Assessing Student Learning

A Common Sense Guide

SECOND EDITION

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CHAPTER 2

How Can Student Learning Be Assessed?

Some Valuable Ideas You'll Find in This Chapter

- No assessment of knowledge, conceptual understanding, or thinking or performance skills should consist of indirect evidence alone.

- Retention and graduation rates alone don't tell us much about student learning because so many other factors can affect them.

- Motivating students to participate in add-on assessments and give them serious thought and effort is a significant challenge.

- Using a single assessment score as a gatekeeper graduation or progression requirement is an unethical use of assessment results.

- Qualitative assessments are underused and underappreciated, but they help discover problems—and solutions—that can't be found through quantitative assessments alone.

- Every assessment is inherently subjective.

The many ways to assess student learning can be overwhelming. This chapter aims to help you sort through your options by introducing you to the abundance of approaches to assessing student learning. As discussed in Chapter Three, the best assessment efforts

use multiple, diverse approaches. Depending on your interests and needs, these approaches may include:

- Assessments yielding direct and indirect evidence of student learning
- Assessments of learning outcomes, processes, inputs, and context
- Performance assessments and traditional assessments
- Embedded and add-on assessments
- Local and published assessments
- Qualitative and quantitative assessments
- Objective and subjective assessments

This chapter is thus a glossary of some of the key terms used to describe assessment tools and strategies.

Direct and Indirect Evidence of Student Learning _____

Direct evidence of student learning is tangible, visible, self-explanatory, and compelling evidence of exactly what students have and have not learned. It might also be defined as the kind of evidence that a skeptic would accept. A skeptic might be dubious of grades or students' self-ratings as evidence that students can write well, for example. Grades might be inflated, after all, and students could have misconceptions about their skills. But a skeptic would be hard-pressed to argue with actual student writing samples, accompanied by grading criteria showing rigorous standards. Table 2.1 gives examples of direct evidence of student learning.

Indirect evidence consists of proxy signs that students are probably learning. Indirect evidence is less clear and less convincing than direct evidence. Table 2.2 gives examples of indirect evidence.

Donald Kirkpatrick and James Kirkpatrick's (2006) four levels of learning experience outcomes, summarized in Table 2.3, provide a framework for understanding indirect evidence.

Reaction, or student satisfaction, is important because dissatisfaction is a clue that students may not have learned some important things. But student satisfaction levels alone don't reveal whether they have learned what we value. Similarly, *transfer*—using what has been learned in later pursuits—is theoretically important, but some students may pursue paths that simply do not give them opportunities to use what they have learned.

Table 2.1. Examples of Direct Evidence of Student Learning

Ratings of student skills by their field experience supervisors or employers (Chapter Nine)

Scores and pass rates on appropriate licensure or certification exams such as Praxis or National Council Licensure Examination (NCLEX) or other published tests such as Major Field Tests that assess key learning outcomes (Chapter Fourteen)

Capstone experiences such as research projects, presentations, theses, dissertations, oral defenses, exhibitions, and performances, scored using a rubric (Chapter Nine)

Other written work, performances, and presentations, scored using a rubric[a] (Chapter Nine)

Portfolios of student work[a] (Chapter Thirteen)

Scores on locally designed multiple-choice or essay tests such as final examinations in key courses, qualifying examinations, and comprehensive examinations, accompanied by test blueprints (Chapter Eleven) describing what the tests assess[a]

Score gains (referred to as "value added") between entry and exit on published or local tests or writing samples[a] (Chapter Fifteen)

Observations of student behavior (such as presentations and group discussions), undertaken systematically and with notes recorded systematically[a]

Summaries and assessments of electronic class discussion threads[a] (Bauer, 2002)

Think-alouds, which ask students to think aloud as they work on a problem or assignment[a]

Classroom response systems (clickers) that allow students in their classroom seats to answer questions posed by the teacher instantly and provide an immediate picture of student understanding (Bruff, 2009)

Feedback from computer-simulated tasks such as information on patterns of action, decisions, and branches[a]

Student reflections on their values, attitudes, and beliefs (Chapter Twelve), if developing those are intended outcomes of the program[a]

[a]Especially suitable for assessing general education core curricula (Chapter One).

