Agenda

NCSM Conference, San Antonio, TX
Session 3214
April 5, 2017
Presenter: Dr. Pamela Seda

From Isolation to Collaboration: How Peer Coaching Helped Us Get There

Essential Question: How can peer observations be effectively used to improve both teacher and student learning in the area of mathematics?
Learning Targets: I can …

- Use the Instructional Practice Guide to identify an area of focus for peer observations
- Identify low inference versus high inference observation notes
- Identify protocols to use during each of the 3 phases of a peer coaching

Topic
Opening • Icebreaker • What is peer coaching and why is it important?
Plan • Identifying an area of focus • Using the Instructional Practice Guide
Teach • Low inference notes • Classroom Video
Debrief • 5 x 5 Protocol • Action Steps
Closing • What aspect of peer coaching do you think will be the easiest to implement? • What aspect of peer coaching do you think will be the most difficult to implement? • Evaluation

NOTES

Peer Coaching:

Benefits of Peer Coaching:

Phases of Peer Coaching:

1. _____
2. _____
3. _____

Low Inference Notes:

Instructional Practice Guide (http://achievethecore.org/page/1119/coaching-tool):

Low Inference Notes

Teacher:
Student(s):
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5 x 5 Conference Protocol

1. Peer Coach: **Review** the area of focus for the classroom observation and steps of the protocol. Make adjustments to the protocol as needed. (5 minutes)
2. Teacher: **Describe** your understanding of what happened during the lesson in terms of the area of focus. (5 minutes)
3. Peer Coach: **Share** the low inference notes taken during the classroom observation. (5 minutes)
4. Teacher: **Reflect** on peer coach's notes, and make connections to the *Instructional Practice Guide*. Share plans for possible next steps (5 minutes)
5. Peer Coach: **Support** the teacher's plan by asking clarifying questions, and/or offering additional ideas. (5 minutes)

INSTRUCTIONAL PRACTICE GUIDE: COACHING

MATH	K-8	LESSON
SUBJECT	GRADES	GUIDE TYPE

Date

Teacher Name

School

Grade / Class Period / Section

Topic / Lesson / Unit

Learning Goal

Standard(s) Addressed in this Lesson

Circle the aspect(s) of rigor targeted in the standard(s) addressed in this lesson[1]:

Conceptual understanding
Procedural skill and fluency
Application

Observer Name

1. Refer to Common Core Shifts at a Glance (achievethecore.org/mathshifts) and the K-8 Publishers' Criteria for the Common Core State Standards for Mathematics (achievethecore.org/publisherscriteria-math-k-8) for additional information about the Shifts required by the CCSS.

The Coaching Tool helps teachers, and those who support teachers, to build understanding and experience with Common Core State Standards (CCSS)-aligned instruction. Designed as a developmental rather than an evaluation tool, it can be used for planning, reflection, and collaboration, in addition to coaching. For all uses, refer to the CCSS for Mathematics (corestandards.org/math) and the grade-level focus areas (achievethecore.org/focus).

The three Shifts in instruction for Mathematics provide the framing for this tool[1].

Focus: Focus strongly where the Standards focus.

Coherence: Think across grades, and link to major topics within grades.

Rigor: In major topics pursue conceptual understanding, procedural skill and fluency, and application with equal intensity.

This guide is organized around three Core Actions which encompass the Shifts; each Core Action consists of individual indicators which describe teacher and student behaviors that exemplify Common Core-aligned instruction.

The Core Actions and Indicators should be evident in planning and observable in instruction. For each lesson, evidence might include a lesson plan, exercises, tasks and assessments, teacher instruction, student discussion and behavior, and student work. Although many indicators will be observable during the course of a lesson, there may be times when a lesson is appropriately focused on a smaller set of objectives or only a portion of a lesson is observed, leaving some indicators unobserved and some portion of this tool blank.

Classroom observations are most effective when followed by a coaching conversation based on evidence collected during the observation. After discussing the observed lesson using this Coaching Tool as a support, use the Beyond the Lesson Discussion Guide to put the content of the lesson in the context of the broader instructional plan for the unit or year. The questions in the Beyond the Lesson Discussion Guide help clearly delineate what practices are in place, what has already occurred, and what opportunities might exist in another lesson, further in the unit, or over the course of the year to incorporate the Shifts into the classroom.

