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Classroom Practice Study:

Improving Through Collaboration and Reflection

Open educational resources and tools

The University of Texas at Austin
Charles A. Dana Center

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About this resource

Classroom Practice Study: Improving Through Collaboration and Reflection represents a departure from more traditional classroom observation protocols, including the Charles A. Dana Center's publication *Classroom Walkthrough for Continuous Improvement: Strengthening Teaching and Learning*. While informed by many of the sound practices from previous publications, this new resource and accompanying professional learning represent an exciting evolution of thinking that centers research-backed ways that students learn.

Meaningful change in instructional practices and improved student outcomes are closely tied to strong instructional leadership. Many classroom observation tools build capacity for leaders to respond to school needs, establish schoolwide vision for excellence, and collect and analyze data to inform actions. This new resource extends beyond district and school leaders, and supports the inclusion of all stakeholders in the change and improvement process.

The adoption and implementation of *Classroom Practice Study* promotes systemwide sharing of successes, effective strategies, and a positive workplace culture where all voices contribute to decision making about addressing challenges.

The Dana Center advocates for rich, job-embedded professional supports to equip educators with strategies for building academic literacy; surfacing and repairing misconceptions; facilitating hands-on problem-solving experiences; using questioning and embedded checks for understanding for formative assessment; and fostering positive attitudes and mindsets toward academics. *Classroom Practice Study* is designed to support educators in building authentic learning communities where shared responsibility drives the creation and sustainment of thriving learning environments for students and adults.

About Charles A. Dana Center at The University of Texas at Austin

The Charles A. Dana Center at The University of Texas at Austin develops effective mathematics and science innovations that support educators, administrators, and policymakers in creating equity-minded improvements at scale for students throughout K–12 and postsecondary education, especially those who are underserved.

The Dana Center works nationally to dismantle barriers in K–12 and postsecondary education systems and develop new or improved systems to ensure students—especially Black and Latino students and students experiencing poverty—build foundational skills, develop strong mathematics identities, and experience equitable access to and success in a modern, rigorous mathematics and science education.

Since its founding in 1987, the Dana Center has worked to create a quantitatively literate society and a next generation of STEM professionals that reflect the full diversity of American life. We are known for our success in developing and implementing equity-minded innovations in STEM education policy and practice that lead to student success in education and career. For more information about our programs and resources, visit www.utdanacenter.org.

Acknowledgments

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Introduction

At the Charles A. Dana Center, we believe in the importance of a positive and growth-minded organizational culture that includes opportunities for educators across a system to examine instructional practices and engage in collaborative reflection, learning, and planning for improvement. This resource, ***Classroom Practice Study: Improving Through Collaboration and Reflection***, is grounded in research and wisdom of practice. It is designed to promote organizational learning and empower district- and school-level leaders, specialists, coaches, and teachers to build understanding of the effectiveness of instructional programs and to take action to improve.

The Classroom Practice Study process provides educators with a coherent set of efficient, easy-to-use tools through which educators can:

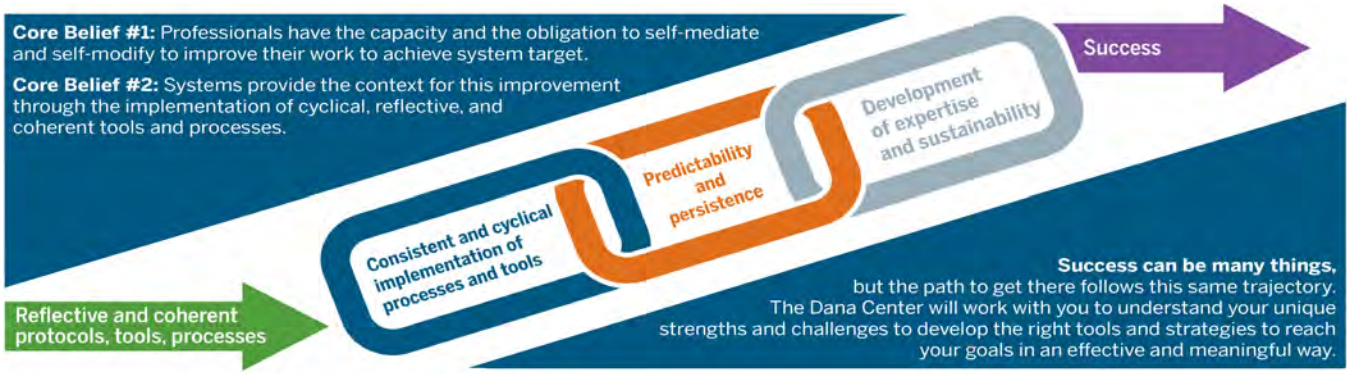
- Collect data on the implementation of curriculum and instructional programs at the grade, subject, campus, and district levels,
- Analyze aggregated and organized data,
- Reflect on the results of analyses with teams of staff members, and
- Act in informed and thoughtful ways to strengthen teaching and learning.

When situated within an iterative continuous improvement process and leveraged by professional learning communities, the Classroom Practice Study process and tools can surface evidence to inform short-term and long-term actions, progress toward goals, and substantiation of improvements. Consistent use of this process promotes systemwide understanding of effective instructional practices, collaboration, problem solving, and collective decision making to improve student outcomes.