Table 2.2. Examples of Indirect Evidence of Student Learning

Course grades (Chapter One) and grade distributions[a]

Assignment grades, if not accompanied by a rubric or scoring criteria (Chapter One)[a]

Retention and graduation rates

For four-year programs, *admission rates into graduate programs* and graduation rates from those programs

For two-year programs, *admission rates into four-year colleges* and graduation rates from those programs

Scores on tests required for further study (such as Graduate Record Examinations) that evaluate skills learned over a lifetime

Quality and reputation of graduate and four-year programs into which alumni are accepted

Placement rates of graduates into appropriate career positions and starting salaries

Alumni perceptions of their career responsibilities and satisfaction

Student ratings of their knowledge and skills and reflections on what they have learned over the course of the program (Chapter Twelve)[a]

Questions on end-of-course student evaluation forms that ask about the course rather than the instructor[a]

Student, alumni, and employer satisfaction with learning, collected through surveys, exit interviews, or focus groups (Chapter Twelve)[a]

Voluntary gifts from alumni and employers

Student participation rates in faculty research, publications, and conference presentations

Honors, awards, and scholarships earned by students and alumni

[a]Especially suitable for assessing general education core curricula (Chapter One).

Table 2.3. The Kirkpatricks' Four Levels of Learning Experience Outcomes

1.	Reaction	Student satisfaction with the learning experience.
2.	Learning	What students have learned as a result of the learning experience.
3.	Transfer	Students' use of what they have learned in later pursuits: further study, on the job, community service, and so on.
4.	Results	How what students have learned is helping them achieve their goals and our goals for them. These goals may include persistence through graduation, obtaining and advancing through positions for which they've prepared, admission to appropriate programs of advanced study, and achievement of other life goals that they've identified for themselves

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Results—retention, graduation, and placement rates and the like—are also important outcomes, but they don't tell us exactly what students have and haven't learned. If we know, for example, that 95 percent of the graduates of a teacher education program find jobs as teachers, we can conclude that they have probably learned important things, because they're attractive to employers, but we can't tell from this statistic alone exactly what they have and haven't learned.

An even greater concern with results like graduation and placements rates is that it is hard to tie the effect of a particular course, program, or other learning experience to these kinds of outcomes. There are too many possible mitigating factors. A 95 percent teacher placement rate, for example, may be due as much to a regional shortage of teachers as to the quality of a teacher preparation program. Recent downturns in the banking and finance industries have meant that many well-prepared graduates of finance programs have been unable to find jobs. The reason has been a shift in the economy that had nothing to do with the quality of the students' finance programs or what they learned.

Reaction, transfer, and results are thus all indirect evidence of student learning. While goals for persistence, transfer, and job placement can be important and should be monitored, assessment efforts should include direct evidence of student learning (the Kirkpatricks' second level): the knowledge, skills, attitudes, and habits of mind that students need to persist, graduate, transfer, obtain jobs, and otherwise succeed in their life pursuits. No assessment of knowledge, conceptual understanding, or thinking or performance skills should consist of indirect evidence alone.

Indirect evidence can nonetheless be an important part of an assessment program. Information on learning processes, discussed in the next section, can be especially useful indirect evidence. Many

attitudes and values can be assessed only with indirect evidence (Chapter Twelve). Because indirect evidence is less convincing, it is especially important to use multiple measures to corroborate it (Chapter Three).

Assessments of Learning Outcomes, Processes, Inputs, and Context _____

Information on learning outcomes can be the most compelling evidence of student learning, but it alone may not help explain why students are or are not learning. Look at learning processes, inputs, and context as well as outcomes in order to understand what is happening and how we might improve student learning.

Assessments of Learning Outcomes

Most direct evidence of student learning focuses on learning *outcomes*: the knowledge, skills, attitudes, and habits of mind that students have and take with them when they successfully complete a course or program. Assessments of learning outcomes are often what some people call *summative* assessments: the kind obtained at the end of a course or program.

Assessments of learning outcomes are of interest to many external audiences (Chapter Four) including accreditors, employers, and policymakers. But even if these interests are put aside, assessments of learning outcomes can be a good starting point for an assessment effort. If students are graduating with the competencies you want them to have, there may be no need to spend additional time and effort drilling down further into their learning experiences. But if you're disappointed with the results, move to assessments of processes, inputs, and contexts as needed to help you understand why and how students are learning and not learning.

