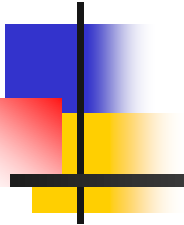


# Enhancing PowerPoint Lectures with Content-Based Questions



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William Zachry  
Dept. of Psychology  
University of Memphis



# CBOQ = Content Based Questions

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- CBOQ 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

# “Incorporating Active Learning With PowerPoint-Based Lectures Using Content-Based Questions”



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- Gier & Kreiner (2009) described the CBO 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 mid-sized 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

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- 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)

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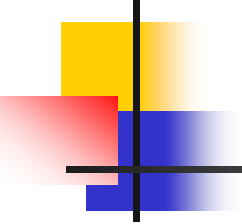
- Students showed more improvement on pre-post quizzes in the CBQ “quarters”
- Students made higher scores on hour-exams during the CBQ “quarters”



# Additional Considerations

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- 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 CBO

## In U of M Social Psychology class

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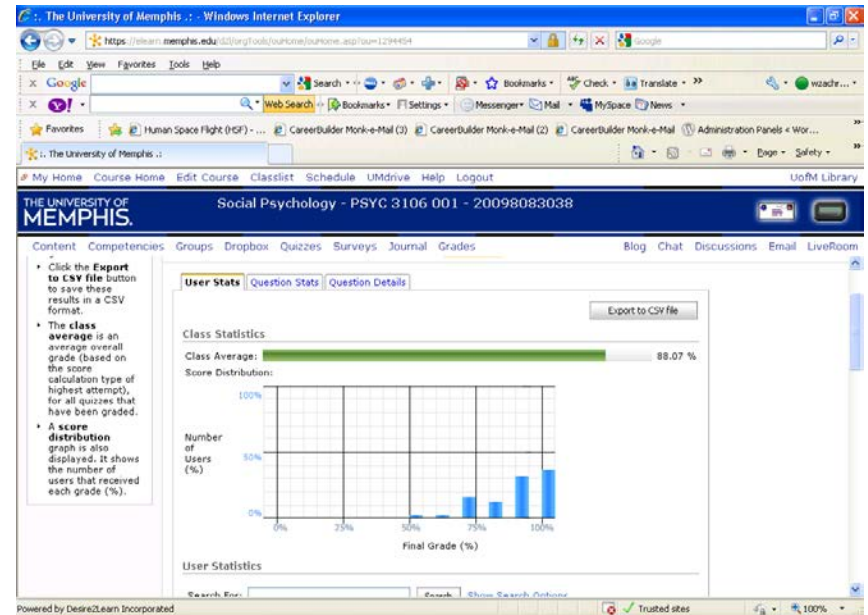
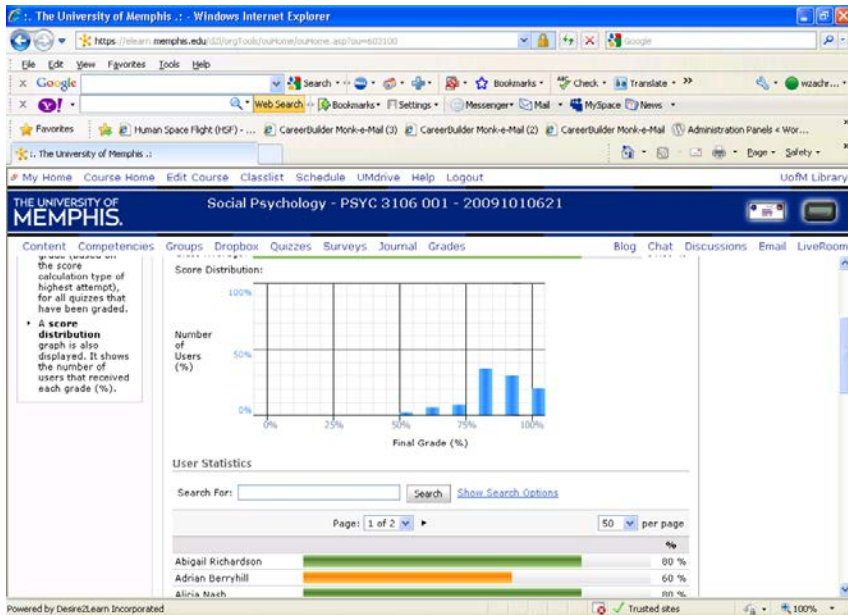
1. Comparison of quiz scores  
--See slide 9
2. Student opinion survey  
--See slide 10



# Spring 2009 – PowerPoints only

# Fall 2009 – PowerPoints plus CBO

- Spring 2009 – Quiz 1
- Mean = 84.07
- Fall 2009 – Quiz 1
- Mean = 88.39



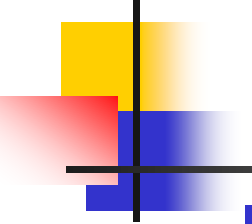


# Preliminary poll in Psyc 3106

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- |    |   |          |    |
|----|---|----------|----|
| 1. | Are CBQ's useful in identifying <u>what you know or don't know</u> about the course material? | ■ Yes    | 50 |
|    |   | ■ Unsure | 2  |
|    |   | ■ No     | 0  |
| 2. | Are CBQ's useful in <u>improving your learning</u> of course material?                        | ■ Yes    | 38 |
|    |   | ■ Unsure | 14 |
|    |   | ■ No     | 0  |
| 3. | Would you recommend that CBQ's <u>continue to be used</u> in our class this semester?         | ■ Yes    | 45 |
|    |   | ■ Unsure | 7  |
|    |   | ■ No     | 0  |

# Reference

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- Gier, Vicki S. and Kriener, David S. (2009) Incorporating Active Learning With PowerPoint-Based Lectures Using Content-Based Questions. *Teaching of Psychology*, 36:2, 134-139.
  - Full text available with U of M login. Go to <http://www.memphis.edu/psychology> and follow this path: Library Resources/PsycInfo (full text is



# Sample CBQ's from Social Psychology Class at Univ. of Memphis, Fall 2009

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



# CBO #1

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- Social psychology is:
- 
- 

- Explain Kurt Lewin's formula  $B = f(P, E)$



# CBOQ 2

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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? \_\_\_\_\_.



## CBOQ 3

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1. The experimental method is best at establishing \_\_\_\_\_.
2. The crucial aspect of the experimental method is \_\_\_\_\_.
3. The factor manipulated by an experimenter to see what will result is called a(n) \_\_\_\_\_.



## CBO 4

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- 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.





## CBQ 5

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- 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”?



## CBO 6

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- 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?



## CBO 7

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- 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).



## CBQ 8

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- 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.



## CBOQ 9

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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.