Dana Center Core Beliefs

The Dana Center works with partners to develop professional learning systems designed explicitly to support eliminating persistent achievement gaps and increasing access to rigorous and relevant instructional programs. The center flexibly adapts the design and enactment of innovations in collaboration with states, districts, and schools to tailor learning experiences that address the unique needs of their systems.

Several core beliefs guide this work. The Dana Center enters every partnership with an education system with the foundational belief that professionals have the capacity and obligation to self-mediate and self-modify to improve their work. Particular consideration is paid to the integration of cyclical, reflective tools to support effective learning communities and build urgency around continuous improvement, shared responsibility, and goal alignment. These system structures can positively affect the values, beliefs, and behaviors of all professional educators. The following figure illustrates this approach.



Any continuous improvement efforts undertaken by districts and schools must be embedded in the day-to-day work of educators. The resulting deep learning that leads to meaningful change takes skillful leadership, persistence, and patience. We strongly recommend that systems seeking to implement the Classroom Practice Study process leverage the expertise and experience of the Dana Center. Professional learning and implementation specialists support capacity building of the technical and adaptive qualities required for successful and sustained progress toward staff and student aspirations.

This guidebook and following sample tools provide context for conversations about reform initiatives and processes. These resources support systemwide improvements in instructional practices and student achievement.

1. Classroom Practice Study Guidebook
2. Classroom Practice Study Data Collection Tool
3. Structured Reflective Conversation: Outline
4. Structured Reflective Conversation: Planning Tool

To learn more about additional resources to support instructional improvements, contact the Charles A. Dana Center at danaweb@austin.utexas.edu.

Part I: Data Collection

Understanding the *Classroom Practice Study Data Collection Tool*

The Classroom Practice Study process begins with collecting data directly related to student learning. The data collection tool is structured to help collect data efficiently during multiple classroom visits and is organized into three categories.

1. Focus on curriculum
2. Focus on classroom culture
3. Focus on instruction

The look-fors in each subcategory in the ***Classroom Practice Study Data Collection Tool*** will help you focus on collecting useful data to identify trends and patterns and to inform meaningful, results-oriented action.

> Note: The look-fors in each subcategory are designed to help school and district professionals analyze the implementation of the curriculum and instructional program—not to evaluate individual teachers.

In most cases, data can be gathered from a brief 4- to 6-minute classroom visit. Because the Classroom Practice Study process is not designed for individual teacher evaluation, it is important to collect data from a sufficient number of classroom visits so that teachers cannot recognize themselves in the comprehensive data. For example, if you are collecting data for a small instructional program of only five teachers, you will need to conduct more walks in each classroom to ensure anonymity.

The following section provides definitions and descriptions of look-fors to help ensure your team shares a common understanding of the terms in order to collect accurate and consistent data. This information should also be shared with classroom teachers to help them understand the types of data that will be gathered, what the look-fors entail, and how the data will be recorded.

1. Focus on curriculum

The purpose of the **focus on curriculum** category is to determine the extent to which a learning objective exists, its clarity, its alignment to grade-appropriate standards and timelines, and whether the learning objective is evident to the students themselves.

Curriculum refers to all essential resources that inform students' academic experiences, including the standards defining the knowledge and skills that students are expected to learn, the learning objectives that they are expected to meet, text materials, audio and visual resources, hands-on equipment, assessments, and the specified scope and sequence of units and lessons to be taught.

The curriculum category of the data collection tool has four specific subcategories.

1a. Determine the learning objective(s) for the lesson

1b. Learning objective(s) on target for grade-level standards

1c. Learning objective(s) aligned to the specified scope and sequence

1d. Learning objective(s) evident to the students

1a. Determine the learning objective(s) for the lesson

Section 1a of the data collection tool has space to write the learning objective(s) and three checkboxes to mark if the objective can be determined. After you have completed this section, you will have recorded the learning objective(s) that you were able to determine and checked ***one*** of the boxes. The data collected for this subcategory are directly connected to 1b, 1c, and 1d; if an objective does not exist or you are unable to determine the objective, then most likely, you will not be able to determine the existence of 1b, 1c, and 1d.

Objective(s):

☐ Exists ☐ Does not exist ☐ Unable to determine

You can determine the learning objective by listening to the students' own verbalizations or by examining the student work or tasks—but not by whether students can recite or read a written objective.

You might observe other supporting information such as a posted objective or teacher statements about the learning objective, but these statements should not be the primary information used to determine whether a clear learning objective exists and what it is.

> Note: Mandating the posting of learning objectives or standards in classrooms is not a pedagogically sound way to support meaningful learning. This practice can often undermine positive classroom culture by reinforcing teachers as knowledge keepers and by potentially stifling students' curiosity and creative thinking when too much information is revealed up front. If objectives are posted, they should be worded in student-friendly language to actively involve students in the learning. They should also describe what actions students will take, not what content they will know.

If, after examining the data gathered, you can clearly identify a learning objective, mark the appropriate checkbox ("Exists"). If there does not appear to be an objective for learning, then choose "Does not exist."

In rare cases, you may not be able to determine the learning objective. For example, in your brief visit, you may not be able to get a sense of what the students are working on or it may be inappropriate to ask students what they are learning—if, say, they are taking a test or quiz, or the teacher is in the middle of a lecture. There may also be instances where you see little or no connection between what students say they are learning and what they are actually working on. In that case, simply mark the checkbox for "Unable to determine." Feel free to make a note indicating the reason for this selection.