The key drawback of outcomes assessments is that because these assessments occur at the end of the course or program, students may not receive any feedback on their performance other than possibly an overall grade, and faculty and staff may not be able to use the results to improve those students' learning. As Lee Shulman (2007) has observed, "the later the assessment, the later the knowledge of results, and the less likely it is that the assessments will yield information that can guide instruction and learning" (p. 24). But while outcomes assessments may be too late to help current students, they can certainly be used to make changes affecting subsequent students, and in this way they can be formative, as discussed below.

Assessments of Learning Processes

In the past few decades, research has identified a number of learning processes, such as time on task and active learning opportunities, that help students learn effectively (Table 18.3). Evidence of these learning processes is thus important, albeit indirect, evidence that students are probably learning important things. Evidence that students spend a lot of time writing is, for example, an indication that students are learning how to write, although of course the evidence is not as compelling as actual samples of student writing.

Assessments of learning processes are nonetheless an important component of many assessment efforts because they can help us understand why students are or are not learning. If we learn through an assessment of student learning outcomes that students aren't writing as well as we would like, we can understand why by looking at when and how they learn how to write throughout the program.

The other key benefit of assessments of learning processes is that they are often what some call *formative* assessments: those undertaken while student learning is taking place rather than at the end of a course or program. Because formative assessments are done midstream, faculty and staff can use them to improve the learning of current students by making immediate changes to classroom activities and assignments and by giving students prompt feedback on their strengths and weaknesses.

Table 2.4 gives examples of assessments of learning processes. *Classroom Assessment Techniques* (Angelo & Cross, 1993) offers many other suggestions.

Assessments of Learning Inputs

Learning *inputs* are the things in place before learning processes begin that might affect the processes and outcomes. They can yield insight into why students are or are not learning. Students may not do well in a math class into which they've been incorrectly placed. They may not learn current laboratory techniques if they work in ill-equipped labs. Table 2.5 gives examples of learning input evidence.

Assessments of Learning Context

Learning *context* refers to the environment in which the learning process takes place, particularly those aspects that might affect learning processes and outcomes. Employer needs are an example of context that affects technical, vocational, and professional

Table 2.4. Examples of Evidence of Learning Processes That Promote Student Learning

Transcripts, catalogue descriptions, and course syllabi, which can be analyzed for evidence of such things as program coherence and opportunities for active and collaborative learning[a]

Journals and logs maintained by students documenting such things as time spent on course work; interactions with faculty, staff, and other students; and the nature and frequency of library use[a] (Chapter Twelve)

Interviews and focus groups with students, asking them why they achieve some learning goals well and others less well[a] (Chapter Twelve)

Counts of out-of-class interactions between faculty and students[a]

Counts of programs that disseminate lists of the program's major learning goals to all students in the program

Counts of courses whose syllabi list the course's major learning goals[a]

Counts of courses whose stated learning goals include thinking skills (Chapter Eight), as well as basic understanding[a]

Documentation of the match between course or program learning goals and assessments[a]

Counts of courses whose final grades are based at least in part on assessments of thinking skills as well as basic understanding[a]

Ratio of performance assessments (discussed later in this chapter) to paper-and-pencil tests[a]

Proportions of class time spent in active learning[a]

Counts of courses with collaborative learning opportunities[a]

Counts of courses with service-learning opportunities or the number of student hours spent in service-learning activities[a]

Library activity in the program's disciplines,[a] such as number of books in the discipline that have been checked out, number of online database searches that have been conducted, and number of online journal articles in the discipline that have been accessed

Counts of student majors participating in relevant cocurricular activities, such as the percentage of biology majors participating in the Environmental Club

Voluntary student attendance at disciplinary seminars and conferences and other intellectual and cultural events relevant to a program

[a]Especially suitable for assessing general education core curricula (Chapter One).

curricula. If faculty don't consider this context and don't design curricula that give students the skills that employers need, their graduates won't be able to find jobs. Table 2.6 gives examples of information on learning context or environment.

Performance Assessments and Traditional Assessments

Traditional assessments are the kinds of tests that have been around for decades, if not centuries: multiple-choice tests, essay tests, and oral examinations. They are usually designed only to collect assessment information, not give students a learning opportunity. Students typically complete traditional assessments in controlled, timed examination settings.

