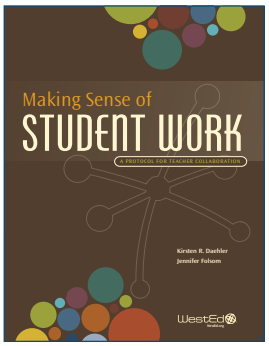

Introduction

from Making Sense of Student Work: A Protocol for Teacher Collaboration

Kirsten R. Daehler and Jennifer Folsom

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Making Sense of STUDENT WORK

A PROTOCOL FOR TEACHER COLLABORATION

Kirsten R. Daehler
Jennifer Folsom

WestEd
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Introduction

Teaching is collaborative by nature. At the center is a partnership between student and teacher. When each builds on the work of the other, the learning process hums along. The more we understand our students and their thinking, the more we strengthen this partnership and improve our teaching and, in turn, improve their learning. Closely examining the words and drawings that students create during their learning process gives us valuable clues about their thinking. Analyzing and interpreting student work reveals what they understand and where there are gaps in their understanding that can be leveraged as opportunities for growth. It reveals what to teach when and how best to help all our students make progress.

Teachers reflect on their students' work practically every day, but it's much less common to do so *collaboratively*. We've found that collaboratively analyzing and interpreting student work affords even greater benefits (and is more fun!) than examining student work alone. It is no surprise that authentic collaboration among teachers is an effective way to improve teaching and learning. Collaboration plays an important role in the education of many other professionals, including doctors and lawyers — who, like teachers, work with specialized knowledge and engage in complex decision making.

A clear structure can help tremendously in making the process of collaboratively examining student work more productive and enjoyable. This Making Sense of Student Work book presents a protocol that was created to help set up that structure. The protocol offers a detailed set of steps and guidelines for getting together with peers and discussing student work. Unlike many other protocols for teacher collaboration, no outside facilitator or external "expert" is needed! The protocol provides a framework for you and colleagues to:

- Discuss student work and student thinking in an evidence-based way
- Understand logic behind students' correct and incorrect ideas
- Strengthen your ability to make instructional choices in response to the specific ways students are thinking
- Analyze and improve the formative assessment tasks you use with students

Using this protocol with a group of colleagues provides a window into how other teachers think about teaching and learning. Their perspectives can help you broaden your own perspectives, brainstorm ideas for how to provide the best next steps for students, and problem-solve difficult teaching situations. If you and your colleagues are working to implement new standards, new curricula, or a new teaching strategy, the protocol can help you see the effects on your students and can improve the consistency of implementation across classrooms. If you collaborate with colleagues across grade levels, the protocol can help with the spiraling, or articulation, of content and pedagogy as students mature.

Who is the protocol designed for?

The Making Sense of Student Work protocol is designed to support groups of teachers of any subject looking together at their students' work. You can pair up with a colleague or pull together a larger group of teachers in a professional learning community (PLC), a grade-level team, or a cross-grade-level study group. This protocol is best used during the school year with current student work so you can focus on what is happening in the moment with your students and adjust your instruction accordingly.

How is the protocol structured?

The protocol is divided into five sessions, A–E. Each two-hour session has a specific focus.

Session A: Mental Models

- Interpret student work based on evidence found in that work
- Identify patterns in the way students think
- Evaluate student work on the basis of specific learning objectives
- Identify what one particular task reveals about students' understandings

Session B: Learning Gaps

- Evaluate student work on the basis of specific learning objectives
- Identify various ways students might show a correct, complete understanding of a concept
- Recognize what students are missing that may contribute to errors/limitations in their thinking
- Identify learning gaps between students' actual performance and a correct, complete understanding

Session C: Next Steps

- Recognize what students are missing that may contribute to errors/limitations in their thinking
- Identify learning gaps between students' actual performance and a correct, complete understanding
- Make decisions about instructional next steps for an individual student based on current understanding
- Weigh tradeoffs of various instructional next steps

Session D: Analyzing Tasks

- Evaluate assessment tasks for their potential to elicit and capture students' ideas
- Evaluate tasks for their potential to reveal a range of students' abilities beyond "right" and "wrong" answers
- Evaluate the match between a task and intended learning outcomes
- Identify the characteristics of good tasks for student learning and/or assessment

Session E: Modifying Tasks

- Evaluate the strengths and limitations of various assessment tasks
- Identify the shortcomings of commonly used tasks
- Choose assessments that have the characteristics of good tasks
- Modify tasks so they are better aligned with intended outcomes and the characteristics of good tasks

Each session contains a detailed agenda and step-by-step procedure with focusing questions to guide your discussion. The pages of the book themselves are a place to record your ideas and reflections. This structure allows you to devote your attention to enriching discussions without worrying about the logistics.

