ELEMENTS OF EFFECTIVE QUESTIONING

1. Questioning Behavior:
   - Phrase clearly and concisely
   - Use natural, unambiguous language appropriate to the students' level
   - Require students to process or think and compose an answer. Avoid rhetorical and simple yes-no or true-false.
   - Ask in a positive, reinforcing manner
   - Questions should never be used punitively

2. Frequency:
   - Research: Indicates that effective teachers ask more questions than do those who are less effective
   - Asking a lot of questions increases student involvement, which increases learning
   - Ask one at a time
   - Have students practice writing questions and then asking their peers for answers

3. Equitable Distribution:
   - Call on all students as equally as possible
   - Call on students whether hands are raised or not, increases attention
   - Ensure that all students have ample opportunities to answer questions, could use note system to keep track.
   - Call on students randomly
   - Ask the question first, then call on the student
   - For non-volunteers—start with shorter questions; give them questions ahead of time; play a game

4. Repetition of Questions:
   - Asking a student to reconsider a question or point that has been made earlier in the lesson provides emphasis and focus on an important concept
   - Maintains interaction between teacher and student
   - Gives quick estimate of whether they "got it" earlier.
   - Assists the student in following the directions of complex lessons
   - Develop continuing review techniques instead of or in addition to a dedicated review session

OBTAINING GOOD ANSWERS

Wait Time:
   - Wait/Pause 3 to 5 seconds
   - Pause between teacher question and student response
   - Pause between student response and teacher reaction

Teacher Follow Up on Student Responses:
Teacher's follow up either encourages or discourages thoughtful and successful student participation. Follow up when a student fails to respond accurately and/or confidently.

   - Student response is correct and confident - accept and move on
- Student response is correct but hesitant –
  ✓ provide feedback
  ✓ prompt by using additional questions to encourage student to determine correctness of response – ensure student knows why answer is correct
  ✓ prompt by asking for a fuller response
  ✓ probe by asking additional questions to help expand or raise level of the response
  ✓ ask for responses from other students (works for students with strong academic self-concepts, not good for others).

- Student response is incorrect -
  ✓ prompt by clarifying the question, asking the question in a different way/rephrasing the question
  ✓ prompt by asking a simpler related question/easier question
  ✓ prompt by giving a directive that leads to a correct answer
  ✓ reinforce participation and effort
  ✓ be positive; being negative shuts down the class
  ✓ try to identify some part of the answer that is correct

- Student response is incorrect and careless - provide correct response and move on

- Callouts should be prevented. Establishing and reinforce a rule requiring students to be recognized before answering

- Choral Response is the entire class answering a question at the same time. Effective for practicing skills, terms, and facts that should be overlearned and available for immediate recall.

**TYPES OF QUESTIONS**

1. **Higher Order or Lower Order** - Blooms taxonomy
   - Knowledge
   - Comprehension
   - Application
   - Analysis
   - Synthesis
   - Evaluation
     - Has a built-in set of evaluative criteria
     - Emphasizes a set of specific criteria on which students make judgments
     - Teacher helps students develop logical basis for evaluation
     - Accepts all student responses, but helps classify them, e.g. from least to most logical
       - Students work on appropriate responses, not answers
       - E.g. Why is the world a better or worse place because of computers? Defend or criticize the strip mining of coal in eastern Montana.

   [Hinds: the questions the authors list as examples are mostly like the first example. I wonder if it would be better to ask—Is the world a better or worse place because of computers? Is the “Big Bang” theory more viable than the “Cold Start” theory?—by asking—**Why** is the big bang etc.—seems to prejudice the answer in the asking of the question.—what do you two think?]

2. **Convergent**
   - Thoughts proceed from broad to narrow
• Requires one correct response or one of a small number of correct responses (i.e. who, what, when, where)
• Useful for drill and warm up
• Ideal for direct instruction (E.g. What helps bread dough rise? What rights are ensured by the 5th Amendment?)

3. Divergent
  • Opposite of Convergent
  • Requires thinking from narrow to broad - identify several potential answers
  • Goal- Evoke wide range of student responses
  • No right or wrong answers
    ✓ Teacher obligated to accept all answers with no "put-downs".
    ✓ Useful to write out the questions ahead of time
    ✓ Students will have to learn how to respond
    ✓ Encourages students to respond to each other
    ✓ Allows teacher to observe and speak less
  • Open Ended Questions are divergent as a variety of answers are acceptable.
    ✓ Descriptive Questions: Open-ended question that asks students to make an observation
    ✓ Comparison Questions: Open-ended question that ask students to compare and contrast different items.

4. Content or Process
  • Content deals with information
  • Process - generally higher order, divergent

LESSON PLANNING
  • Integrate planned questions into lessons
  • Prepare Questions in advance
  • Include pivotal questions to ensure variety and clarity

PROMOTING MULTIPLE RESPONSES
  • Goal—get several students to respond to question
  • Method—use divergent and evaluative type questions
  • Allow for longer student responses
  • Benefit—teacher speaks less
  • Class can be subdivided and work in groups, then report
  • Use 20 questions type game to train students on how to ask questions
  • Have students write one sentence summaries of peers’ answers