

How To Ask HOT Questions

Questioning is the vehicle through which we encourage student thinking. One remarkable feature of questions framed at higher levels is that suddenly there is more scope within the class for all students to engage in thinking. A greater number of entry levels and access points into the discussion become immediately available, and the potential for participation increases dramatically.

Too often, level 1 & 2 readers are denied access to higher level questions because they still have difficulties with skills. However, often higher level questions are easier for a level 1 or 2 reader to answer than questions that have only one answer because open ended questions have more entry points and require more "think time" by the rest of the class. Too often, when a class is heavily focused on recall questions, the participation of lower readers will be limited by their need for processing time.

Questions asked at the knowledge level, that is, with the possibility of a single right answer, favor students who are auditory learners and who have high verbal facility. Students with auditory processing or word retrieval difficulties, or who are just beginning to learn English as a second language will not be able to compete in the rapid fire atmosphere that checks only for recall. While they may know the facts, the teacher's presentation style may prevent these students from actively participating.

Suggestions for drafting questions at higher levels.

- **Model thinking processes explicitly:** Some students will learn intuitively the cognitive demands of analysis, synthesis, application and evaluation, but for many others, learning what is required for each of these processes will remain a mystery unless taught explicitly.
- **Use advance organizers:** Note-taking organizers and other graphic representations presented ahead of the lesson cue students as to what to expect and how to organize the new information. Questions and agendas can also be used to help students anticipate what to look for in the coming lesson.
- **Use Concept Mapping** to provide students with a framework for visualizing thinking, for learning the underlying structure of each of the cognitive processes, and "seeing" what may be missing in their thinking. Concept maps are visual representations that reflect underlying mental models, dimensions of concepts, or cognitive strategies such as thinking by analysis, categorization and synthesis. The map formats are designed to match the cognitive processes involved in developing meaning and deep understanding. Unlike worksheets or graphic organizers, conceptual maps are evolving in nature and can be revised as thinking changes or content requirements become more complex. The maps are developed in team or individual bases and allow for sharing.

Questioning Strategies That Provoke High-Level Thinking

- Require students to **manipulate prior information** by asking questions such as:
 - "Why do you suppose...?"
 - "What can you conclude from the evidence?"
- Ask students to **state an idea or definition in their own words**.
- Ask questions that **require the solution** to a problem.
- Involve students in **observing and describing an event or object** by asking questions such as:
 - "What do you notice here?"
 - "Tell me about this"
 - "What do you see?"
- Ask students to **compare two or more objects, statements, illustrations, or demonstrations**, and identify similarities or differences between them. While identifying similarities, students will begin to establish patterns that can lead to understanding of a concept or generalization.

Tips for High-Level Questioning:

1. **Create a “HOT” (Higher Order Thinking) Question for each lesson.** Write the question on the board. When the lesson is finished have students work in pairs or independently to answer the question. End by sharing answers.
2. **Require ALL learners to answer the question.** This is when using the "all-write" strategy is very helpful. Instead of simply asking a question and having one or two students raise their hand to answer, the teacher should have ALL students write down an answer to the question. This way the teacher has gotten all of her students involved in the question and answer process. Or, instead of having all students write their answer, the teacher could simply ask the question and have ALL students share their response with a partner.
2. Require students to defend, or back-up, their answers.
3. Use Webb’s DOK to create high-level questions. For example, instead of asking, "Which U.S. President authorized the use of the atomic bomb at the end of World War II?" a teacher could ask, "Was President Truman justified in using the atomic bomb to end World War II and why do you think that?"
4. Differentiate questions as appropriate.
5. Promote examination of new and different perspectives. For example, instead of asking, "What happened at the Boston Tea Party?" a teacher could ask, "If you were a British soldier, how would you have reacted when you heard the news about the Boston Tea Party?"

By using these simple teaching tips for high-level questioning, teachers can not only get ALL their students involved in the lesson, but also get all those students to gain a deeper understanding of the content by challenging them to think critically about each answer.

Higher and Lower Level Questions

Usually questions at the lower levels are appropriate for:

- evaluating students' preparation and comprehension.
- diagnosing students' strengths and weaknesses.
- reviewing and/or summarizing content.

Questions at higher levels of the taxonomy are usually most appropriate for:

- encouraging students to think more deeply and critically.
- problem solving.
- encouraging discussions.
- stimulating students to seek information on their own.



HOT Questions