

The Teaching for Robust Understanding (TRU) Observation Guide:

A Tool for Teachers, Coaches, Administrators, and Professional Learning Communities

This *Teaching for Robust Understanding (TRU) Observation Guide* is designed to support teachers, coaches, administrators, and professional learning communities in planning, conducting and reflecting on classroom observations. It is based on the Teaching for Robust Understanding (TRU) Framework (see, e.g., Schoenfeld, 2013, 2014; Schoenfeld & the Teaching for Robust Understanding Project, 2016). The key idea behind the framework is that the five dimensions of classroom activity given in figure 1 are central in determining the degree to which students will emerge from the classroom as proficient disciplinary thinkers.

The Five Dimensions of Powerful Classrooms				
The Content	Cognitive Demand	Equitable Access to Content	Agency, Ownership, and Identity	Formative Assessment
<i>The extent to which the content students engage with represents our best current disciplinary understandings (as in CCSS, NGSS, etc.). Students should have opportunities to learn important content and practices, and to develop productive disciplinary habits of mind.</i>	<i>The extent to which classroom interactions create and maintain an environment of productive intellectual challenge conducive to students' disciplinary development. Students should be able to engage in sense making and "productive struggle."</i>	<i>The extent to which classroom activity structures invite and support the active engagement of all of the students in the classroom with the core content being addressed by the class. No matter how rich the content being discussed, for example, a classroom in which a small number of students get most of the "air time" is not equitable.</i>	<i>The extent to which students have opportunities to "walk the walk and talk the talk," building on each other's ideas, in ways that contribute to their development of agency (the willingness to engage) and ownership over the content, resulting in positive identities as thinkers and learners.</i>	<i>The extent to which classroom activities elicit student thinking and subsequent instruction responds to those ideas, building on productive beginnings and addressing emerging misunderstandings. Powerful instruction "meets students where they are" and gives them opportunities to deepen their understandings.</i>

Figure 1. The five dimensions of powerful classrooms

This *Observation Guide* is part of a support system for collaborative partnerships between teachers and observers¹. Optimally, each observation is one of a series of classroom visits contributing to teacher growth. There should be ample time to plan observations, to observe lessons, and to discuss the observations, over the course of a term or a year.

Prior to an observation, it is useful for the teacher and observer to discuss the lesson plan and decide on the main points of focus for the observation. The observation might be general; it is possible for a practiced observer to take notes on all dimensions. Alternatively, the teacher and observer might agree to focus on one or two areas the teacher wants to work on. Either way, reflecting beforehand on goals for the lesson and for the observation is a good way to make the most of the observation. A useful tool for planning and debriefing is the *Teaching for Robust Understanding Conversation Guide* (Baldinger & Louie, 2014). The *Conversation Guide*, originally designed for mathematics but soon to be released in a more general form, lays out a series of questions for each dimension that teacher and observer can use both in planning the observation and in reflecting on the lesson.

When planning observations, it is useful to think of what the classroom experience looks and feels like from the perspective of a student – students, after all, are the ones experiencing the instruction! The questions in Figure 2 provide an orientation that helps in seeing the lesson from the student perspective.

Observe the Lesson Through a Student's Eyes	
The Content	<ul style="list-style-type: none"> • What's the big idea in this lesson? • How does it connect to what I already know?
Cognitive Demand	<ul style="list-style-type: none"> • How long am I given to think, and to make sense of things? • What happens when I get stuck? • Am I invited to explain things, or just give answers?
Equitable Access to Content	<ul style="list-style-type: none"> • Do I get to participate in meaningful math learning? • Can I hide or be ignored? In what ways am I kept engaged?
Agency, Ownership, and Identity	<ul style="list-style-type: none"> • What opportunities do I have to explain my ideas? In what ways are they built on? • How am I recognized as being capable and able to contribute?
Formative Assessment	<ul style="list-style-type: none"> • How is my thinking included in classroom discussions? • Does instruction respond to my ideas and help me think more deeply?

Figure 2. Observing a lesson from the student perspective

The form of the observation guide and its use are straightforward. Each observation sheet focuses on one dimension of the framework, and is one page long. Each observation sheet looks like this:

¹ Additional tools, including the *Teaching for Robust Understanding Conversation Guide* (Baldinger & Louie, 2014), can be found at the Mathematics Assessment Project and Algebra Teaching Study web sites (at <http://map.mathshell.org/> and <http://ats.berkeley.edu/tools.html>) respectively. A more extensive set of tools will eventually be housed at <http://TRU.berkeley.edu/>.

