Project I[4] Observation Toolkit

Calling On Students 1.A

Overview

Focusing on student access to the classroom discourse so **ALL students** have a regular opportunity to talk in class is a foundational part of building an equitable classroom culture. Every student should have an equal opportunity to engage in classroom discussions. How teachers call on students impacts equitable engagement. Classroom observations provide the evidence of what this looks like in the classroom.

The purpose of this document is to provide background information on calling on strategies, connect calling on strategies to the Project I[4] framework, and provide an observation tool for your use. To fully understand Calling On as an observational tool, follow these steps:

- **Step One**: This is a refresher of the calling on strategies teachers use in the classroom. Specifically, we provide resources for calling on students in the classroom. This section can be reviewed at any time before or after your observations.
- **Step Two:** The template in Step 2 provides a tool for the observer to record calling on strategies used in classrooms. There is a space to sketch the classroom layout to assist in collecting evidence.
- **Step Three:** After you feel comfortable with the observations (step 2), use the table to tabulate and analyze the calling on strategies used. This will provide you with the evidence necessary for a meaningful, data-driven, conversation with the teacher.
- **Step Four**: We provide a guide for the observer to have conversations with the teacher. While we will spend more time on this next semester, teachers will want “feedback” from your observations and we would like you to move from the traditions of “feedback” to evidence-based conversations.

Step One: What You Need to Know

In many math classes, the focus for all student responses (teacher-facilitated or student-facilitated) tends to be the "right" answer instead of adopting the disposition toward learning that mistakes are just as useful for sorting out misconceptions. Right answers often do not lead to uncovering student thinking, sense-making, or developing math concepts. Even in classrooms in which students are presenting or facilitating discussions about math problems, they are often replicating the teacher talk moves of calling on raised hands, selecting only some students, and focusing on right answers.

The problem is: **Teachers' primary way of soliciting access/engagement is through hand raising** (Hamilton, 2019). It is the single least effective way to offer equitable access and fully engage students and motivate students to fully engage in the class. Yet, there are times when calling on hands is appropriate as indicated in the chapter.

Cold calling is useful if used intentionally. Teachers, however, are at different stages of feeling comfortable with other types of calling on strategies, typically used in full group instruction. For example, the routine for cold calling is useful: stating the question, using appropriate wait/think time (3-8 seconds depending on cognitive level of question), and naming a student to respond. However, cold calling on students without think time or because the student is not engaged and the teacher is using the calling on as a disciplinary signal is not useful.

Cold calling by naming the student name before asking the questions signals to other students that they are "off the hook" for responding. Blurt out or "popcorn" is possible if the teacher is intentional about its use; often the teacher just accepts call-outs or blurt-outs. The teacher may use Think-Pair-Share (TPS) or "turn and talk" to have partner talk (useful!); however, in the sharing stage, teachers often recognize raised hands. Instead, the teacher can listen in on student conversations during TPS and support a student to "rehearse" a response and start the group discussion with that student's response.

The charts on the next two pages may be helpful to the principal and the teacher in preparation or in post-conversations. **Note the difference between teacher revoicing and effective repetition**. A teacher's simple repetition of what was said by the student is not typically effective.

The hyperlinks to resources may be helpful to the principal and the teacher in preparation or in post-conversations. **Note the difference between teacher revoicing and effective repetition**. A teacher's simple repetition of what was said by the student is not typically effective. TWO RESOURCES: TEACHER ACTIONS (for calling on) and LEVELS OF CLASSROOM DISCOURSE

Questions for consideration

- How can we better design **calling on strategies** for whole class instruction (used often by the teacher, but increasingly by students who present problems to the whole class) so the questions are more about student thinking (even misconceptions or "wrong" answer) than right answers?
- How can we move from the teacher repeating student responses to students speaking loud enough with full attention from peers so that other students are listening and then responding to the student?

- How can we use “turn and talk” **systematically** to think, then pair, and then share equitably?
- How can we develop systems for student-to-student interaction that happens automatically.

Project I^4 Observation Toolkit

ACADEMIC DISCOURSE (AD) Teacher-Generated----------Teacher Initiated and Facilitated----------Student Generated			
Protocols and Questioning	• **Teacher Role:** Teacher-designed questions; teacher-controlled protocols • **Underlying focus:** Often compliance & behavior-driven; concerned with pacing & fidelity • **Primary interaction relationship**: Teacher-to-student; often pseudo-discourse • **Calling on strategies**: Typically raised hands; limited use of strategies for equitable access • **Level of questions**: Often recall and the application questioning levels with few questions at higher cognitive levels	• **Teacher Role:** Teacher-initiated, including encouraging student-to-student dialogue • **Underlying focus:** Student understanding and teacher use of student experiences • **Primary interaction relationship**: Teacher-to-student, with teacher encouragement of student-to-student & small groups • **Calling-on strategies**: Designed for equitable access of all students • **Level of questions:** Attention to higher cognitive level questions, including synthesis and creativity	• **Teacher Role:** Coaching students as facilitators; warm demander & strong student relationships • **Underlying focus:** Encouraging more student-facilitated groups • **Primary interaction relationship:** Student-to-student • **Calling on strategies:** Primarily student-generated questions & student-to-student interaction • **Level of questions:** Higher level questions that elicit creative responses & authentic problem-solving

