


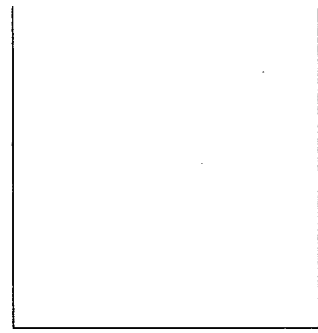
CLASSROOM ASSESSMENT TECHNIQUES

*A Handbook for
College Teachers*

SECOND EDITION

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 **JOSSEY-BASS**
A Wiley Imprint
www.josseybass.com



What Is Classroom Assessment?

Through close observation of students in the process of learning, the collection of frequent feedback on students' learning, and the design of modest classroom experiments, classroom teachers can learn much about how students learn and, more specifically, how students respond to particular teaching approaches. Classroom Assessment helps individual college teachers obtain useful feedback on what, how much, and how well their students are learning. Faculty can then use this information to refocus their teaching to help students make their learning more efficient and more effective.

PURPOSE OF CLASSROOM ASSESSMENT

There are more than three thousand colleges and universities in the United States, and the diversity in their missions and students is enormous. Yet all these institutions share one fundamental goal: to produce the highest possible quality of student learning. In other words, the central aim of all colleges is to help students learn more effectively and efficiently than they could on their own.

Learning can and often does take place without the benefit of teaching—and sometimes even in spite of it—but there is no such thing as effective teaching in the absence of learning. Teaching without learning is just talking. College 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 when the syllabus has arrived at points M and Z. Classroom Assessment is particularly useful for checking how well students are learning at those initial and intermediate points, and for providing information for improvement when learning is less than satisfactory.

Through practice in Classroom Assessment, faculty become better able to understand and promote learning, and increase their ability to help the students themselves become more effective, self-assessing, self-directed learners. Simply put, the central purpose of Classroom Assessment is to empower both teachers and their students to improve the quality of learning in the classroom.

CHARACTERISTICS OF CLASSROOM ASSESSMENT

Classroom Assessment is an approach designed to help teachers find out what students are learning in the classroom and how well they are learning it. This approach is learner-centered, teacher-directed, mutually beneficial, formative, context-specific, ongoing, and firmly rooted in good practice.

Learner-Centered

Classroom Assessment focuses the primary attention of teachers and students on observing and improving learning, rather than on observing and improving teaching. To improve learning, it may often be more effective to help students change their study habits or develop their metacognitive skills (skills in thinking about their own thinking and learning) than to change the instructor's teaching behavior. In the end, if they are to become independent, lifelong learners, students must learn to take full responsibility for their learning. To achieve that end, both teachers and students will need to make adjustments to improve learning. Classroom Assessment can provide information to guide them in making those adjustments.

Teacher-Directed

A defining characteristic of any profession is that it depends on the wise and effective use of judgment and knowledge. No one can provide teachers with rules that will tell them what to do from moment to moment in the complex and fluid reality of a college classroom. What faculty do depends on their skill, experience, professional knowledge, and insight. Classroom Assessment respects the autonomy, academic freedom, and professional judgment of college faculty. As a result, in this approach, the individual teacher decides what to assess, how to assess, and how to respond to the information gained through the assessment. Furthermore, the teacher is not obliged to share the results of Classroom Assessment with anyone outside the classroom.

Mutually Beneficial

Because it is focused on learning, Classroom 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. When students focus more clearly, participate more actively, and feel more confident that they can succeed, they are likely to do better in their course work.

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.

Formative

Classroom Assessment is a formative rather than a summative approach to assessment. Its purpose is to improve the quality of student learning, not to provide evidence for evaluating or grading students; consequently, many of the concerns that constrain testing do not apply. Good summative assessments—tests and other graded evaluations—must be demonstrably reliable, valid, and free of bias. They must take into account student anxiety, cheating, and issues of fairness. Classroom Assessments, on the other hand, are almost never graded and are almost always anonymous. Their aim is to provide faculty with information on what, how much, and how well students are learning, in order to help them better prepare to succeed—both on the subsequent graded evaluations and in the world beyond the classroom.

Context-Specific

To be most useful, Classroom Assessments have to respond to the particular needs and characteristics of the teachers, students, and disciplines to which they are applied. Any good mechanic or carpenter will tell you, “You need the right tool to do the job right”; similarly, you need the right Classroom Assessment Technique to answer the question right. Therefore, Classroom Assessment is context-specific: what works well in one class will not necessarily work in another.

