
MID-SOUTH
COMMUNITY
COLLEGE

**Classroom Assessment Techniques
Manual**

Spring 2003

Preface

Assessment is a vital component of the teaching and learning process. Mid-South Community College's assessment of student academic achievement relies on program- and course-level assessment efforts to drive curricular and instructional improvements for the purpose of improving student learning. Course-level assessment is used to measure students' course-specific knowledge and performance on learning outcomes within individual courses and can be performed both formally and informally.

The purpose of this workbook is to provide a basic reference on informal Classroom Assessment Techniques for instructors at Mid-South Community College. For more detailed information on assessment, please visit our library in the Reynold's Center to access our faculty development resources or contact Dr. Mindy Maher, Dean of Academic Assessment and Instruction at (870) 733-6724.

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Effective Use of Classroom Assessment Techniques (CATs) Workshop Outline

Topics Covered

What is a Classroom Assessment Technique (CAT)?
How can a CAT provide useful information?
What CAT should I choose?

What is a CAT?

“...the systematic study of how students are responding to our efforts to teach them.” – K. Patricia Cross

A way to gather info. on what we do

- in our individual classrooms
- with our students
- with our subject matter and assignments
- with our teaching styles

How do CATs differ from quizzes?

CATs are *formative*
The purpose is to improve student learning, not to evaluate or grade.
CATs are rarely graded
CATs can be anonymous
CATs do not have to be valid or reliable

Classroom Assessment is

action-oriented, not research-oriented
teacher-centered, not institution-centered
beneficial to current students, not focused on future changes
practical
an integral part of effective teaching

Classroom Assessment helps us

focus on learning
define what is important in our teaching
gather information on what we do
determine ways to be even more successful at our teaching

Classroom Assessment addresses questions such as

Are my students learning what I think I am teaching?
Who is learning and who is not learning?
What am I doing that is useful for these students?
What am I doing that is not useful for these students?

Classroom Assessment Tools are

easy to design
easy to administer
easy to analyze
designed to involve students in their own learning (Active learning!)
not intended to be statistically valid or reliable

Some Assumptions Related to CATs

The quality of student learning is directly (but not entirely) related to teaching quality. So, improving one's teaching will improve learning!

To improve learning, students need to receive meaningful feedback early and often. They also need to learn how to assess their own learning.

Models & Instructions for commonly-used CATs

Examples of Common CATs

Course-Related Knowledge & Skills

Assessing Prior Knowledge, Recall, and Understanding

Background Knowledge Probe

Empty Outlines

Memory Matrix

Minute Paper / Muddiest Point

Assessing Skill in Application and Performance

Directed Paraphrasing

Application cards

Student-generated test questions

Learner Reactions to Instruction

Assessing Learner Reactions to Instruction and Class Activities

Teacher Designed Feedback Forms

Reading Rating Sheets

Assignment / Exam Evaluations

Tips for Implementation

Focus on an area where you want feedback

Tell students what you are doing & why

Students may not know what you expect or how to give feedback, so be positive and helpful.

Analyze & review results immediately

Provide feedback to your students

Be flexible!

Assumptions Related to CATs

1. The quality of student learning is directly, but not entirely, related to the quality of teaching. Therefore, one way to improve student learning is to improve teaching.
2. To improve student learning, teachers must explicitly state their goals and objectives to their students and then elicit specific feedback on the extent to which they are achieving those goals and objectives.
3. To improve their learning, students need to receive meaningful and focused feedback early and often. They also need to learn how to assess their own learning.
4. The type of assessment that is most likely to improve teaching and learning is that conducted by faculty to answer their own questions related to issues or problems in their own teaching.
5. Systematic inquiry and intellectual challenge are powerful sources of motivation, growth, and renewal for teachers. Classroom Assessment can provide such challenge.
6. Classroom Assessment does not require specialized training; it can be carried out by dedicated teachers from all disciplines.
7. By collaborating with colleagues and actively involving students in Classroom Assessment efforts, faculty (and students) can enhance learning and personal satisfaction.

