

Mathematics Implementation Study
Classroom Observation Protocol
Outline for Qualitative Write-Up¹

1. **Content of Lesson.** Describe chronologically the main academic areas that were part of the lesson. Include a descriptive label, a brief description of the tasks for each mathematical area, the number of minutes spent on each task, the percentage of class time devoted to each task, and the amount of class time that was *not* spent on mathematics instruction (e.g., nonacademic time: taking role, etc.). Also discuss whether the teacher demonstrated an understanding of the content. Did the teacher appear confident in the material? Was the content accurate?
2. **Organization of Students.** Describe how the teacher organized the students during the course of the lesson. When and for how long did students meet as a whole class, divide into pairs or small groups, work individually at their seats, etc.? Describe the activities that students engaged in during each organizational “phase” of the lesson, the ways that the teacher interacted with students during each phase of the lesson, and the ways that students interacted with one another. For example, during group work, did the teacher circulate among all the groups, focus on just one or two of the groups, or remain at his or her desk? Did students work collaboratively, or were some students more active than others? During whole-class discussion, did a few students dominate the discussion, or did everyone participate?
3. **Purpose of Lesson.** Describe the primary purpose of the lesson (e.g., learning or practicing computational procedures, discovering underlying concepts, framing problems, making conjectures, looking for patterns, connecting math to everyday life or to other subjects, etc.)
4. **Representations, Tools, and Resources.** Identify the representations and tools used by teachers or students and mathematical ideas the representations were targeting.² Also identify other resources and materials used during the lesson (e.g., textbooks, worksheets, calculators, computers, etc.) Give specific titles if possible (e.g., textbook title, type of manipulative, software program).
5. **Assessment During Lesson.** Describe the extent to which the teacher attempted to monitor student understanding or engaged in assessment activities aimed at informing instruction and/or gaining knowledge about individual students. Examples include asking questions aimed at identifying students’ thinking patterns, interviewing students individually to assess their knowledge, or having students write in a journal as a way to assess understanding.

¹ This protocol was adapted, with substantial modification, from the classroom observation protocol used by the Consortium for Policy Research in Education (CPRE) in their study “From Congress to the Classroom.”

² Representations are anything used to convey some aspect of mathematics and include, but are not limited to, chalkboard drawings, concrete models, manipulatives, graphs, formulas, videos, classroom or household objects, etc.

6. **Focus of Classroom Discourse.** Identify the primary focuses of classroom discourse. To what extent did classroom discourse focus on “getting the right answers” or “doing it the right way”? To what extent did classroom discourse focus on “making sense” of mathematics? Give examples, and include a description of how the teacher stimulated the discourse (e.g., by posing questions or tasks that were “real” problems, by asking students to clarify and justify their ideas, having students talk to each other). Were students directed to or encouraged (either explicitly or implicitly) to a) initiate problems or questions; b) select or invent their own representations; c) select their own technological tools? If so, give examples, and discuss the extent to which students actually did a, b, or c. Also, how much “wait time” did the teacher leave for students to answer questions?
7. **Language Differences.** If applicable, describe the extent to which language differences appeared to play a role in patterns of interaction (teacher-student and student-student) during the class and during each phase of the lesson (e.g., group work, whole-class discussion, etc.) For example, did teacher interaction with LEP students appear to be different than with other students? Did students from all language backgrounds participate in the lesson more or less equally?
8. **Students with Other Special Needs.** Describe the extent to which the teacher attempted to address the needs of students having difficulty, gifted and talented students, and any other students appearing to have special needs. Were these students fully integrated in the lesson’s main tasks or did they engage in different activities? Were they seated with the other students or were they physically separated? What accommodations (if any) were made for them, in terms of both materials/resources and in patterns of interaction (teacher-student and student-student) within the classroom?
9. **Behavior and Discipline.** Did student behavior or teacher disciplinary action appear to interfere with the effectiveness of the lesson or the understanding of particular students? If so, how?
10. **Other.** Did you observe anything else that seemed to be important but was not addressed in this protocol? Please describe with specific examples. Why was it important?