

# **Effective Questioning**

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## Effective Questioning At Glance

### Discussion Questions and Guiding Questions

This manual focuses on discussion questions, which can be used as catalysts for student thinking, classroom conversation, and dialogue. Another form of questions is guiding questions, which identify course, unit, or lesson learning targets for student. Guidelines for creating high-quality guiding questions are included in the Content Planning Mini-coaching manual.

### The Right Type of Question for the Learning Occurring

Different questions are appropriate for different kinds of learning. When students are experiencing mechanical learning, right or wrong, open-ended and closed-ended questions are usually appropriate. When students are experiencing metaphorical learning, opinion, open-ended questions are usually appropriate.

### Right or Wrong Questions

These are questions that have right or wrong answers. Some examples include:

- What is 4x4?
- What is the capital of Kansas?
- How many goals did Wayne Gretzky score in his best year?

### Opinion Questions

These are questions that do not have a correct response, or questions that can be answered in a number of different ways? Some examples include:

- How would you feel if you were the central character?
- What would you do if you were in this situation?
- What is another way of looking at this?

### Open-Ended & Closed-Ended Questions

Open-ended questions prompt extended responses. Closed-ended questions prompt discrete responses. “How old are you?” is a closed-ended question. “How do you feel about your age?” is an open-ended question that would likely demand a more extensive response.

### Levels of Questions

Several taxonomies have been created to identify levels of questions, and any of them can be used to identify the appropriate level for their questions. Any of the taxonomies can be helpful. We consider three levels of questions, described by Lynn Erickson:

1. Know: Questions that prompt students to demonstrate that they can remember information they have learned.
2. Understand: Questions that prompt students to demonstrate that they comprehend the implications of the information they have learned.
3. Do: Questions that prompt students to extend their knowledge and understanding to new situations or settings.

## IC CHEAT SHEET

1. Identify what kind of learning the question addresses (mechanical or metaphorical)
2. Identify the level of the question (know, understand, do)
3. Develop the correct type (right or wrong; opinion) of question
4. Develop the correct kind of question (closed-ended; open-ended)
5. Use the questions effectively with students

# 1. MECHANICAL VS METAPHORICAL LEARNING

## **What kind of learning is taking place?**

Before writing questions and planning how and where to use them, teachers should consider what kind of learning they want their students to experience. One way to think about learning is to sort it under two organizing concepts: mechanical and metaphorical (Knight, 1999).

### **Mechanical Learning**

Mechanical learning refers to the learning students experience when the content to be learned in a class is unambiguous, when the outcomes are unmistakable and straight forward, and when there is a right and wrong answer that can be clearly identified. Examples of mechanical knowledge might include phonological awareness, memorization of essential concepts and terminology, grammatical terms, math facts, and so on. When a teacher employs instructional practices to enact mechanical learning, often called direct instruction, the teacher wants students to master the content pretty much in same way that he or she understands it.

### **Metaphorical Learning**

This type of learning shares attributes with metaphor; it is by definition ambiguous, and functions indirectly. Metaphorical knowledge has no clear right and wrong outcome. For example, people determine and develop their own understanding of learning as appreciating literature, defining compassion or heroism, and many creative acts such as higher-order writing activities. Metaphorical knowledge is complex, ambiguous, and so uniquely individual that we damage it if we reduce it. When a teacher employs instructional practices to enact metaphorical learning, often called constructivist practices, the teacher wants students to construct their own sense of what they are learning.

## 2. IDENTIFY THE LEVEL OF QUESTION

**Knowledge:** Questions that prompt students to demonstrate that they can remember information they have learned. Knowledge questions are frequently closed-ended.

- What is  $4 \times 4$
- What is a noun?
- What are the five steps of the strategy?
- What are some countries that border Tanzania?

**Understanding:** Questions that prompt students to demonstrate that they comprehend the implications of the information they have learned. Understanding questions communicate the big ideas of content being learned. They can be open-ended or closed-ended.

- What is one way that the geographical differences between the north and the south led to the start of the civil war?
- How does organized writing help readers understand our writing?
- What would happen if you injected pure water into an animal cell and how do you know this?
- If you dropped a ten-pound rock and a one-pound rock from the top of the Empire State building, which would hit the ground first?

**Application:** Questions that prompt students to extend their knowledge and understanding to new situations or settings.

- Given what we've learned about how to read poetry, what do you think this poem is meant to convey?
- How can you use what we have learned about problem solving in math to solve a personal problem?
- What are the implications of what we have learned about the Vietnam War for future US foreign policy?

### 3. IDENTIFY THE TYPE OF QUESTION

*Right or wrong questions* have correct and incorrect answers. Some examples include:

- Who is the president of the United States?
- What is the subject of the sentence?
- What are the steps of the scientific method?
- What is the definition for mean, median, and mode?

*Opinion questions* are questions that students cannot get wrong. Some examples include:

- What is your opinion of the president?
- What would you do if you were the character at this point in the story?
- What is a puzzle in nature that you would like to understand?
- Do statistics make sports more or less interesting for you?

#### 4. IDENTIFY THE KIND OF QUESTION (Closed-ended questions)

##### *Closed-ended questions*

- elicit limited responses. Thus, a closed-ended question always has a complete answer.
- usually invite short, yes or no, factual, or multiple-choice answers.

Some examples of closed-ended questions are:

- Where is our nation's capital?
- What is the setting of the story?
- How is the periodic table organized?
- What is the Pythagorean theorem?

## 4. IDENTIFY THE KIND OF QUESTION (Open-ended questions)

### *Open-ended questions*

- elicit unlimited responses. Thus, an open-ended question always provides for an expansive, extended response.
- usually invite longer, detailed, knowledge, opinion, or feeling questions.

Some examples of *open-ended questions* are:

- What would you do if you were our president?
- How does the poet use imagery to convey emotion in this poem?
- What is an example of a system at work in nature?
- How would you solve this problem?

## 4. IDENTIFY THE KIND & TYPE OF QUESTION (mechanical and metaphorical)

If the question is for mechanical learning teachers should usually choose:

- Right or wrong questions,
- Closed-ended questions

If the question is for metaphorical learning teachers should usually choose:

- Opinion questions
- Open-ended questions

## **5. USE QUESTIONS EFFECTIVELY WITH STUDENTS<sup>1</sup>**

1. Use at least a 3-1 ratio of positive to corrective comments.
2. Ask questions of all students in my class.
3. Re-ask questions when students say, “I don’t know” by repeating, rephrasing, or reducing the question.
4. Ask the same number of questions of all students.
5. Ask students to explain their answers.
6. Avoid giving away answers.
7. Provide sufficient wait time.

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<sup>1</sup> These suggestions were influenced by Sprick, R.S., Garrison, M., & Howard, L. (1998). CHAMPs: A proactive and positive approach to classroom management. Longmont, CO: Sopris West and G. Ivan Hannel & Lee Hannel (2003). Highly effective questioning. Phoenix, AZ: Kismet Print Productions