Background Knowledge Probe

Purpose:	This CAT is used to collect specific, useful feedback on students' prior learning. Information gathered can help teachers determine the most effective starting point and level of instruction. These pre-tests can be coupled with a post-test at the end of the semester to compare knowledge gained.
How To:	<ol style="list-style-type: none">1. After brainstorming on the most important course concepts (based on learning objectives), consider what the students might already know.2. Prepare a variety of questions (limit to approximately 10) to probe their existing knowledge. Carefully phrase your questions for students with limited discipline-specific vocabulary.3. Distribute questions and be sure to tell your students that this isn't a test and isn't for a grade. Explain the purpose and ask them to give it their best effort.4. At the next class meeting, go over the results.
For Students:	This CAT provides students with a preview of what is to come, what concepts will be important in the class, and what they already know.

Example: The CATs Background Probe taken at this workshop

Empty Outline

Purpose:	This CAT is used to help instructors find out how well students have captured and understood main points during lectures. It also keeps students active during lectures, while still providing a framework for their notes.
How To:	<ol style="list-style-type: none"> 1. Create an outline of the lesson. 2. Determine what aspects of the outline you want the students to supply (main topics, main subtopics, supporting details). 3. Determine if you want the students to complete the outline during lecture or from memory as an ungraded "quiz." 4. Provide an example of what you expect and how to use the outline. 5. Collect and give feedback at next class meeting.
For Students:	This CAT provides students with a better understanding of how to extract the main points from a lecture. It also helps them to recall and organize the main points of a lesson.

Example:

- I. Development of Senses in Middle Adulthood
 - A. Two developmental changes in vision that occur in middle adulthood
 - 1.
 - 2.
 - B. Two developmental changes in hearing that occur in middle adulthood
 - 1.
 - 2.
- II. Sexual and Reproductive Changes in Women
 - A. Symptoms / characteristics of menopause
 - 1.
 - 2.
 - 3.
 - 4.
 - B. Benefits of _____ therapy
 - 1.
 - 2.
 - 3.

Memory Matrix

Purpose:	This CAT is a semi-blank chart that assesses students' recall of course content and their skill of organizing that information into categories provided by the instructor. This CAT works well with facts and principles.
How To:	<ol style="list-style-type: none"> 1. Draw a simple matrix and provide row and column headings that provide useful information. 2. Make sure it works – fill in the blanks yourself based on the lesson. 3. Provide the semi-blank matrix to your students and provide information on what you expect. 4. Collect and provide feedback at the next class meeting.
For Students:	This CAT can help students understand the categorization and organization of course concepts while aiding memorization.

Example:

Memory Matrix for Neurons		
	Structure	Function
Axon		
Soma		
Dendrite		
Nucleus		
Terminal Vesicles		

Minute Paper / Muddiest Point

Purpose:	These are two of the more common and easy-to-use CATs. Instructors can use this CAT to quickly determine how well students are learning what they are teaching or what areas of the lesson they are having the most difficulty understanding.
How To:	<ol style="list-style-type: none">1. Decide what you want to focus on in your CAT and when to give it. If you want to assess students' understanding of a lecture, give it at the end of class. If you want to focus on a homework assignment, give it at the beginning of class.2. Use at least one of the basic questions listed below.3. Set aside 5 to 10 minutes of class time to complete.4. Collect and give feedback at the next class meeting.
For Students:	This CAT can help students reflect upon their learning and assures them that their instructors are concerned about student learning. Additionally, the feedback can help students learn to self-assess their own learning and gives them the opportunity to ask questions that they may not feel comfortable asking in class.

Examples:

"What is the most important thing you learned during this class?"

"What important question remains unanswered?"

"What was the muddiest point in _____?"