1b. Learning objective(s) on target for grade-level standards

Section 1b of the data collection tool has space to write the standard(s) addressed by the learning objective and three checkboxes. There are additional checkboxes for identifying the cognitive demand of the learning objective.

After you have completed this section, you will have noted any standards addressed and checked one of the boxes for "on target for grade-level standards." You will also have checked one to three of the boxes to denote the level of cognitive demand and identified whether or not the cognitive demand observed is aligned to the demand of the grade-level standard(s).

Standard(s):			
☐ Yes	☐ No	☐ Unable to determine	
Cognitive demand			
☐ Creating	☐ Analyzing	☐ Understanding	☐ None
☐ Evaluating	☐ Applying	☐ Remembering	
Cognitive demand aligned to standard(s)		☐ Yes	☐ No

This look-for helps to answer the question "Is what is actually being learned, as determined in 1a above, aligned to grade/course-level standards?" Refer to your state standards and/or local curriculum documents to determine if the learning objective is on target for the grade/course-level standards. This step should always be completed ***after*** the classroom visit when you have had an opportunity to look at your state standards and/or local curriculum documents and have identified the grade/course-level standards. If you checked "Does not exist" or "Unable to determine" in 1a, then you will most likely check "Unable to determine" in 1b.

Determining whether the learning objective is on target requires more than just noticing that the district-selected resource or district curriculum framework is being used. You must carefully analyze ***which*** portion of the resource is being used and ***how*** it is being used to address the learning objective identified in 1a. Compare your findings to the appropriate state standards to determine if the learning objective is on target for grade-level standards. The learning objective is on target if it matches a grade-level standard.

You may need to infer the cognitive demand level from your understanding of the cognitive level required by the learning activities and materials. Accurately gauging the cognitive demand level requires that—rather than focusing on the teacher's questions or the teacher's stated or written objective—you carefully observe how students are engaging with the content. You can complete this portion of 1b during or after your classroom visit.

The following descriptions of Bloom's Taxonomy (see Table 1) detail the degrees of cognitive demand from a high level to a low level. Keep in mind that you may observe different students working at different levels of Bloom's Taxonomy and should note all levels observed, although it is unlikely that you will see more than two or three in a single classroom visit. Due to the hierarchical nature of the taxonomy, you should only mark the highest level at which a student or group of students is working. For example, if you observe students "Applying," there is no need to also indicate "Understanding" and "Remembering." However, if you see another student or group of students in that same classroom whose highest level of cognitive demand is "Understanding," then you would mark "Understanding" in addition to "Applying."

It is possible that the observed student engagement demands no cognitive effort from students. In this case, mark "None" on the data collection tool.

> Note: If you observe different students working at different levels of cognitive demand, document it in the notes section on the back of the data collection tool. If certain student populations are consistently observed working at lower levels of cognitive demand, this is an opportunity to identify inequities in student opportunities to engage with rigorous, grade-appropriate content and skills.

It is also important to compare the cognitive demand level at which you observe students working and engaging in tasks to the language of the standards to determine if they are in alignment. Misalignment can signal that students are not being afforded the opportunity to learn the standards at the intended depth.

Table 1. Bloom's Taxonomy

Cognitive demand	Bloom's level	What it might look like in the classroom
High	☐ Creating	Students combining elements into a pattern not clearly there before Keywords: composing, formulating, generating, hypothesizing, proposing
	☐ Evaluating	Students judging something according to some set of criteria and explaining why they arrived at a certain judgment Keywords: appraising, critiquing, defending, justifying, validating
Mid-level	☐ Analyzing	Students breaking down content into parts or forms, identifying motives or causes, making inferences, and/or finding evidence to support generalizations Keywords: attributing, differentiating, organizing
	☐ Applying	Students applying information to new, unfamiliar situations or situations that have a new slant and typically have single best answers Keywords: carrying out, predicting, relating, using
Low	☐ Understanding	Students translating, interpreting, and/or extrapolating to understand the meaning of informational materials Keywords: describing, discussing, matching, summarizing, telling
	☐ Remembering	Students engaged in giving factual answers, recognition, recall of previously learned information, terminology, or specific facts Keywords: identifying, naming, recognizing, recalling, showing

Tip: Be sure to determine the level of student work based on the descriptions of "What it might look like in the classroom," rather than by listening for keywords during your visit and matching them to keywords in the table. For example, a task may say that students are "organizing," but the task itself aligns more with the descriptions for tasks with a low cognitive demand. The keywords are provided as examples and do not represent all of the ways that students might be engaged.

1c. Learning objective(s) aligned to the specified scope and sequence

Section 1c of the data collection tool has three checkboxes about the alignment of the learning objective(s) to the specified scope and sequence. After you have completed this section, you will have checked one of the boxes.

☐ Aligned	☐ Not aligned	☐ Unable to determine

The only way to determine whether the learning objective is aligned to the specified scope and sequence document is to examine the district timeline, scope and sequence document, and/or pacing guide. As with 1b, this step is dependent on 1a and is always completed ***after*** the classroom visit.

The intent is to determine whether the lesson falls within the expected range of the district pacing framework and/or yearly scope and sequence documents. This look-for is not about the lesson falling on the exact day listed in the curriculum framework; rather, it is about whether the lesson is in line with the district's pacing of the curriculum. Thus, if the lesson falls a few days before or after the designated timeline date, it should be considered aligned to the specified scope and sequence. Mark "Not aligned" if the lesson falls a few weeks before or after the designated timeline date.