The name of the dimension	
A description of it	
A list of some student behaviors to look for...	A list of some actions by teachers that could promote such behaviors...
Space for focal points for this observation, if desired	
Space for note-taking	
A brief description of key goals related to this dimension	

Figure 3. The structure of an observation sheet²

The top and bottom parts of each observation sheet provide concise descriptions of the relevant dimension and goals for it. Beneath the description of the dimension are some examples of “look fors”- actions on the part of students and teacher that are often indicators that things are going well. They are things to aim for in general, and over time – they are NOT a list of things to be checked off in any particular lesson. We imagine teacher and observer discussing these, and deciding which, if any, might be things to focus on in the upcoming observation. The list is not meant to be comprehensive; teacher and observer may decide on another focus and write it in the space provided. The center of the observation sheet provides space for writing down observations.

There are many possible goals for classroom observations. Teacher and observer may decide to focus on one or two issues (which almost always fit comfortably within the framework); or, they may agree that the observer will provide a systematic run-through of all the dimensions. It is useful, and most comfortable, for the post-lesson conversation to start with the main focal points – on agreed-upon foci, along with events in the lesson that were particularly interesting and salient. But, even if particular foci have been chosen for the observation, it is valuable to run briefly through all of the dimensions – the Teaching For Robust Understanding Framework is intended as a way of seeing and talking about instruction, and it provides a language for thinking about it. After a few observations, it becomes a natural way for teachers, coaches, administrators, and professional learning communities to talk about teaching.

² We are indebted to the San Francisco Unified School District for its development of “Observational Tool for LEAD,” which provided the inspiration for the design format of this *Guide*.

Finally, we highlight a few points about the framework and its use. The Teaching for Robust Understanding framework highlights five dimensions of classroom activity. They are described separately because each can be the object of coherent focus, as part of ongoing professional development. In the classroom, however, they are all deeply interrelated. In particular:

- Issues related to disciplinary content permeate all five dimensions – and all classroom activities. Dimension 1 focuses on the quality of the content *per se*. If the content isn't rich, there is nothing meaningful for the students to learn. But what matters in addition is the set of opportunities that each student has to engage with and make sense of that content. Thus, dimension 2, cognitive demand, should be conceived of as opportunities for productive struggle with core disciplinary concepts and practices. Issues of access (dimension 3) and opportunities to develop agency, ownership, and identity (dimension 4) concern the ways in which every student relates to the big ideas of the discipline. And, of course, access to the content is what's facilitated by formative assessment (dimension 5).
- Issues of equity also permeate all five dimensions, and should be central at all times – the key point being that every student should develop positive disciplinary identities (dimension 4) through meaningful access and participation (dimension 3) to rich disciplinary content (dimension 1). That participation can only be meaningful for a student if the level of cognitive demand is right for sense making (dimension 2), something achieved by formative assessment (dimension 5).
- As noted above, each observation sheet has room for specific observational goals established by the teacher and observer. One place where this will be essential is for dimension 1, the content. The “look fors” on the first observation sheet are domain general, and they should be supplemented by domain specifics for the lesson being observed.

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The observation sheets follow.

THE CONTENT

The extent to which central disciplinary ideas and methods, as represented by State or National Standards, are present and embodied in instruction. Every student should have opportunities to grapple meaningfully with important ideas and to develop productive disciplinary habits of mind. Teachers should have opportunities to consider and discuss how each lesson’s objective connects to the big ideas and practices they want students to develop over time.

Each Student...

- Engages with grade level content in ways that highlight important information, concepts, and methods
- Has opportunities to develop productive disciplinary habits of mind
- Has opportunities to reason about disciplinary issues, both orally and in writing, using appropriate academic language
- Explains their reasoning processes as well as their answers.

Teachers...

- Highlight important ideas and provide opportunities for students to engage with them
- Use materials or assignments that center on key ideas, connections, and applications
- Explicitly connect the lesson’s big ideas to what has come before and will be done in the future
- Support the purposeful use of academic language and other representations central to the discipline
- Support students in seeing the discipline as being coherent, connected, and comprehensible

- Other focal points for observation:

What are the big ideas in this lesson? How do they connect to what has come before, and/or establish a base for future work? How do the ways students engage with the material support the development of conceptual understanding and the development of disciplinary habits of mind?

Goal: All students work on core disciplinary issues in ways that enable them to develop conceptual understandings, develop reasoning and problem solving skills, and use disciplinary concepts, tools and methods in relevant contexts.

COGNITIVE DEMAND

The extent to which classroom interactions create and maintain an environment of productive intellectual challenge conducive to every student’s deepening understanding of disciplinary content and practices. We seek “productive struggle.”

Each student...

- Engages individually and collaboratively with challenging ideas
- Actively seeks to explore the limits of their current understandings
- Works to build productive disciplinary habits of mind
- Reasons and tests ideas in ways that connect to and build on what they know
- Explains what they have done so far before asking for help
- Continues to wrestle with an idea after the teacher leaves

Teachers...

