

## How to Learn from Video: The 7 Basics

You will be viewing videos of real classrooms, students, and teachers. The videos you watch and the questions you will be asked are designed to deepen your understanding of science and science teaching. They will guide you in becoming more analytical about lessons. We produced these videos because they show many elements of highly effective teaching. We intentionally include episodes where teachers share their thinking about the lessons during interviews. This is because the decisions teachers make are not always obvious to other teachers if they simply watch classroom video. We also include extended episodes of student talk. These video scenes of the regular classroom are authentic—not staged. There were no “re-takes.”

It is important to lay out some guidelines that will help you get the most out of the video.

### Viewing Basics

#### Basics #1: Respect the teacher and the students

The individuals being filmed have graciously volunteered to make their performances public. We will talk about teachers and students as though they are in the room with us. It is hard to over-emphasize how difficult it is to teach science well, but it is even more challenging to do it when being filmed for an unknown audience.

#### Basics #2: Look past the trivial, look past the little things that “bug” you.

Because all participants in this video are human, they might do things that you find frustrating. For example, a teacher may have certain mannerisms that annoy you or a voice that irritates you. She/he may repeat the same phrase over and over (“ok” or “good” or “like”). The teacher may seem too energetic to you, or might wear unusual clothes for your taste. These are not essential features for high quality science teaching. Learn to look past them.

You should also not expect perfect, television quality camera work. The videographers for these lessons had a priority to get the best possible sound quality from the students, and to show exactly what students were seeing and doing during activities. Nevertheless, you will have to periodically adjust your volume as you watch, and even so, some quiet students will be hard to hear. To capture whole group talk, there had to be quick movements from one part of the classroom to another. You will grow to appreciate this “reality” style as you work with the videos.

#### Basics #3: Focus on student thinking and the science content storyline.

Your learning will be maximized if you keep your focus limited to a close scrutiny of student thinking, the development of the science content storyline in the lessons, and the various discourse moves the teachers use to stimulate thinking and learning. As you notice interesting moments in the video or find yourself with a question or judgment, make a note of it. This will become your *claim* (discussed later).

#### Basics #4: Look for evidence to support any claims.

An important part of analysis is the identification of specific evidence to support claims about what students understand or are thinking. As you look at video clips or student work, get in the habit of identifying specific time markers and specific statements made by the teacher or the students that support your thinking about



- **Claim:** I think these students are confused.
- **Evidence:** At 34:12 in the lesson, Rhonda says that magnets have something to do with electricity. But then at 14:52 in the interview, she says that the electric circuit she made has nothing to do with magnets. Mark is confused in a different way. He says in the lesson at 34:56 that magnets and electricity are related. But in the interview at 18:19 he says that magnets are related to electricity because there are little magnets inside the electrical wire. So he understands that magnetism and electricity are related (perhaps because the students repeated this statement multiple times in lesson 1, for example at 30:43). But he has his own theory about what that relationship is.

### **Basics #5: Consider alternative explanations and teaching strategies.**

A key piece in analysis is setting aside your first reaction, and refining or modifying quick judgments. When you make a judgment, turn it into a question and then consider alternative explanations for what you are observing. For example:

- **Judgment:** It bothers me that she never answers their questions. The students must be frustrated.
- **Questions:** Why doesn't she answer their questions? Does this frustrate the students?
- **Alternative explanation:** She will answer their questions eventually, but for now she just wants to gather their ideas so that the students can see the wide range of ideas that they have.
- **Alternative explanation:** She wants the students to answer their own questions, to be more active learners who are responsible for their own learning.
- **Alternative explanation:** The students are used to this process and are not frustrated by it. They know that the teacher values their questions.

### **Basics #6: Look more than once.**

Video gives us the power to look at a teaching episode over and over again. Take advantage of that power. To deepen your learning from analysis of video, always look at clips more than once. Let go of your everyday entertainment view of video watching ("I've already seen that movie") and *adopt an analysis view* of video watching.

### **Basics #7: Avoid the "this won't look like my classroom" trap.**

It is unlikely that the student populations and physical facilities that you see will match exactly classrooms where you will be teaching. The classroom may be in an inner city or in a rural area; the class may be a charter school where students call teachers by their first names, or it may be taught by a science resource teacher who does not know all of the students' names. Because of this, it might be tempting to say, "These kids aren't like the kids I'll be teaching. And my classroom won't have these resources. So this lesson doesn't speak to my situation." But every teacher needs to understand the science content and use that knowledge to develop a coherent science storyline in lessons and to pay attention to students' thinking and learning. These are the essentials of science teaching, and they apply to all students in all kinds of communities. These videos show teaching moves that can be used in any classroom with any kind of student. Commit yourself to get the most out of each video.