50 CATS by Angelo and Cross

Techniques for Assessing Course-Related Knowledge & Skills

I. Assessing Prior Knowledge, Recall, and Understanding

The CATS in this group are recommended to assess declarative learning, the content of a particular subject.

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; typically elicits more detailed information than CAT2. .
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? And What important question remains unanswered?)
7. Muddiest Point: considered my many as the simplest CAT; students respond to 1 question (What was the muddiest point in _____ ?); well suited to large, lower division courses but not to those which emphasize integration, synthesis and evaluation

II. Assessing Skill in analysis and Critical Thinking

The CATS in this group focus on analysis—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 overarching concepts and a variety of related subordinate elements associated with the larger concepts
9. Defining Features Matrix: students categorize concepts according to presence or absence of important defining features
10. Pro and Con Grid: students list pros/cons, costs/benefits, advantages/disadvantages of an issue, question or value of competing claims
11. Content, Form, and Function Outlines: in an outline form, 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
12. 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.

13. One-Sentence Summary: students answer the questions "Who does what to whom, when, where, how, and why?" (WDWWWWHW) about a given topic and then creates a single informative, grammatical, and long summary sentence
14. Word Journal: involves a 2 part response; 1st the student summarizes a short text in a single word and 2nd the student writes 1-2 paragraphs explaining the word choice
15. Approximate Analogies: students simply complete the 2nd half of an analogy—a is to b as x is to y; described as approximate because rigor of formal logic is not required
16. Concept Maps: students draw or diagram the mental connections they make between a major concept and other concepts they have learned
17. Invented Dialogues: students synthesize their knowledge of issues, personalities, and historical periods into the form of a carefully structured illustrative conversation; 2 levels of invention (select and weave quotes from primary sources or invent reasonable quotes that fit characters and context)
18. Annotated Portfolios: students assemble a very limited number of examples of creative work and supplement with own commentary on significance of examples

IV. Assessing Skill in Problem Solving

The CATS in this group focus on problem solving skills of various kinds—recognition of types of problems, determining principles and techniques to solve, perceiving similarities of problem features and ability to reflect and then alter solution strategies.

19. Problem Recognition Tasks: students recognize and identify particular problem types
20. What's the Principle?: students identify principle or principles to solve problems of various types
21. Documented Problem Solutions: students track in a written format the steps they take to solve problems as if for a "show & tell"
22. Audio- and Videotaped Protocols: students work through a problem solving process and it is captured to allow instructors to assess metacognition (learner's awareness of and control of thinking)

V. Assessing Skill in Application and Performance

The CATS in this group focus on students' abilities to apply important—sometimes referenced as conditional knowledge—knowing when and where to apply what know and can do.

23. 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
24. Application Cards: students generate examples of real-work applications for important principles, generalizations, theories or procedures
25. Student-Generated Test Questions: students generate test questions and model answers for critical areas of learning
26. Human Tableau or Class Modeling: Students transform and apply their learning into doing by physically modeling a process or representing an image.

27. 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.

28. Classroom Opinion Polls: Students indicate degree of agreement or disagreement with a statement or prompt.
29. Double-entry Journals: Students record and respond to significant passages of text
30. Profiles of Admiral Individuals: Students write a brief description of the characteristics of a person they admire in a field related to the course
31. Everyday Ethical Dilemma: Students respond to a case study that poses a discipline-related ethical dilemma
32. 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.

33. Focused Autobiographical Sketches: Students write a brief description of a successful learning experience they had relevant to the course material.
34. Interest/Knowledge/Skills Checklists: Students complete a checklist survey to indicate their knowledge, skills and interest in various course topics.
35. Goal Ranking and Matching: Students list and prioritize 3 to 5 goals they have for their own learning in the course.
36. Self-Assessment Ways of Learning: Students compare themselves with several different "learning styles" profiles to find the most likely match.

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.

37. Productive Study-Time Logs: Students complete a study log to record the quantity and quality of time spent studying for a specific course.
38. 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.
39. Process Analysis: Students outline the process they take in completing a specified assignment.
40. 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.

41. 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.
42. Electronic Survey Feedback: Students respond to a question or short series of questions about the effectiveness of the course.
43. Teacher-designed Feedback Forms: Students respond to specific questions through a focused feedback form about the effectiveness of a particular class session.
44. Group Instructional Feedback Technique: Students respond to three questions related to the student's learning in the course.
45. 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.

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