Companion tools for Instructional Practice include:

- Instructional Practice Guide: Coaching (Digital) - a digital version of this print tool, view at achievethecore.org/coaching-tool.
- Beyond the Lesson Discussion Guide - for post-observation conversations, view at achievethecore.org/beyondthelesson
- Instructional Practice Guide: Lesson Planning- to support teachers in creating lessons aligned to the CCSS, view at achievethecore.org/ lesson-planning-tool.

All tools are available at achievethecore.org/instructional-practice.

STUDENT ACHIEVEMENT PARTNERS

Name: Date: Observer Name:

CORE ACTION 1: Ensure the work of the lesson reflects the Shifts required by the CCSS for Mathematics.

INDICATORS / NOTE EVIDENCE OBSERVED OR GATHERED FOR EACH INDICATOR	RATING
A. The lesson focuses on the depth of grade-level cluster(s), grade-level content standard(s), or part(s) thereof.	Yes - The lesson focuses only on mathematics within the grade-level standards and fully reflects the depth of the grade-level cluster(s), grade-level content standard(s), or part(s) thereof. No - The lesson focuses on mathematics outside the grade-level standards or superficially reflects the grade-level cluster(s), grade-level content standard(s), or part(s) thereof.
B. The lesson intentionally relates new concepts to students' prior skills and knowledge.	Yes - The lesson explicitly builds on students' prior skills and knowledge and students articulate these connections. No - The lesson contains no meaningful connections to students' prior skills and knowledge.
C. The lesson intentionally targets the aspect(s) of rigor (conceptual understanding, procedural skill and fluency, application) called for by the standard(s) being addressed.	Circle the aspect(s) of rigor targeted in this lesson: Conceptual understanding Procedural skill and fluency Application Yes - The lesson explicitly targets the aspect(s) of rigor called for by the standard(s) being addressed. No - The lesson targets aspects of rigor that are not appropriate for the standard(s) being addressed.

CORE ACTION 2: Employ instructional practices that allow all students to learn the content of the lesson.

INDICATORS[2] / NOTE EVIDENCE OBSERVED OR GATHERED FOR EACH INDICATOR	RATING
A. The teacher makes the mathematics of the lesson explicit through the use of explanations, representations, tasks, and/or examples. The mathematics presented is clear and correct. ☐ NOT OBSERVED	4 - A variety of instructional techniques and examples are used to make the mathematics of the lesson clear and the teacher makes no serious mathematical errors. 3 - Examples are used to make the mathematics of the lesson clear. Any mathematical errors made by the teacher are minor and do not detract from the overall mathematical goals of the lesson. 2 - Instruction is limited to showing students how to get the answer or mathematical errors are made by the teacher that affect students' understanding of the lesson. 1 - Instruction is not focused on the mathematics of the lesson or serious mathematical errors are made by the teacher that impede students' understanding of the lesson.

2. These actions may be viewed over the course of 2-3 class periods.

Name: Date: Observer Name:

CONTINUED FROM PREVIOUS PAGE

INDICATORS[2] / NOTE EVIDENCE OBSERVED OR GATHERED FOR EACH INDICATOR	RATING
B. The teacher provides opportunities for all students to work with and practice grade-level problems and exercises. ☐ NOT OBSERVED	4 - Students are given extensive opportunities to work with grade-level problems and exercises. 3 - Students are given opportunities to work with grade-level problems and exercises. 2 - Students are given limited opportunities to work with grade-level problems and exercises. 1 - Students are not given opportunities to work with grade-level problems and exercises.
C. The teacher strengthens all students' understanding of the content by strategically sharing a variety of students' representations and solution methods. ☐ NOT OBSERVED	4 - A variety of student solution methods are shared and examined together to support mathematical understanding for all students. 3 - Student solution methods are shared to support mathematical understanding for some students. 2 - Student solution methods are shared. 1 - Student solution methods are not shared.
D. The teacher deliberately checks for understanding throughout the lesson and adapts the lesson according to student understanding. ☐ NOT OBSERVED	4- There are checks for understanding used throughout the lesson to assess progress of all students and adjustments to instruction are made in response, as needed. 3- There are checks for understanding used throughout the lesson to assess progress of some students; minimal adjustments are made to instruction, even when adjustments are appropriate. 2- There are few checks for understanding, or the progress of only a few students is assessed. Instruction is not adjusted based on students' needs. 1- There are no checks for understanding; therefore, no adjustments are made to instruction
E. The teacher facilitates the summary of the mathematics with references to student work and discussion in order to reinforce the purpose of the lesson. ☐ NOT OBSERVED	4 - The lesson includes a summary with references to student work and discussion that reinforces the mathematics. 3 - The lesson includes a summary with a focus on the mathematics. 2 - The lesson includes a summary with limited focus on the mathematics. 1 - The lesson includes no summary of the mathematics.

