

Professional Learning Cycle - Reflection/Evidence Gathering Checkpoints for a Unit of Study

(for individual teacher use and as a composite template to synthesize learning team inquiry)

| PLAN (e.g., pre-unit of study) | ACT (e.g., early in the unit) |
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| <p><i>IF-THEN Statement</i> If (teacher instruction): <i>teachers intentionally embed questions/prompts/opportunities that facilitate math talk within their 3 part math lessons...</i> Then (student learning/engagement result): <i>the students' ability to communicate their mathematical thinking will improve.</i></p> | |
| <p>TARGETED GROUP OF STUDENTS within the class: <i>Students whose voice we have not heard. They were not communicating in previous group work or classroom activities. Ability range was varied.</i></p> <p>DATA/EVIDENCE pointing to their specific LEARNING or ENGAGEMENT need: (e.g., pre-test, observation, student voice) <i>Initially, it was host teacher observation; then we identified target students through watching the initial videos and reviewing observation notes.</i></p> <p>PLANNED CHANGE IN INSTRUCTIONAL PRACTICE: (What instruction is the same for all students? What aspect of instruction is differentiated to address the needs of your targeted group?) <i>- The teachers planned to use learned strategies (talk moves, proper classroom conditions, etc.) to encourage more communication of mathematical thinking within class.</i> <i>- There were more prompts for the targeted students and special encouragement from the instructors.</i></p> <p>DATA/EVIDENCE(e.g., assessment task, engagement 'look for's') that will indicate IMPACT of changed instructional practice on the learning for this particular group: <i>- Video analysis & "Look For's" notes would be used to measure students' ability to communicate their mathematical thinking. We would review before and after observations, looking for an improvement.</i> <i>- Oral communication would be the main focus in two classes (1 secondary & 1 elementary), with written communication reviewed in another one.</i></p> <p>PROFESSIONAL LEARNING NEEDS for this change in instructional practice: (metacognitive strategies) <i>- There was a need to learn the language and strategies that promote student communication in the classroom. The "talk moves" were a big component of the learning.</i> <i>- Use of video analysis would be new for the group and excellent professional development.</i></p> | <p>EVIDENCE of IMPACT (i.e. through assessing for learning) of change in instructional practice:</p> <ul style="list-style-type: none"> - <i>Paid attention to the task to ensure it would encourage communication (multi-step)</i> - <i>Initial attempts to use "Talk Moves" of Repeat & Revoicing.</i> - <i>Less teacher talk. Holding back by the teacher. Tease out the language from the student. Wait time.</i> - <i>Very specific instructions with respect to classroom conditions (talk to the class, not to the teacher, turn to face the presenter, everyone has a part to play, prepare/plan presentation, management of materials & groups).</i> - <i>Model asking questions, so that students can learn how to ask each other questions and respectfully challenging their thinking.</i> <p>ADJUSTMENTS TO INSTRUCTION based on evidence and feedback from students:</p> <ul style="list-style-type: none"> - <i>After viewing initial video we saw lots of classroom conditions that needed to improve/change.</i> - <i>We need to be more explicit/deliberate with our instructions to communicate mathematical thinking. Our first attempts told us we needed to be specific.</i> <p>PROFESSIONAL LEARNING to address teacher needs:</p> <ul style="list-style-type: none"> - <i>There was a strong desire to learn more about communication "Talk Moves".</i> - <i>Found article about what Talk Moves were and which ones we would focus on (repeat/revoice).</i> - <i>Sought the help of the instructional leaders on the "School Leader Team" to address how to best use video analysis to guide our instruction and how it may lead to sustainability in our regular instruction.</i> |

REFLECT (i.e., end of unit)

EVIDENCE OF CHANGED PRACTICE (including how instruction was differentiated to address differing needs)

Evidence of the “if” ...

- We have video evidence of teachers intentionally using wait time and talking less.
- We are prompting student to communicate with explicit and deliberate instructions.
- There are differentiated groups and tasks that provide opportunities for students to talk about math.
- Using talk moves to have students repeat/revoice; talking to each other more than to the teacher.
- Classroom conditions are being addressed to facilitate math talk.

EVIDENCE OF IMPACT of changed practice on student learning including evidence of what worked and what didn't work as well as expected(e.g., student work - assessment task, observation based on engagement 'look for's')

Evidence of the “then” ...

- We have video evidence of students talking more.
- Students appear to be more engaged and confident during the “Action” and less off task.
- Consolidation presentations are including more people in the group and are directed more towards the students and less towards the students.
- Students are beginning to ask questions and respectfully challenge each other's thinking.

NEXT STEPS

In our next teaching session in Tweed, we hope to pay attention to some quieter boys to see if their communication has improve,d at least within their groups. In Madoc, we hope to pay attention to the students' communication on paper.

Wonderings...

*Will an increase in oral communication lead to an improvement in communicating on paper?
What evidence do we have that an improvement in communication has improved in students' mathematical ability?*

OBSERVE (e.g., mid-unit)

EVIDENCE OF CHANGED PRACTICE (including how instruction was differentiated to address differing needs)

First lesson observation look for's & video, pointed out several classroom conditions and areas for improvement in teacher instruction and student communication. These notes were used as a baseline to compare with future lessons in an effort to show a change in practice and improvement.

Subsequent lessons provided evidence (video & look for's) of the teachers...

- talking less. More wait time, provided the opportunity for students to talk more.
- using explicit/deliberate instructions for students to communicate their thinking.
- planning more careful consolidation presentations and allowed for more differentiation.
- using talk moves of asking students to repeat/revoice other students.
- redirecting conversations so that students talked to each other.
- differentiating groupings and providing multiple entry points for tasks.

EVIDENCE OF IMPACT of changed practice on student learning

(e.g., student work - assessment task, observation based on engagement 'look for's')

Subsequent lessons provided evidence (video & look for's) of the students...

- talking more; at first to the teacher, then more with each other.
- more engaged; less video of students sitting still or distracted/off task.
- more confident and willing to participate in group work.
- improving their consolidation presentations; all group members saying something, more students listening.
- responding to talk moves (repeating/revoicing).



CHALLENGES(e.g., students who are still having difficulty):

- *Participation in the large group is still sometimes dominated by a few students. Some of the quiet students are still quiet.*
- *Teachers are sometimes still initiating the conversation (using the talk moves), where we hope they will start to do this on their own.*
- *Most of the work has been with oral communication. There is a desire to see how this translates to improvement in communicating their thinking on paper?*

INSTRUCTIONAL RESPONSE to address challenges

- *Speaking to the dominating student and offer cues to allow others to talk. Direct them to ask questions of quieter kids.*
- *Differentiate tasks so that the quieter student isn't worried about communicating to the whole group, but that they are at least communicating in their small groups.*
- *Anchor charts as sentence starters that encourage students to use, instead of teacher facilitating or leading.*
- *More practice of communication on paper.*