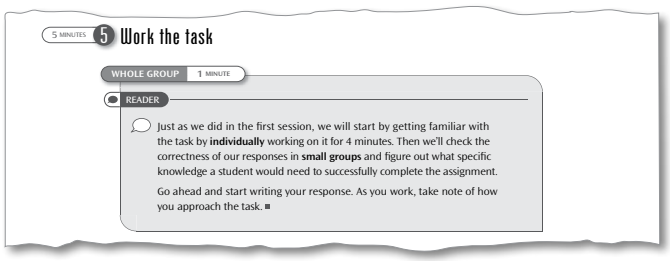
As you work through the protocol, please feel free to modify it to suit your needs and particular context. For example, if your group chooses to focus on a complex assessment task (e.g., portfolios or video presentations), you'll need more time for the task analysis step, and if you have a large group, you may want to work in groups of three for some steps.

Because this protocol is self-facilitated, there are three distinct roles that people from your group will need to fill — *Reader, Timekeeper,* and *Recorder.* To ensure an efficient session, the Reader, Timekeeper, and Recorder should do their work simultaneously in each step. For example, as the Reader begins speaking instructions, the Recorder should begin charting and the Timekeeper should note the stop time. The following sections provide more information about these roles.

Reader

The Reader takes the lead role in helping the group meet its goals for the session. This involves reading parts of the procedure out loud to set the stage, describe the flow of events, move the group along, and keep everyone on track. The Reader may also choose to ask follow-up questions to focus the conversation or broaden the discussion. As needed, the Reader helps the group make changes to get the most out of their time together. It is *not* the Reader's role to be the expert, provide answers, or summarize the group's thinking.

A shaded box with a talk bubble ( ) gives the Reader instructions. An open bubble ( ) marks the beginning of a spoken section and suggests what the Reader should say. A square (■) marks the end of a spoken section.


5 MINUTES 5 Work the task

WHOLE GROUP 1 MINUTE

READER

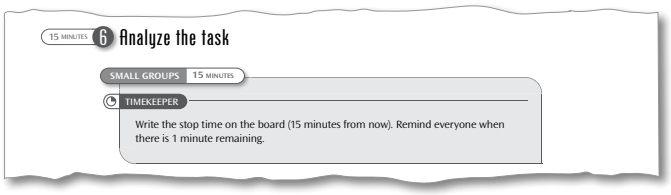
Just as we did in the first session, we will start by getting familiar with the task by **individually** working on it for 4 minutes. Then we'll check the correctness of our responses in **small groups** and figure out what specific knowledge a student would need to successfully complete the assignment.

Go ahead and start writing your response. As you work, take note of how you approach the task. ■

Timekeeper

The Timekeeper moves the group along by writing the stop time on the board, announcing when a few minutes remain, and telling people when it's time to stop an activity.

A shaded box with a clock ( ) gives the Timekeeper instructions for communicating about the amount of time allotted for a given activity.

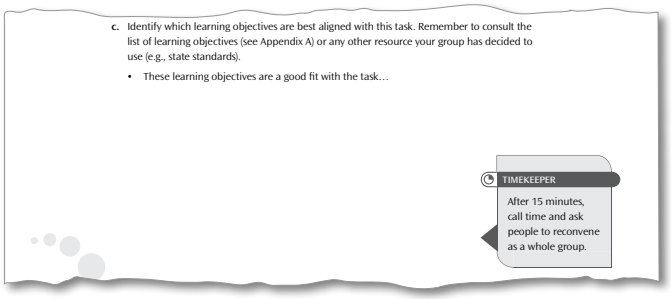

15 MINUTES 6 Analyze the task

SMALL GROUPS 15 MINUTES

TIMEKEEPER

Write the stop time on the board (15 minutes from now). Remind everyone when there is 1 minute remaining.

