at PollEv.com/app
RETHINKING PROFESSIONAL DEVELOPMENT: INSTRUCTIONAL ROUNDS

- To put educators in charge of their own learning
- To focus the professional development work and ground it in data
- To build a shared understanding of effective learning and teaching
- To take improvement to the next level

(City, 2011)

What are your interests, values, and priorities in your context?
INSTRUCTIONAL ROUNDS PROCESS

Instructional Need: Put educators in charge

Pre-brief: Define our focus

Observe: Gather evidence

Debrief: Shared understanding

Continuous Improvement: Adjust instructional practice
PRE-BRIEF

Pre-Brief: (20 mins)

1. Individual: What are your **instructional need**s, interests, and priorities in your classroom?

Notice there is no clear connection to students’ math thinking.

**Instructional Need:** Improve how students add to their notes, based on how they make sense of them and how they make them their own.

What do you notice about this teacher’s instructional need?
- **Specializing**: trying special cases, looking at examples
- **Generalising**: looking for patterns and relationships (MP 7 & 8)
- **Conjecturing**: predicting relationships and results (MP 1 & 3)
- **Convincing**: finding and communicating reasons why something is true (MP 3 & 6)

Read the “Generalizing” row in Student Success Criteria document:
- What do we want to see? *“what it is”*
- What do we not want to see? *“what it is not”*
Strengthen your “look fors” by describing interactions between the math task, the students, and the teacher.
“A framework that produces meaningful student learning. It is a function of interactions among teachers’ pedagogical and content knowledge; the use of educational materials; and students’ understanding, experiences, and engagement in the learning process.” (Forman et al., 2017, p. 7)

What predicts performance is what students are actually doing...the instructional task is the actual work that students are asked to do during the process of instruction - not what teachers think they are asking students to do or what the official curriculum says that student are asked to do...

(Elmore, 2009)
During the observation, collect evidence on:

**Where:** Math Task

**What:** Student Success Criteria

**How:** Interactions
MATH TASK
CC STANDARD 7B: ALGEBRA-INTERPRETING FUNCTIONS

Piecewise Defined Functions

Worksheet: Piecewise Functions

Evaluate the function for the given value of x.

\[ f(x) = \begin{cases} 
2x, & \text{if } x < 0 \\
-x^2 + 1, & \text{if } x \geq 0
\end{cases} \]

1. \( f(3) \)
2. \( f(0) \)
3. \( f(-2) \)
4. \( f(1) \)
5. \( g(0) \)
6. \( g(1) \)
7. \( g(-1) \)
8. \( g(2) \)
9. \( h(-4) \)
10. \( h(-1) \)
11. \( h(0) \)
12. \( h(3) \)

Match the piecewise function with its graph.

13. \( f(x) \)
14. \( f(x) \)
15. \( f(x) \)
16. \( f(x) \)
17. \( f(x) \)
18. \( f(x) \)

Graph the function.

19. \( f(x) = \frac{1}{x}, \text{ if } x \leq 0 \)
20. \( f(x) = \begin{cases} 
1, & \text{if } x < 0 \\
-1, & \text{if } x > 0
\end{cases} \)

\( f(x) = \begin{cases} 
(x + 5)^2 - 4, & \text{if } x \leq -2 \\
3, & \text{if } -2 < x \leq 3 \\
\sqrt{x - 2} + 3, & \text{if } x > 3
\end{cases} \)
Follow along with the Instructional Round Observation Script pages 5 & 6
Share your coding with your neighbor:

- Math Task (where)
- Student Success Criteria (what)
- Interactions (how)

Which interactions were most effective in building all students’ mathematical thinking?

- Peer-to-peer interaction to math task (S1 & S2 exchange in clip 1); Generalising: looking closely to discern patterns (MP 7)
- Peer-to-peer interaction to math task (S4 & S7 exchange at the end of clip 4); Generalising: seeing complicated things composed of several objects (MP 7)

During sharing, individually star interactions above that will address your instructional need.

Select the most effective.
## CONTINUOUS IMPROVEMENT

### DEBRIEF

A debrief is successful when:
- Everyone engages in the discussion
- New instructional practices emerge from the group
- The group troubleshoots possible obstacles using “What if...?” scenarios

<table>
<thead>
<tr>
<th>What is your plan for incorporating these interactions into your next lesson?</th>
<th>How will you measure that your students are growing in their mathematical thinking? (cite quantitative and qualitative evidence)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
</tr>
</tbody>
</table>

3. **Group:** Discuss implementation options. Individually jot down notes related to your instructional need.
TAKE IMPROVEMENT TO THE NEXT LEVEL

Instructional Rounds allow for continuous improvement and the opportunity to adjust instructional practice.

How can Instructional Rounds fit within your existing Professional Development? (see Tips for Instructional Rounds)

Photo Source: http://hechingerreport.org/japanese-strategy-for-improving-teachers-is-catching-on-in-chicago/
ALL TEACHERS CAN LEARN

Contact Information:

Kathy Clemmer
katharine.clemmer@lmu.edu

Tatiana Mirzaian
tatiana.mirzaian@lmu.edu

Katie Laskasky
katie.laskasky@lmu.edu
REFERENCES

- Created by Learning Services, Modified by Melisa Hancock (2013). Institute for Advanced Study/Park City Mathematics Institute. (CCMP references)