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.

Plan

- Cycle of learning
- Quick ways to engage & assess
- Personal Response System
Kolb’s Experiential Learning (1984)

Experience

Experiment  Reflect

Conceptualize

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

Experimentation
- Labs
- Projects
- Field work
- Simulations
- Homework

Conceptualization
- Lectures
- Readings
- Analogies
- Papers
- Projects

Reflection
- Journals
- Discussion
- Brainstorming
- Thought questions

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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