



Lens on Learning Theory

“What’s in a question, you ask? Everything. It is a way of evoking stimulating response or stultifying inquiry. It is, in essence, the very core of teaching.” ~Dewey (1933)~

Thinking is driven by good questions, not by answers. Good questions help learners turn on their intellectual engines, and promote curiosity about the subject. Characteristics of good questions include the following:

Worthy: Engaging questions are interesting, relevant, and have many answers.

Clear and concise: Questions should be worded so students can grasp them easily. It helps to plan your questions in advance and review them with someone else for clarity.

Open-ended: Open-ended questions facilitate thinking, extend learning, and promote dialogue. They begin with words such as what, how, and why.

Reflection on Practice

“Asking and answering questions are central to the learning process and to effective teaching. Yet studies show that faculty devote less than 4 percent of class time to asking questions, and that the questions they do ask are rarely of the type that require students to think” ~Davis, B.G. 2001 p. 82~

1. What types of questions do you currently ask? What types of learning do they facilitate?
2. How might you use questions to stimulate thinking and promote a sense of curiosity for your subject area?

Expanding Your Teaching Toolkit

A. Questions with a Purpose

The first step to increase the quality and quantity of student questioning is to model it. A teacher’s curiosity for their subject area will be contagious. Below are a few different purposes for questions, with examples of each.

Clarification Questions

- What is meant by ____ ? How else could we explain that?
- What is an example of ____ ?

Probing Questions

- a) Probing assumptions, bias, motives, etc.
 - What assumptions might we (or others with a different point of view) make about ____?
 - What might influence your ideas about ____?
- b) Probing reasons
 - What makes you say that? How did you come to that conclusion?
 - What other ways can we look at ____ ?
- c) Probing evidence
 - Where did the information or data come from? How was it collected? Why is it communicated in this particular manner? How reliable or valid is it? How do we know?
 - What evidence is there to support ____? What does ____ mean? What does ____ tell us?
 - What other data or information might help us understand ____ better? How could we get it?
- d) Probing connections
 - What do we already know about ____ ? What other questions can we ask about ____ ?

- What are the larger themes or issues related to ____ ? How does this connect to ____ ?
- Why does this matter? What difference does this make?
- What might be the cause (or effect) of ____ ?

Hypothetical Questions

- What do you predict will happen if ____ ?
- Consider the outcome if ____ and ____ are changed?

Reflective Questions

- How does ____ fit with your beliefs or values related to this topic?
- How does ____ fit with your experience related to this topic?
- How does ____ make you feel? What do you think are the influences on those feelings?

B. Questions at Higher Levels of Bloom’s Taxonomy

To promote higher levels of thinking, students need lots of opportunities to practice such thinking and to see it modeled by others. For an extensive list of questions at various levels, visit <http://www.kcmetro.cc.mo.us/longview/ctac/blooms.htm>

Application Questions

- Using what we just learned, how would you solve (explain, plan, develop, approach) _____?
- What are examples of _____ ? Why?

Analysis Questions

- How is ____ related to ____? How does ____ compare/contrast with ____?
- How would you communicate ____ visually (i.e. using a flowchart, concept map, image)?

Synthesis Questions

- How can we tie ____ to ____ in a meaningful way?
- Using ____ and ____ and ____, propose a solution for _____?

C. The Socratic Teaching Method

The Socratic Method uses questions to advance learning, with one of two purposes:

Purpose #1: To get learners generating content knowledge. In this case, teachers ask questions that get students to reveal what they already know about a topic or concept. Teachers then know what gaps have to be filled in to either complete or correct student knowledge.

Purpose #2: To explore and uncover student reasoning. In this case, teachers ask questions to uncover how students solved a problem or arrived at an answer. Questions relate to students’ assumptions, data, information, thinking processes, and/or evidence.

D. Tips for Using Questions as Part of the Learning Process

Give students time to think: This time can be in the form of a “minute to think about it”; “write down a possible response and then we’ll see what people came up with”; “work as a group, and then have one person post your thoughts on Blackboard”.

Use strategies that involve all students: Thinking requires effort. Unless you expect it, structure it, monitor it, and link it to assessment, there will be little motivation to make that effort. Try to get students thinking about a question individually or discussing it with a partner before exploring it in a large group (Think, Pair, Share).

More Information

Center for Critical Thinking (n.d.) The role of questions in thinking, teaching, and learning. Retrieved January 26, 2004 from <http://www.criticalthinking.org/University/univclass/roleofquest.html>

Davis, B.G. (2001). Tools for teaching. Jossey-Bass. [Available in the Centre for Teaching and Learning]

Fowler, B. (2002). Bloom’s taxonomy and critical thinking. Longview Community College. Retrieved January 26, 2004 from <http://www.kcmetro.cc.mo.us/longview/ctac/blooms.htm>

McKenzie, J. (1997). A questioning toolkit. From Now On: Educational Technology Journal. Vol. 7 No. 3. Retrieved January 26, 2004 from <http://fno.org/nov97/toolkit.html>