Sidebars prompt the Timekeeper to announce when participants should stop one activity and move on to another.


c. Identify which learning objectives are best aligned with this task. Remember to consult the list of learning objectives (see Appendix A) or any other resource your group has decided to use (e.g., state standards).

- These learning objectives are a good fit with the task…

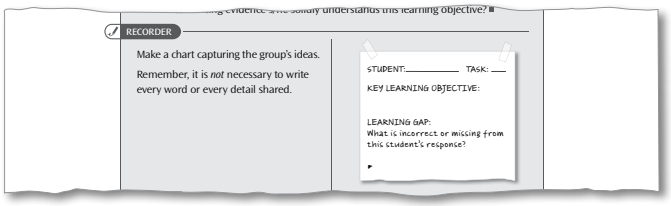
TIMEKEEPER

After 15 minutes, call time and ask people to reconvene as a whole group.

Recorder

The Recorder's job is to keep a public record (on a chart or whiteboard) of the group's ideas at specific points during sessions. This helps everyone stay focused, revisit ideas, and build on what others say.

A shaded box with a marker pen ( ) suggests when the Recorder should record the group's thinking publicly. A sample minichart suggests a starting point for what to write.


RECORDER

Make a chart capturing the group's ideas.

Remember, it is *not* necessary to write every word or every detail shared.

STUDENT:_____ TASK: ___

KEY LEARNING OBJECTIVE:

LEARNING GAP:
What is incorrect or missing from this student's response?

What other materials do we need?

In addition to using this guide, your group will need samples of student work, samples of formative assessment tasks, and documents that describe the learning objectives you have for students.

For Sessions A–D, your group will need to bring in student work. It's best if the group decides ahead of time who will bring in student work for Session A. At the end of Session A, you can decide who will bring in student work for Sessions B, C, and D. If multiple teachers want to bring in work for the same session, they should give students the same task. To help with coordination, a schedule is provided on the last page of this introduction.

If you are unable to secure student work for Session A (or someone forgets their work), WestEd has a few **Sample Student Work Sets** available as free downloads at WestEd.org/mssw.

For Session E, everyone needs to bring in an assessment task you plan to use with students. This assessment can be one you have used in the past or one you'd like to use with students in the future.

You will also need to refer to specific objectives you have for your student learning. You may find these in your state or district standards, benchmarks, frameworks, or grade-level objectives. Choose the document that best fits your context.

What kinds of assessment tasks are best to use with this protocol?

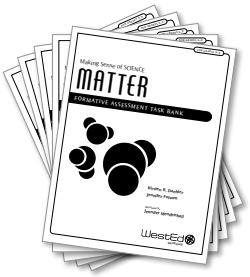
We've found the most productive and interesting conversations about teaching and learning take place around classroom artifacts that reveal both *what* and *how* students are thinking — and not merely their right and wrong answers. For this reason, it is key to use rich formative assessment tasks during this protocol. The following box provides tips for choosing assessment tasks that work well with this protocol.

TIPS FOR CHOOSING ASSESSMENT TASKS

You'll want to choose assessments that:

- Are well aligned with what you want students to learn/know
- Go beyond facts or simple recall and encourage students to think
- Require students to decide what knowledge to apply when
- Can be solved in a number of ways
- Give students a chance to explain their thinking and ways of figuring things out
- Ask students to communicate in several modes (e.g., words and drawings)
- Are accessible and interesting

You may find usable tasks built into your student curricula or you may need to look elsewhere. WestEd offers several **Formative Assessment Task Banks** that work well with this protocol. They are available for download at WestEd.org/mssw.



The *Uncovering Student Ideas in Science* series and the *Uncovering Student Thinking in Mathematics* series are also good resources for good formative assessment tasks (available at UncoveringStudentIdeas.org).

What kinds of student work samples are best to discuss?

The purpose of sharing your student work is to have rich discussions about student thinking with your colleagues, so it is helpful to be strategic about which student work samples you share. The following box provides tips for selecting and preparing to share your student work.