2. These actions may be viewed over the course of 2-3 class periods.

Name: Date: Observer Name:

CORE ACTION 3: Provide all students with opportunities to exhibit mathematical practices while engaging with the content of the lesson.[3]

INDICATORS[4 5] / NOTE EVIDENCE OBSERVED OR GATHERED FOR EACH INDICATOR / RATING

4 – Teacher provides many opportunities, and most students take them.
3 – Teacher provides many opportunities, and some students take them; or teacher provides some opportunities and most students take them.
2 – Teacher provides some opportunities, and some students take them.
1 – Teacher provides few or no opportunities, or few or very few students take the opportunities provided.

A. The **teacher** poses high-quality questions and problems that prompt students to share their developing thinking about the content of the lesson. **Students** share their developing thinking about the content of the lesson.	4 3 2 1 ☐ NOT OBSERVED
B. The **teacher** encourages reasoning and problem solving by posing challenging problems that offer opportunities for productive struggle. **Students** persevere in solving problems in the face of initial difficulty.	4 3 2 1 ☐ NOT OBSERVED
C. The **teacher** establishes a classroom culture in which students explain their thinking. **Students** elaborate with a second sentence (spontaneously or prompted by the teacher or another student) to explain their thinking and connect it to their first sentence.	4 3 2 1 ☐ NOT OBSERVED
D. The **teacher** creates the conditions for student conversations where students are encouraged to talk about each other's thinking. **Students** talk and ask questions about each other's thinking, in order to clarify or improve their own mathematical understanding.	4 3 2 1 ☐ NOT OBSERVED
E. The **teacher** connects and develops students' informal language to precise mathematical language appropriate to their grade. **Students** use precise mathematical language in their explanations and discussions.	☐ 4 3 2 1 NOT OBSERVED
F. The **teacher** establishes a classroom culture in which students choose and use appropriate tools when solving a problem. **Students** use appropriate tools strategically when solving a problem.	4 3 2 1 ☐ NOT OBSERVED
G. The **teacher** asks students to explain and justify work and provides feedback that helps students revise initial work. **Student** work includes revisions, especially revised explanations and justifications.	4 3 2 1 ☐ NOT OBSERVED

3. There is not a one-to-one correspondence between the indicators for this Core Action and the Standards for Mathematical Practice. These indicators represent the Standards for Mathematical Practice that are most easily observed during instruction.
4. Some portions adapted from 'Looking for Standards in the Mathematics Classroom' 5x8 card published by the Strategic Education Research Partnership (math.serpmedia.org/tools_5x8.html)
5. Some or most of the indicators and student behaviors should be observable in every lesson, though not all will be evident in all lessons.
For more information on teaching practices, see NCTM's publication Principles to Actions: Ensuring Mathematical Success for All for eight Mathematics Teaching Practices listed under the principle of Teaching and Learning. http://www.nctm.org/principlestoactions

BEYOND THE LESSON: DISCUSSION GUIDE

MATHEMATICS

INTRODUCTION

The Beyond the Lesson Discussion Guide is designed for the post-observation conversation using the Instructional Practice Guide Coaching Tool (achievethecore.org/coaching-tool) or any other observation rubric. The questions put the content of the lesson in the context of the broader instructional plan for the unit or year. The conversation should first reflect on the evidence collected during the observation to consider what worked, what could improve, and what resources are available to support improvement. If any parts of the Lesson Planning Tool (achievethecore.org/lesson-planning-tool) were used in preparing for the lesson, refer to that information during the discussion. After discussing the observed lesson, use the "Beyond the Lesson" questions to help clearly delineate what practices are in place, what has already occurred, and what opportunities might exist in another lesson, further in the unit, or over the course of the year to incorporate the Shifts into the classroom.

1. **Is this unit targeting the major work of the grade? Does the prior unit target major work? Does the next unit target major work? How much time would you estimate will be spent on the major work in this class this year? (K-8)** Focus means significantly narrowing the scope of content in each grade so that students achieve at higher levels and experience more deeply that which remains. For more information on major work of the grade see achievethecore.org/focus

2. **Does this unit target the supporting work of the grade? If so, will this unit highlight the connection to the major work of the grade? Explain how. (K-8)** Supporting content enhances focus and coherence simultaneously by engaging students in the major work of the grade. For example, materials for K–5 generally treat data displays as an occasion for solving grade-level word problems using the four operations (see 3.MD.3); materials for grade 7 take advantage of opportunities to use probability to support ratios, proportions, and percents.

