

Lecture Busters

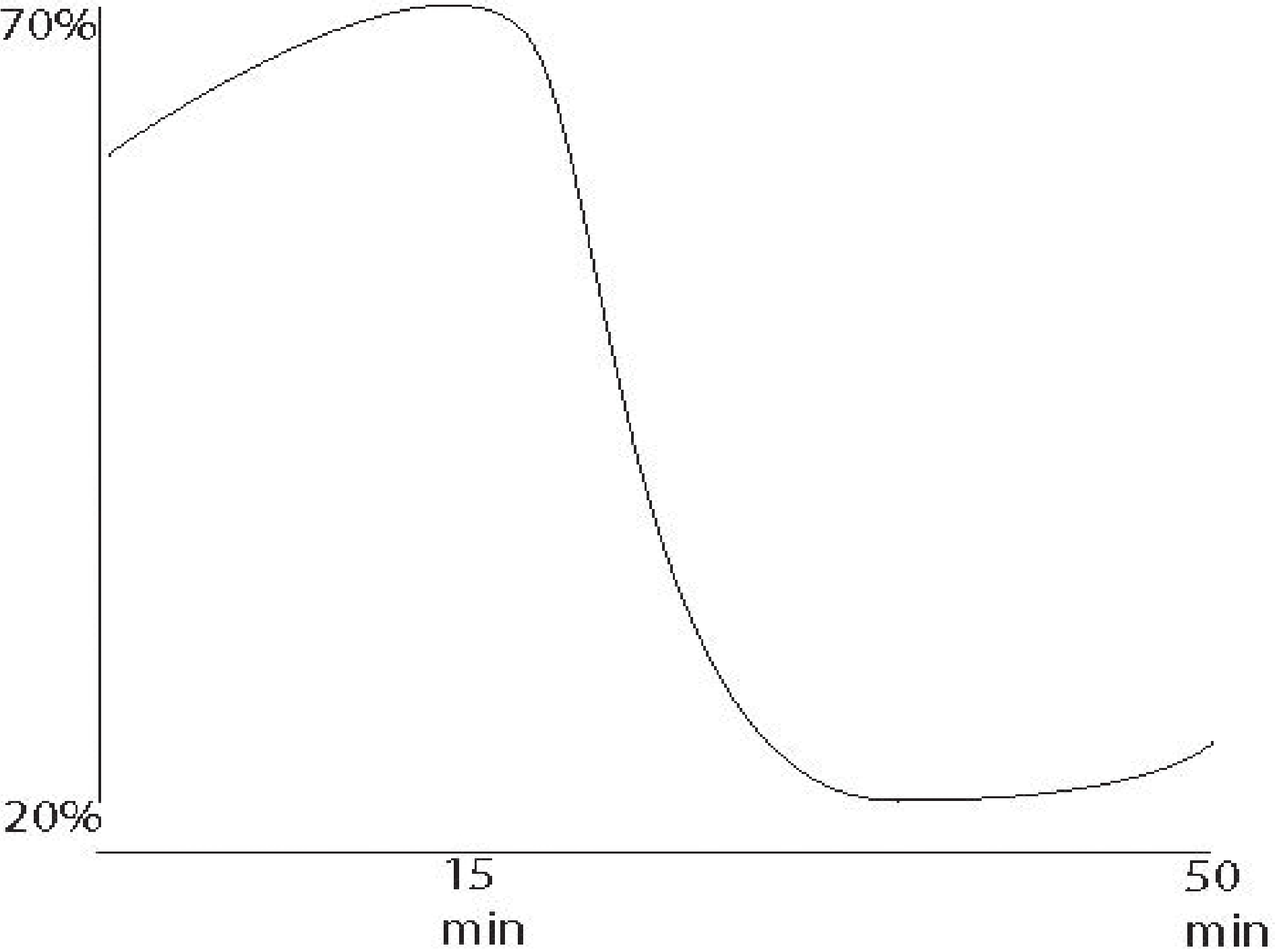
Keeping Students Engaged

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Lectures: True or False?