Table 2.5. Examples of Evidence of Learning Inputs That Affect Student Learning

Students' high school records, including curriculum, grades, and rank in class[a]
SAT or ACT scores
Placement test scores[a]
If the college or program admits transfer students, *transfer articulation policies* and agreements with other colleges[a]
Library holdings in the program's or general education requirement's disciplines[a]
Faculty credentials, such as the percentage holding terminal degrees in their discipline[a]
Opportunities and expenditures for faculty and staff professional development on teaching and learning[a]
Funding for academic programs
Student-faculty ratio, average class size, or ratio of students to full-time faculty[a]
Instructional facilities, technologies, and materials[a]
Number and dollar value of grants awarded for improving student learning[a]

[a]Especially suitable for assessing general education core curricula (Chapter One).

Performance assessments ask students to demonstrate their skills rather than relate what they've learned through traditional tests. Writing assignments, projects, laboratory and studio assignments, and performances are examples. Performance assessments are sometimes called *alternative assessments* because they are alternatives to traditional multiple-choice and blue book tests. Performance assessments that ask students to do real-life tasks, such as analyzing case studies with bona-fide data, conducting realistic laboratory experiments, or completing internships are called *authentic assessments*. Performance assessments have two components: the assignment or prompt that tells students what is expected of them (Chapter Ten) and a scoring guide or rubric (Chapter Nine) used to evaluate completed work.

Performance assessments are increasingly popular because they merge learning and assessment. Students learn while they are working on performance assessments, unlike traditional testing periods during which they often learn nothing. Authentic assessments have the additional advantage of giving students realistic learning situations in which they solve messy real-world problems with many acceptable answers rather than fabricated problems for which there is only one correct answer.

While essay test questions and oral examinations have been characterized here as traditional assessments, in reality they straddle the line between traditional and performance assessments. They are traditional in the sense that they are usually not designed to give students a learning opportunity and because their timed setting with limited access to resources often doesn't mimic the real world. They are performance assessments, however, because they

Table 2.6. Examples of Evidence of Learning Context That Affects Student Learning

Prospective students' interest in the college, program, or course[a]
Prospective employers' demand for graduates of the college or program[a]
Needs and expectations of prospective employers and graduate programs[a]
Perceptions of the college or program by employers and other public audiences
Characteristics and comparative strengths and weaknesses of competing colleges, programs, and courses[a]
Regional and national trends in the discipline[a]
The regional climate for higher education, including public and private support for higher education[a]

[a]Especially suitable for assessing general education core curricula (Chapter One).

ask students to perform skills such as writing, critical thinking, and speaking.

Embedded and Add-On Assessments

Embedded assessments are program, general education, or institutional assessments that are embedded into course work. In other words, they are course assessments that do double duty, providing information not only on what students have learned in the course but also on their progress in achieving program or institutional goals.

Because embedded assessments are typically designed locally by faculty and staff, they match up well with local learning goals. They therefore yield information that faculty and staff value and are likely to use to improve teaching and learning. Embedded assessments also generally require less extra work than add-on assessments. Convincing students to participate in assessment activities is not an issue.

To keep program and institutional assessment processes manageable, embedded assessments are typically examined for achievement of program or institutional goals in only a few courses. Progress in achieving program goals might be examined only in the courses that students take just before graduation. Progress in achieving general education goals might be examined only in general education courses with high enrollment. Chapters Five and Six offer more suggestions for keeping assessment manageable.

Sometimes embedded assessments cannot answer all key questions about student learning across a program or college. Embedded assessments that are locally designed, for example, cannot give insight into how students compare to those in peer

programs or colleges. In these kinds of situations, students may be asked to participate in ungraded *add-on* assessments beyond course requirements. Students might assemble a portfolio throughout their program (Chapter Thirteen) or, as they prepare to graduate, take a published test (Chapter Fourteen) or participate in a survey or focus group (Chapter Twelve).

The major challenge with most add-on assessments—indeed, their major drawback—is convincing students not only to participate in them but also to give the assessment tasks serious thought and effort. There is no magic answer to this. There is no foolproof incentive, and what entices some students will not entice others. Because of this limitation, add-on assessments, while potentially useful under some circumstances, should never be the centerpiece of an assessment program.

How can you maximize participation rates in add-on assessments? The following four factors probably have the most effect (Suskie, 1996):

Four Factors Affecting Participation Rates in Add-On Assessments

1. *The nature of the assessment.* A short survey asking for simple, nonthreatening opinions will generally get a higher participation rate than a test that requires three hours on a Saturday morning and a good deal of careful thought and effort.