Directed Paraphrasing

Purpose:	This CAT is designed to assess and help develop the students' ability to make course content meaningful by translating it into their own words. This CAT will also help instructors determine how well the student has understood and internalized the information.
How To:	<ol style="list-style-type: none">1. Select an important theory, concept, or argument that students have studied in some depth.2. Determine a realistic, but challenging, audience for the paraphrase. Consider using a classmate (example below), another instructor, a business presentation, or a debate "scenario."3. Try it out yourself to make sure it is realistic.4. Explain the assignment, give the students the appropriate time to complete, collect, and review during the next class meeting.
For Students:	This CAT can help students summarize and restate important information in their own words. This activity will help to build their communication skills used in writing research papers and will help students to better understand course content.

Example:

Imagine that a classmate has asked you for help with this course. This student missed today's class because of the flu. She has a copy of the notes, but is still having a difficult time understanding the information. Keeping this in mind, answer the following questions in your own words. You may use examples if relevant. Write at least two complete sentences for each question.

1. What exactly is "symbolic thought"? How might an adult observe this in a child's behavior?
2. Can you describe "egocentrism" and give an example of it?
3. What is "irreversibility" and how does it relate to Piaget's conservation tasks?

Application Cards

Purpose:	This CAT is a quick way to determine how well your students understand the possible applications of what they have learned.
How To:	<ol style="list-style-type: none"> 1. Identify an important and applicable principle, theory, or procedure that your students are studying. 2. Decide how many applications you wish to elicit and how much time is needed. Consider providing blank index cards for the students, so they can write the concept on one side and the example on the other. 3. Explain to the students what you are doing and what you expect. Give an example. 4. Collect the cards when finished and review during the next class.
For Students:	This CAT can help students to see the relevance of what they are learning. In addition, the process of creating examples will help student to better recall the information later.

Example:

On your notecard, use one side to write each of the principles below (one principle per card). On the other side of the card, provide an application or related example to illustrate the theory.

Terms

Unconditioned response
 Conditioned response
 Stimulus generalization
 Stimulus discrimination

Variation:

An easier version of this CAT is to provide the students with an application or example, and ask them to provide the term. This can be especially helpful for students who have difficulty with application-based questions.

Example:

Identify the specific defense mechanisms used in the story below. Write the defense mechanism in the numbered space after the story.

My boyfriend recently broke up with me after we had dated for several years. At first, I was miserable. I told several friends that he was probably lonely and depressed now (1). The next day, I decided that I was happy about the break-up and talked about how much I was enjoying my new freedom (2). But, I started missing him again. So, I tried to be more objective and realized that we were bound to break up eventually and I was better off without him (3).

1. _____
2. _____
3. _____

Student-Generated Test Questions

Purpose:	This CAT provides information on how well the students understand the material by assessing their ability to create test questions. Instructors can discover 1) what their students consider to be most important, 2) what their students consider to be a fair test question, and 3) how well they can answer the questions posed.
How To:	<ol style="list-style-type: none">1. Focus on a test that is at least three weeks away. Decide what types of questions and what content to focus on for this activity. Consider adding some of the student-generated questions to your test as an incentive!2. Provide students with an example and basic information on how to write a test question (Remember – they've probably never done this before).3. Explain to your students what you expect, provide ample time, collect, and review during the next class. (Note – this activity will probably need to be repeated a few times to obtain useful questions if you plan to include them in your tests).
For Students:	This CAT can help students to better recall course content and to better prepare themselves for test taking.

Teacher Designed Feedback Forms

Purpose:	This CAT is used in addition to the traditional standardized course evaluation forms and can provide more detailed, course-specific feedback that instructors can use immediately to make informed and timely adjustments to their teaching.
How To:	<ol style="list-style-type: none"> 1. Write three to five questions about your teaching that you would like students to respond to. 2. Decide if you want to use a Likert scale, multiple-choice, or open-ended format. 3. Ensure anonymity by asking students to complete the form and either turn in to a fellow student or place into a large envelope or box. 4. Analyze the feedback and give a summary to your class. Be sure not to berate the students for honest responses.
For Students:	This CAT provides students the opportunity to share thoughts and suggestions with their instructor in an anonymous format.

Sample Questions:

On the scale provided, please rate the clarity of today's session.

