

Five Strategies for Questioning with Intention

Arthur L. Costa and Bena Kallick

Strategic use of questions can deepen learning, build a growth mindset, and help students become more aware of their own thinking processes.

"You can tell whether a man is clever by his answers. You can tell whether a man is wise by his questions."

—*Naguib Mahfouz, winner of the 1988 Nobel Prize for Literature*

One of a teacher's most important practices is designing and posing questions. Knowing that questions are the gateway into students' thinking, masterful teachers don't just ask a lot of questions; they purposefully design and pose questions that are appropriate for each learning goal—questions that will bring about the specific kinds of student learning they are aiming for. For example, when trying to engage students at the beginning of a unit of study, teachers might ask questions that stimulate curiosity. When helping students develop a research topic, they might pose analytical questions. When facilitating a discussion, they might ask questions that invite open-ended thinking. To build students' problem-solving skill, they might pose questions that call attention to thinking strategies.

Here are five questions about your questions that can help you become more purposeful in designing and posing questions that foster student learning.

1. Do you use questions at all cognitive levels?

Bloom's taxonomy (1956) identified various levels of thinking that learners can engage in, from the lowest (remembering) up through understanding, applying, analyzing, evaluating, and creating. Over the years, other taxonomies have refined and elaborated on Bloom's framework (see Costa, n.d.; Feuerstein, Falik, & Feuerstein, 2015; Marzano, 2001; Tokuhamma-Espinosa, 2004). These taxonomies are helpful resources teachers can use to invite students to operate at increasingly complex levels of thinking.

All levels of thinking are valid and necessary; the point is to move flexibly among them and to use these levels strategically when designing questions to deepen student understanding. For example, here's how a teacher might structure questioning around a taxonomy that includes three cognitive levels:

- *Level 1: Input of data.* Questions at this level invite recall of information or rote application of simple procedures. Tasks involve listing, reciting, naming, counting, defining, and recognizing. For example, "Describe the destruction caused by the 1906 San Francisco earthquake."
- *Level 2: Processing of data.* Questions at this level invite students to combine, find patterns, and make sense of the data they have gathered or recalled. Such thinking involves more than one mental step, such as comparing, organizing, summarizing, sequencing, analyzing, and estimating. For example, "How are conditions in San Francisco today similar to and different from those that existed at the time of the 1906 earthquake?"
- *Level 3: Output of concepts.* Questions at this level invite students to think more abstractly—to synthesize information from multiple sources, to generalize and transfer knowledge from one domain to solve problems in another, and to apply what they've synthesized in new and novel

situations. Tasks include prediction, application, creation, and evaluation. For example, "Drawing on what you've learned about the 1906 earthquake and your evaluation of present-day building codes, how would you advise the San Francisco city council to improve earthquake safety measures?"

2. Do your questions build on positive assumptions?

Embedded in the language we use are cues from which listeners interpret meaning and make inferences. These inferences may be positive or negative. For example, in the question, "Do you think that even Tony could contribute to this project?" notice the hidden assumption that Tony may not have much to contribute or that the project might be too difficult for Tony. Other negative or limiting remarks include

- Did you forget to do your assignment again?
- Do think the others will find your ideas interesting?
- Here, I'll give you an easier puzzle, and then you'll be successful.

In contrast, teachers can deliberately load their questions with empowering assumptions that build the student's self-esteem, efficacy, and growth mind-set:

- What goals do you have in mind for this project? As you plan for your assignment, what materials will you need? (The assumptions are that the student has multiple goals and a plan of action and that she has a capable mind.)
- What insights did you gain from working on this project that you'll carry forth to your next project? (The assumptions are that the student is insightful, that he learned something from working on this project, and that he has the capacity to apply these insights to the next project he tackles.)

As you examine and compare these two sets of questions, think how each might affect students' growth mind-set and self-esteem. Strive to eliminate the negative and accentuate the positive.

3. Do your questions build habits of mind?

Good questioning not only helps students succeed in the specific assigned cognitive task, but also helps them learn how to cultivate the dispositions they will need to persist and succeed in all subject areas. We have identified 16 such dispositions, which we've called *habits of mind*, or "the attributes that human beings display when they behave intelligently" (Costa & Kallick, 2008, p. 15):

- Persisting.
- Thinking and communicating with clarity and precision.
- Managing impulsivity.
- Gathering data through all senses.
- Listening with understanding and empathy.
- Creating, imagining, and innovating.
- Thinking flexibly.
- Responding with wonderment and awe.
- Thinking about thinking (metacognition).
- Taking responsible risks.
- Striving for accuracy.
- Finding humor.