If you could not determine the learning objective in look-for 1a and/or if you could not determine whether the objective was on target for grade-level standards in 1b, then you will most likely check "Unable to determine" for 1c as well.

1d. Learning objective(s) evident to the students

Section 1d of the data collection tool has three checkboxes to note if learning objectives were evident to students. After you have completed this section, you will have checked ***one*** of the boxes.

☐ Evident	☐ Not evident	☐ Unable to determine

The only way to make this determination is to ask students, "What are you learning?" Depending on the structure of the lesson, it may not always be possible to ask students this question directly, but do so if you can. Avoid asking students, "What are you doing?" as this question usually produces responses about the activity rather than about the learning objective.

You may have to probe deeper to ascertain whether the learning objective is evident to the students. As students respond, listen for whether they can state the learning objective in their own words, not for whether they can tell you what activities or topics they are working on or if they can read the objective from the board, workbook, or text.

You might ask, "What are you learning?" followed by "Why are you learning _____?" or "What are you learning about _____?" or "Show me what you are learning/Show me what you mean." It is important to urge students to articulate a learning objective in their own words.

Ask three or four students individually what they are learning. Because every student, on every day, in every class should be able to articulate what they are learning, ***all*** answers should align and be consistent for you to record on 1d if the learning objective is evident to students. However, if one of the students is unable to articulate the learning objective, use your best judgment to mark either "Evident" or "Not evident."

If student responses are not consistent, or if students simply recite the activities or topics of the day despite your probes, then mark "Not evident."

It is possible that you may not be able to determine whether the learning objective is evident to students during your time in the classroom because the teacher is lecturing or students might be taking a quiz or test. These classroom visits should still be considered opportunities for data collection about alignment (1b, 1c) and pacing (1c), but in these instances, you may have to mark "Unable to determine."

2. Focus on classroom culture

The purpose of the **focus on classroom culture** category is to determine if the learning environment supports a positive classroom culture and to identify specific learner and teacher behaviors that support a positive classroom culture.

The culture of learning has a profound impact on students' academic behaviors and is positively affected when educators and students develop a true community of learners. A community of learners is a group of people who share values and beliefs and who actively engage in learning from one another—learners from teachers, teachers from learners, and learners from learners—thus creating a learning-centered environment in which students and educators are actively and intentionally constructing knowledge together.

Learning communities are connected, cooperative, and supportive. Peers are interdependent; they have joint responsibility for learning and share resources and points of view, while sustaining a mutually respectful and cohesive environment. A positive learning community supports diverse student capabilities by enabling all members to participate at their levels of expertise and comfort. Specifically, it is characterized by promoting feelings of safety among participants as well as a willingness to ask questions and make mistakes.

The subcategories include:

2a. The learning environment supports positive classroom culture

2b. Learner behaviors

2c. Teacher behaviors

Sections 2b and 2c provide specific examples of learner and teacher behaviors that are evident in classroom learning communities with positive learning cultures. The data collection tool is specifically designed to show teacher behaviors that support the corresponding learner behaviors. You will not, however, necessarily see a one-to-one correlation of learner and teacher behaviors occurring in the classroom.

2a. Learning environment supports positive classroom culture

Section 2a has two checkboxes about characteristics of a learning environment that supports a positive classroom culture.

A highly engaged classroom where learning time is maximized has patterns of behaviors that are routine for teachers and students. These patterns are grounded in classroom norms that represent agreements among teachers and students for how they interact with one another.

☐ Classroom norms are evident.

The look-for is not about locating a norms poster in the classroom. Rather, classroom norms are evident if, during the 4- to 6-minute visit, you see the teacher and students interacting with respect and inclusiveness, and there is high engagement with lesson activities and no disruptions that require disciplinary action by the teacher.

☐ Classroom arrangement invites and supports active engagement and collaboration.

Student engagement can be maximized by the physical setup of the classroom. Classroom arrangement should support active student-centered learning and discourse. Check "Classroom arrangement invites and supports active engagement and collaboration" if you see seating arrangements that foster effective communication between students, where students are able to face one another and share resources.

2b. Learner behaviors

Section 2b has three checkboxes about learner behaviors. You may check ***up to two*** boxes during your classroom visit.

The following specific learner behaviors are evident in classrooms with positive cultures (see Table 2). While each descriptor represents important expectations for students, it is unlikely that you will see more than one or two during a single walk. Mark the boxes for student behaviors that you observe in ***three or more*** students.

Table 2. Descriptions of Learner Behaviors in Classrooms with Positive Culture

Learner behaviors. Learners...	Description
☐ Feel a sense of belonging in the classroom learning community and value the diversity of ideas expressed by others.	Students are empowered to share their ideas publicly, actively listen to their classmates, and change their thinking based on the ideas and reasoning of others.
☐ Persevere through difficulty.	Students are not easily discouraged by setbacks, view mistakes as opportunities to learn, and employ new tactics when needed.
☐ Provide evidence and reasoning to support their ideas.	Students articulate why they believe something to be true and cite evidence from their own experiences, investigations, reasoning, or from reading or research using complex on-grade-level text.

2c. Teacher behaviors

Section 2c has three checkboxes about teacher behaviors. You may select ***up to three*** during your classroom visit.

The following specific teacher behaviors are evident in classrooms with positive culture (see Table 3). Depending on the classroom activities, you may see any number of these behaviors in a single visit and should check boxes for any that you observe ***more than once***.

