

# Classroom Assessment Techniques (CATS)

Drawn from Angelo & Cross, 1993

## Techniques for Assessing Course-Related Knowledge & Skills (not for summative assessment, but to help faculty understand how students are perceiving the information)

### I. Assessing Prior Knowledge, Recall, and Understanding

*The CATS in this group are recommended to assess content knowledge and acquisition.*

1. **Background Knowledge Probe:** short, simple questionnaires prepared by instructors for use at the beginning of a course or at the start of new units or topics; can serve as a pretest.
2. **Focused Listing:** focuses students' attention on a single important term, name, or concept from a lesson or class session and directs students to list ideas related to the "focus."
3. **Misconception/Preconception Check:** focus is on uncovering prior knowledge or beliefs that hinder or block new learning; can be designed to uncover incorrect or incomplete knowledge, attitudes, or values
4. **Empty Outlines:** in a limited amount of time students complete an empty or partially completed outline of an in-class presentation or homework assignment
5. **Memory Matrix:** students complete a table about course content in which row and column headings are complete but cells are empty
6. **Minute Paper:** perhaps the most frequently used CAT; students answer 2 questions (What was the most important thing you learned during this class? What important question remains unanswered?)
7. **Muddiest Point:** suited to larger classes. What is the muddiest point?

### II. Critical thinking

*The CATS in this group focus on critical thinking—the breaking down of information, questions, or problems to facilitate understanding and problem solving*

8. **Categorizing Grid:** student complete a grid containing 2 or 3 major concepts and a variety of related subordinate elements associated with the larger concepts
9. **Pro and Con Grid:** students list pros/cons, costs/benefits, advantages/disadvantages of an issue, question or value of competing claims
10. **Content, Form, and Function Outlines:** in an outline, students analyze the "what" (content), "how" (form), and "why" (function) of a particular message (e.g. poem, newspaper story, billboard, critical essay); also called "What, How, & Why Outlines"

11. **Analytic Memos:** students write a one- or two-page analysis of a specific problem or issue to help inform a decision-maker

### III. Assessing Skill in Synthesis and Creative Thinking

*The CATS in this group focus on synthesis—each stimulate the student to create, and allow the faculty to assess, original intellectual products that result from a synthesis of course content and the students' intelligence, judgment, knowledge, and skills.*

12. **One-Sentence Summary:** students answer the questions “Who does what to whom, when, where, how, and why?” (WDWWWHW) about a given topic and then creates a single informative, grammatical, and long summary sentence. The sentence then is shared with other members of the class
13. **Word Journal:** a 2 part response: 1<sup>st</sup> student summarize a short text in one word and 2<sup>nd</sup> the student writes 1-2 paragraph explaining the word choice
14. **Concept Maps:** students draw a diagram of the mental connections they make about a major concept they have learned and other concepts they know
15. **Invented dialogs:** students invent dialogs that demonstrate their understanding by explaining concepts, etc. to people who do not have the same experience as them
16. **Annotated portfolios:** students assemble a very limited number of examples of creative work AND comment on the significance of that work

### IV. Assessing Skill in Problem Solving

*The CATS in this group focus on problem solving skills of various kinds, including recognition of types of problems and techniques required to solve those problems.*

17. **What's the Principle?:** students identify principles to solve problems of various types
18. **Documented Problem Solutions:** students track in a written format the steps taken to solve a problem.
19. **Audio and video protocols:** students work through a problem solving process and it is captured to later view or listen to for purposes of identifying metacognitive strategies

### V. Assessing Skill in Application and Performance

*The CATS in this group focus on students' ability to apply important knowledge when and where they should.*

20. **Directed Paraphrasing:** students paraphrase part of a lesson for a specific audience demonstrating ability to translate highly specialized information into language the clients or customers can understand
21. **Application Cards:** students generate examples of real-work applications for important principles, generalizations, theories or procedures

22. **Student-Generated Test Questions:** students generate test questions and model answers for critical areas of learning
23. **Paper or Project Prospectus:** Students create a brief plan for a paper or project based on your guiding questions.

## **Techniques for Assessing Learner Attitudes, Values, and Self-Awareness**

### **VI. Assessing Students' Awareness of Their Attitudes and Values**

*The CATS in this group are designed to assist teachers in developing students' attitudes, opinions, values, and self-awareness within the course curriculum.*

24. **Classroom Opinion Polls:** Students indicate degree of agreement or disagreement with a statement or prompt.
25. **Double-entry Journals:** Students record and respond to significant passages of text
26. **Profiles of Admirable Individuals:** Students write a brief description of the characteristics of a person they admire in a field related to the course
27. **Everyday Ethical Dilemma:** Students respond to a case study that poses a discipline-related ethical dilemma
28. **Course-related Self-Confidence Surveys:** Students complete an anonymous survey indicating their level of confidence in mastering the course material

### **VII. Assessing Students' Self-Awareness as Learners**

*The CATS in this group are recommended to help students express personal goals and clarify self-concept in order to make a connection between the articulated goals and those of the course.*

29. **Focused Autobiographical Sketches:** Students write a brief description of a successful learning experience they had relevant to the course material.
30. **Interest/Knowledge/Skills Checklists:** Students complete a checklist survey to indicate their knowledge, skills and interest in various course topics.
31. **Goal Ranking and Matching:** Students list and prioritize 3 to 5 goals they have for their own learning in the course.

### **VIII. Assessing Course-Related Learning and Study Skills, Strategies, and Behaviors**

*The CATS in this group focus both student and teacher attention on the behaviors the student actually engages in when trying to learn.*

32. **Productive Study-Time Logs:** Students complete a study log to record the quantity and quality of time spent studying for a specific course.

33. **Punctuated Lectures:** Students briefly reflect then create a written record of their listening level of a lecture. Repeat twice in the same lecture and 2- 3 times over 2 to 3 weeks.
34. **Process Analysis:** Students outline the process they take in completing a specified assignment.
35. **Diagnostic Learning Logs:** Students write to learn by identifying, diagnosing, and prescribing solutions to their own learning problems.

## Techniques for Assessing Learner Reactions to Instruction

### IX. Assessing Learner Reactions to Teachers and Teaching

*The CATS in this group are designed to provide context-specific feedback that can improve teaching within a particular course.*

36. **Chain Notes:** On an index card that is distributed in advance, each student responds to an open-ended prompt about his or her mental activity that is answered in less than a minute.
37. **Electronic Survey Feedback:** Students respond to a question or short series of questions about the effectiveness of the course.
38. **Teacher-designed Feedback Forms:** Students respond to specific questions through a focused feedback form about the effectiveness of a particular class session.
39. **Group Instructional Feedback Technique:** Students respond to three questions related to the student's learning in the course.
40. **Classroom Assessment Quality Circles:** A group or groups of students provide the instructor with ongoing assessment of the course through structured interactions.

### X. Assessing Learner Reactions to Class Activities, Assignments, and Materials

*The CATS in this group are designed to give teachers information that will help them improve their course materials and assignments.*

41. **RSQC2 (Recall, Summarize, Question, Connect and Comment):** Students write brief statements that recall, summarize, question, connect and comment on meaningful points from previous class.
42. **Group-Work Evaluation:** Students complete a brief survey about how their group is functioning and make suggestions for improving the group process.
43. **Reading Rating Sheets:** Students complete a form that rates the effectiveness of the assigned readings.
44. **Assignment Assessments:** Students respond to 2 or 3 open-ended questions about the value of an assignment to their learning.
45. **Exam Evaluations:** Students provide feedback about an exam's learning value and/or format.