2. *The people you are assessing.* Students who have been dismissed from your college will be less likely to participate in a survey, for example, than students who are currently enrolled in good standing.

3. *How important the assessment appears.* If the assessment appears important, your participants' contribution will seem more worthwhile and they'll be more likely to participate.

4. *How considerate you are of your participants.* Recognize that you have no right to expect anyone to go to the trouble of taking an optional test or spending time in a focus group and that your participants are doing you a great favor when they do. If you show your appreciation by doing all you can to minimize their trouble and make their job as easy as possible, they will be much more likely to participate and give you sound, useful information.

Usually not much can be done about the first two factors. You may not be able to affect the fundamental nature of the assessment

or the students who must be contacted. But you can address the last two factors—making the assessment appear important and being considerate of your participants—and thereby maximize your participation rate. The following strategies may help.

Make participation in the assessment a requirement of a program or course (typically a capstone course). This is the most effective participation incentive (Ekman & Pelletier, 2008), although it will not necessarily compel students to give the assessment their best effort. If you decide to do this, put the requirement in writing, and draw it to the attention of students entering the course or program.

Sometimes an add-on test or portfolio can be scored quickly enough that the results could conceivably be factored into a course grade. While this would be a powerful incentive for students to give the assessment their best effort, it may be an inappropriate use of results, because add-on assessments are designed to assess what has been learned throughout the student's program and not just in a particular course. Course grades should reflect course learning goals.

Convince participants of the importance of the assessment activity. Explain how participation will make an impact on something significant that participants understand and appreciate. Include in the assessment questions or tasks that participants will find interesting and important. Cultivate a strong campus culture of assessment (Chapter Five) in which students continually hear from their professors and campus leaders as well as posters, advertisements, and announcements that add-on assessment activities are inherent, valued parts of the academic program, not superfluous extras. And make the official sponsor of the assessment someone respected and important (sad to say, this may not be you!). Provide someone's name and contact information should your participants have questions about the assessment (this may be you!).

Appeal to participants' self-interest. Answer their unspoken question, "What's in this for me?" Explain how the results will benefit participants directly or some cause or issue about which they are concerned. Offer to send participants a summary of the results that will let them see the impact of their efforts. Give students feedback on their strengths and weaknesses, how they compare to their peers, and how their participation is leading to tangible improvements. Also guarantee unconditional confidentiality. If you are using assessments with code numbers or other identifying information, explain why. Stress that you will look only at aggregated responses.

Be sensitive to survey fatigue. Ask yourself if you really need to conduct an add-on assessment. If you are considering a survey, interview, or focus group, check with others at your college who might be planning something similar. Sometimes you can piggyback on another survey, adding a few questions to it rather than creating a separate survey. Or everyone can plan to survey different samples so that no one receives more than one survey.

Minimize the inconvenience of the assessment activity. If the assessment cannot be completed online at the participants' convenience, schedule it at a convenient time and place—not before a holiday or during finals week, for example—and give participants plenty of advance notice. If it's not possible to conduct the assessment during regularly scheduled class time in appropriate courses, consider conducting the assessment on several days, at several times, so students can find an assessment period that they can attend regardless of their other obligations. Some colleges schedule an assessment day once each term or year when no regular classes are held so students can participate in assessment activities.

Keep the assessment short. The shorter the assessment, survey, or interview, the more considerate you are of your participants' time and the higher the participation rate. Try to keep any paper survey to no more than one page, a telephone interview to no more than five minutes, and a focus group or in-person interview to no more than thirty minutes. Review the questions posed in Chapter Four about the purpose of the assessment, and make sure that it focuses only on critical learning goals and issues.

Keep the assessment clear. Participants shouldn't have to spend time trying to figure out what the assessment is really looking for or how to use necessary technologies such as navigating through a Web site. If possible, try out the assessment with a small group of students to be sure the guidelines and questions are truly clear and the technologies easy to use.