As all experienced college teachers know, each class has its own particular dynamic, its own collective personality, its own “chemistry.” Many of us who have been assigned to teach two sections of the same course in a given semester—using the same syllabus, the same books, the same lecture notes, perhaps even the same room—have discovered that these “parallel” sections quickly become very different classes. Each individual student brings a complex mix of background variables to the course. The student’s socioeconomic class, linguistic and cultural background, attitudes and values, level of general academic preparation, learning strategies and skills, and previous knowledge of the specific subject matter can all influence his or her performance in the course. As students interact in the classroom, the mixture of variables that can affect learning becomes vastly more complex. In addition, the instructor, the discipline, the organization of the course, the materials used, and even the time of day the class meets—all have an effect on classroom learning.

As a result of these complex interactions, each class develops its own “microculture.” The most successful faculty members are those who recognize and respond to these differences by fitting their teaching to the context of the class, even as they subtly shape that context through their teaching. Classroom Assessment respects and depends on the faculty’s professional judgment, the “craft knowledge” that college teachers develop over time. We assume that the most appropriate person to assess student learning is the person who is responsible for promoting student learning: the individual faculty member. That is why the Classroom Assessment Techniques in this handbook are presented as examples and suggestions to be adapted, not as models to be adopted.

Ongoing

Classroom Assessment is an ongoing process, perhaps best thought of as the creation and maintenance of a classroom “feedback loop.” By employing a number of simple Classroom Assessment Techniques that are quick and easy to use, teachers get feedback from students on their learning. Faculty then complete the loop by providing students with feedback on the results of the assessment and suggestions for improving learning. To check on the usefulness of their suggestions, faculty use Classroom Assessment again, continuing the “feedback loop.” As this approach becomes integrated into everyday classroom activities, the communications loop connecting faculty to students—and teaching to learning—becomes more efficient and more effective.

Rooted in Good Teaching Practice

Most college teachers already collect some feedback on their students’ learning and use that feedback to inform their teaching. Classroom Assessment is an attempt to build on existing good practice by making it more systematic, more flexible, and more effective. Teachers ask questions, react to students’ questions, monitor body language and facial expressions, read homework and tests, and so on. Classroom Assessment provides a way to integrate assessment systematically and seamlessly into the traditional classroom teaching and learning process.

By taking a few minutes to administer a simple assessment before teaching a particular class session, the teacher can get a clearer idea of where the students are and, thus, where to begin instruction. A quick assessment during the class can reveal how well the students are following the lesson in progress. Classroom Assessment immediately after the class session helps to reinforce the material taught and also uncovers gaps in understanding before they become serious impediments to further learning.

Finally, teaching students techniques for self-assessment that they can use in class or while they are studying helps them integrate classroom learning with learning outside school. Directed practice in self-assessment also gives students the opportunity to develop metacognitive skills; that is, to become skilled in thinking carefully about their own thinking and learning.

NEED FOR CLASSROOM ASSESSMENT

As they are teaching, faculty monitor and react to student questions, comments, body language, and facial expressions in an almost automatic

fashion. This “automatic” information gathering and impression formation is, in large part, a subconscious and implicit process. Teachers depend heavily on their impressions of student learning and make important judgments based on them, but they rarely make those informal assessments explicit or check them against the students’ own impressions or ability to perform. In the course of teaching, college faculty assume a great deal about their students’ learning, but most of their assumptions remain untested.

Even when college teachers routinely gather potentially useful information on student learning through questions, quizzes, homework, and exams, it is often collected too late—at least from the students’ perspective—to affect their learning. In practice, it is very difficult to “de-program” students who are used to thinking of anything they have been tested and graded on as being “over and done with.” Consequently, the most effective times to assess and provide feedback are before the chapter tests or the midterm and final examinations. Classroom Assessment aims at providing that early feedback.

**THE SEVEN BASIC
ASSUMPTIONS
OF CLASSROOM
ASSESSMENT**

Our model of Classroom Assessment is based on seven assumptions. They are stated below, along with brief observations about their applicability to the present state of higher education.

ASSUMPTION 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.

The publication of *A Nation at Risk* in 1983 kicked off an intense examination of the quality of education in the United States. Mounting political and economic pressures to improve the quality of education led to widespread interest in developing better indicators of student learning. As institutions sought to meet demands for accountability by determining the outcomes of their programs and documenting their effectiveness, the general lack of information about the effects of college on student learning became painfully clear.