PROCESS FOR SELECTING STUDENT WORK

1. Eliminate any work that is completely illegible, promotes stereotypes, or enables individuals to be identified.
2. Sort the work into piles of students who have similar ways of thinking. This can be fun to do with a buddy.
3. Choose samples from each pile that represent students with high, medium, and low levels of understanding and show an authentic variety of responses from your classroom. Regardless of how many students you have, aim to share only 9–12 samples. This is enough to show the diversity in students' understandings and approaches, but not so many that tracking the discussion of their work becomes difficult.
4. To protect students' identities, mark out their names and assign each a unique alias (e.g., Sample 1 becomes Andrea, Sample 2 becomes Blake, Sample 3 becomes Curtis, etc.).
5. Make a copy of the samples and the blank assessment task for each teacher in your group.
6. During the session, you will provide a brief introduction to your student work samples. You can use the template on page xi to prepare. When you do this, avoid sharing your own insights.

How can we be the most productive?

In general, collaborative study groups are most successful when they operate with clear goals and shared expectations. Following are some helpful tips to make your time the most productive.

Establish an attitude of inquiry. An inquiry stance establishes an openness to questions, an appreciation for diverse ideas, and expectations for evidence-based conversations. When you talk about student work, focus on how an individual student is thinking and avoid making generalizations about how students typically think. You can help each other stay focused on evidence by asking questions such as "Where do you see that in the student work?" and "What led you to that interpretation?"

Encourage a variety of viewpoints. Sometimes the goal of a group is to reach a consensus. For example, having a shared, accurate understanding of the content you are teaching is important. However, the intent is different when analyzing student work and exploring instruction. Here your goal is *not* to seek agreement, but to share interpretations, consider alternate ideas, and explore tradeoffs. Stretch your thinking, encourage participation from everyone, and listen openly to different perspectives.

Decide on group norms. Because many people will bring in student work, it is important to develop an environment that feels welcoming and respectful. Acknowledge that it's okay to "try on" new ideas, be wrong, change your mind, and revise your thinking. Honor your beginning and ending times, come prepared, and stay focused on the learning. Session A provides a process to help your group figure out what norms make sense for you.

Rotate small groups. If you have a large group of teachers, you will spend much of the time working in pairs or groups of three. Because you learn different things from different people, mix up these small groups from session to session. Changing groups signals that everyone's contributions are valuable and each person's perspective adds to the learning of the whole group.

How was this protocol developed?

The **Making Sense of Student Work** protocol was developed by the Making Sense of SCIENCE project at WestEd. It was initially designed to be used by science teachers. In fact, thousands of science teachers and staff developers across the country have successfully used this protocol. Once these teachers discovered the protocol's powerful influence on their teaching, they spontaneously shared the protocol with their colleagues in math, social studies, and language arts. Seeing teachers across grade levels and subject areas organically embrace this initially science-specific protocol lead to the publication of this book.

More information about the protocol and the Making Sense of SCIENCE project is available online from WestEd.org/mss.

PREPARING TO SHARE YOUR STUDENT WORK

1. What assessment task did students complete? Why did you select this task?

2. What instructions did students receive about the task?

3. What did students do before completing the task?

4. What were the intended outcomes for students? What was the task designed to help them learn or demonstrate?

STUDENT WORK CHECKLIST

- ☐ Select 9–12 pieces of appropriate student work.
- ☐ Mark out student names and replace them with aliases.
- ☐ Copy the samples for each teacher in your group.
- ☐ Copy the blank task for each teacher in your group.
- ☐ Prepare to introduce your student work and, optionally, copy your responses to the questions on this page for each teacher in your group.

SCHEDULE FOR MEETINGS

Having multiple teachers sign up to bring in work for the same session is a good idea in case one of the teachers ends up being unable to attend or unable to bring in samples. It works best if all teachers bringing in student work for the same session use the same assessment.

SESSION A	Date:	Location:
Presenting Teacher(s)		Description of task or assignment for students
1. _____ 2. _____ 3. _____		

SESSION B	Date:	Location:
Presenting Teacher(s)		Description of task or assignment for students
1. _____ 2. _____ 3. _____		

SESSION C	Date:	Location:
Presenting Teacher(s)		Description of task or assignment for students
1. _____ 2. _____ 3. _____		

SESSION D	Date:	Location:
Presenting Teacher(s)		Description of task or assignment for students
1. _____ 2. _____ 3. _____		

SESSION E	Date:	Location:
Presenting Teachers		Description of task or assignment for students
Everyone!		A task from your own classroom. It can be one you have used before or one you might use if it better fit your needs.