- Students maintain attention for 40 mins
- Students forget most things learned in lectures
- Pauses in lectures for discussion increase retention

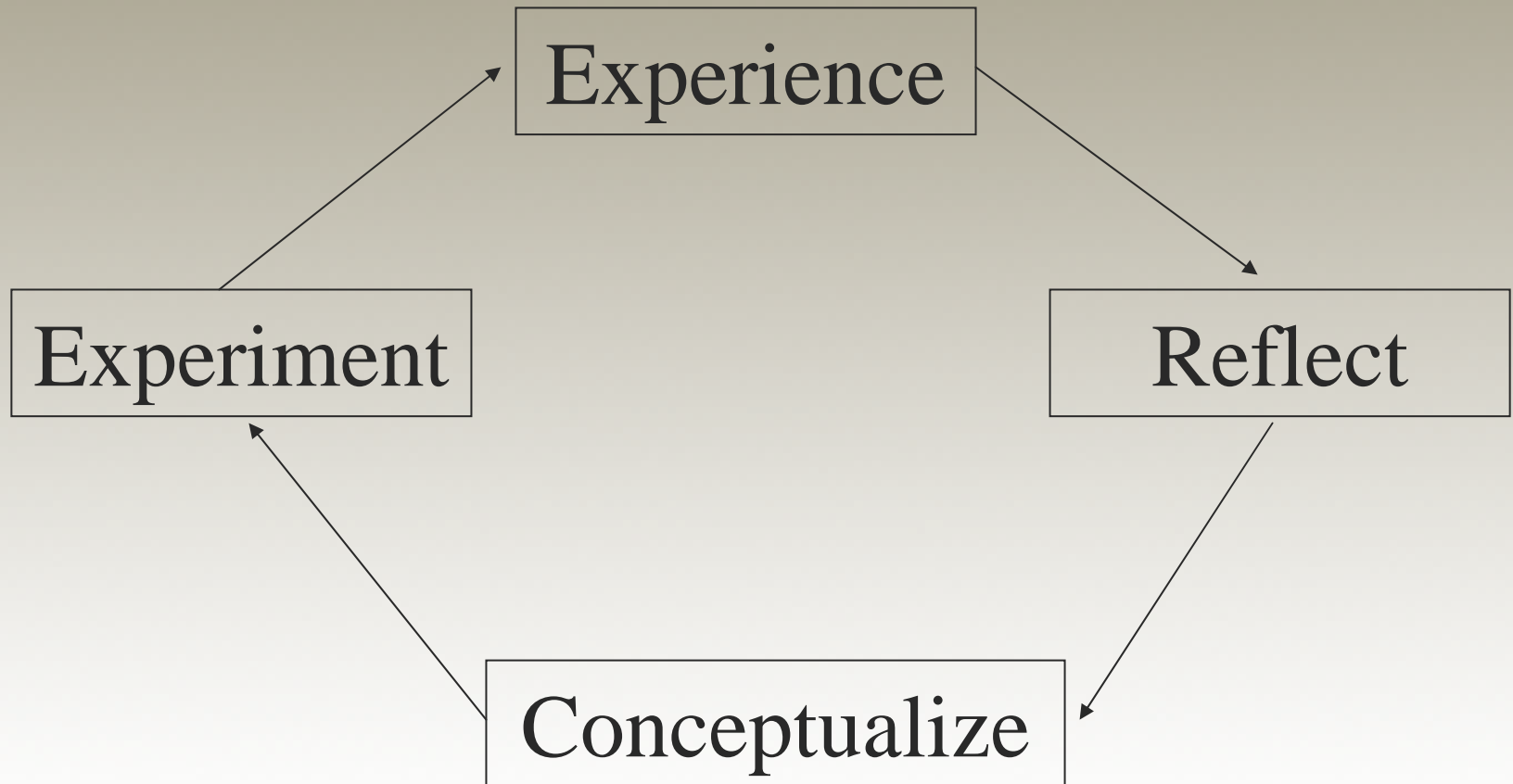
1. **Student concentration during lectures has been shown to decline after 10 to 15 minutes. Stuart, J. & Rutherford, R.J. (1978.) Medical student concentration during medical lectures. *Lancet 2: 514-516.*** A simple procedure, based on a questionnaire, was used for the assessment of student concentration during lectures. Analysis of 1353 questionnaires from 12 lectures showed that student concentration rose sharply to reach a maximum in 10-15 min, and fell steadily thereafter. The data suggest that the optimum length of a lecture may be 30 instead of 60 min. This method by which student feedback is obtained may also be used to improve lecturing performance.
2. Four months after taking an intro psychology course, students knew 8% more than a control group that had never taken the course. Rickard, Rogers, Ellis & Beidleman (1988.) Some retention, but not enough. *Teaching of Psychology 15*, 151-152.
3. In studies measuring info retention after a course, transfer of knowledge in new situations, problem solving, thinking, attitude change and motivation: discussion > lecture. McKeachie, W., Pintrich, L, & Smith, D. (1986.) *Teaching and learning in the college classroom: a review of the research literature*. Ann Arbor, MI: University of Michigan.

