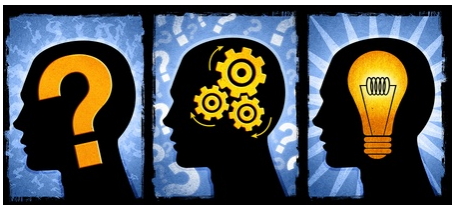
SPHEIR
Pedagogical Training 2.0

Leading Effective Discussions



We all know the importance of including questions in our teaching. Questions serve to motivate students, to assess students' understanding, and to engage them in a thought-provoking discussion. Effective questioning skills require us to plan carefully not only the type of questions, but also the timing and sequencing.

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Learning Objectives: Upon successful completion of this session, you will be able to:

- Define the benefits of effective classroom discussion
- Describe a learning environment that encourages student participation in discussions
- Classify and create different types of questions
- Implement effective questioning strategies such as scripting, wait time, and prompts
- Differentiate between the different types of non-verbal communication to enhance student questions and answers

Suggested References:

- Questioning Strategies to Engage Students: https://go.illinois.edu/Questions-EngageStudents
- Facilitating Effective Discussions: Self-Checklist: https://go.illinois.edu/EffectiveDiscussionChecklist

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Space for Your Notes and Activities

Part A: Notes and Activities

NOTES:

Activity: What do you see and hear when the discussion is going well?

When it is going well, you can see….	However, challenges are ….

Activity: What can we do to set the stage (i.e., to prepare our students to engage in a discussion)?

Part B: Notes and Activities

NOTES:

Activity: Preparing Ourselves for Effective Questioning Strategies

- Strategy 1: Types of questions to ask?

Think of a class that you will be teaching soon. What is the topic? _____
Write a question for each of the following types that addresses the topic.

- Close-ended
- Open-ended
- Why
- How
- What if

Again, think of the above class. What is the topic? _____
Write the following types of questions (using Bloom's Taxonomy)

- A low level question
- A high level question

BLOOM'S TAXONOMY OF EDUCATIONAL OBJECTIVES

Objectives state what we want our students to learn and be able to do. A statement of an objective contains a noun (type of knowledge) and a verb (type of cognitive process using the knowledge).

General form of a learning objective: Students will be able to *verb* **noun phrase**.

Examples: Students will be able to *design* **an experiment to test a hypothesis**.
Students will be able to *distinguish* among **confederal, federal, and unitary systems of government**.
Students will be able to *differentiate* between **rational and irrational numbers**.

The Knowledge Dimension

	Factual	Conceptual	Procedural	Metacognitive
DEFINED	The basic elements students must know to be acquainted with a discipline or solve problems in it	The interrelationship among the basic elements within a larger structure that enables them to function together	How to do something, methods of inquiry, and criteria for using skills, algorithms, techniques, and methods	Knowledge of cognition in general as well as awareness and knowledge of one's own cognition
SUBTYPES	Terminology Symbols Specific details Specific elements	Classification Categories Principles Generalizations Theories Models	Skills Algorithms Techniques Methods Criteria for judgment	Strategies for learning Knowledge about cognitive tasks Self-knowledge
EXAMPLE	Works by an artist Historical events Components of a cell	Periods of geologic time Models of government Theory of evolution	Skills to paint a watercolor Skills to analyze an injury Methods of literary criticism	Use of mnemonic strategies Use of organizing techniques Knowing one's understanding of and motivation for a task

Taken from Anderson and Krathwohl; *A Taxonomy for Learning, Teaching, and Assessing: A Revision of Bloom's Taxonomy of Educational Objectives*, New York: Longman, 2001, and at **http://www.celt.iastate.edu/teaching/RevisedBlooms1.html**

The general form for writing a learning objective: **Students will be able** to *verb* noun phrase.

An example of a learning objective: **Students will be able to** *write* a learning objective that is clear and specific.

The Cognitive Dimension

	Remember	Understand	Apply	Analyze	Evaluate	Create
	Retrieve relevant knowledge from long-term memory	Construct meaning by connecting "new" to "prior" knowledge	Use a procedure to perform exercises or solve problems	Break material into its constituent parts and relate parts to whole	Make judgments based on criteria or standards	Put elements together to form a coherent whole
VERBS	Remember Recognize Identify Recall Retrieve	Understand Clarify Illustrate Categorize Generalize Conclude Predict Contrast Interpret Paraphrase Classify Summarize Infer Explain Compare Map	Apply Execute Carry out Use Implement	Differentiate Discriminate Distinguish Organize Integrate Structure Attribute Deconstruct Analyze Focus Select Outline	Evaluate Check Coordinate Detect Monitor Test Critique Judge	Create Generate Hypothesize Plan Design Produce Construct
QUESTIONS	What happened after .. How many .. What is .. Who did .. Where did .. occur?	How would you explain .. Who do you think .. Why did .. How would you graph .. Which .. corresponds to .. What are examples of .. How could you group ..	How would you solve .. How would you do .. What would you say to .. How would you work a case of ..	What was the turning point? How is. .. similar to .. Why did .. occur What is needed to .. What were some of the motives for ..	Is there a better solution to .. What do you think about .. and why? Do you think .. is a good thing and why?	What are possible solutions to .. How would you design an .. What would happen if .. How many ways can you ..
ACTIVITIES	Make a list showing .. Make a time line Make a chart showing ..	Write a summary of .. Prepare a flow chart of .. Write an explanation of .. Make a taxonomy of .. Draw a map/model of .. Draw a graph of .. Write possible outcomes of Retell an event	Solve a problem Write a response to a case study Perform a lab experiment	Write a biography Make a map showing interrelationships Write an analysis of .. Write an essay examining bias in .. Construct a chart to organize related data	Conduct a debate (or a mock trial) Write a critique Prepare a case Write an opinion piece	Design an experiment Create a new product Plan a marketing campaign Create art Design a building

Part C: Notes and Activities

NOTES:

Strategy 2: WHEN and WHOM do you ask?

- Volunteer
- Warm call
- Cold call
- Wait time

Strategy 3: HOW will you respond?
Activity: How will you respond to the following situations?

No Response	***Correct Response***
Partially Correct Response	***Incorrect Response***

Non-Verbal Language That Can Enhance or Discourage Discussions:

- Body Language
- Tone
- Clothing

Three Beginning Questions to Start the Discussion

Why?
Why do we have to fight wars?
Why did I substitute the value of delta in this equation?
In the poem "The Hippopotamus," why did T.S. Eliot choose the hippo to represent "flesh and blood"?

How?
How can art benefit society?
How does this equipment work?
How would you invest the money if you won the lottery?

What if…?
What if there were no microorganisms?
What if the South had won the US Civil War?
What if the value in this equation were negative rather than positive?

TEACHING AND LEARNING ACTIVITIES: START WITH QUESTIONS

Purposes for Questions

Two broad purposes for questions
I. Promoting thorough <u>understanding of content</u> by asking students to… 1. Review definitions and concepts from previous lessons. 2. Differentiate between two concepts. 3. Provide a novel example. 4. Analyze or apply a concept. 5. Make a judgment or evaluation. 6. Think about an issue from multiple perspectives. 7. Think about how the material relates to a previous lesson. 8. Anticipate the next step in solving a problem. 9. Brainstorm solutions. 10. Predict what will happen in an experiment or demonstration. 11. Synthesize the material covered that day.
II. <u>Promoting interest in and focus</u> on the topic by… 1. Creating a 'hook' to interest students in the lesson. 2. Helping students connect concepts to a personal experience or another course. 3. Motivating students to come prepared for discussion. 4. Making a transition to the next topic in your lesson.