Step Two: What You Need to Do in the Observation

Project I[4] Observation Tool Calling-On Tool 1.A

The tool is designed to collect basic information for the teacher to see how the teacher (or a student leading a discussion of a math problem) is generally calling-on students in classroom setting. **Two types of information are useful: seating chart and selective verbatim of the teacher actions and student responses.** Using one is useful; gaining proficiency at using both at the same time is even better.

Type One of Calling On: Make a seating chart.

Using a seating chart to determine equitable calling on is critical. Too often, some students are totally overlooked – they may not raise their hands, or, if they do, teachers ignore thm. If possible, write student names if you know them. Either use STUDENT NAME or identity (F/M or race/ethnicity): AA= African American; L= Latinx; W=White; AsA= Asian American. This classroom map is of one table of 6 persons.

Make a slash mark (/) for every instance of the items in the tool. Try to indicate with short abbreviation of the type of calling on or teacher response that was used (after the slash mark). It will take a bit of practice to get used to the names of calling on (chart below), but this offers precise data with which to have the conversation with the teacher

St 1 (F/AA) /R/CC	St 2 (M/L) /B-I/TR
St 3 (F/W) /R/R/R/R/R	St 4 (M/AsA) /R/TR
St 5 (M/L)	St 6 (F/L)

R*	Raised hand
CC**	Cold Call
CCD	Cold Call for Discipline
B-A	Blurt out-Accepts
B-I	Blurt out-Ignores
C&R	Call and Response: Teacher asks for group response or indicates students should “popcorn”
ES	Uses equity strategy (equity stick or card to call on student)
TR***	Teacher repeats student response to class verbatim
TRV***	Teacher revoices student response
TPS	Think and Pair and then Share
Other	Any other strategy you note

*Raised hands are not always ineffective. See Chapter 1. However, if primary mode of interacting, this reduces equitable student access.

** Cold calling is not incorrect or ineffective if used in ways that support student thinking and full access (wait/think time) and student name at end of question after think time.
*** Note difference between simple repetition, effective repetition, and revoicing on charts
Please use this blank page to draw the seating arrangement of the class you are observing and identify students in each place. Mark the slash and abbreviation for each calling on instance.

R*	Raised hand
CC**	Cold Call
CCD	Cold Call for Discipline
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Type Two: Selective Verbatim and Use of Coding

In the second type of calling on process, the observer uses selective verbatim to capture the teacher's actions, the time, and the student responses. While think time is a part of the question form and question level tools, the observer can record TT (think time) or NTT (no think time). The lack of think time between asking the question and calling on a student often leads to certain students being quicker thinkers who raise their hands. First, the observer collects time and selective verbatim. After the observation, the observer codes the evidence.

Time Stamp	Evidence	Code

Step Three: Tabulate and Analyze

After the observation, as the observer, tabulate the data from seating chart observation on this chart.

Note: It is possible if you get adept at this to use this as a data tool to collect the data; judge your comfort level with the map and/or this tool. If you use the map, tabulate results on this table to share with teacher.

Teacher **Observer** **Date**
Duration of Observation _____ to _____

Student Name OR number	Raised hand **CO: R**	Cold Call **CO: CC**	Cold Call Discipline **CO:CCD**	Calling out **CO: C&R** **CO: B-A** **CO: B-I**	Equitable method **CO: ES**	Simple Repetition **TR**	Teacher Revoicing **TRV**	Other
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After the observation using selective verbatim, tabulate the number of instances of each type of calling on.

Teacher	**Observer**	**Date**
Duration of Observation _____ **to** _____		

R*	Raised hand	Total Number
CC**	Cold Call	
CCD	Cold Call for Discipline	
B-A	Blurt out-Accepts	
B-I	Blurt out-Ignores	
C&R	Call and Response: Teacher asks for group response or indicates students should "popcorn"	
ES	Uses equity strategy (equity stick or card to call on student)	
TR***	Teacher repeats student response to class verbatim	
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TPS	Think and Pair and then Share	
Other	Any other strategy you note	

What are statements of factual evidence from the observation?

Use the evidence categories from the data to record to make 5-6 factual statements about the data.

