

A collection of symbolic objects is arranged on the left side of the page. At the top left is a portion of a chessboard with several pieces. Below it are two medals: one with a red ribbon and a white star, and another with a blue ribbon and a white star. At the bottom left is a circular compass. In the center, a pair of glasses with thin metal frames and a thin rod connecting the temples is laid out. The background is a plain, light-colored surface.

# Effective Questioning

EDTE 408

Principles of Teaching



# Board Work


- ◆ If a question is important enough to ask, shouldn't ALL students have the opportunity to answer it?
- ◆ Think-Pair-Share



# Frequency

- ◆ A greater number of questions tends to indicate greater teaching effectiveness (if questions aren't all lower level).
- ◆ Planning is essential to asking effective questions at a variety of levels





# Equity

Eliminate bias by asking All students All questions.

Here are some techniques to promote equity in questioning and allow the whole class to respond:

- ◆ Turn-To-Your-Neighbor
- ◆ Think-Pair-Share
- ◆ Think-Pair-Square
- ◆ Choral Response
- ◆ Value Line
- ◆ Shuffle the Deck (Random Call)
- ◆ Voting
- ◆ Ranking
- ◆ Corners
- ◆ Blackboard Share
- ◆ Slate/White Board Answers



# Prompting

- ◆ Wonder what to do when students can't respond? Try this sequence:
  - Original question
  - Alternate question (ask the same thing in a different way)
  - Open-ended question (I.e. descriptions or comparisons)
  - Alternative response (give students an “either/or” option)

# Repetition Questions

- ◆ Revisit the important stuff!!





# Wait-Time

After posing a questions, wait AT LEAT 3 second before asking for a response. Here are two paradigms:

◆ Traditional Questioning Paradigm

- Teacher questions (pause)
- Call on student (pause)
- Student responds or teacher intervenes (pause)

◆ Go back to “Teacher Questions”

◆ Cooperative Questioning Paradigm

- Teacher questions (pause)
- ALL individuals think (pause)
- ALL individuals respond (team members and teacher intervene)(pause)
- Responses are shared with the class

◆ Go Back to “Teacher Questions”



# Questioning Level

Textbooks and teachers tend to ask questions that require only literal comprehension (knowledge and comprehension). Here are two classification strategies for building and evaluating classroom questions:

## ◆ Bloom's Taxonomy

- Knowledge
- Comprehension
- Application
- Analysis
- Synthesis
- Evaluation

## ◆ ECRI Categorization

- Literal Comprehension
- Interpretive Comprehension
- Critical Comprehension
- Creative Comprehension





Revisiting the Taxonomy of  
Higher Level Learning  
as developed by  
Benjamin Bloom



# Benjamin S. Bloom

- ◆ As an educator, Benjamin S. Bloom worked with a group of fellow educators to categorize the different types of thinking skills that are used when people are trying to learn something new. They arrived at six different levels, with each level requiring a different kind of thinking. The following terms refer to these levels which Bloom and the others categorized. They have come to be known as Bloom's Taxonomy of High Level Thinking Skills. A taxonomy is a collection.



# Knowledge Level

- ◆ At this level, we are simply remembering the facts about a topic we are studying.
- ◆ Example:
  - List the planets in order from smallest to largest.
- ◆ The student recalls or recognizes information.



# Comprehension Level

- ◆ Here you should be able to show that you understand the main idea about the topic.
- ◆ Example:
  - Describe one of the planets in terms of its physical characteristics.
- ◆ The student changes information into a different symbolic form.





# Application Level

- ◆ At this level, Bloom saw people being able to use the information they had learned in the study of the topic.
- ◆ Example:
  - Explain the difference between a star and a planet when viewing with the naked eye.
- ◆ The student solves a problem using the knowledge and appropriate generalizations.



# Analysis Level

- ◆ At this level, you need to take apart the information or knowledge you have gained and look at the smaller elements that work together to make up the larger parts.
- ◆ Example:
  - Compare and contrast the nine planets in terms of: surface, temperature, distance from the sun, size, and mass.
- ◆ The student separates information into component parts.