- Position students as sense makers who can make sense of key conceptual ideas.
- Use or adapt materials and activities to offer challenges that students can use, individually or collectively, to deepen understandings
- Build and maintain classroom norms that support every student’s engagement with those materials and activities
- Monitor student challenge, adjusting tasks, activities, and discussions so that all students are engaged in productive struggle
- Supports students without removing the challenge from what they are working on

• Other focal points for observation:

What opportunities do students have to make sense of disciplinary content and practices? How are they supported in sense making so that they are not lost – yet real challenge has been maintained, so that they have opportunities to grapple with important ideas?

Goal: All students have opportunities to make their own sense of important ideas, developing deeper understandings, connections, and applications by building on what they know.

EQUITABLE ACCESS TO CONTENT

The extent to which classroom activities invite and support the meaningful engagement with core content by all students. Finding ways to support the diverse range of learners in engaging meaningfully is the key to an equitable classroom.

Each student...

- Contributes to collective sense making in any of a number of different ways (e.g., proposing ideas, asking questions, creating diagrams...)
- Actively listens to other students and builds on their ideas
- Supports other students' developing understandings
- Explains, interprets, applies and reflects on important ideas
- Participates meaningfully in the disciplinary work of the class

Teachers...

- Create safe environments
- Use tasks and activities that provide multiple entry points and support multiple approaches to the content
- Provide opportunities for students to see themselves, and their personal and community interests, reflected in the curriculum
- Validate different ways of making contributions
- Build and maintain norms that support every student's participation in group work and whole class activities
- Support particular needs, such as those of language learners, for full participation
- Expect and support meaningful disciplinary engagement, from all students, helping them contribute and build on contributions from others

- Other focal points for observation:

In what ways does each student engage in the work of the class? How can more opportunities for every student to participate in meaningful ways be created?

Goal: All students are supported in access to central content, and participate actively in the work of the class. Diverse strengths and needs are built on through the use of an extensive repertoire of strategies, resources, and technologies that enable all students to participate meaningfully.

AGENCY, OWNERSHIP, AND IDENTITY

The extent to which every student has opportunities to explore, conjecture, reason, explain, and build on emerging ideas, contributing to the development of agency (the willingness to engage academically) and ownership over the content, resulting in positive disciplinary identities.

Each student...

- Takes ownership of the learning process in planning, monitoring, and reflecting on individual and/or collective work
- Asks questions and makes suggestions that support analyzing, evaluating, applying and synthesizing ideas
- Builds on the contributions of others and help others see or make connections
- Holds classmates and themselves accountable for justifying their positions, through the use of evidence and/or elaborating on their reasoning

Teachers...

- Provide time for students to develop and express their ideas
- Work to make sure all students have opportunities to have their voices heard
- Encourage student-to-student discussions and promote productive exchanges
- Assign tasks and pose questions that call for marshaling, analyzing and synthesizing evidence, and for students to explain their reasoning
- Employ a range of techniques that attribute ideas to students, to build student ownership and identity

- Other focal points for observation:

What opportunities do all students have to see themselves and others as proficient disciplinary thinkers, to grapple with challenges and construct new understandings, to build on others' ideas, and demonstrate their understandings? How can more of these opportunities be created?

Goal: All students build productive disciplinary identities through taking advantage of opportunities to engage meaningfully with the discipline and share and refine their developing ideas.

FORMATIVE ASSESSMENT

The extent to which classroom activities elicit all students’ thinking and subsequent interactions respond to that thinking, by building on productive beginnings or by addressing emerging misunderstandings. High quality instruction “meets students where they are” and gives them opportunities to develop deeper understandings, both as shaped by the teacher and in student-to-student interactions.

Each student...

- Explains their thinking, even if somewhat preliminary
- Sees errors as opportunities for new learning
- Consistently reflects on their work and the work of peers
- Sees fellow students as resources for their own learning
- Provides specific and accurate feedback to fellow students
- Makes use of feedback in revising their work

Teachers...

- Create safe climates in which students feel free to express their ideas and understandings
- Use materials that elicit multiple strategies, and have students explain their reasoning, in order to gain information about student’ emerging understandings
- Flexibly adjust content and process, providing students opportunities for re-engagement and revision
- Provide timely and specific feedback to students, as part of classroom routines that prompt students to make active use of feedback to further their learning
- Create opportunities for students’ individual and collaborative reflection on their knowledge and learning

• Other focal points for observation:

What opportunities exist for all students to demonstrate their understandings? What opportunities exist to build on the thinking that is revealed? How do teachers and/or other students take up these opportunities? Where can more be created?

Goal: Every student’s learning is continually enhanced by the ongoing strategic and flexible use of techniques and activities that allow students to reveal their emerging understandings, and that provide opportunities both to rethink misunderstandings to build on productive ideas.