Active Learning in the Classroom

Faculty Teaching Workshop

September 22\textsuperscript{nd}, 2017
Active Learning Defined

Students doing *anything* in class to *learn* material, *other* than listening to instructor and taking notes.
Why Bother?

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Book Ends on a Class Session

Thinking Together: Collaborative Learning in the Sciences – Harvard University – Derek Bok Center – www.fas.harvard.edu/~bok_cen/
## Why Bother?

<table>
<thead>
<tr>
<th></th>
<th>With Pause</th>
<th>Without Pause</th>
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<tbody>
<tr>
<td>Short term recall</td>
<td>108 correct facts recalled after lecture</td>
<td>80 correct facts recalled after lecture</td>
</tr>
<tr>
<td>Long term recall</td>
<td>Average exam score = 84.9</td>
<td>Average exam score = 76.7</td>
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Faculty Survey Results

N=54
Average Lectures/year = 8
25% of participants = >10 lectures/year

Active Learning, Polling, Technology, Flipped Classroom
Average = 4 (Very Frequently)
Workshop Overview

- Expectations Exercise
- Learning from a classroom scenario
- Application of active learning exercises
- Leading Discussions
- How to build an Interactive Lecture

Goals:

- Discussion and review of Active Learning Techniques
- Application and Integration Strategies
Expectations Exercise

- What are your expectations of yourself?
  - Lecture
  - Exercises
- What are your expectations of your students?
- Do you view Active Learning as a tool or hindrance to your expectations? Please explain your reasoning.

Activity:
- Write down your response (5 minutes)
- Discuss your responses within your group (5 minutes)
- Select a spokesperson to communicate your main discussion points
Classroom Scenario

https://youtu.be/duxPVyieptwA
Feedback

- Positives?
- Negatives?
- What would you do differently/same?
Preparation for Active Learning

- Critical thinking
- Individual responsibility for learning
- Involvement in open-ended activities
- Organization of learning activities
- Group activities:
  - Bloom’s taxonomy
  - Challenge assumptions/suggest alternative ways of approaching problems

From the Trenches: Active Learning in the Classroom

Clicker Question:

What is your biggest frustration with Active Learning Techniques?

A) They never work
B) Too much preparation
C) Hard to integrate into lecture time
D) All of these
E) Other
Common Active Learning Problems

- Plunge into the active learning exercise without any explanation
- Expect all students to eagerly get into groups the first time you ask
- Trivial activities
- Lengthy activities with too many steps/issues to address
- Call for volunteers after every activity
- Fall into a predictable routine
From the Trenches: Active Learning in the Classroom

Clicker Question:

What is the most positive outcome you have experienced with Active Learning Techniques?

A) Increased attention and retention
B) Deeper comprehension
C) Pointed questions that aided evaluation of collective understanding
D) All of these
E) Other
Group Discussions

- Strategy
- Questions to begin the process
- Leading by removing barriers
- Arriving at a logical conclusion
Criteria of Effective Lectures

- Organization
- Language
- Strategy
- Diversity
- Audiovisuals
- Time Management
- Active Inquiry
- Delivery

UT Center for Faculty Innovation: https://facultyinnovate.utexas.edu/teaching/prepare/future-instructors/activities/interactive/criteria
Creating Effective Presentations: Beginning

- **Learning Outcome** - What would you like the students to be able to do/know by the end of your presentation?
  - Share outcome/goal with your students including how & why it's important

- **Anticipatory set** - something to get your students thinking or draw them into the topic
  - Overview, anecdote, question, pose problem/case study, demonstration, quotation, relevant fact/statistic

UT Center for Faculty Innovation: [https://facultyinnovate.utexas.edu/teaching/strategies/lecture/template](https://facultyinnovate.utexas.edu/teaching/strategies/lecture/template)
Creating Effective Presentations: Delivery

- **First chunk of information** - (10-15 minutes)
  - What are your Main points?

- **Active processing/participation activity** - 5-10 minutes
  - What short activity could be done that would engage students in applying the concept being covered?
  - **Think-Pair-Share** or another activity or problem
  - This provides both you and students with an opportunity to track whether students are understanding

- **Second chunk of information** - 10-15 minutes
  - What are your Main points?

- **Second Active processing/participation activity** - 5-10 minutes

- **Third chunk of information** - 10-15 minutes
  - What are your Main points?

- **Third Active processing/participation activity** - 5-10 minutes

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Creating Effective Presentations: Ending

ENDING YOUR PRESENTATION

► Wrap-Up
► Evaluation of student content mastery

Q: How many Ph.D.'s does it take to get a PowerPoint presentation to work?

ANSWER: (n+1)

WHERE n = THE NUMBER OF ACADEMICS IN THE ROOM WHO THINK THEY KNOW HOW TO FIX IT, AND I = THE PERSON WHO ACTUALLY CALLS THE IT TECHNICIAN.
Active Learning

“The process of having students engage in some activity that forces them to reflect upon ideas and how they are using those ideas. Requiring students to regularly assess their own degree of understanding and skill at handling concepts or problems in a particular discipline. The attainment of knowledge by participating or contributing. The process of keeping students mentally, and often physically, active in their learning through activities that involve them in gathering information, thinking and problem solving.”—The Greenwood Dictionary of Education

Active Learning Strategies

Active Learning Strategies in Face-to-Face Courses

Using Graphic Organizers

Creating Effective Presentations

Outcomes Assessment & Tasks

Creating Effective Presentations Template
Upcoming Workshops

Clicker Question:

What would you like to see in future workshops?

A) The Science of Learning
B) Classroom Management
C) Communication Skills
D) Problem Solving and Comprehension
E) Other
Thank you!

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Exit Ticket

What information was the most useful?
What information was the least useful?
Are there elements that left you with questions? If so, what were they?