Table 3. Descriptions of Teacher Behaviors in Classrooms with Positive Culture

Teacher behaviors. The teacher...	Description
☐ Sets high expectations for all students and does not favor one group over another.	The teacher does not lower cognitive demand of tasks for certain students or groups of students, and consistently uses inclusive practices when interacting with students. The teacher demonstrates a positive attitude about the content, practices, and value of the course or subject.
☐ Cultivates reasoning and sense-making by allowing students to productively struggle.	The teacher does not rescue students or diminish the cognitive demand when students struggle but instead uses purposeful questions to cultivate reasoning and sense-making.
☐ Expects evidence from students and probes their ideas and reasoning accordingly.	The teacher asks students to justify their ideas and claims with appropriate and sufficient evidence and reasoning from credible grade-appropriate sources.

3. Focus on instruction

The purpose of the **focus on instruction** category is to identify the aspects of instruction that are used by students and teachers to help students meet or attain the learning objectives. Instruction refers to the activities of teaching and learning.

The subcategories include:

3a. Learner behaviors

3b. Teacher behaviors

3c. Student engagement

Sections 3a and 3b provide specific examples of learner and teacher behaviors that research shows are evident in student-centered classrooms. The data collection tool is designed to show teacher behaviors that support the corresponding learner behaviors. You will not necessarily observe a one-to-one correlation of learner and teacher behaviors when visiting classrooms.

3a. Learner behaviors

Section 3a has five checkboxes for learner behaviors. You may check ***up to two*** boxes during your classroom visit.

The following specific learner behaviors are evident in classrooms where instruction is student-centered (see Table 4). Teachers and students collaboratively co-construct knowledge, and students can articulate the importance of what and how they are learning. While each descriptor represents important expectations for students, it is unlikely that you will see more than one or two of these learner behaviors during a single visit. Mark the boxes for student behaviors that you observe in ***three or more*** students.

Table 4. Descriptions of Learner Behaviors in Student-Centered Classrooms

Learner behaviors. Learners...	Description
☐ Take ownership of their learning as they deepen their understanding of the learning objective(s).	Students indicate a capacity to complete assigned tasks and can communicate their level of understanding of the learning objective(s). Students routinely ask questions and make comments that reveal ownership of learning and engagement with the objective(s). Students are on task, focused, and display a high level of effort. Students can accurately articulate appropriate methods to access and demonstrate their knowledge regarding the objective(s). They can explain the processes they will engage in and how they will demonstrate their understanding.
☐ Draw on prior knowledge to demonstrate understanding of grade-level content.	Students build on prerequisite knowledge and skills to develop and make connections to new understandings.
☐ Reflect on their level of understanding and refine thinking when appropriate.	Students are responsive to feedback from the teacher or their peers, refining their oral and written responses when appropriate. Students reflect on their level of understanding and engage in self-assessment as they monitor their learning and identify their needs.
☐ Access the content at individual levels of understanding while working toward the learning objective(s).	Students are actively engaged in appropriately challenging learning experiences and pathways to demonstrate learning. Students have access to a variety of tools and options for demonstrating their knowledge. They are able to articulate how their work is connected to the learning objective(s).
☐ Discuss and question each other's thinking.	Students engage in authentic, collaborative conversations. They analyze, critique, and question one another's thinking in order to clarify and deepen their own understanding.

3b. Teacher behaviors

Section 3b has five checkboxes for teacher behaviors. You may check ***up to five*** during your classroom visit.

The following specific teacher behaviors are evident in student-centered classrooms (see Table 5). Teachers hold high expectations, see learners as unique and capable, and leverage students' knowledge, skills, and experiences to further collective learning. Depending on the classroom activities, you may see any number of these behaviors in a single visit and should check boxes for behaviors that you observe ***more than once***.

Table 5. Descriptions of Teacher Behaviors in Student-Centered Classrooms

Teacher behaviors. The teacher...	Description
☐ Selects and sequences questions and tasks aligned with the content and level of cognitive rigor of the learning objective(s).	The teacher purposefully selects tasks that are aligned with the grade-level content and cognitive rigor of the standards and learning objective(s). The teacher intentionally sequences questions and tasks to build student understanding. (See descriptions of 3c. Student Engagement below.)
☐ Activates students' prior knowledge and student's lived experiences to build understanding of grade-level content.	The teacher uses strategies to activate prior knowledge and draws on student experiences to promote engagement and increase accessibility to grade-level content. The teacher explicitly attends to strengthening students' content language and foundational skills, when appropriate, while supporting students' understanding of the connections within and across the content. Note: Connecting to the knowledge, skills, and experiences that students bring to the classroom is an important inclusive practice.
☐ Formatively assesses student understanding and adapts lesson accordingly.	When checking for student understanding, the teacher deliberately employs a variety of techniques to surface misconceptions and opportunities for growth, using the data to adapt instruction in the moment to ensure that all students are appropriately challenged and progressing. For example, the teacher: • Communicates timely feedback that is specific to the task and directly tied to the learning objective(s). • Utilizes student actions and work samples as exemplars, provides references (i.e., anchor charts, sentence stems) to support positive feedback, and provides students with specific actions they can take to revise their work without lessening the cognitive demand. • Models how to reflect on learning and provides structures to promote student self-reflection.