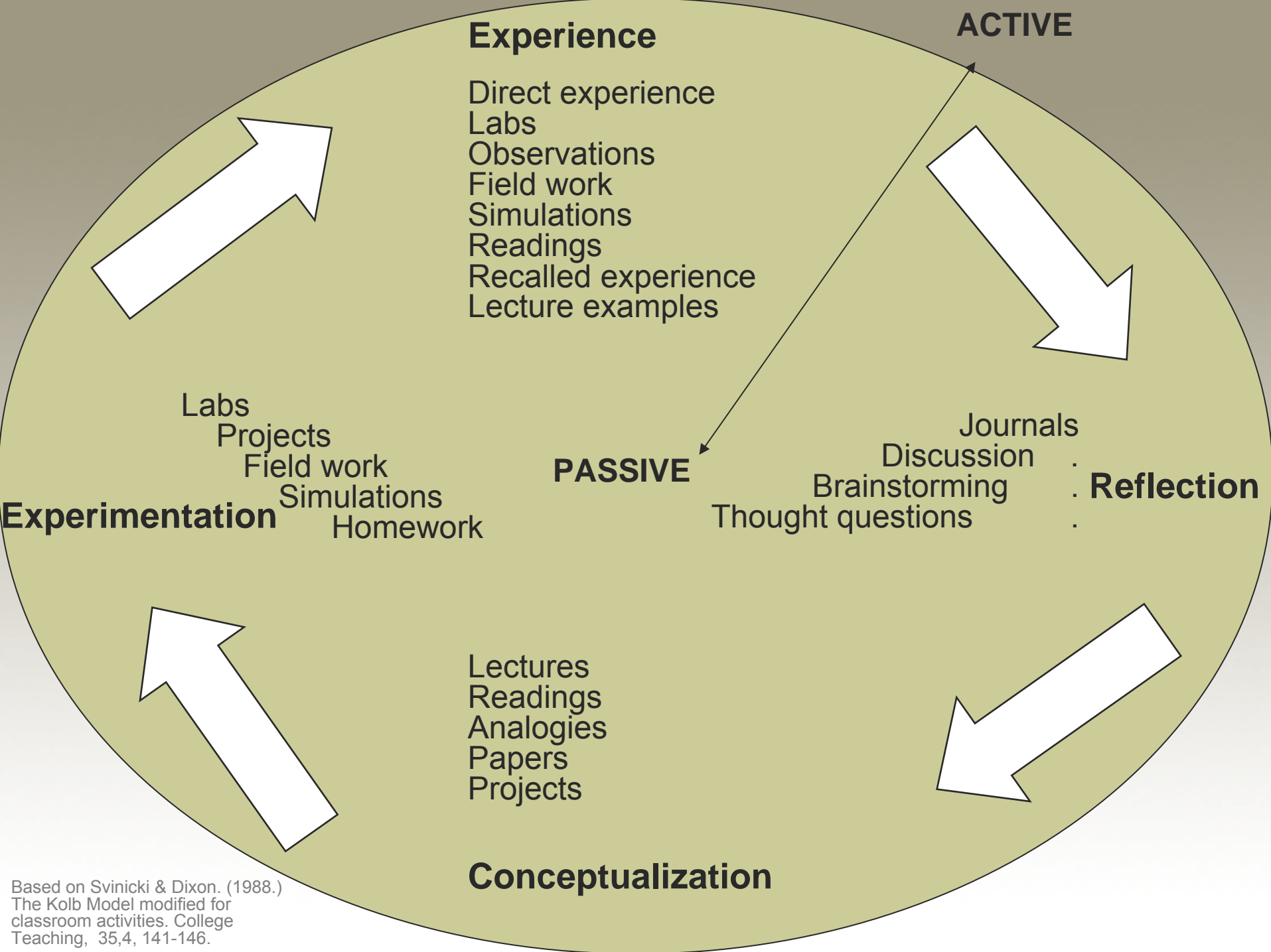


Plan

- Cycle of learning
- Quick ways to engage & assess
- Personal Response System

Kolb's Experiential Learning (1984)





Experience

Direct experience
 Labs
 Observations
 Field work
 Simulations
 Readings
 Recalled experience
 Lecture examples

ACTIVE

Reflection
 Journals
 Discussion
 Brainstorming
 Thought questions

PASSIVE

Lectures
 Readings
 Analogies
 Papers
 Projects

Conceptualization

Experimentation

Labs
 Projects
 Field work
 Simulations
 Homework

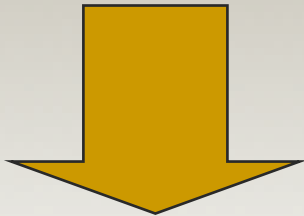
Based on Svinicki & Dixon. (1988.)
 The Kolb Model modified for
 classroom activities. College
 Teaching, 35,4, 141-146.

