Enhancing PowerPoint Lectures with Content-Based Questions

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CBQ = Content Based Questions

- CBQ is a quick and easy method of promoting closer attention and better learning in the classroom
- It is backed by empirical studies
- Students find it useful
- It requires no grading
- It meshes well with the lecture method
Gier & Kreiner (2009) described the CBQ technique in *Teaching of Psychology* and supported it with two classroom-based experiments.

**Experiment 1**
- Participants from two upper-division cognitive psychology courses at two midsized Midwestern universities
- Comparable gender and age distributions
- Classes both taught by same instructor
Experiment 1 (continued)

- Experimental group received PowerPoint lectures and handouts plus three 10-question CBQ sets per 2.5 hr class.

- Control group received PowerPoint lectures and handouts plus 30-minute small-group discussions over the same material as the CBQ’s covered in the Experimental group.

- Experimental group improved more than Controls on pre-post quizzes in each class meeting and scored higher on hour-exam averages and on the final exam.
Experiment 2

- Within-subjects study in one History of Psychology course
- Course divided into “quarters”
- During 2 randomly-chosen “quarters” students received Power-Point lectures and slide handouts
- During the other 2 “quarters” there were 3 10-item CBQ’s presented each class
Experiment 2 (continued)

- Students showed more improvement on pre-post quizzes in the CBQ “quarters”
- Students made higher scores on hour-exams during the CBQ “quarters”
Additional Considerations

- Students had to write out the questions
- Students actively generated answers
- Students received immediate feedback
- Authors suggest instructor-provided PowerPoint slides should give only partial information, requiring active note-taking by students in class
Informal Assessment of CBQ
In U of M Social Psychology class

1. Comparison of quiz scores
   --See slide 9

2. Student opinion survey
   --See slide 10
Spring 2009 – PowerPoints only
Fall 2009 – PowerPoints plus CBQ

- Spring 2009 – Quiz 1
  Mean = 84.07
- Fall 2009 – Quiz 1
  Mean = 88.39
Preliminary poll in Psyc 3106

1. Are CBQ’s useful in identifying what you know or don’t know about the course material?
   - Yes 50
   - Unsure 2
   - No 0

2. Are CBQ’s useful in improving your learning of course material?
   - Yes 38
   - Unsure 14
   - No 0

3. Would you recommend that CBQ’s continue to be used in our class this semester?
   - Yes 45
   - Unsure 7
   - No 0

Full text available with U of M login. Go to [http://www.memphis.edu/psychology](http://www.memphis.edu/psychology) and follow this path: Library Resources/PsycInfo (full text is password protected, login required).
Sample CBQ’s from Social Psychology Class at Univ. of Memphis, Fall 2009

The following slides contain a sample of CBQ’s used in a Social Psychology class taught at the University of Memphis in fall 2009.
CBQ #1

- Social psychology is:

- Explain Kurt Lewin’s formula $B = f(P,E)$
1. Three goals of psychology and the research methods that are associated with each one are ____________________.

2. One strength of observational research methods is ____________________.

3. Is a correlation of -.85 a strong or weak correlation? ____________________.
   Why? ____________________________.
The experimental method is best at establishing ________________.

The crucial aspect of the experimental method is ________________.

The factor manipulated by an experimenter to see what will result is called a(n) _________________.

CBQ 4

- Define the “self-reference effect”.
- Identify three factors that influence the development of the ”social self”.
- State one difference between an “individualistic” culture and a “collectivist” culture.
1. State one difference between an “independent self” and an “interdependent self”.

2. How do the “independent self” and the “interdependent self” match up with an “individualist culture” or a “collectivist culture”?
1. Define the “self-serving bias”.

2. Do you think there would be different degrees of self-serving bias in individualist vs. collectivist cultures? Why or why not?
1. Name and define two types of attribution in Heider’s theory.

2. What is the “fundamental attribution error”? Give an example (from real life experiences if possible).
1. List the three components of an attitude.

2. Give an example of each of the three components in the case of a college student’s attitude toward tuition increases.
1. Describe the “foot in the door” phenomenon.
2. Define “cognitive dissonance.”
3. Briefly describe a recent experience of cognitive dissonance in your own life.