



Making Your CATs Count: Classroom Assessment Techniques to Improve Student Learning

Furrowed brows on students' faces. Sighs of defeat filling the room. For many instructors, the setting is familiar: They finish their in-class lesson, only to be met with blank stares or confusion in return. Sometimes, clues like these make it obvious that instruction has missed the mark for students. More often than not, though, students keep silent, even if they are uncertain about the material.

Unfortunately, most instructors discover this uncertainty through peppering exams, papers, and other summative assessments with red marks, but by then it is often too late to get the information across. While instructors are eager to share their content knowledge, they may not always have the tools to quickly and easily assess how students are doing while there is still time to impact learning or performance.

Using Assessments

Classroom assessment techniques (CATs) are quick activities that instructors can implement to get student feedback on content comprehension and instructional effectiveness (Thomas & Hornsey, 2014). CATs provide an array of benefits for instructors and students. Rather than waiting until semester's end, instructors receive on-the-spot feedback on their teaching techniques. They can also assess what students already know and identify learning gaps, allowing them to be more flexible and effective in their instruction. Further, CATs can reinforce learning objectives through critical reflection while also encouraging deeper understanding (Holbeck, Bergquist, & Lees, 2014).

Equipping Your CAT Toolbox

The key to success with CATs is selecting the appropriate technique for the desired outcome. With hundreds of CATs described on the web, picking the correct one can feel daunting, but being familiar with a few "go-tos" will give instructors a good base to choose from. CATs can be used to assess results for the following outcomes:

- **Instructional feedback**—For insight on which aspects of instruction are working best and which are not well received, use *START-STOP-CONTINUE*. At some point in the semester, students write down what they would like the instructor to start, stop, and continue doing. Comments not only reveal which methods are most helpful to students but can also aid instructors by encouraging them to eliminate activities that may be more time-consuming than they are effective.

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“ I never teach my pupils, I only attempt to provide the conditions in which they can learn.”

— Albert Einstein

- Content comprehension**—At the end of a class, students write a *Minute Paper* in which they summarize the most important point they learned that day. Their response should include as much as they can write in roughly a minute, hence the name. Additionally, students can write about the *Muddiest Point* or the topic or issue that is still unclear to them. Faculty then review the responses and address any gaps in the next class period. Taking comprehension to another level, instructors who love incorporating technology in the classroom can make use of web-based polling applications, such as *Kahoot!* for conducting formative assessments. Instructors can create surveys, quizzes, knowledge games, and assignments through this program using pictures, gifs, and text. Students then complete these exercises using their phones or tablets, allowing them to anonymously answer questions through a fun, game-like exercise. Instructors can address any learning gaps on the spot rather than waiting until the next class session.
- Student reflection**—CATs can encourage critical reflection, which is integral to transformational learning. The *Double Entry Notebook* is a great exercise to challenge students' perceptions. Using a two-column format, students list roughly five quotations or important concepts from the lesson in the left column. In the right column, they offer their reactions to each (e.g., their interpretation of the text; how the information aligns with their personal views), followed by self-reflection (e.g., choosing one concept and reaction and explaining how that connection has better helped them understand the concept). This CAT is designed to help develop students' self-awareness and values, as well as attitudes about course content.
- Key insights**—Lessons that incorporate pop culture provide a fun twist on evaluation. After an important lesson, use the *Tagxedo* technique (found at www.tagxedo.com) to identify which parts of the lesson were most vital. Students can then create online hashtags from keywords or phrases that summarize the content, while explaining their reasoning behind each hashtag.
- Online course effectiveness**—This unique learning environment requires proper techniques for assessment. The *3-2-1* exercise provides an easy way to do this. After a content-heavy section, students list three things they learned, two things they found interesting, and one question they still have about the material. The instructor then reviews the questions and can address the learning gaps. Though similar to the *Minute Paper*, this exercise does not require specific time limits, thus lending itself better to an online setting.

Filling the Instructional Gap

Faculty can use CATs in any classroom setting—live or online. Engaging students through these formative assessments gives them a greater voice and makes them feel part of the learning process (Holbeck et al., 2014). This is especially important in online and condensed courses where teacher–student interaction is limited (Bergquist & Holbeck, 2014). In online courses, for example, instructors cannot gauge student comprehension as easily because of the lack of nonverbal cues or open dialogue that occur in a live setting. CATs can help instructors fill this void, providing immediate feedback so they can intervene before too much time has passed.

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For instructors, selecting and using CATs for the first time can feel like adding an extra chore to an already tight schedule. Once confident with their go-to exercises, however, faculty are encouraged to branch out and diversify the techniques they use. Keeping a mental toolbox filled with CATs lets instructors quickly and easily incorporate them in class and even use them on a whim. So dive in and try one.

REFERENCES

- Bergquist, E., & Holbeck, R. (2014). Classroom assessment techniques: A conceptual model for CATs in the online classroom. *Journal of Instructional Research*, 3, 3-7.
- Holbeck, R., Bergquist, E., & Lees, S. (2014). Classroom assessment techniques: Checking for student understanding in an introductory university success course. *Journal of Instructional Research*, 3, 38-42.
- Thomas, J. E., & Hornsey, P. E. (2014). Adding rigor to classroom assessment techniques for non-traditional adult programs: A lifecycle improvement approach. *Journal of Instructional Research*, 3, 27-37.

Additional Resources

Many websites feature lists of classroom assessment techniques for instructors to explore. Here are just a few:

50 CATs by Angelo and Cross: This summary breaks up CATs by categories.

Kahoot!: A free, game-based learning platform. **Find a video tutorial here.**

Edutopia's 53 Ways to Check for Understanding: This easy-to-read PDF provides excellent examples.

About The Toolbox

The Toolbox is an online professional development newsletter offering innovative, learner-centered strategies for empowering college students to achieve greater success. The newsletter is published six times a year by the National Resource Center for The First-Year Experience and Students in Transition at the University of South Carolina.

The online subscription is free. To register for newsletter alerts and access back issues, please visit www.sc.edu/fye/toolbox.

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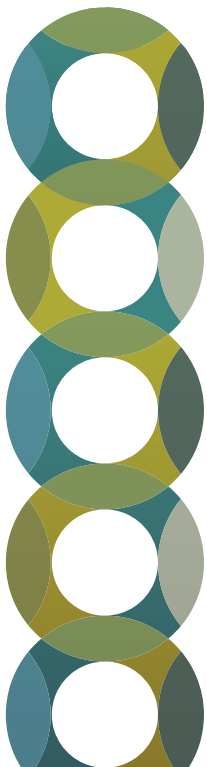
Length: Original articles should be no longer than 1,500 words. The editor reserves the right to edit submissions for length.

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