Assessment, a term applied to a wide range of approaches used to measure educational effectiveness, soon became a cornerstone of the reform movement. During the 1980s, assessment usually was undertaken for the purpose of improving effectiveness at system, campus, or program levels. Typically, commercially available, norm-referenced tests and locally developed, criterion-referenced instruments were administered to large numbers of students; and the results of these assessments were used to respond to external reporting requirements for accountability, to guide curriculum revision, or to evaluate the effectiveness of specific programs. In most cases, these macro-level, top-down assessment efforts involved relatively few faculty, and their effects rarely trickled down to the classroom level. The major players during the first few years of the national “assessment movement” were state officials, campus administrators, institutional researchers, and test-and-measurement specialists. At the same time, most of the questions being asked concerned what and how much (or how little) students already knew at

point A or had learned between points A and B. Comparatively little attention was paid to assessing how well students were learning or to discovering what factors directly influence the quality of student learning in the classroom.

Yet it is in those thousands of college classrooms across the nation that the fundamental work of higher education—teaching and learning—takes place. If assessment is to improve the quality of student learning, and not just provide greater accountability, both faculty and students must become personally invested and actively involved in the process. One way to involve them is to build a complementary, micro-level, “grass-roots” assessment movement. Classroom Assessment aims to do just that by developing methods to bring the benefits of assessment into individual classrooms and under the control of individual teachers and learners.

ASSUMPTION 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.

Effective assessment begins with clear goals. Before faculty can assess how well their students are learning, they must identify and clarify what they are trying to teach. This seems straightforward enough. When asked, most faculty can say what it is they are trying to teach. For the purpose of assessment, the difficulty lies in the kinds of answers they give. College teachers tend to define their instructional goals in terms of course content. When asked “What are your teaching goals for this class?” most college faculty at first will say something like “My goal is to teach linear algebra” or “I’m trying to teach the nineteenth-century British novel” or “I teach introductory-level Japanese.” It usually takes some hard thinking before teachers can articulate the specific skills and competencies they hope to teach through the course content. After reconsidering the question, they give such answers as these: “I want to help my students learn to define and solve real-world problems in engineering and physics that require the application of linear algebra,” or “I want to help my students develop an informed, critical appreciation of nineteenth-century British literature and foster the kind of thoughtful reading that they can enjoy throughout their lives,” or “I want my students to learn enough Japanese to carry on simple conversations and read simple texts.” Though they remain broadly drawn, these “second-round” goals help faculty recognize what guides their choice of course content, or what ought to. These goals, focusing on the knowledge, skills, and values that students will develop if they succeed in a given course, can be further limited and clarified until they are actually assessable.

One instrument designed to help faculty identify and clarify their instructional goals is the Teaching Goals Inventory, or TGI. A self-scorable version of this instrument, developed by the Classroom Research Project after three years of field testing and research, appears in Chapter Two and as Resource B. The fifty-two goals in the TGI are phrased very broadly, in order to be applicable across disciplines. Nonetheless, these goals can serve as useful starting points for reflection and discussion.

After faculty members identify specific teaching goals they wish to assess, they can better determine what kinds of feedback to collect. At this stage, teachers need ways to collect that feedback. The Classroom Assessment Techniques (CATs) described in this handbook can be thought of as a collection of “tools” faculty can use to get feedback on how well they are achieving their teaching goals. In addition, these techniques can reinforce student learning of the goals being assessed. CATs reinforce student learning in three ways: by focusing student attention on the most important elements of the course; by providing additional practice in valuable learning and thinking skills; and by training students to become more self-aware, self-assessing, independent learners. For these reasons, we think of CATs as both “assessment techniques” and “teaching strategies,” and we believe that their dual nature is a strength.

ASSUMPTION 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.

Students need opportunities to give and get feedback on their learning before they are evaluated for grades. If they are to become self-directed, lifelong learners, they also need instruction and practice in self-assessment.

ASSUMPTION 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.

While assessment at the institutional or program level can provide useful information to the faculty as a whole, large-scale assessments are rarely designed to ask questions that are meaningful and useful to individual classroom teachers. For example, it is both legitimate and useful for a college to assess the overall outcomes of general education or what students have learned through studies in the major. The results of such assessments, however, tend to apply more to the structure of the curriculum or the organization of programs and departments than to teaching and learning in particular courses. To best understand their students' learning, faculty need specific and timely information about the particular individuals in their classes, not about the student body in general or all chemistry majors. As a result of these different needs and purposes, there is often a gap between assessment and classroom teaching.