Examples of Evidence

Of the 27, students in the class:

____ students who were called on after **raising hand** (CO: R)
____ students called out answers and teacher **accepted call-outs** (CO: B-A)
____ students called out answers after direction from teacher to use C&R (Call & Response)
____ students were asked to repeat/paraphrase another student's response
____ students answered more than once
____ students who responded are ____ male/boys and ____ female/girls

OR

Teacher asked ___ questions and called on ___ students whose hands were raised.
Teacher cold-called on ___ students.
Teacher revoiced ___ times.

Step 4: Having a Conversation with the Teacher

In this section, although you will have ideas about what to do, **engage the teacher in problem solving.** Keep in mind: "Telling people what we think of their performance doesn't help them thrive and excel and telling people how we think they should improve actually hinders learning" (Buckingham & Goodall, 2019, p. 2).

1. **Introduction:** *I was in your class for ___ minutes while the lesson was focused on _____. As you know, I was particularly concentrating on the ways you called on students and perhaps used opportunities to have student-to-student dialogue*

2. **These are the data from that observation: (present factual analysis to teacher).**

3. **Let's talk about what you are observing about these data?** *Continue to ask probing questions, but engage the teacher in making a decision about what specific action to take and how s/he will know there is improvement.*

4. **As a result of this data, what areas of strength do you observe? What is a practice that you want to change?**

5. **What do you want me to observe and when?**

RESOURCE: TEACHER ACTIONS FOR CALLING ON

TEACHER ACTION	EXPLANATION
REVOICING	Teacher repeats some or all of what a student has said and then asks the student to respond and verify whether or not the teacher's statement is correct. Involve student in clarifying their own thinking Help other students follow along with conversation Make student's ideas available to others
REPEATING/ RESTATING	Teacher extends to another student to repeat or rephrase, in their own words, what first student has said and follow up with the first student. Another rendition of first student's contribution without interpreting, evaluating, or critiquing Provide evidence other students hear what was said Student thinking is important and worth emphasizing
ADDING ON	Teacher increases participation by asking for further commentary, either adding to other comments or agreeing / disagreeing with previous comments.

	Extend in open-ended manner near closure Extend in strategic manner to produce more detailed explanations
WAITING	Teacher gives students time to compose their responses. Signals value that deliberative thinking takes time Create respectful, patient environment for digesting important findings and raising any lingering questions Diversify participation
REASONING	Teacher asks another student to respond to previous student's statement by eliciting respectful discussion of ideas (agree / disagree). Students provide explanation of their reasoning to someone else's contribution Compare one's reasoning with someone else

	Teacher role	Questioning	Explaining mathematical thinking	Mathematical representations	Building student responsibility within the community
Level 0	Teacher is at the front of the room and dominates conversation.	Teacher is only questioner. Questions serve to keep students listening to teacher. Students give short answers and respond to teacher only.	Teacher questions focus on correctness. Students provide short answer-focused responses. Teacher may give answers.	Representations are missing, or teacher shows them to students.	Culture supports students keeping ideas to themselves or just providing answers when asked.
Level 1	Teacher encourages the sharing of math ideas and directs speaker to talk to the class, not to the teacher only.	Teacher questions begin to focus on student thinking and less on answers. Only teacher asks questions.	Teacher probes student thinking somewhat. One or two strategies may be elicited. Teacher may fill in an explanation. Students provide brief descriptions of their thinking in response to teacher probing.	Students learn to create math drawings to depict their mathematical thinking.	Students believe that their ideas are accepted by the classroom community. They begin to listen to one another supportively and to restate in their own words what another student has said.
Level 2	Teacher facilitates conversation between students, and encourages students to ask questions of one another.	Teacher asks probing questions and facilitates some student-to-student talk. Students ask questions of one another with prompting from teacher.	Teacher probes more deeply to learn about student thinking. Teacher elicits multiple strategies. Students respond to teacher probing and volunteer their thinking. Students begin to defend their answers.	Students label their math drawings so that others are able to follow their mathematical thinking.	Students believe that they are math learners and that their ideas and the ideas of their classmates are important. They listen actively so that they can contribute significantly.
Level 3	Students carry the conversation themselves. Teacher only guides from the periphery of the conversation. Teacher waits for students to clarify thinking of others.	Student-to-student talk is student initiated. Students ask questions and listen to responses. Many questions ask "why" and call for justification. Teacher questions may still guide discourse.	Teacher follows student explanations closely. Teacher asks students to contrast strategies. Students defend and justify their answers with little prompting from the teacher.	Students follow and help shape the descriptions of others' math thinking through math drawings and may suggest edits in others' math drawings.	Students believe that they are math leaders and can help shape the thinking of others. They help shape others' math thinking in supportive, collegial ways and accept the same support from others.

Fig. 11. Levels of classroom discourse. From Hufford-Ackles, Fuson, and Sherin (2014), table 1.

Congratulations!

Might be useful to talk to your coach or any person on your ECNIC team about using this tool and having a conversation with the teacher using data!