

Even though assessments will continue to be labeled *formative* or *summative*, how the results are used is what determines whether the assessment is formative or summative.

Summative assessment, sometimes referred to as assessment *of* learning, typically documents how much learning has occurred at a point in time; its purpose is to measure the level of student, school, or program success.

Formative assessment, on the other hand, delivers information *during* the instructional process, *before* the summative assessment, as an assessment *for* learning. Both the teacher and the student use formative assessment results to make decisions about what actions to take to promote further learning. It is an ongoing, dynamic process that involves far more than frequent testing, and measurement of student learning is just one of its components

Formative Assessment

Formative assessment is utilized to immediately determine whether students have learned what the instructor intended. This type of assessment is intended to help instructors identify material which needs to be clarified or re-taught and should not be used to evaluate or grade students. Results of formative assessment can assist instructors to ascertain whether curriculum or learning activities need to be modified during a class session or before the next meeting.

Summative Assessment

Summative assessment is cumulative in nature and is utilized to determine whether students have met the course goals or student learning outcomes at the end of a course or program.

From *Classroom Assessment Techniques, A Handbook for College Teachers*, 2nd Ed.

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Instructors who have assumed that their students were learning what they were trying to teach them are regularly faced with disappointing evidence to the contrary when they grade tests and term papers. Too often, students have not learned as much or as well as was expected. There are gaps, sometimes considerable ones, between what was taught and what has been learned. By the time faculty notice these gaps in knowledge or understanding, it is frequently too late to remedy the problems.

To avoid such unhappy surprises, faculty and students need better ways to monitor learning throughout the semester. Specifically, teachers need a continuous flow of accurate information on student learning. For example, if a teacher's goal is to help students learn points "A" through "Z" during the course, then that teacher needs first to know whether all students are really starting at point "A" and, as the course proceeds, whether they have reached intermediate points "B," "G," "L," "R," "W," and so on. To ensure high-quality learning, it is not enough to test students

Assessment requires the active participation of students. By cooperating in assessment, students reinforce their grasp of the course content and strengthen their own skills at self-assessment. Their motivation is increased when they realize that faculty are interested and invested in their success as learners. Faculty also sharpen their teaching focus by continually asking themselves three questions: "What are the essential skills and knowledge I am trying to Teach?" "How can I find out whether students are learning them?" "How can I help students learn better?" As teachers work closely with students to answer these questions, they improve their teaching skills and gain new insights.

Classroom Assessment is based on seven assumptions:

1. The quality of student learning is directly, although not exclusively, related to the quality of teaching. Therefore, one of the most promising ways to improve learning is to improve teaching.
2. To improve their effectiveness, teachers need first to make their goals and objectives explicit and then to get specific, comprehensible feedback on the extent to which they are achieving those goals and objectives.
3. To improve their learning, students need to receive appropriate and focused feedback early and often; they also need to learn how to assess their own learning.
4. The type of assessment most likely to improve teaching and learning is that conducted by faculty to answer questions they themselves have formulated in response to issues or problems in their own teaching.
5. Systematic inquiry and intellectual challenge are powerful sources of motivation, growth, and renewal for college teachers, and 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) enhance learning and personal satisfaction.

For Formative A simple Classroom Assessment Technique (see examples below) will require only five to ten minutes of class time and less than an hour of time out of class.

Make sure the students know what you are doing and that they clearly understand the procedure. Collect the responses and analyze them as soon as possible.

To capitalize on time spent assessing, and to motivate students to become actively involved, be sure to "close the feedback loop" by letting them know what you learned from the assessments and what difference that information will make.

Background Knowledge Probe: Ask the student(s) about their previous experience and knowledge. Ask about the areas they feel most comfortable about and that they are confident in their knowledge. Ask about the areas they feel least comfortable about and want to learn more.

Minute Paper: provides a quick and extremely simple way to collect written feedback on student learning. To use the *Minute Paper*, an instructor stops class two or three minutes early and asks students to respond briefly to some variation on the following two questions: "What was the most important thing you learned during this class?" and "What important question remains unanswered?" Students they write their responses on index cards or half-sheets of scrap paper and hand them in.

1. Decide first what you want to focus on and, as a consequence, when to administer the *Minute Paper*. If you want to focus on students' understanding of a lecture, the last few minutes of class may be the best time. If your focus is on a prior homework assignment, however, the first few minutes may be more appropriate.
2. Using the two basic questions from the "Description" above as starting points, write *Minute Paper* prompts that fit your course and students. Try out your *Minute Paper* on a colleague or teaching assistant before using it in class.
3. Plan to set aside five to ten minutes of your next class to use the technique, as well as time later to discuss the results.
4. Before class, write one or, at the most, two *Minute Paper* questions on the chalkboard or prepare an overhead transparency.
5. At a convenient time, hand out index cards or half-sheets of scrap paper.
6. Unless there is a very good reason to know who wrote what, direct students to leave their names off the papers or cards.
7. Let the students know how much time they will have (two to five minutes per question is usually enough), what kinds of answers you want (words, phrases, or short sentences), and when they can expect your feedback.

Muddiest Point: The *Muddiest Point* is just about the simplest technique one can use. It is also remarkable efficient, since it provides a high information return for a very low investment of time and energy. The technique consists of asking students to jot down a quick response to one question: "What was the muddiest point in?" The focus of the *Muddiest Point* assessment might be a lecture, a discussion, a homework assignment, a play, or a film.