Teacher behaviors. The teacher...	Description
☐ Differentiates content using a variety of strategies to meet the needs of all learners.	To ensure the content is accessible to all students, the teacher employs a variety of strategies (e.g., questioning, small-group support, varied resources, student choices, and scaffolding) to meet the needs of all learners. Students are able to access content and demonstrate learning through multiple pathways.
☐ Facilitates student discourse.	The teacher creates conditions for student conversations in which students analyze, critique, and discuss one another's thinking. The teacher strengthens all students' understanding by strategically and equitably highlighting student responses and by referring to student work and discussions that demonstrate both understanding and misconceptions. The teacher encourages collaboration among students and fosters authentic discourse while supporting them in making connections to their own understanding to advance their learning.

3c. Student engagement

Section 3c of the data collection tool has five checkboxes. You may check ***one or more*** in a single visit, although it is unlikely that you will select more than two.

This section focuses on determining the primary way in which students are acquiring, comprehending, and communicating their knowledge of the content (i.e., learning objective). Ascertain the predominant action(s) that students are employing, and select only actions that meet the threshold of the descriptions below (see Table 6). If you do not observe meaningful engagement as described in the table, select "None."

Table 6. Descriptions of Student Engagement

Student action	Description
☐ Listening	Students are listening to information to discern the main ideas, the significant details, and the relationships among them. Complex information may come from a variety of sources such as the teacher, other students, and multimedia (e.g., video, audio). This definition of listening does not include students simply listening to the teacher give directions or instructions. * Students' responses and work indicate their engagement in active listening. For example, evidence of students listening may be revealed by teacher-directed checks for understanding, students' questions and responses to the teacher or other students' ideas, or written work.

Student action	Description
☐ Speaking	Students are engaged in meaningful discourse using appropriate academic language with the teacher and/or with other students. This action can include students elaborating and clarifying their thinking and understanding; presenting information, findings, and supporting evidence clearly and concisely; and responding constructively to advance a discussion and build on the input of others. This definition of speaking does not include reciting answers, delivering monologues, or engaging in question-and-answer exchanges.
☐ Reading	Students are reading print material or other text designed to support them in comprehending and attaining the learning objective(s). This action can include students using print material to determine what the text says explicitly and what can be logically inferred; citing evidence in the text; delineating the main ideas or themes in the text; synthesizing information from data, diagrams, maps, and other visual elements; extracting key information efficiently with meaning; and analyzing text structures and styles. This definition of reading does not include reading directions or reading a problem or set of problems for practice unless focused in the ways described above.
☐ Writing	Students are engaged in meaningful writing. This action can include taking notes as part of gathering the information needed to build an argument, provide an explanation, or address a research question; supporting and illustrating arguments and explanations with relevant details, examples, and evidence; creating a logical progression of ideas or events and conveying the relationship among them; representing and accurately citing data and conclusions; synthesizing information from multiple relevant sources, including graphics and quantitative information; organizing content to convey complex information clearly and coherently; and establishing substantive claims and linking claims and evidence with clear reasons. This definition of writing does not include a student copying another's notes or procedures, writing homework instructions, filling out worksheets, or recording steps or data—unless focused in the ways described above.
☐ None	None of the above

Part II: Analyzing, Reflecting, and Acting on Data

Using the Data Analysis Tool

After collecting data from multiple classroom visits, use the Classroom Practice Study ***Data Analysis Tool*** to aggregate, organize, and analyze data to identify patterns and trends. The tool will also help to clarify the current state of grade-level, subject, campus, and/or district implementation of the curriculum and instructional program.

The ***Data Analysis Tool*** provides a quick way to become familiar with the data; analyze the data set(s) for validity; discover look-for interactions, relationships, and connections; and identify recurring events (patterns) and general directions in which the data move (trends). After your team has completed the improvement process with the first collection of data, use it as a baseline against which to gauge subsequent analyses of patterns and trends as well as growth or progress.

Continual, consistent collection of classroom data ensures the ability to compare the results of one data set to the results of subsequent sets. This method enables you, for example, to determine progress by comparing data from the first six weeks of a semester to data from the second six weeks. Similarly, you can make comparisons on progress among core content programs, among courses, and among other aspects of your instructional program.

Reflecting on Data

Asking questions that promote reflection is a powerful strategy for making decisions, solving problems, and building trust and collegiality. When leaders facilitate a reflective conversation about the data with teams of teachers, the teacher teams develop a common understanding of the current state of the curriculum and instructional program, and can propose actions to improve teaching and learning. Ignoring or eliminating teacher reflective conversations minimizes the likelihood of attaining program improvements.

The ***Structured Reflective Conversation*** resources support meaningful, goal-oriented reflection on the collected data. Use the outline and accompanying planning tool to help you organize the meeting and structure the reflective conversation to increase the likelihood of producing the intended outcomes and of developing team commitment to implement the agreed-upon actions.

To prepare for the meeting, use the planning tool to focus the team conversation on one or two specific patterns or trends you would like to highlight. The time estimates in the plan assume that the meeting will run about 45 minutes, but you may need to adjust the time allotments.

The ***Structured Reflective Conversation Outline and Planning Tool*** include sample questions to promote reflective conversations that generate actions—and ultimately, results—in response to the latest data set. Outlined below is the purpose of the question categories,[1] each of which plays a critical role in scaffolding the reflective conversation among the meeting participants so that meaningful actions can be developed and implemented.

- **What?**—What do you see / know?

  The purpose of this question is to engage every participant in a structured and purposeful way that ensures that everyone has the chance to contribute facts and information to the conversation. The conversation is focused on what the individuals see in the data.

