Using Active Learning to Fix Misunderstandings in Real Time

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How it Started
My Results

- Improved comprehension
- Reduced time spent on concept
- Formative assessment in real time
A Very Quick Introduction
Some Benefits of Active Learning

<table>
<thead>
<tr>
<th>Engagement</th>
<th>Learning Gains</th>
<th>Achievement Gap</th>
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<tr>
<td>Improved</td>
<td>70% of students in traditional lecture score below the average student in an</td>
<td>45% reduction in achievement gap</td>
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<tr>
<td>social integration</td>
<td>active learning class (Meta-study: Prince 2004)</td>
<td>Measured by educational/economic disadvantaged</td>
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<td>institutional</td>
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<td>(Haak et al 2011)</td>
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<td>commitment</td>
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<td>intent to return</td>
<td></td>
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<tr>
<td>persistence</td>
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(Braxton et al 2000, 2008)
Moving from:

Getting it right

To:

Figuring out the answer.

This spectrum arranges active learning techniques by complexity and classroom time commitment.

Prepared by Chris O'Neal and Tershia Pinder-Grover, Center for Research on Learning and Teaching, University of Michigan

http://www.crlt.umich.edu/sites/default/files/resource_files/Active%20Learning%20Continuum.pdf
My Worries (The answers are all YES!)

1. Will they do it?
2. Will some of them be problems?
3. Will the groups function well anyway?

Making it Successful
Critical Aspects

1. A clear learning outcome
2. An activity directly primarily toward that learning outcome
3. Formative assessment during the activity
4. Individual Practice
5. Summative Assessment
Making the Activity Most Useful for Learning: Good Formative Assessment

Includes:

1. Where the learner is going (learning outcomes).

2. Where the learner is right now.

3. How to get to where they are going (actionable feedback).

Coda: Use the results of the activity to redesign the instruction and the activity.

Aspects of Formative Assessment

<table>
<thead>
<tr>
<th>Teacher</th>
<th>Where the learner is going</th>
<th>Where the learner is right now</th>
<th>How to get there</th>
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<tbody>
<tr>
<td></td>
<td>1 Clarifying learning intentions and criteria for success</td>
<td>2 Engineering effective classroom discussions and other learning tasks that elicit evidence of student understanding</td>
<td>3 Providing feedback that moves learners forward</td>
</tr>
<tr>
<td>Peer</td>
<td>Understanding and sharing learning intentions and criteria for success</td>
<td>4 Activating students as instructional resources for one another</td>
<td></td>
</tr>
<tr>
<td>Learner</td>
<td>Understanding learning intentions and criteria for success</td>
<td>5 Activating students as the owners of their own learning</td>
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Fig. 1 Aspects of formative assessment

Using ConcepTests

Using Think Pair Share

- One question
- Students create own answer: 1-3 minutes
- Discuss with partner: 2-3 minutes
- Share answers with class
Analyzing Group Results

Start with strategy for listing results

Engage students in organizing common responses

Ask students to compare responses and explain differences.

If needed, expand on differences to clarify which best represent the underlying concept.
Some Community College Specific Notes

1. Am I right?
2. Strong flinch response.
3. Unbalanced skill groups.
Doing it
Our First Think-Pair-Share: Picking Concepts

1. Write down learning outcomes for two concepts that your students struggle with (2 minutes).
   • They should be small pieces rather than grand ideas
   • Compare and discuss your list with the person next to you (3 minutes).

2. Pick two to report back to the group.
Our Second Think-Pair-Share: Designing Questions

1. Design an activity to ask that directly relates to the learning outcome you chose (2 minutes).

2. Compare and discuss your results with the same person you discussed the first part with (3 minutes).

3. Pick one to report back to the group.
Our Third Think-Pair-Share: Designing Questions

1. List the possible misconceptions you expect.

2. Compare and discuss your results with the same person you discussed the first part with (3 minutes).

3. Pick one to report back to the group.
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Works Cited


Resources

Revised Bloom
https://thesecondprinciple.com/teaching-essentials/beyond-bloom-cognitive

SOLO

Discipline Created Learning Outcomes
http://highered.ssrc.org/projects/measuring-college-learning-project/
# Learning Outcomes from Intro Soc

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<td>Explain the main components of culture.</td>
<td>Describe the ways in which culture varies using real world examples.</td>
<td>Use the components of culture to explain current debates about the direction of society.</td>
</tr>
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<td>Explain the types of sanctions used for norm violation.</td>
<td>Explain how culture both eases interaction and constrains the individual.</td>
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<tr>
<td></td>
<td>Define subculture, counterculture, and idioculture and provide examples.</td>
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- **Culture**
- **Explain Key Sociological Concepts.**
  - Explain the main components of culture.
  - Explain the types of sanctions used for norm violation.
  - Define subculture, counterculture, and idioculture and provide examples.
- **Apply Sociological Concepts to Social Phenomena**
  - Describe the ways in which culture varies using real world examples.
  - Explain how culture both eases interaction and constrains the individual.
- **Critically Evaluate Explanations of Human Behavior and Social Phenomena**
  - Use the components of culture to explain current debates about the direction of society.