Two sentences

- Explain Kolb's model in two sentences
- Your audience: a 12 year old

In a classroom...

- Lecture: 15 minute time limit
- Variety of activities → learning
- Ongoing formative assessment



- CATs

In your experience...

- Identify one specific thing that you do in your teaching that you think is successful at engaging students

CATs: two sentences

- Kolb example

CATs: think pair share

- Instructor: question
- Students: write quick response
- Students: discuss with partner
- Instructor: calls on individuals

CATs: one min paper

1. Qs at end of class or before a break
2. Students write brief responses
3. Responses turned in anonymously, addressed next meeting or online

PRS Hardware

- At Duke: *Interactive Teaching Facilities in Arts & Sciences Computing*
- Radio frequency receiver & software
- Individual receivers (ca. \$30)
- School or student owned

What does it do?

- **Question types**
- Multiple choice
- Answer series
- T/F
- Numeric question
- Short Answer

What does it do?

- **Uses**

- Formative evaluation

- Summative evaluation

- Discussion starter

- Administrative (roll, course evaluation)

- Peer instruction

- ...

Question: Multiple Choice

Which of these things does not belong?

- A. Salsa
- B. Orangutan
- C. Dandruff
- D. E-coli



Question: answer series

Put the following historical events in order

- A. World War II
 - B. World War I
 - c. The Renaissance
 - D. Introduction of the McRib[©] Sandwich
- (answer format: *ABCD*)



Question: True/False

The earth's seasons are largely a result of the earth's changing distance from the sun.



Question: Numeric question

*The sum of twice a number plus 13 is 75.
Find the number.*



Question: Short Answer

Who do you consider the most dangerous person in the world?

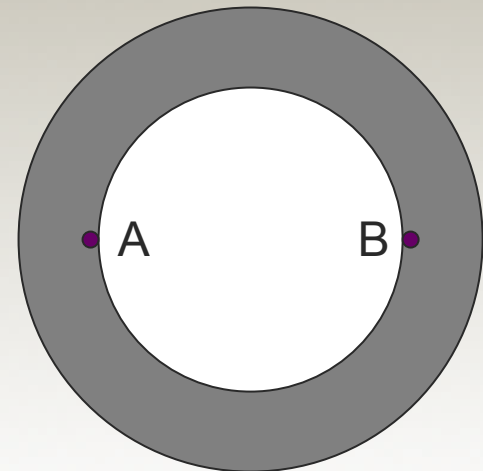
- Press a letter to enter *alpha* mode
- Use ▲ ▼ keys to change letters



Peer instruction (1 of 2)

As a brass ring (below) is heated from 0°C to 50°C , the distance between points A and B

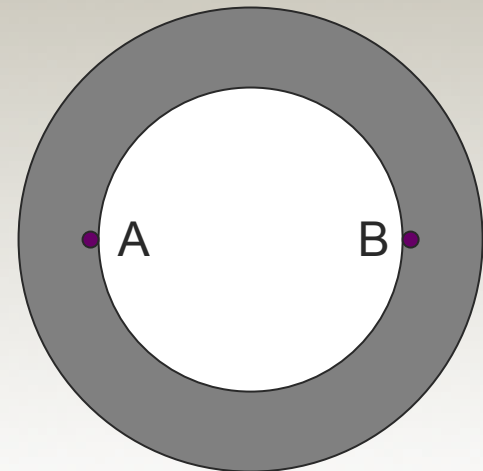
- A.increases
- B.decreases
- c.stays the same
- D.not enough information



Peer instruction (2 of 2)

As a brass ring (below) is heated from 0°C to 50°C , the distance between points A and B

- A.increases
- B.decreases
- c.stays the same
- D.not enough information



PRS Alternatives

- Colored cards
- Post-its
- Other

Activity

- In groups, 10 minutes
- CAT or PRS alternative for your field
- Demo for workshop

Resources

- [Interactive Lecture](#)
- [Change-Up Lecture](#)
- Angelo & Cross: *Classroom Assessment Techniques* ISBN 1-55542-500-3 (Book)
- [150 Teaching Methods](#)
- [Using Jigsaw in College Classroom](#)

Contact

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