CAT Samples!

FID in the Transition

Karen Spear Ellinwood, PhD, JD, EdS
Director, Instructional Development
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“One of the most promising ways to improve learning is to improve teaching.”

Angelo & Cross (2005, 7)
What are CATs?

The acronym CATs refers to Classroom Assessment Techniques

- CATs are strategies for ongoing assessment of student knowledge and performance in adult and higher education

- The goals of using CATs are to:
  - Guide curriculum content
  - Enhance teaching methods
  - Monitor how much and how well students are learning

Angelo & Cross (2005)
CAT Samples from Category 1

Summaries of Classroom Assessment Techniques (strategies) that assess prior knowledge, comprehension, and analytic thinking
<table>
<thead>
<tr>
<th>Purpose</th>
<th>Description</th>
<th>Teaching Goal</th>
<th>Effort</th>
<th>Technology</th>
</tr>
</thead>
<tbody>
<tr>
<td>To determine what students already know</td>
<td>Short, simple surveys (polls), typically multiple choice or short answer in response to “known answer” questions</td>
<td>Establish baseline knowledge</td>
<td>Faculty: Medium</td>
<td>Low tech</td>
</tr>
<tr>
<td>Help determine effective starting point for course or session</td>
<td></td>
<td>Improve Memory</td>
<td>Student: Low</td>
<td>Questions on slides</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Learn fundamental terms or concepts</td>
<td>Data Analysis: Low/Medium</td>
<td>Verbal questions</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Hands raised, signs held</td>
</tr>
</tbody>
</table>

**CAT 1**

Any Subject Matter; any context
<table>
<thead>
<tr>
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<th>Technology</th>
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</thead>
<tbody>
<tr>
<td>To determine an fundamental concepts students already know</td>
<td>Students create a list of key concepts and identify related concepts and/or questions about those concepts or connections</td>
<td>Reinforce fundamental concepts</td>
<td>Faculty: Low</td>
<td>Low tech</td>
</tr>
<tr>
<td>Help determine effective starting point for course or session</td>
<td></td>
<td>Improve listening skills</td>
<td>Student: Low</td>
<td>Paper &amp; pencil</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Learn conceptual underpinning s of session objectives</td>
<td>Data Analysis: Low</td>
<td>Medium tech</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Poll Everywhere</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Qualtrics</td>
</tr>
</tbody>
</table>

**Focused Listing**

Particularly useful in case-based scenarios for individuals, pairs or groups
### Misconception/Preconception Check

<table>
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<th>Technology</th>
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</table>
| • Determine prior knowledge that might disrupt learning | • Instructor identifies common misconceptions or pre-conceptions  
• Creates anonymous polls or other inquiry activities with questions designed to promote reflection  
• Consider how to respond to student misconceptions  
• Explain reasoning | • Reinforce fundamental concepts  
• Improve listening skills  
• Learn conceptual underpinnings of session objectives | • Faculty: Low  
• Student: Low  
• Data Analysis: Low - Medium | • Low tech  
(Increases faculty effort)  
• Paper & pencil  
• Smart Art  
• Medium tech  
(reduces faculty effort)  
• Poll Everywhere (Rank, multiple choice)  
• Qualtrics |

**CAT 3**

Any subject matter, any context
<table>
<thead>
<tr>
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<th>Description</th>
<th>Teaching Goal</th>
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<th>Technology</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Assess students’ skills at digesting and categorizing important information according to a given set of critical defining features</td>
<td>• Requires students to categorize concepts according to the presence or absence of important defining features</td>
<td>• Improve analytic skills, ability to draw inferences and generate taxonomies of knowledge</td>
<td>• Faculty: Medium (content expertise)</td>
<td>• Low tech</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Develop study skills</td>
<td>• Student: Low</td>
<td>• PDF matrix</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Learn concepts, facts &amp; theories of subject</td>
<td>• Data Analysis: Low(technology)</td>
<td>• Medium tech</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>• Poll Everywhere (Rank Poll)</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>• Qualtrics (Sort poll)</td>
</tr>
</tbody>
</table>

**Defining Features Matrix**

Especially applicable to Pharmacology
<table>
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<th>Technology</th>
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</thead>
<tbody>
<tr>
<td>• Assists faculty in understanding how students reason their assertions of knowledge&lt;br&gt;• Promotes students’ consideration of ethical underpinnings for decision-making</td>
<td>• Instructor creates a decision-making exercise&lt;br&gt;• Students identify facts in support of or contradicting their decision&lt;br&gt;• e.g., develop differential diagnosis with reasoning for and against each possible diagnosis on the differential</td>
<td>• Develop analytic skills &amp; capacity to make informed decisions&lt;br&gt;• Differentiate fact from opinion&lt;br&gt;• Make reasonable inferences from facts&lt;br&gt;• Evaluate facts</td>
<td>• Faculty: Low (content expertise)&lt;br&gt;• Student: Low&lt;br&gt;• Data Analysis: Low - Medium (technology)</td>
<td>• Low tech&lt;br&gt;• Paper &amp; pencil&lt;br&gt;• Medium tech&lt;br&gt;• Recommended - Qualtrics (sorting question)</td>
</tr>
</tbody>
</table>

**Pro & Con Grid**

Particularly useful in case-based scenarios for individuals, pairs or groups
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<tbody>
<tr>
<td>• Enables faculty to determine how well students can evaluate content, understand how content is presented and why presentation form can affect whether and how information is utilized</td>
<td>• Instructor provides raw curriculum content for students to analyze and outline (individuals, groups) • e.g., students could identify components of decision-making process in patient situation, analyze how information was elicited and evaluated, &amp; describe roles of various participants and how these might have influenced the process or outcomes • e.g., students evaluate resources in support of reasoning</td>
<td>• Develop analytic, reading &amp; writing skills • Improve study skills and habits • Learn to evaluate HOW one learns and HOW to evaluate resources • Fosters independent thinking • Promotes consideration of peer thinking processes and ideas</td>
<td>• Faculty: Low- Medium (content expertise) • Student: High • Data Analysis: High - requires qualitative assessment</td>
<td>• Low tech • Verbal • Paper &amp; pencil • Medium tech • Poll Everywhere • Qualtrics (open ended) • Document upload to LMS</td>
</tr>
</tbody>
</table>

**Content, Form & Function Outlines**

Particularly helpful for self-directed learning or materials before flipped sessions
### Purpose
- Enables faculty to find out how concisely, completely and creatively students can organize and summarize sizeable and significant information
- Promotes ability to articulate

### Description
- Instructor asks students to summarize in one sentence the import of content addressed in a given session - e.g., What do we need to know in order to do X and why?

### Teaching Goal
- Enhance memory
- Improve listening and reasoning skills
- Develop ability to synthesize related concepts
- Improve ability to summarize knowledge and articulate reasoning

### Effort
- Faculty: Low
- Student: Medium
- Data Analysis: Medium - requires qualitative assessment

### Technology
- Low tech
- Verbal
- Paper & pencil
- Medium tech
- Poll Everywhere
- **Qualtrics** (open ended)
- Document upload to LMS

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**One Sentence Summary**

Any subject matter, any context
Reference & Resources

- Teaching Goals Inventory
  - Self-scoring (online, PDF)
  - Online scoring (University of Iowa)
- Text
Related Resource -

- **SAMR Model**
- *By Julie Youm PhD, Instructional Technologies Group, University of California, Irvine, School of Medicine*
For Faculty & Block Team Support

Contact
Karen Spear Ellinwood, PhD, JD, EdS
Director, Instructional Development

kse@medadmin.arizona.edu
520.626.1743