

Towards a culture of evidence

Part 3. Using assessment to improve learning

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Following up on our original emphasis on assessment as an integral part of teaching, this issue (the last of this series) will be devoted to classroom assessment aimed at enhancing the learning and teaching experience through systematic *formative* assessment. Our previous recommendations included using Classroom Assessment Techniques (CATs) as developed by Angelo and Cross (1993). These CATs are simple tools for collecting data and using it to improve learning. These techniques are not meant to replace traditional forms of (*summative*) assessment such as exams, quizzes and term papers, but could supplement them in order to provide instructors with insights on student learning in-between such tests, and allow continuous effective feedback to students.

The table below has been adapted from Angelo and Cross (1993) and is designed as a practical "how-to" guide to a selection of Classroom Assessment Techniques. The techniques are described and are grouped under broad assessable goals^{1 2 3}. The specific feedback you will be getting is also included.

Assessing your students' ...	Can be done by using the following CAT	Which can be described in a few words in the box below	This CAT will specifically help you to
Analytical skills ¹ (breaking down information or problems in order to better understand and solve them)	<u>Content, form and function outline</u> (useful in courses focusing on communication or written forms)	“What, How and Why Outline”. Students write in an outline format the “what” (content), how (form) and “why” (function) of a message which could be a news article, an essay, a speech, an ad etc	Asses how well a student can analyze not only the message but how the message is presented and its purpose .
	<u>Analytic memos</u> (could be useful in economics, political science, environmental studies, management etc where the stakeholder needs student input for decision making).	Students are asked to write a one-page analysis of a problem or an issue. They are to write the memo to a fictitious person embodying a specific role (e.g., employer, client).	Assess student’s skills in applying analytical thinking.
Application skills ¹ (applying knowledge to different situations)	<u>Directed Paraphrasing</u> (could be applied to any course)	Ask students to paraphrase a theory, an equation, or any specialized information in “plain English” so that the non-specialist can understand.	Know how well students have understood a given lecture, or segment of a course etc
	<u>Application cards</u> (could be applied to any course)	Ask students to write one (or more) real world application for what they have just learned (or have them choose from a list of examples which ones apply to what they have learned)	Asses your students’ ability to apply principles already learned to new problems and situations.
Synthetic skills ¹ (creating something new by integrating new with known information)	<u>Invented Dialogues</u> (useful in humanities and social science courses)	Students are asked to invent a dialogue between historical figures synthesizing biographical information, historical context and issues. Could be written or enacted.	Assess students’ understanding and processing of material as well as their creative skills
	<u>Word Journal</u> (useful whenever students are expected to read carefully; works best when reading short texts (articles,	Students summarize the entire topic on paper with a single word. They then write a paragraph or two to explain why they chose that word to summarize the text.	Assess students skills in summarizing, retaining and communicating information

¹ Higher Order Thinking skills

² Values

³ Knowledge

	essays etc) and cases.		
Problem solving skills ¹ (recognizing types of problems and determining techniques and principles to solve them)	<u>Problem recognition tasks</u> (used best in quantitative and technical fields, but could also be used in broad-problem solving approaches such as critical thinking, composition, law etc).	Students are given several problems (or case studies) and are asked to identify the particular TYPE of problem each one represents	Assess your students diagnostic skills before they try to solve the problem
	<u>Documented problem solutions</u> (used best in highly quantitative courses)	The students are asked to keep track of the steps they take in solving the problem and to <u>justify</u> each step.	Follow the students' thinking processes and problem-solving strategies focusing on the process than on the result
Awareness of their own attitudes and values ²	<u>Everyday Ethical Dilemmas</u> (used best in professional ed. such as law, medicine, engineering etc and in liberal arts courses)	Students are presented with a short case study representing an ethical dilemma. They write their responses anonymously and instructor analyzes responses	Better help students explore and rethink the issues at hand; help them develop ethical reasoning skills.
Mastery of Content { <i>could be discipline specific</i> }, (gauging how well the content is being learned) ³	<u>Misconception/preconception check</u> (particularly useful in social and behavioral science courses dealing with controversial issues)	Students are asked to answer questions or a survey in order to gather information on what they already know (anonymously)	Uncover likely barriers to learning and prepare to meet them and overcome them
	<u>Minute Paper</u> (most useful in lecture or lecture/discussion settings)	Ask students to answer in writing in one minute one of the following two questions: "what was the most important thing you learned during this class?" or "what remains unclear?"	See changes in thoughtfulness of students' answers
	<u>Memory matrix</u>	This is a 2-dimensional diagram divided into rows and columns with a heading each. The matrix is designed to organize information and to illustrate relationships. Students fill in the blanks	Assess students' basic comprehension of facts and principles and their ability to categorize and organize information.

Some of these CATs are easier to administer than others. As a rule, Angelo and Cross recommend *"that you 'get your feet wet' by trying out one or two of the simplest CATs"* at first (like the Minute Paper).

After reviewing the results of your CAT, complete the 'feedback loop' by providing students with feedback information and/or suggestions for improvement. Let your students know how that information will affect what you do as the teacher and how it should affect what they do as learners. (It is also always useful to allow them to reflect on what they have learned).

The authors emphasize that these techniques are to be used as starting points, ideas to be adapted and improved upon. We hope you will be encouraged to experiment with one of them in your classes and to share your experience with CLT. Should you need more specific support in implementing this type of assessment in your class, (or other types⁴) feel free to stop by the Center for Learning and Teaching (FLAC 212A) and talk to us.

Sources

- Angelo, T.A, and P. K. Cross. Classroom assessment techniques: a handbook for college teachers . 2nd ed. San Fransisco: Jossey-Bass Publishers, 1993.

Share with us your experiences by contributing to the New Chalk Talk series, or by simply sending comments/suggestions to aellozy@aucegypt.edu

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⁴ Such as "Small Group Instructional Diagnoses" (SGID) or mid-semester surveys.