# Synthesis Level

- ◆ This level is creative. Here you will think about designing new things or using the art to express your ideas.
- ◆ Example:
  - Fantasize and describe a guided tour through one of the planets.
- ◆ The student solves a problem by putting information together that requires original, creative thinking.



# Evaluation Level

- ◆ At this level, you are asked to give a judgment or opinion and be able to support your decision.
- ◆ Example:
  - Do you think the government is justified in spending federal money on space exploration? Why or why not?
- ◆ The student makes qualitative and quantitative judgments according to set standards.





# Questioning for Quality Thinking and Active Listening

- ◆ Knowledge – Identification and recall of information
  - Who, what, when, where, how \_\_\_\_\_?
  - Describe \_\_\_\_\_.



# Questioning for Quality

## Thinking and Active Listening

- ◆ Comprehension – Organization and selection of facts and ideas.
  - Retell \_\_\_\_\_ in your own words.
  - What is the main idea of \_\_\_\_\_.



# Questioning for Quality Thinking and Active Listening

- ◆ Application – Use of facts, rules, principles
  - How is \_\_\_\_\_ an example of \_\_\_\_\_?
  - How is \_\_\_\_\_ related to \_\_\_\_\_?
  - Why is \_\_\_\_\_ significant?



# Questioning for Quality

## Thinking and Active Listening

- ◆ Analysis – Separation of a whole into component parts
  - What are the parts or features of \_\_\_\_\_?
  - Classify \_\_\_\_\_ according to \_\_\_\_\_.
  - Outline/diagram/web \_\_\_\_\_.
  - How does \_\_\_\_\_ compare/contrast with \_\_\_\_\_?
  - What evidence can you list for \_\_\_\_\_?





# Questioning for Quality

## Thinking and Active Listening


- ◆ Synthesis – Combination of ideas to form a new whole
  - What would you predict/infer from \_\_\_\_\_?
  - What ideas can you add to \_\_\_\_\_?
  - How would you create/infer from \_\_\_\_\_?
  - How would you create/design a new \_\_\_\_\_?
  - What might happen if you combined \_\_\_\_\_ with \_\_\_\_\_?
  - What solutions would you suggest for \_\_\_\_\_?



# Questioning for Quality


## Thinking and Active Listening

- ◆ Evaluation – Development of opinions, judgments, or decisions
  - Do you agree \_\_\_\_\_?
  - What do you think about \_\_\_\_\_?
  - What is the most important \_\_\_\_\_?
  - Prioritize \_\_\_\_\_?
  - How would you decide about \_\_\_\_\_?
  - What criteria would you use to assess \_\_\_\_\_?



# Reading and Listening Comprehension

- ◆ Literal Comprehension – The reader/listener acquires the direct or stated meaning
- ◆ Interpretative Comprehension – The reader/listener uses the literal, stated information and supplies meanings not directly stated. S/he makes inferences and generalizations.



# Reading and Listening Comprehension

- ◆ Critical Comprehension – The reader/listener makes judgments about the accuracy of the information, identifies fiction, and identifies and analyzes propaganda.
- ◆ Creative Comprehension – The reader/listener creates new ideas from the material. S/he involves her/himself in the material or extends the material.





# Identifying Levels of Comprehension From a Question

- ◆ Literal

- Is the answer directly stated in the material (written or spoken)?

- ◆ Interpretive

- Is the answer based upon details in the material but not directly stated?
- What details in the material give you that idea?
- Is one question you need to ask to verify whether an inference or generalization was made?



# Identifying Levels of Comprehension From a Question

## ◆ Critical

- Is a judgment about the accuracy or truth of the material asked for?
- “Is that statement true?” is an example

## ◆ Creative

- Does the question ask for something new?
- Create a new idea?
- “What would you have done if you were in her/his place?” is an example.
- “What do you think happened before this, after this?” are other examples.