Provide a material incentive to encourage students to participate. Consider these possibilities:

- A token incentive enclosed with every invitation (perhaps a pencil, window decal, or coupon for a free ice cream cone), because it can create a sense of obligation
- A material incentive to students who participate, such as cash, a complementary meal, or a gift certificate

- Perks that are highly prized but have little or no direct cost, such as registration or housing preference, a parking space in a prime lot, or extra graduation tickets
- Entering the names of those participating in random drawings for significant prizes such as laptops

The effectiveness of material incentives varies dramatically, depending on campus culture, student values, and the assessment itself. Free pizza might work beautifully with some students and be a dismal failure with others. The key is to find an incentive that is particularly appealing to your students. Sometimes a campus-specific item, such as a T-shirt with logo or tickets to a popular campus event, works best. With other students, a more generic incentive, such as a complimentary meal or a gift certificate to an online store, is more effective. And if the time and thought contributed are significant, a check compensating students for their time may be necessary.

Ask some students to suggest incentives that would convince them to participate, and consider trying out incentives with small groups of students before launching a full-scale assessment. You may want to use some special incentives only with subgroups of students whose participation rates are historically low.

Allow students to include assessment results in their credentials at their discretion.   This is especially effective if prospective employers or graduate programs value the assessment. Some students may find that they can strengthen their job prospects or graduate school applications by including items from their portfolios or by having their academic record note that they scored at, say, the eighty-seventh percentile on a nationally recognized exam. Include scores in student credentials only if the student so chooses, or students who think they will do poorly will be unlikely to participate.

Give top scorers or the first students to return a survey some kind of recognition.   Students earning exceptional scores on important assessments might receive an award, a seal on their diplomas, or a notation on their transcripts. Or they might be offered one of the no-cost perks mentioned earlier. Keep in mind, however, that offering incentives to top scorers or the first students to return a survey may not motivate students who are late to check their e-mail or think they have no chance of earning a top score.

While it may be tempting to ensure student participation in an add-on assessment by establishing a minimum score as a graduation or progression requirement, single scores should never be the sole basis of any major decision such as retention or graduation.

Using a single assessment score as a gatekeeper graduation or progression requirement is an unethical use of assessment results. Minimum scores may be used as graduation or progression requirements only if students have multiple opportunities to complete the assessment successfully and have an alternative means of demonstrating competence, such as submitting a portfolio of their work for evaluation by a faculty-staff panel.

Brainstorm all possible reasons for people not to participate. Then do all you can to overcome those obstacles.

Local and Published Assessments

Local assessments are those created by faculty and staff at a college; *published* instruments are those published by an organization external to the college and used by a number of colleges. Chapter Fourteen discusses the pros and cons of published instruments. A combination of locally designed and published assessments generally provides a fuller picture of student learning than either alone.

Quantitative and Qualitative Assessments

Quantitative assessments use structured, predetermined response options that can be summarized into meaningful numbers and analyzed statistically. Test scores (Chapter Eleven), rubric scores (Chapter Nine), survey ratings (Chapter Twelve), and performance indicators (Chapter One) are all examples of quantitative evidence. Quantitative assessments are more common than qualitative, probably because many assessment practitioners are more familiar with quantitative techniques, some accreditors require quantitative evidence of student learning, and some public audiences find quantitative results more convincing.

Qualitative assessments use flexible, naturalistic methods and are usually analyzed by looking for recurring patterns and themes. Reflective writing, online class discussion threads, and notes from interviews, focus groups, and observations are examples. The key difference between qualitative assessments and informal, anecdotal observations is that qualitative assessments are systematic and structured. Students are routinely evaluated using common criteria.

Qualitative assessments are underused and underappreciated in many assessment circles. Unlike quantitative assessments, which collect only predetermined information, qualitative assessments

allow us to explore possibilities that we haven't considered. They can give fresh insight and help discover problems—and solutions—that can't be found through quantitative assessments alone. Qualitative assessments add a human dimension to an assessment effort, enhancing the dry tables and graphs that constitute many assessment reports with living voices. Chapter Twelve discusses qualitative assessments further.

Objective and Subjective Assessments

An *objective* assessment is one that needs no professional judgment to score correctly (although interpretation of the scores requires professional judgment). Most objective test items have only one correct answer and could be scored accurately by a reasonably competent eight year old armed with an answer key. *Subjective* assessments yield many possible answers of varying quality and require professional judgment to score.

Multiple-choice, matching, and true-false test questions (Chapter Eleven) are generally designed to be objective; most other assessments are subjective. Subjective assessments are increasingly popular for the reasons shown in Table 2.7, and objective assessments remain widely used for the reasons shown in Table 2.8.