[1] We adapted the categories and some of the questions from the following two works:
York-Barr, J., Sommers, W. A., Ghere, G. S., & Montie, J. (2006). ***Reflective practice to improve schools: An action guide for educators*** (2nd ed.). Corwin Press.
Institute of Cultural Affairs USA. (2000). ***ToP [Technology of Participation] group facilitation methods.*** Author.

- **Gut**—What do you think and how do you feel?

  The purpose of this question is to elicit comments from participants on what the data show and their personal feelings about, reactions to, and associations with the topic or issue selected as the focus.

- **So what?**—What does this mean and what are the implications?

  The purpose of this question is to establish the meaning, significance, and implications of the topic or issue at two levels—the general issue level and the specific look-for issue level.

- **Now what?**—What do we do now?

  The purpose of this question is to frame collaborative development of a set of actions—directly related to the analyzed data—to be taken by the group as a whole.

Questions to consider when planning the group reflection

- How many people will be in this group and what is their relationship to the data?
- Who will the group members be?
- How will participants be grouped?
- How much time will be allotted for the conversation?
- How will the ideas that emerge from the reflection be documented?
- How will the agreed-upon actions be documented and disseminated?
- How will a safe, respectful, and collegial environment be maintained?
- How will the conversation stay focused on improving teaching and learning and be directly related to the data presented?

Remember: Reflective conversations do not happen automatically. Anticipation, forethought, and preparation are critical. The planning tool helps you think through and structure successful reflective group conversations that produce meaningful actions.

Acting on Data

In any continuous improvement process, teachers and leaders must implement and monitor the decisions and actions determined during collaborative reflection on data. This stage of the process focuses on supporting, implementing, and monitoring the agreed-upon action steps.

An effective study of classroom practices requires more than visiting the classrooms and using the tools to collect and analyze data. To attain the desired effects on curriculum and instructional practices—and ultimately, on student achievement—campus and district professionals must follow through on the actions generated from the data collection and analysis by providing support for the actions and monitoring the results. Ideally, your schools and district will incorporate this ongoing improvement process into daily structures and routines.

Once actions have been taken, it is critical to begin the improvement cycle again.

- ***Collect*** data from a new set of classroom visits.
- ***Analyze*** the new data to determine the effects of the previous actions.
- ***Reflect*** on the progress.
- Identify and execute the next set of ***actions***.

Attaining continuous improvement is not a one-time event; rather, it must be pursued through ongoing engagement in an iterative improvement process.

Conclusion

Development of the Classroom Practice Study process and tools was driven by the best available education research and by what the Dana Center has learned from nearly 30 years of work with K–12 educators from state departments of education, district and school leaders, mathematics and science experts, and classroom educators. The Dana Center believes that systems will obtain the best results by using this guidebook and accompanying tools after participating in our companion professional learning sessions. Center specialists can support systems in making Classroom Practice Study a richer and more useful resource by helping formal and informal leaders navigate the paradigm shift required for its successful implementation at scale.

For systems ready to implement Classroom Practice Study, we encourage thoughtful adaptations that preserve its integrity while meeting local needs and context. No matter where your system is in its improvement journey, new processes must blend seamlessly into the day-to-day routines of users and existing structures for learning and collaboration. Rather than presenting Classroom Practice Study as a new and independent process, professional learning with the Dana Center shares the strategies for using this resource to align with and enhance current initiatives, goals, and system vision.

When implemented with fidelity, the processes and tools in this resource can illuminate areas of excellence and surface opportunities for improvement. To address professional learning needs, the Dana Center offers several programs that build capacity for district- and school-level leaders, specialists, coaches, advisors, and teachers. Some examples include:

- Building Capacity for Leadership and Coaching Success
- Innovation Configuration Maps to Improve Teaching and Learning
- Instructional Leadership Academy

The Dana Center also partners with systems to customize professional learning programs to support identified content and pedagogical needs for mathematics and science educators.

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Classroom Practice Study Data Collection Tool

Date: Time: Subject/Grade:

1. Focus on curriculum

1a. Determine the learning objective(s) for the lesson

Objective(s):

☐ Exists ☐ Does not exist ☐ Unable to determine

1b. Learning objective(s) on target for grade-level standards

Standard(s):

☐ Yes ☐ No ☐ Unable to determine

Cognitive demand:

☐ Creating ☐ Analyzing ☐ Understanding ☐ None

☐ Evaluating ☐ Applying ☐ Remembering

Cognitive demand aligned to standard(s): ☐ Yes ☐ No

1c. Learning objective(s) aligned to the specified scope and sequence

☐ Aligned ☐ Not aligned ☐ Unable to determine

1d. Learning objective(s) evident to the students

☐ Evident ☐ Not evident ☐ Unable to determine

2. Focus on classroom culture

2a. The learning environment supports positive classroom culture

☐ Classroom norms are evident.

☐ Classroom arrangement invites and supports active engagement and collaboration.

2b. Learner behaviors. Learners…

☐ Feel a sense of belonging in the classroom learning community and value the diversity of ideas expressed by others.

☐ Persevere through difficulty.

☐ Provide evidence and reasoning to support their ideas.

2c. Teacher behaviors. The teacher…

☐ Sets high expectations for all students and does not favor one group over another.

☐ Cultivates reasoning and sense-making by allowing students to productively struggle.

☐ Expects evidence from students and probes their ideas and reasoning accordingly.