3. **Summarize how this lesson fits within the unit. Describe how the other lessons and tasks in this unit are intentionally sequenced to help students develop increasingly sophisticated understanding, skills, and practices.** For more information on coherent connections across and within grades see http://ime.math.arizona.edu/progressions/

4. **Which of the three aspects of rigor (conceptual understanding, procedural skill and fluency, and application) are attended to within this unit? If more than one aspect is attended to, when in the unit are they attended to individually, and when are students using them together?** Rigor is defined as pursuing conceptual understanding, procedural skill and fluency, and application with equal intensity. The Standards are written using language that informs the reader as to which aspect of rigor certain standards address. Some clusters or standards specifically require one aspect of rigor; some require multiple aspects. All aspects of rigor need not be addressed in every lesson.

5. **How will you meet all students' needs while working on grade/course-level content in this unit? (e.g., How will you provide scaffolding for students below grade/course level so they can reach the grade/course-level expectations? How will you create opportunities for students who are advanced to go deeper into the grade/course-level content?)** For more information, see Adapting The Lesson under Problems & Exercises in the Lesson Planning Tool achievethecore.org/lesson-planning-tool

6. **What off-grade/course-level standards have you taught this year and why?** There may be reasons for addressing topics in a strategic way before or after the grade in which the topic is central in the Standards. However, any such purposeful discrepancies should enhance the required learning, not unduly interfere with or displace grade/course-level content, and be clearly aimed at helping students meet the Standards as written.

7. **In what ways have you seen your students increase their independence in applying the Standards for Mathematical Practice in learning content this year? Which practice standards do students still need to develop and how can you support them in doing so?** For more information on the Standards for Mathematical Practice see corestandards.org/Math/Practice

8. **In what ways have your students made progress towards mastering the grade/course-level content standards? How are you monitoring and tracking their achievement of the standards? What work still needs to be done to ensure all students achieve mastery of each standard by the end of the year?** For more information on the Standards for Mathematical Content see corestandards.org/Math

CLASSROOM ENVIRONMENT: CREATING A MATHEMATICALLY RICH ENVIRONMENT

In addition to the discussion between observer and teacher, be aware that the following environmental factors may also provide useful information.

- Are a variety of tools available for students to independently access (graph paper, manipulatives, rules, etc.)?
- Are all displays in the classroom free from mathematical errors (posters and bulletin boards, etc.)?

The Observation and Feedback Cycle: Best Practices for Low Inference Notes (We Teach NYC)

Observe

The observer visits the classroom and takes low-inference notes on teacher and student actions.

Best Practices for Observation
1. **Eliminate effects of bias.** Enter the classroom without judgment and work from evidence.
2. **Take low-inference notes.** Write down only what teacher and students say and do.
3. **Look for learning.** Seek evidence of what students know and are able to do.
4. **Remain, review, reflect.** Pause to organize your evidence before rating.

Collecting low inference evidence during an observation

Capturing high-quality notes during the observation is the first step in ensuring that ratings are accurate and feedback aligns to teachers' needed areas of improvement. **Low-inference note-taking is a skill**, not knowledge. Knowing how to do a push-up doesn't mean you can do 25 of them in 60 seconds; it comes with practice. When taking low-inference notes, the observer describes what is taking place without drawing conclusions or making judgments about what he or she observes. When taking notes on instruction, ask:

- What do you see and hear the teacher and students saying and doing?
- What evidence can you gather of student learning?
- What will students know and be able to do at the end of the lesson?

