



UNIVERSITY OF
NORTHERN COLORADO

**Center for the Enhancement of
Teaching & Learning**

Developing Classroom Assessment Techniques

Table of Contents

Overview of Classroom Assessment Techniques	2
Five Tips for CAT Success	4
Designing a CAT	5
Using CAT Results	6

Overview of Classroom Assessment Techniques

What are Classroom Assessment Techniques?

Classroom Assessment Techniques (CATs) are simple, in-class activities designed to give you and your students useful feedback on learning as it is happening. CATs answer the following questions:

- What have students learned?
- To what extent have they learned it?
- How many students are learning?

When are CATs used?

While typically used for formative assessment, which evaluates students' abilities while they are still learning in the course, CATs can also be useful for summative assessment, which evaluates students' abilities as they are about to complete a course (or at the end of a unit).

[Read more about formative and summative assessment.](#)

Why should I use CATs?

CATs can be used to improve teaching and learning that occurs in class. Frequent use of CATs throughout a course can:

- Provide just-in-time feedback about the teaching-learning process
- Provide information about student learning with less work than traditional assignments (tests, papers, etc.)
- Encourage the view that teaching is an ongoing process of inquiry, experimentation, and reflection
- Help students become better monitors of their own learning
- Help students feel less anonymous, even in large courses
- Provide concrete evidence that the instructor cares about learning

How are CATs Used in Formative Assessment?

CATs for formative assessment can be given at the start of a lesson/unit to assess students' current knowledge. This can inform the discussion by indicating common misunderstandings of concepts. A CAT can also be used to assess learning at the end of class session to inform remaining areas of misunderstanding for students. This data helps instructors structure any needed follow-up on the course material. When you use CATs for formative assessment, you can use the same CAT multiple times. You can also add knowledge elements throughout a unit.

Below is an example of a CAT used for formative assessment. The course student learning outcomes being assessed with this CAT is *Students will be able to differentiate between*

institutional assessment and classroom assessment. The CAT being used is the Defining Features Matrix. Here is an example of a matrix (more examples are in the [CAT KIT](#)).

<i>Features</i>	<i>Institutional Assessment</i>	<i>Classroom Assessment</i>
Teacher-designed and directed	-	+
Large sample sizes required	+	-
Sophisticated statistical data analysis required	+	-
Standardized and validated instruments preferred	+	-
Focused on classroom teaching and learning	-	+
Replicable and comparable	+	-
Useful to students and teachers	-	+
Useful to administrators	+	-
Aims to improve quality of higher education	+	+

How are CATs Used in Summative Assessment?

CATs can be used for summative assessment. For example, the Defining Feature Matrix can be included in the final course exam with basic and advanced elements to assess learning of this concept throughout the course. The Defining Feature Matrix could also be changed to an essay question or application question for summative assessment rather than a matrix.

Five Tips for CAT Success

1. If a CAT does not appeal to your intuition and professional judgement, don't use it!

There are so many CATs out there that you can easily find one you like. You can also create your own!

2. Don't make classroom assessment into a self-inflicted chore or burden.

Start simple, with quick and easy CATs, and stay simple for a long time while you build your skills.

3. Don't ask your students to use a CAT that you have not previously tried on yourself.

Trying out the CAT on yourself tells you if the CAT is appropriate, where problems may occur, and if you need to make modifications before taking it to your classroom. Testing it also lets you know how long it will take during class.

4. Allow for more time than you think you will need to carry out and respond to the assessment.

Administering CATs, especially the first time, is likely to take twice the time you think. This shouldn't be a deterrent, just plan accordingly.

5. Make sure to "close the loop" with students.

Let students know what you learn from the assessment and how you and they can use that information to improve learning. Students will realize the value of assessment if they know the results. They are also more likely to participate fully if they see how the results can help improve their own learning.

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

Designing a CAT

Results from CATs can guide teachers in adjusting curriculum and teaching methods for optimal learning. Here is a process for designing a CAT:

1. Decide what you want to assess about your students' learning from a CAT.
 - You want to assess a particular learning outcome, which can be either a unit-level or a course level outcome.
2. Decide if you are using the CAT for formative or summative assessment, or both. This will help you determine how to design your CAT
3. Select a CAT
 - There are hundreds of CATs to choose from, and you can adapt any for your own needs. Review the [CAT KIT](#) to get started; it provides an overview of six CATs and examples. You can find more CATs in Angelo, T. A., & Cross, K. P. (1993). *Classroom assessment techniques: A handbook for college teachers* (2nd ed.). San Francisco: Jossey-Bass Publishers
 - Choose a CAT that is consistent with your teaching style. You need to be comfortable with the assessment
 - Choose a CAT that you can integrate into your usual class activity. Assessment does not need to be hard, so consider how a CAT can be incorporated into an existing lesson plan.
4. Design your CAT
 - Try the CAT out on yourself and colleagues to make sure it makes sense and is assessing what you want it to assess.
 - Make sure the CAT is appropriate for the learning outcome. Be sure it is assessing what you want it to assess.
 - Make sure that the CAT is reasonably simple. CATs don't have to be difficult to design, for students to complete, or for us to analyze.
 - Make sure the CAT will contribute to learning. Make sure it is value-added. If it won't help students learn the content or help you determine if students are learning, it is not a good CAT.

CAT Checklist.

- It is appropriate to your unit-level and course level student learning outcomes
- It can be integrated into your usual class activity
- It is reasonably simple
- It contributes to student learning

Using CAT Results

To use the data provided in your CAT follow these steps:

1. *Determine if you need to review material based on student performance.* If so, begin with a review of the material and a follow-up assessment. Following up with a quick CAT will let students see their own improvement and indicate if more time is needed on certain concepts
2. *Share results with students and get their feedback.* It is always important to involve students in assessment. You can get their feedback on the CAT itself. Students can also tell you why they might be struggling with certain material.
3. *Determine what changes are needed.*
4. *Determine if changes are needed immediately or next time you teach the class.* It may be that you don't need to change anything for this course, but that you note a change for the next semester.
5. *Implement change.*