One goal of Classroom Assessment is to reduce the gap between teaching and assessment. Engaging faculty in the design and practice of Class-

room Assessment is one way of ensuring that the questions asked by the assessor are meaningful and useful to the teacher. Moreover, as faculty become more involved in carrying out their own assessments of student learning, they also will become more interested in and capable of making use of the generalized findings that result from large-scale assessments.

ASSUMPTION 5

Systematic inquiry and intellectual challenge are powerful sources of motivation, growth, and renewal for college teachers, and Classroom Assessment can provide such challenge.

Since the 1980s, there has been much discussion in higher education about the proper definition of scholarship and about the professional identity of faculty. The implicit assumption that research and publication in the disciplines are the most appropriate measures of professional achievement for all faculty members, and of academic excellence for all postsecondary institutions, has been increasingly called into question. Even in research universities such as Harvard, Stanford, and the University of California, Berkeley, where the mission of the institution is in great part to push back the frontiers of knowledge through disciplinary research, there is an increasing recognition of the importance of teaching. In two- and four-year teaching institutions, there is also a growing awareness that faculty need to seek intellectual challenge throughout their careers. We believe that such challenge may legitimately be found in many activities: through research in the disciplines, through creative and scholarly activities, and through the systematic study of classroom teaching and learning.

Most colleges and universities are teaching institutions, and most faculty—70 percent according to a 1985 Carnegie survey (*Chronicles of Higher Education*, December 18, 1985)—say they are more interested in teaching than in research. Given these facts, it makes sense to encourage faculty to seek professional identity and intellectual challenge through disciplined inquiry into teaching and learning in their classrooms. In this way, faculty can continue to enhance their ability to achieve high levels of competence in their chosen profession—teaching—as they deepen their understanding of learning in their particular disciplines. Classroom Assessment is an effort to encourage and assist those faculty who wish to become more knowledgeable, involved, and successful as college teachers.

ASSUMPTION 6

Classroom Assessment does not require specialized training; it can be carried out by dedicated teachers from all disciplines.

As we have seen, the goals of Classroom Assessment differ from those of large-scale assessment efforts. Those carrying out assessment at the institutional and program levels need to be trained in research design, sampling theory, the collection and management of large pools of data, sophisticated statistical analysis, or the increasingly specialized methods of qualitative research. Faculty members engaged in Classroom Assessment usually do not need these specialized research methods, because they are not required to establish publicly defensible, replicable results. Instead, they are interested

in uncovering trends and indications, often of an informal nature, that can inform and improve teaching. To succeed in Classroom Assessment, they need only a detailed knowledge of the discipline, dedication to teaching, and the motivation to improve.

Classroom Assessment can play an important role in the larger “assessment movement” that has swept U.S. higher education in the last few years, but it requires procedures and criteria consistent with its scope and aims. At the same time, Classroom Assessment needs tools and methods to fit its purposes, and those will not be the same standardized tests and large-scale survey instruments needed for institutional assessment. To borrow a phrase from the late E. F. Schumacher, best known as the author of *Small Is Beautiful* (1975), Classroom Assessment requires the development of its own “appropriate technology”—simple tools designed for the task at hand: the understanding and improvement of learning.

ASSUMPTION 7

By collaborating with colleagues and actively involving students in Classroom Assessment efforts, faculty (and students) enhance learning and personal satisfaction.

This last assumption reflects our experiences over the last several years, working with hundreds of faculty members engaged in Classroom Assessment. It also represents significant learning on our part, since our original assumption was just the contrary. That is, we originally assumed that faculty would find this approach attractive in large part because it allowed them to work alone and in the privacy of their own classrooms, without the approval or involvement of others. We have observed, however, that Classroom Assessment is a highly social activity for most participants.

Most faculty are not hesitant to share their results. Indeed, one of the major attractions of Classroom Assessment, mentioned by faculty as its primary advantage, is that it gives them opportunities and stimulus for talking about teaching and learning and for sharing their assessment project designs, techniques, and experiences with colleagues. Faculty also mention the value of discussing their plans and findings with their students, and of involving students in all phases of the work. One of the unanticipated benefits of Classroom Assessment is the appreciation shown by students. Over and over again, faculty report that their students are genuinely appreciative of their interest in improving teaching and learning. By using Classroom Assessment Techniques, instructors demonstrate their concern and interest in practical, visible ways.

When faculty collaborate with other teachers or with students in assessing student learning, they often experience synergy. That is, by working together, all parties achieve results of greater value than those they can achieve by working separately. Participating teachers often remark on the personal satisfaction they feel in working with colleagues and students toward the shared goal of improving learning.