Overall, how useful did you find today's session in helping you learn the material?

What did you find most helpful about today's class?

How could this class have been improved (Please give one or two specific suggestions)?

The most effective thing we have done in class so far is...

The least effective thing we have done in class so far is...

One thing I wish you would change is...

One thing I wish you would never change is...

One question that I have that related to class today is...

Reading Rating Sheets

Purpose:	This CAT provides feedback on the students' response to their assigned course reading. This is a good assignment to use when either students are having difficulty understanding the textbook or are not reading the textbook as directed.
How To:	<ol style="list-style-type: none">1. Determine why you want the students to rate from the reading assignment (to choose a better book, to assess their understanding, to determine if they are reading, etc.).2. Write 3 to 5 questions (yes/no, short answer, etc.).3. Make sure to include a question to assess how thoroughly the students have read the material.4. Try to answer them yourself. Then, determine if you want students to answer this in class or at home after completing the reading.5. Distribute, provide an explanation, collect, and review results.
For Students:	This CAT provides students the opportunity to share comments related to the textbook and serves as an incentive to read the assigned pages.

Sample Questions:

What was the title of the reading?

How well did you read the assignment?

- A. completely and carefully
- B. completely, but not carefully
- C. only partially, but carefully
- D. not completely or carefully

How useful was this reading assignment in helping you understand the topic?

- A. very useful
- B. useful
- C. not very useful
- D. useless

How clear and understandable was the reading?

How interesting was the reading?

What did you learn from the reading that you would want to remember?

Assignment / Exam Evaluations

Purpose:	This CAT is used to provide the instructor with feedback on assignments and exams to evaluate and improve their effectiveness.
How To:	<ol style="list-style-type: none"> 1. Choose an assignment or exam to assess. 2. Write two to three questions that will provide useful information. 3. Provide students 5 to 10 minutes in class to answer. Ensure anonymity by asking students to complete the form and either turn in to a fellow student or place into a large envelope or box. 4. Analyze the feedback and give a summary to your class. Be sure not to penalize the students for honest responses.
For Students:	This CAT helps students to reflect on how assignments are helping them as learners. In addition, it allows students to reflect upon test questions and provide feedback to their instructor, giving them a more active role in the learning process.

Sample Assignment Questions

What part of this assignment contributed most to your understanding of the course material? Explain why.

What part of this assignment contributed least to your understanding of the course material? Explain why.

What changes could be made to the assignment to improve it?

Sample Exam Questions

The test questions that I felt very confident about were...

The questions that I felt very weak on were...

I expect my grade to be about (A,B,C,D,F)...

To prepare for this test, I studied a total of _____ hours.

To maximize my grade on the next test, I need to ... (be specific)

I would perform better on the next exam if my instructor would... (be specific and reasonable)

Teaching Goals Inventory

adapted from Angelo & Cross (1993)

Purpose: The Teaching Goals Inventory (TGI) is a self-assessment for professors. Its purpose is threefold: (1) to help professors become more aware of what goals they want to accomplish in individual courses; (2) to help professors locate Classroom Assessment Techniques they can use to assess how well they are achieving their goals; and (3) to provide a starting point for discussions of teaching and learning goals among professors.

Directions: Please select ONE course you are currently teaching. Respond to each item on the inventory below in relation to that particular course. Your responses might differ between your teaching/learning goals for an introductory non-majors course and an upper division majors course in your discipline.

For the specific course you have selected, please rate the importance ---from *Essential* to *Not Applicable* --- of each of the thirty goals listed below. **Assess each goal's importance with respect to what you deliberately want your students accomplish and not with respect to that goal's general worthiness.** There are no "right" or "wrong" answers, only personally more or less accurate ones. In general, a level of discrimination that produces somewhere between 3-10 "essential" goals works well for this inventory.