Common mistakes/pitfalls to avoid

- Distinguish between low-inference statements and opinions. For instance, you can identify key words that give away subjectivity: e.g., *"I think,"* or *"I feel."* Be cognizant of keeping evidence separate from opinions, using this framework:

Evidence	Opinion
• Is observable • Is not influenced by the observer's perspective • Is free of evaluative words • Does not draw conclusions	• Makes inferences • Depends on observer's perspective • Includes evaluative words • Draws conclusions

- Replace vague quantifiers by capturing more specific evidence: e.g., *"a lot of students raised their hands"* vs. *"17 of 20 students raised their hands."*
- Swap Edu-Speak for Evidence. For example, rather than saying, *"You differentiated by scaffolding questions during the mini-lesson,"* identify the actual questions that the teacher asked, such as *"What is the name of this shape? How is it different from a square or rectangle? Where in real life have you seen this shape?"*

Tips for low inference note taking

Where to find the data for student outcomes during an observation:

- Sit with a table/group of students. Write down the questions asked and answers given by the students in that group.
- Copy down what each student has written on their paper VERBATIM into your observation notes (e.g., answer to #2 on handout, response to quick-write prompt). The observer can obtain a handout from the teacher, if available, and record the answers directly onto it.
- Write down the time and circulate in the room. Record the item that all students are working on in that moment. Then, go around a second time.
- Select a problem, determine the correct answer, and tally the number of students who have the correct response written on their papers.
- If recording observation notes using an iPad, use the iPad to take pictures of actual student work during the classroom observation.
- Move around the classroom and identify students performing at high, medium, low levels and strategically capture their work
- Monitor observation notes to ensure that the "student side" is not neglected.
- Ask students to tell you what they are learning/doing, why they are learning, and if they have learned anything new today.
- Collect the lesson plan and/or copies of student work prior to leaving the classroom.

How do I capture as much evidence as possible?

- Set up a coding system (T= teacher, S= student, HU= hands up)
- Time transitions, each section of the lesson, work time, etc.
- Copy objective or aim, or make a note if it is not posted
- Draw circles to represent groups of students or teacher interaction with students

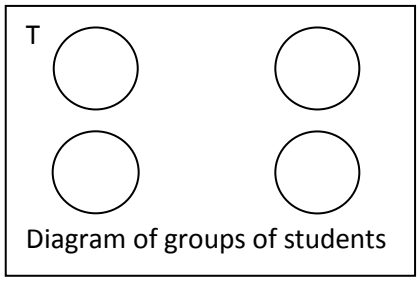
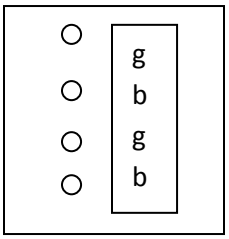


Diagram of groups of students



- If you notice a trend, create a tally on the side, so you can capture other evidence that may be occurring while also documenting the trend. For example, Jane is the only one responding to the teacher's questions. You may capture several instances verbatim, but you can also capture how many times it occurs if you can't capture everything Jane said.

  Use tallies or shorthand in the diagram or a chart:

Jane is called on	~~||||~~ |
Times teacher provides feedback to front table	|||

- Quality over quantity: collect a full interaction.
  - *When teacher did __, student __. When student said __, teacher said__.*

Low-Inference Note-Taking Samples: Strong versus Weak

Strong example of low-inference notes:

Time	Teacher Actions	Student Actions
1:00	Teacher says to walking students, "You need to be on the rug in 3-2-1."	Twenty-four students on the carpet facing the front of the room. 3 students walking around the classroom. As teacher said "one" students joined classmates.
1:01	Teacher asked "How many days are there in the week?" Teacher repeated question and then said, "Anyone?" Teacher asked kids to stand and lead them in "The Days of the Week" song.	5-6 kids spoke to each other when teacher spoke. She called on Terrence who said "7." 16 of the 27 kids stood up for the song.
1:02	Teacher asked "What day comes after Saturday?"	Steven shouted out, "Monday!" Most students laughed – 2 boys physically rolled around and knocked over 2 girls. Steven walked away from the group, and sat in the opposite corner of the classroom.
1:03	Teacher said, "OK boys and girls if you hear my voice clap once, If you hear my voice clap twice."	After two claps, all but 2 boys were quiet and looking at her.

Weak example of low-inference notes:

Time	Teacher Actions	Student Actions
1:00		Students on carpet during mini-lesson. Lots of students walking around the classroom while the teacher tried to get their attention.
1:01	Teacher asked questions about the calendar.	Many students were not listening while the teacher reviewed the days of the week.
1:02		Steven called out over and over again when you asked the question about the days of the week.
1:03		Steven walked away from the group and the class fell apart.
1:04	Mini-lesson is not successful. Little student learning accomplished as teacher has no classroom management skills.	
1:05	Poor classroom management continues through sloppy transitions from carpet to desks.	Several students are talking to one another.
1:06	The teacher seemed to be okay with this.	A few students go to the round table. Some start reading and some don't.