Step-by-Step Procedure:

1. Determine what you want feedback on: the entire class session or one self-contained segment? A lecture, a discussion, a presentation?
2. If you are using the technique in class, reserve a few minutes at the end of the class session. Leave enough time to ask the question, to allow students to respond, and to collect their responses by the usual ending time.

3. Let students know beforehand how much time they will have to respond and what use you will make of their responses.
4. Pass out slips of paper or index cards for students to write on.
5. Collect the responses as or before students leave. Stationing yourself at the door and collecting "muddy points" as students file out is one way; leaving a "muddy point" collection box by the exit is another.
6. Respond to the students' feedback during the next class meeting or as soon as possible afterward.

One-Sentence Summary: This simple technique challenges students to answer the questions "Who does what to whom, when, where, how, and why?" (represented by the letters WDWWWHW) about a given topic, and then to synthesize those answers into a simple informative, grammatical, and long summary sentence.

Step-by-Step Procedure:

1. Select an important topic or work that your students have recently studied in your course and that you expect them to learn to summarize.
2. Working as quickly as you can, answer the questions "Who Did/Does What to Whom, When, Where, How and Why?" in relation to that topic. Note how long this first step takes you.
3. Next, turn your answers into a grammatical sentence that follows WDWWWHS pattern. Note how long this second step takes.
4. Allow your students up to twice as much time as it took you to carry out the task and give them clear direction on the One-Sentence Summary technique before you announce the topic to be summarized.

What's the Principle? After students figure out what type of problem they are dealing with, they often must then decide what principle or principles to apply in order to solve the problem. This technique focuses on this step in problem solving. It provides students with a few problems and asks them to state the principle that best applies to each problem.

Step-by-Step Procedure:

1. Identify the basic principles that you expect students to learn in your course. Make sure focus only on those that students have been taught.
2. Find or create sample problems or short examples that illustrate each of these principles. Each example should illustrate only one principle.
3. Create a *What's the Principle?* form that includes a listing of the relevant principles and specific examples or problems for students to match to those principles.
4. Try out your assessment on a graduate student or colleague to make certain it is not too difficult or too time-consuming to use in class.
5. After you have made any necessary revisions to the form, apply the assessment.

A good analogy for this is the road test that is required to receive a driver's license. What if, before getting your driver's license, you received a grade every time you sat behind the wheel to practice driving? What if your final grade for the driving test was the average of all of the grades you received while practicing? Because of the initial low grades you received during the process of learning to drive, your final grade would not accurately reflect your ability to drive a car. In the beginning of learning to drive, how confident or motivated to learn would you feel? Would any of the grades you received provide you with guidance on what you needed to do next to improve your driving skills? Your final driving test, or summative assessment, would be the accountability measure that establishes whether or not you have the driving skills necessary for a driver's license—not a reflection of all the driving practice that leads to it. The same holds true for classroom instruction, learning, and assessment.

Students need to be involved both as assessors of their own learning and as resources to other students.

- **Observations** go beyond walking around the room to see if students are on task or need clarification. Observations assist teachers in gathering evidence of student learning to inform instructional planning. This evidence can be recorded and used as feedback for students about their learning or as anecdotal data shared with them during conferences.
- **Questioning strategies** should be embedded in lesson/unit planning. Asking better questions allows an opportunity for deeper thinking and provides teachers with significant insight into the degree and depth of understanding. Questions of this nature engage students in classroom dialogue that both uncovers and expands learning. An "exit slip" at the end of a class period to determine students' understanding of the day's lesson or quick checks during instruction such as "thumbs up/down" or "red/green" (stop/go) cards are also examples of questioning strategies that elicit immediate information about student learning. Helping students ask better questions is another aspect of this formative assessment strategy.
- **Student record keeping** helps students better understand their own learning as evidenced by their classroom work. This process of students keeping ongoing records of their work not only engages students, it also helps them, beyond a "grade," to see where they started and the progress they are making toward the learning goal.
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- Butler, D.L. & Winnie, P.H. (1995) Feedback and self-regulated learning: a theoretical synthesis. *Review of Educational Research*, 65(3), 245-281.

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Classroom assessments can include a wide range of options -- from recording anecdotal notes while observing a student to administering standardized tests. The options can be roughly divided into two categories -- formative assessments and summative assessments.

Formative assessments are on-going assessments, reviews, and observations in a classroom. Teachers use formative assessment to improve instructional methods and student feedback throughout the teaching and learning process. For example, if a teacher observes that some students do not grasp a concept, she or he can design a review activity or use a different instructional strategy. Likewise, students can monitor their progress with periodic quizzes and performance tasks. The results of formative assessments are used to modify and validate instruction.

Summative assessments are typically used to evaluate the effectiveness of instructional programs and services at the end of an academic year or at a pre-determined time. The goal of summative assessments is to make a judgment of student competency after an instructional phase is complete. For example, in Florida, the FCAT is administered once a year -- it is a summative assessment to determine each student's ability at pre-determined points in time. Summative evaluations are used to determine if students have mastered specific competencies and to identify instructional areas that need additional attention.

The following table highlights some formative and summative assessments:

Formative Assessments	Summative Assessments
Observations/Anecdotal records	Final exams
Quizzes and essays	Statewide tests
Diagnostic tests	National tests
Lab reports	Entrance exams (SAT and ACT)

