

## 3b: Using Questioning and Discussion Techniques

### Level 4

The teacher uses a variety or series of questions or prompts to challenge students cognitively, advance high-level thinking and discourse, and promote metacognition. Students formulate many questions, initiate topics, challenge one another's thinking, and make unsolicited contributions. Students themselves ensure that all voices are heard in the discussion.

#### CRITICAL ATTRIBUTES

- Students initiate higher-order questions.
- The teacher builds on and uses student responses to questions in order to deepen student understanding.
- Students extend the discussion, enriching it.
- Students invite comments from their classmates during a discussion and challenge one another's thinking.
- Virtually all students are engaged in the discussion.

### Level 3

While the teacher may use some low-level questions, he poses questions designed to promote student thinking and understanding. The teacher creates a genuine discussion among students, providing adequate time for students to respond and stepping aside when doing so is appropriate. The teacher challenges students to justify their thinking and successfully engages most students in the discussion, employing a range of strategies to ensure that most students are heard.

#### CRITICAL ATTRIBUTES

- The teacher uses open-ended questions, inviting students to think and/or offer multiple possible answers.
- The teacher makes effective use of wait time.
- Discussions enable students to talk to one another without ongoing mediation by the teacher.
- The teacher calls on most students, even those who don't initially volunteer.
- Many students actively engage in the discussion.
- The teacher asks students to justify their reasoning, and most students attempt to do so.

### Level 2

The teacher's questions lead students through a single path of inquiry, with answers seemingly determined in advance. Alternatively, the teacher attempts to ask some questions designed to engage students in thinking, but only a few students are involved. The teacher attempts to engage all students in the discussion, to encourage them to respond to one another, and to explain their thinking, with uneven results.

#### CRITICAL ATTRIBUTES

- The teacher frames some questions designed to promote student thinking, but many have a single correct answer, and the teacher calls on students quickly.
- The teacher invites students to respond directly to one another's ideas, but few students respond.
- The teacher calls on many students, but only a small number actually participate in the discussion.
- The teacher asks students to explain their reasoning, but only some students attempt to do so.

### Level 1

The teacher's questions are of low cognitive challenge, with single correct responses, and are asked in rapid succession. Interaction between the teacher and students is predominantly recitation style, with the teacher mediating all questions and answers; the teacher accepts all contributions without asking students to explain their reasoning. Only a few students participate in the discussion.

#### CRITICAL ATTRIBUTES

- Questions are rapid-fire and convergent, with a single correct answer.
- Questions do not invite student thinking.
- All discussion is between the teacher and students; students are not invited to speak directly to one another.
- The teacher does not ask students to explain their thinking.
- Only a few students dominate the discussion.

### 3b USING QUESTIONING AND DISCUSSION TECHNIQUES

Questioning and discussion are the only instructional strategies specifically referred to in the Framework for Teaching, a decision that reflects their central importance to teachers' practice. In the Framework, it is important that questioning and discussion be used as techniques to deepen student understanding rather than serve as recitation, or a verbal "quiz." Good teachers use divergent as well as convergent questions, framed in such a way that they invite students to formulate hypotheses, make connections, or challenge previously held views. Students' responses to questions are valued; effective teachers are especially adept at responding to and building on student responses and making use of their ideas. High-quality questions encourage students to make connections among concepts or events previously believed to be unrelated and to arrive at new understandings of complex material. Effective teachers also pose questions for which they do not know the answers. Even when a question has a limited number of correct responses, the question, being nonformulaic, is likely to promote student thinking.

Class discussions are animated, engaging all students in important issues and promoting the use of precise language to deepen and extend their understanding. These discussions may be based around questions formulated by the students themselves. Furthermore, when a teacher is building on student responses to questions (whether posed by the teacher or by other students), students are challenged to explain their thinking and to cite specific text or other evidence (for example, from a scientific experiment) to back up a position. This focus on argumentation forms the foundation of logical reasoning, a critical skill in all disciplines.

Not all questions must be at a high cognitive level: in order for a teacher's performance to be rated at a high level; that is, when exploring a topic, a teacher might begin with a series of questions of low cognitive challenge to provide a review, or to ensure that everyone in the class is "on board." Furthermore, if questions are at a high level but only a few students participate in the discussion, the teacher's performance on the component cannot be judged to be at a high level. In addition, during lessons involving students in small-group work, the quality of the students' questions and discussion in their small groups may be considered as part of this component. In order for students to formulate high-level questions, they must have learned how to do so. Therefore, high-level questions from students, either in the full class or in small-group discussions, provide evidence that these skills have been taught.

**The elements of component 3b are:**

- **Quality of questions/prompts**  
*Questions of high quality cause students to think and reflect, to deepen their understanding, and to test their ideas against those of their classmates. When teachers ask questions of high quality, they ask only a few of them and provide students with sufficient time to think about their responses, to reflect on the comments of their classmates, and to deepen their understanding. Occasionally, for the purposes of review, teachers ask students a series of (usually low-level) questions in a type of verbal quiz. This technique may be helpful for the purpose of establishing the facts of a historical event, for example, but should not be confused with the use of questioning to deepen students' understanding.*
- **Discussion techniques**  
*Effective teachers promote learning through discussion. A foundational skill that students learn through engaging in discussion is that of explaining and justifying their reasoning and conclusions, based on specific evidence. Teachers skilled in the use of questioning and discussion techniques challenge students to examine their premises, to build a logical argument, and to critique the arguments of others. Some teachers report, "We discussed x," when what they mean is "I said x." That is, some teachers confuse discussion with explanation of content; as important as that is, it's not discussion. Rather, in a true discussion a teacher poses a question and invites all students' views to be heard, enabling students to engage in discussion directly with one another, not always mediated by the teacher. Furthermore, in conducting discussions, skilled teachers build further questions on student responses and insist that students examine their premises, build a logical argument, and critique the arguments of others.*
- **Student participation**  
*In some classes a few students tend to dominate the discussion; other students, recognizing this pattern, hold back their contributions. The skilled teacher uses a range of techniques to encourage all students to contribute to the discussion and enlists the assistance of students to ensure this outcome.*

**Indicators include:**

- Questions of high cognitive challenge, formulated by both students and teacher
- Questions with multiple correct answers or multiple approaches, even when there is a single correct response
- Effective use of student responses and ideas
- Discussion, with the teacher stepping out of the central, mediating role
- Focus on the reasoning exhibited by students in discussion, both in give-and-take with the teacher and with their classmates
- High levels of student participation in discussion