- Questioning and posing problems.
- Thinking interdependently.
- Applying past knowledge to new situations.
- Remaining open to continuous learning.

When they're designing and posing questions, teachers have the opportunity to not only lead students to deeper understanding of subject matter but also help them develop specific habits of mind. Here are a few examples:

- To help students learn to *think flexibly*, ask open questions that have multiple answers, such as "What might be some alternatives?" and "What hunches do you have in mind that might explain ...?"
- To help students develop *persistence*, ask, "As you read, what do you do when your mind wanders but you want to remain on task?"
- To encourage students to *respond with wonderment and awe*, ask, "As you reflect on our field trip, what intrigued you so much that you'll continue wondering about it?"

4. Do your questions encourage reflection?

"We do not learn from experience We learn from reflecting on experience."

—*John Dewey*

Reflection is more complex than simply remembering. Reflection means not only drawing on and distilling past knowledge, but also applying or transferring that knowledge to new situations. Therefore, encouraging students to be reflective is an essential part of helping them become metacognitive thinkers and learners. Consider the power of such questions as these:

- Considering what you've discovered about your learning style, what might you do when you find yourself in an incompatible learning situation?
- What metacognitive strategies did you use to manage and monitor your listening skills as you worked in teams?
- How did striving for accuracy and precision improve your product?
- In what other classes would it be important to be accurate and precise?
- How did thinking interdependently help you accomplish your task?
- In what other situations beyond school would you need to think interdependently?
- While you were reading, what was going on inside your head? How were you able to monitor your understanding of the story?
- As you talked to yourself about this problem, what new insights did you generate?
- When your group got stuck, how did you react? How did your awareness of your reaction help you reach a resolution?
- How did your group decide to choose roles?

Notice that all these questions invite students to examine and take charge of their own thinking processes—their problem solving, decision making, and creative thinking. By using such questions frequently, teachers can lead students to internalize the habits of mind and consciously apply them to all their learning tasks.

5. Do you pose long-range eternal questions?

Students in a focus group commented on how the questions they experienced in middle school differed from those they were experiencing in high school: In middle school, the students said,

teachers ask you to tell what you have learned. In high school, they ask you what new questions arise as a result of your learning. These students had realized that the end of the unit is not the end of wondering.

Many teachers ask broad, universal questions as a larger umbrella for a semester or year's work. Those questions are so large that they have not yet been answered. They foster the realization that the puzzles and mysteries of life remain open to continual learning. Such questions include

- What is the nature of virtue? (fairness?) (equity?) (beauty?)
- What is truth, and how do we know it?
- Is there such a thing as a good war?
- What is the real problem in this situation?

These questions are so universal that they can capture the imaginations and philosophic inclinations of students of all ages and across all subjects. So, for example, if the guiding question is about the nature of fairness, young students might explore whether it is fair to say that some people can play in games and others cannot (Paley, 1993), whereas high school students might consider the issue of privilege and ultimately produce a capstone project exploring the meaning of privilege from a global perspective.

From Teachers to Students

It's important to note that *questioning and posing problems* is one of the 16 habits of mind that help students succeed in all academic areas. So even though this article discusses how teachers can become more purposeful in their own use of questions, the ultimate goal is to help students get into the habit of asking purposeful questions as well.

Because imitation is one of the most powerful forms of learning, much of what students learn about questioning and problem-posing is a result of the teacher's modeling. By asking questions strategically with specific goals in mind, teachers can lead students to deeper levels of learning.

NOW THAT'S A GOOD QUESTION!

Why?

Questioning sequences in the classroom offer an opportunity for success and failure. Too frequently teachers set students up for failure by jumping right to asking, "Why?" without any preparation. Instead, question purposefully to lead toward higher-order thinking. Begin by asking about basic facts that require recognition and recollection, then follow with descriptions as well as comparisons. Next, follow up by challenging students to justify their response and position. Students should then make claims and be asked to justify their viewpoint with evidence in addition to considering other viewpoints. Doing this routinely in the classroom allows students to internalize the process and to make these transitions on their own. For example, ask students to recall words related to the U.S. Civil War, then ask for a basic description of the Civil War. Ask them to describe each side involved in the conflict. Follow up with questions on predictions and explanations of cause and effect. Students should then be well prepared with evidence and ready to find errors in their reasoning. Focus on this routine to build the capacity for reasoning and great conversations in the classroom.

—John Mason, teacher of social studies, William Davies Middle School, Mays Landing, New Jersey

For more great questions suggested by our readers, see our "[Tell Me About](#)" column.

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