3. Focus on instruction

3a. Learner behaviors. Learners…

☐ Take ownership of their learning as they deepen their understanding of the learning objective(s).

☐ Draw on prior knowledge to demonstrate understanding of grade-level content.

☐ Reflect on their level of understanding and refine thinking when appropriate.

☐ Access the content at individual levels of understanding while working toward the learning objective(s).

☐ Discuss and question each other's thinking.

3b. Teacher behaviors. The teacher…

☐ Selects and sequences questions and tasks aligned with the content and level of cognitive rigor of the learning objective(s).

☐ Activates students' prior knowledge to build understanding of grade-level content.

☐ Formatively assesses student understanding and adapts lesson accordingly.

☐ Differentiates content using a variety of strategies to meet the needs of all learners.

☐ Facilitates student discourse.

3c. Student engagement

☐ Listening ☐ Speaking ☐ Reading ☐ Writing ☐ None

Notes:

Structured Reflective Conversation: Outline*

AIMS: What are the desired rational goal and experiential impact of the conversation?

Aims describe the purpose for a focused conversation and should be established prior to planning—but explained to the group *after the introduction.*

Rational aim is the practical goal—the concrete objectives—of the conversation. Examples include clarifying a misunderstanding, solving a specific problem, or gleaning lessons from past work.

Experiential aim is the inner impact that you want the conversation to have. Examples include re-establishing a team's confidence, addressing hurt feelings or misunderstandings, or increasing motivation about a new strategy.

INTRODUCTION: Establish purpose, expectations, norms, and desired outcomes — **2–3 minutes**

Purpose: To establish the meeting's purpose, expectations, norms, and desired outcomes.

Steps: Begin the conversation with this section.

WHAT? Objective questions: What do you see / know? — **3–5 minutes**

Purpose: To give participants a chance to surface relevant facts about an issue or to examine data.

Steps:

- Select question prompts from the list below.
- Ask the first question and have several participants respond.
- Use a different question prompt after every 2 or 3 responses to minimize redundancy.
- Make sure each participant responds to at least one question prompt.
- Record ideas, as appropriate, to the situation.

Question prompts:

- What is one fact you noticed?
- What is one thing that stands out / catches your attention?
- What are some successes / challenges?
- What clarification is needed?

GUT? Reflective questions: What do you think and how do you feel? — **3–5 minutes**

Purpose: To allow participants to share their personal responses about the issue or data.

Steps:

- Select question prompts from the list below.
- It is not necessary for each participant to respond to every—or even any—of these questions.
- Relate responses to the topic or data by restating or paraphrasing when needed.
- Record ideas, as appropriate, to the situation.

Question prompts:

- What surprises you / pleases you / gives you confidence / makes you proud?
- What concerns you / worries you?
- What seems important or unclear?

SO WHAT? Interpretive questions: What does this mean and what are the implications? **20 minutes**

Purpose: To solicit reflection and determine the importance of the issue or data.

Steps:

- Anticipate issues that you think the group might identify.
- Select 2 or 3 question prompts from the list below.
- It is not necessary for each participant to respond to every—or even *any*—of these questions.
- Change questions, as needed, to minimize redundancy.
- Divide participants into small groups to discuss issues raised and to enable subgroups to share their thinking.
- Record ideas, as appropriate, to the situation.

Question prompts:

- What seems to be the central issue?
- What seems to be most challenging / most critical?
- What questions are raised?
- What insights / patterns / themes are emerging?
- What does this mean for our team / group / department?

NOW WHAT? Decisional questions: What do we do now? **10 minutes**

Purpose: To identify a specific action plan that the group can implement immediately.

Steps:

- Use question prompts to facilitate a discussion in which the group selects, develops, and commits to a set of ideas from the ***So what?*** discussion above.
- Document the decisions of the group, ensuring that the following criteria are addressed:
  - Actions are specific, measurable, immediate, and directly related to the issue or data.
  - Actions describe *who* is responsible for *what* and by *when*.
  - A method is determined for collecting evidence of success and for monitoring progress.
  - A timeline is established and a follow-up discussion is planned.

Question prompts:

- On what immediate actions can we all agree?
- What is an appropriate starting point?
- What supports are needed for us to take action?
- When will we start?
- Who will do what and when?
- What exactly are our next steps?
- How will we know / measure progress?

CLOSING: Important points to remember and record **2–3 minutes**

Purpose: To confirm actions and expectations, reiterate important ideas, and confirm a timeline for follow-up.

Steps:

- Thank group members for participation and summarize the importance of actions and their expected effects.
- Reiterate timeline and confirm roles and responsibilities.

Structured Reflective Conversation: Planning Tool

INTRODUCTION: Establish purpose, expectations, norms, and desired outcomes		**2–3 minutes**

AIMS: What are the desired rational goal and experiential impact of the conversation?		**2–3 minutes**

Rational aim—concrete goal / objectives:

Experiential aim—intended experiential impact:

WHAT?	Objective question: What do you see / know? *Surface relevant facts and information.*	**3–5 minutes**
GUT?	Reflective question: What do you think and how do you feel? *Elicit feelings, reactions, and associations.*	**3–5 minutes**
SO WHAT?	Interpretive question: What does this mean and what are the implications? *Uncover meaning, significance, and implications.*	**20 minutes**
NOW WHAT?	Decisional question: What do we do now? *Plan future action, direction, and next steps.*	**10 minutes**
CLOSING:	Important points to remember and record	**2–3 minutes**