

## Case Analysis Protocol

*The protocol and cases were written collaboratively by members of the Science 20/20 team.*

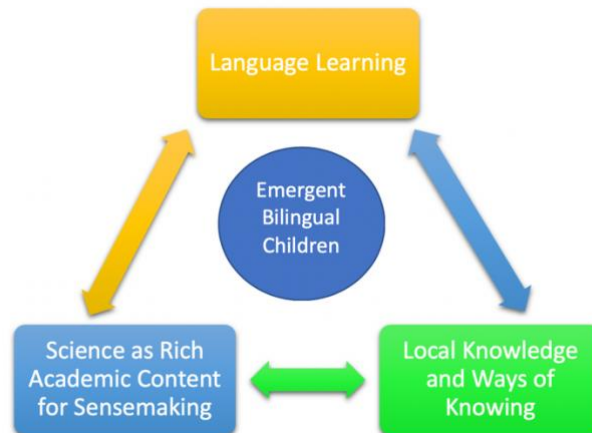
**Description:** Each case represents the lived experiences of those connected to the project as researchers, teachers, students, and student teachers. They are real, but names and minor details have been changed so as not to completely identify those involved. We do not intend for these cases to be black and white, right or wrong. Instead, each case illuminates areas of strength and potential and allow for self-reflection. They may ask us to articulate and question our own biases, assumptions, and taken-for-granted practices. Cases such as these are intended to surface tensions. Having group norms and protocols in place before engaging in case analysis is important for the success of the protocol. In discussing the case, we encourage you to think through the complexity of each case, seek to understand, imagine what else might be true, and exercise asset orientations.

**Protocol: Part 1.** Familiarize yourself with the Science 20/20 Framework before reading the case.

### Science 20/20 Framework

#### Guiding Principles

1. View **students as capable partners** in knowledge building.
2. Invite **productive participation** in science practices and sensemaking.
3. Utilize caring **formative assessment** and seek to understand what students know.



**Part 2.** Read the case thoroughly. Once everyone has had enough time to read the case thoroughly, summarize the main events in the case and identify the problem(s) posed by the case.

**Part 3.** Use the Science 20/20 Framework and Guiding Principles to facilitate an open discussion related to the case. Same questions and prompts might include:

1. *What scientific practices and literacy practices are present in the case?*
2. *How has the teacher(s) and how might the teacher(s) invite students to draw on their funds of knowledge and local knowledge?*
3. *Where do you see evidence of students positioned as knowers, productive participation, and/or formative assessment?*
  1. *What are the opportunities to position students as knowers, invite productive participation, and incorporate formative assessment?*
4. *What else might be true?*

**Part 4.** Connect back to your context. Reflect. How might this case and the discussion of the case inform your work?

## A Case of Only Speaking to the Teacher

*The protocol and cases were written collaboratively by members of the Science 20/20 team.*

In Miss Lee's kindergarten class, about 75 minutes is dedicated to reading instruction. The 75 minutes is broken into three chunks of time. Students are divided into three groups based on reading abilities. Students rotate in their leveled group to each of the three activities. Currently, one group is completing a collaborative activity at a round table and a different group is working individually on computers. The third group, a group of nine students in the "low" group, seven of which are emergent bilinguals, sit in a circle with Miss Lee on one side and her student teacher, Ms. Crews, on the other side. Miss Lee holds a plant in front of her and begins engaging students. She dumps out the plants and has students notice and wonder as they observe the plant in front of them. She picks out leaves and passes one to each student, asking them to describe how it feels.

Ms. Crews is sitting next to Mateo, an emergent bilingual newcomer from Puerto Rico who receives daily pull-out ESL instruction. Miss Lee identified Mateo as a focal child for one of Ms. Crews's student teaching assignments. Ms. Crews's student teaching supervisor stands in close proximity of the circle to document the lesson with pictures and videos.

When Mateo gets a leaf, Ms. Crews turns exclusively to Mateo recognizing that he does not participate a lot in group discussions, and thinks using Spanish would help increase his participation. She begins asking him questions in Spanish to learn more about how he would describe the leaf and encourage his participation. Mateo describes the leaf as *mojada*.

Miss Lee asks students to break down a plant, with the goal of students coming to the understanding that the stem sucks up water and that there are roots. The lesson continues for another fifteen minutes, with students squeezing, observing, and wondering about the plants. Miss Lee talks to all students to informally assess what they are noticing and wondering, while Ms. Crews focuses her attention mainly on Mateo and the one or two students next to her. Miss Lee and the other students are having a scientific, group-based discussion to try to make sense of the water they feel whereas Ms. Crews and Mateo are sharing their thoughts on the water only with each other.

When the lesson finishes, it is time for the students to go to lunch. They line up, and Ms. Crews takes them to lunch as Miss Lee stays back. When Ms. Crews enters the room, Miss Lee expresses concern that Mateo was only engaging with Ms. Crews, not herself or the other students, something that Miss Lee expresses is important for her English and social development. She says that it's nice that Ms. Crews is supporting him in Spanish, but that she wants Mateo to start participating more in whole group discussions since he doesn't participate a lot. Ms. Crews responds, "I understand what you're saying. I was just trying to make sure she understood everything that was happening." Miss Lee acknowledges this effort and replies with a suggestion, "What if we try to sit Mateo next to a student who is fluent in Spanish and English so that they can help him translate? This will help him participate in the group more and start discussing his thinking with the other students instead of just the teacher." Ms. Crews agrees with this idea and they begin talking about who would be a good partner for Mateo.