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No One is Leaving Without You . . . Or Me Knowing: Interactive Classroom Assessment Techniques (iCATs) Using Clicker Technology

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No One is Leaving Without You . . . or Me Knowing: Interactive Classroom Assessment Techniques (iCATs) Using Clicker Technology

Dale Vidmar
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http://webpages.sou.edu/~vidmar/onlinenw2013/vidmar.pptx

Online Northwest 2013 Conference
Oregon State University
Corvallis, Oregon
February 8, 2013
The Existential Question:
Why are We Here?
Why are We Here?

Learning Outcomes: Participants will be able to:

1. Explain the pedagogical advantages of implementing clickers to improve teaching and learning.
2. Differentiate formative on-going, collaborative assessment vs. summative periodic, high stakes evaluation activities.
3. Develop interactive classroom assessment techniques to measure the “real-time” learning of students.
4. Design “effective” questions to assess what you value implementing interactive classroom assessment techniques (iCATs).
Where We are Going.

Basic Schema:
1. Formative Assessment vs. Summative Evaluation
2. Classroom Assessment Techniques – Thomas Angelo & K. Patricia Cross
3. iCATs – interactive CATs
4. Clicker Systems
5. Why Bother
6. Designing Effective Questions
7. Some Example Questions
8. Suggestions for Success
Formative Assessment
(continuous, self-improvement, growth, introspection, student achievement)

vs.

Summative Evaluation
(sporadic, high stakes, judgmental “good” or “bad”, accountability)
Classroom Assessment Techniques
- Thomas Angelo and K. Patricia Cross
Classroom Assessment Techniques

iCATs

Angelo and Cross

Metacognition

Higher order thinking involving:

1. Planning and Intention
2. Monitoring Comprehension
3. Assessing Progress

Thinking about Thinking
Prior knowledge is critical to developing learning that is appropriate to what students already know and building upon that knowledge.
Interactive Classroom Assessment Techniques (iCATs)

1. Background Knowledge
2. Misconception/Preconception
3. Opinion Polls
4. Self-Confidence Survey
5. Check-In
6. Activity Reactions/Assessment
7. Assignment Ratings
8. Review Materials
9. Accentuate Important Points
Audience Response Systems (Clickers)

Some Popular Clicker Systems:

1. Turning Technologies
2. Padgett Communications
3. Keypoint Interactive
4. QClick
5. Poll Everywhere
6. Clicker School
7. iRespond
8. Socrative
9. SMSPoll
Audience Response Systems (Clickers)

Why bother?

Research evidence suggests clickers increase student learning.
• Pre- and post-test scores of 200 students determined student learning was the lowest when students did not have clickers (Buhay, Best, and McGuire, 2010).
• When clickers were used during varying intervals during class, students were better able to recall factual information. In addition, questions often alerted students to important information (Shapiro & Gordon, 2012).
Audience Response Systems (Clickers)

Why bother?

1. Assess Prior Knowledge
2. Promote Interactivity/Participation
3. Elicit Diverse Points of View
4. Maintain Attention
5. Emphasize Major Ideas
6. Clarify Misconceptions
7. Ensure Understanding
8. Improve Teaching and Learning
9. Enhance the Learning Experience
Audience Response Systems (Clickers)

Why bother?

Research evidence suggests clickers increase nonconformity and willingness to respond.

- Two groups of students (128 total) asked to respond to 50 controversial questions. Control group responded by a show of hands. Experimental group responded with clickers. Study concluded students with clickers responded with greater variability and were more comfortable answering the questions (Stowell, Oldham, & Bennett, 2012).
## Clicker Satisfaction
### Summary of Study Criteria

<table>
<thead>
<tr>
<th>Criterion</th>
<th>Number of Sample</th>
<th>Significant Positive Outcomes</th>
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<tbody>
<tr>
<td>Actual performance</td>
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<td>22</td>
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<tr>
<td>Satisfaction</td>
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<tr>
<td>Perceived performance</td>
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<td>35</td>
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<td>Attention span</td>
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<td>Participation</td>
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<tr>
<td>Feedback</td>
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<td>15</td>
</tr>
<tr>
<td>Ease of use</td>
<td>8</td>
<td>8</td>
</tr>
</tbody>
</table>

Designing “Effective” Questions

1. Assess what you value.
2. Keep it simple.
3. Avoid double negatives.
4. Details belong in the question, not the answer.
5. Maintain consistent language.
6. At all cost, avoid “all of the above” or “none of the above.”
7. At all cost, avoid “a and b, b and c, or a and c.”
8. Share and discuss questions with colleagues. Take time to reflect.
Suggestions for Success

1. Use clickers to further class objectives.
2. Make time to integrate clickers.
3. Be prepared and have a Plan B.
4. Increase your creativity along with your experience.
5. Provide students with rationale of use.
6. Avoid too many questions—better to have 4-5 questions at well placed intervals during 50 minutes.
7. Revert back to a show of hands to gain a full appreciation of clickers.
References


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