

## Selected Classroom Assessment Techniques (CATs) for Getting Feedback on Student Learning

Adapted by Vilma Mesa and Mary Wright from Angelo & Cross (1993)  
University of Michigan

“Classroom assessment helps individual college teachers obtain useful feedback on what, how much, and how well their students are learning. Faculty [and GSIs] can then use this information to refocus their teaching to help students make their learning more efficient and effective” (Angelo & Cross, p. 3). The selected techniques listed below briefly describe the CAT, the amount of instructor preparation, and the amount of in-class time needed for each assessment.

<i>Name</i>	<i>Description</i>	<i>Time required</i>
<b>Application cards</b>	After teaching about an important theory, principle, or procedure, ask students to write down at least one real-world application for what they have just learned to determine how well they can transfer their learning.	Prep: Low In-class time: Low
<b>Approximate analogies</b>	To find out whether students understand the relationship between two concepts, they complete the second half of an analogy—A is to B as X is to Y—for which their instructor has supplied the first half (A is to B).	Prep: Low In-class time: Low
<b>Background knowledge probe</b>	Before introducing an important new concept, subject, or topic, students respond to questions that will probe their existing knowledge of that concept, subject, or topic.	Prep: Medium In-class time: Low
<b>Concept maps</b>	Students produce diagrams or drawings that show and name the connections between major concepts and other concepts, facts, or principles that they have learned. Very useful in courses requiring conceptual learning	Prep: Medium In-class time: Medium
<b>Concept questions</b>	Instructors ask ungraded multiple choice questions to students in order to test students’ understanding of key concepts. Often, these are done with Hand Voting (or clickers).	Prep: Medium In-class time: Low
<b>Directed paraphrasing</b>	Ask students to write a layman’s “translation” of something they have just learned—geared to a specified individual or audience—to assess their ability to comprehend and transfer concepts.	Prep: Low In-class time: Medium
<b>Focused listing</b>	In a given time period, students write down as many ideas as they can that are closely related to a single important term, name, or concept. Works well in classes of any size and is useful in courses in which a large amount of new information is regularly introduced.	Prep: Low In-class time: Medium
<b>Goal ranking/matching</b>	Used in the first week of class; students list the learning goals they hope to achieve through the course and rank the relative importance of those goals.	Prep: Medium In-class time: Low
<b>Hand voting (or Clickers)</b>	Students signal their votes by raising a specified number of fingers. If technology is available, personal response systems (clickers) can be used instead for anonymous voting.	Prep: Low In-class time: Low
<b>Memory matrix</b>	Students fill in cells of a two-dimensional diagram for which the instructor has provided labels. For example, in a music course, labels might consist of periods (Baroque, Classical) or countries (Germany, France, Britain); students enter composers in cells to demonstrate their ability to remember and classify key concepts.	Prep: Medium In-class time: Medium
<b>Minute paper</b>	During the last few minutes of the class period, ask students to answer on a half-sheet of paper: “What is the most important point you learned today?”; and, “What point remains least clear to you?”. The purpose is to elicit data about students’ comprehension of a particular class session.	Prep: Low In-class time: Low
<b>Misconception / preception check</b>	Students respond to a questionnaire that elicits information about students’ ideas and beliefs that may hinder or block further learning.	Prep: Medium In-class time: Low
<b>Muddiest point</b>	Ask students to jot down a quick response to one question: “What was the muddiest point in _____?” the focus could be a lecture, a discussion, homework, a play, or a film.	Prep: Low In-class time: Low
<b>Student generated test questions</b>	Allow students to write test questions and model answers for specified topics, in a format consistent with course exams. This will give students the opportunity to evaluate the course topics, reflect on what they understand, and consider what good test questions might be.	Prep: Medium In-class time: High

Adapted from: Angelo, T. A., & Cross, P. K. (1993). *Classroom assessment techniques: A handbook for college teachers* (2nd ed.). San Francisco, CA: Jossey-Bass.