Essential	A goal you almost always try to achieve	= 5
Very Important	A goal you often try to achieve	= 4
Important	A goal you sometimes try to achieve	= 3
Unimportant	A goal you rarely try to achieve	= 2
Not applicable	A goal you never try to achieve	= 1

In general, how do you see your <u>primary</u> role as teaching professor?	
Although more than one statement may apply, please choose only one.	
Helping students develop higher order thinking skills	1
Helping students develop basic learning skills	2
Teaching students facts and principles of subject matter in the discipline	3
Serving as a role model of liberal arts appreciation and academic values for students	4
Preparing students for jobs/careers	5
Fostering student development and personal growth	6

To take the full version of the TGI, using a self-scoring online format, please go to <http://www.siu.edu/~deder/assess/cats/tchscor.html>

Rate the importance of each goal below in terms of what you aim to have students accomplish in your course.

Essential	A goal you almost always try to achieve	= 5
Very Important	A goal you often try to achieve	= 4
Important	A goal you sometimes try to achieve	= 3
Unimportant	A goal you rarely try to achieve	= 2
Not applicable	A goal you never try to achieve	= 1

1. Develop ability to apply principles and generalizations already learned to new problems and situations	5	4	3	2	1
2. Develop analytic and/or problem solving skills	5	4	3	2	1
3. Develop ability to draw reasonable inferences from observations	5	4	3	2	1
4. Develop ability to synthesize and integrate information and ideas	5	4	3	2	1
5. Develop ability to distinguish between fact and opinion	5	4	3	2	1
6. Improve writing and communication skills	5	4	3	2	1
7. Improve ability to concentrate and pay attention	5	4	3	2	1
8. Improve reading skills	5	4	3	2	1
9. Improve basic mathematical skills	5	4	3	2	1
10. Develop appropriate study skills, strategies, and habits	5	4	3	2	1
11. Learn terms and facts of this subject	5	4	3	2	1
12. Learn concepts and theories of this subject	5	4	3	2	1
13. Develop skill in using materials, tools, and/or technology central to this subject	5	4	3	2	1
14. Learn to appreciate important contributions of this subject area	5	4	3	2	1
15. Learn techniques and methods used to gain new knowledge in this subject	5	4	3	2	1
16. Develop an appreciation of liberal arts and sciences	5	4	3	2	1
17. Develop an openness to new and diverse ideas	5	4	3	2	1
18. Develop an informed concern about contemporary social issues	5	4	3	2	1
19. Develop a commitment to exercise the rights and responsibilities of citizenship	5	4	3	2	1
20. Develop capacity to make informed ethical choices	5	4	3	2	1
21. Develop ability to work productively with others	5	4	3	2	1
22. Develop management and/or leadership skills	5	4	3	2	1
23. Improve ability to follow directions, instructions, and plans	5	4	3	2	1
24. Improve ability to organize and use time effectively	5	4	3	2	1
25. Develop a commitment to work and personal achievement	5	4	3	2	1
26. Cultivate a sense of responsibility for one's own behavior	5	4	3	2	1
27. Improve self-esteem/self-confidence	5	4	3	2	1

28. Develop a commitment to one's own values	5	4	3	2	1
29. Develop capacity to think for one's self	5	4	3	2	1
30. Cultivate an active commitment to honesty	5	4	3	2	1

Teaching Goals Inventory Self-Scoring Worksheet

1. How many of the 30 goals did you rate as “Essential”?
2. How many “Essential” goals did you have in each of the six clusters?

Cluster Number and Name	Goals included in cluster	Total Number of “Essential” goals in each cluster	Clusters Ranked (1 st to 6 th) by number of Essential Goals
I. Higher Order Thinking Skills	1 – 5		
II. Basic Academic Success Skills	6 – 10		
III. Discipline-Specific Knowledge and Skills	11 – 15		
IV. Liberal Arts & Academic Values	16 – 20		
V. Work and Career Preparation	21 – 25		
VI. Personal Development	26 - 30		

Note: Each Teaching Goal and item on the TGI is related to specific CATs. For more information on connecting your TGI results to CAT selection, please refer to the Angelo and Cross book “Classroom Assessment Techniques: A Handbook for College Teachers” which is available in MSCC’s library.