Some people confuse quantitative with objective assessments, assuming that quantitative assessments must be objective. To the contrary, many subjective assessments yield quantitative results.

Table 2.7. Advantages of Subjective Assessments

Subjective assessments evaluate many important skills that objective tests cannot, including organization, synthesis, and problem-solving skills. Subjective assessments are the tools of choice when encouraging creativity and originality, as traditional multiple-choice tests have, by definition, only one correct response and therefore encourage convergent thinking.

Subjective assessments can assess skills directly. Many faculty and staff would agree, for example, that a writing sample is more convincing evidence of a student's writing skill than answers to multiple-choice questions on how to write. Similarly, watching a student nurse draw a blood sample provides more compelling evidence of skill than the student's answers to multiple-choice questions on how to draw blood.

Subjective assessments promote deep, lasting learning. You probably learned and remember far more from the research papers you wrote in college than from the studying you did for multiple-choice final exams.

Scoring procedures for subjective assessments allow nuances. On a subjective math test, for example, students can receive partial credit for doing part of a problem correctly, but on a multiple-choice math test, they usually receive no credit for an incorrect answer, even if they do much of their work correctly.

Table 2.8. Advantages of Objective Assessments

Students can provide a great deal of information on a broad range of learning goals in a relatively short time. Testing experts call this *efficiency.* If you want to assess a wide array of concepts and skills, a forty-five-minute multiple-choice test will yield more comprehensive information on student learning than a forty-five-minute essay test.

Objective assessments encourage broader—albeit shallower—learning than subjective assessments because of their efficiency. Asking students to write a paper on a particular poem by Wordsworth is a good choice if the learning goal is to develop a thorough understanding of that poem, but it is a poor choice if the learning goal is to develop a general understanding of Romantic poetry. For the latter goal, an objective test asking students to react to a variety of Romantic poems might be a better approach.

Objective assessments are fast and easy to score, although they are difficult and time-consuming to construct. If they are stored securely so they can be reused, the payback on the time spent writing them increases.

Objective assessment results can be summarized into a single number—a performance indicator (Chapter One)—making them appealing to those governing or funding colleges and programs.

Rubric scores (Chapter Nine), for example, are subjective ratings of student work that can be quantified and analyzed statistically.

Indeed, every assessment is inherently subjective because its directions, questions, problems, and scoring criteria are all developed through subjective, albeit expert, judgment. Not only assessments but the standards or benchmarks against which results are interpreted (Chapter Fifteen) are determined subjectively. So "objective" assessments are not necessarily more accurate or of better quality than "subjective" assessments.

Which Assessment Strategy Is Best?

Every assessment strategy has potential value. Which are best for your particular situation depends primarily on the purpose of your assessment and the learning outcomes you are assessing. Other factors, such as resource availability and campus culture, can also affect your decision. Table 2.9 gives general guidelines on when to use the assessment tools discussed in the following chapters.

Table 2.9. Assessment Strategies to Consider

If you want to . . .	*Consider using . . .*
Assess thinking and performance skills	Assignments or prompts (Chapter Ten) planned and evaluated using scoring guides or rubrics (Chapter Nine)
Assess knowledge, conceptual understanding, or skill in application and analysis	Multiple-choice tests (Chapter Eleven)
Assess attitudes, values, dispositions, or habits of mind	Reflective writing, surveys, focus groups, or interviews (Chapter Twelve)
Draw an overall picture of student learning	Portfolios (Chapter Thirteen)
Compare your students against peers elsewhere	Published tests or surveys (Chapter Fourteen)

Time to Think, Discuss, and Practice _____

1. A faculty member wants to assess the writing and research skills of students majoring in English literature. Brainstorm examples of the following that could be helpful in assessing these skills:
   - Direct evidence of student learning
   - Evidence of learning processes
   - Qualitative evidence

2. The international studies faculty wish to interview graduating seniors on their perceptions of the program. Seniors in the program typically take many different combinations of courses in a variety of departments, so these interviews can't be conducted as a class activity. Brainstorm three approaches that the faculty might use to convince seniors to participate in an out-of-class interview.

3. Faculty in your department would like to survey recent graduates to assess their satisfaction with your program and identify areas for improvement. Assume the survey will be mailed to a random sample of recent graduates. Brainstorm three feasible strategies to maximize the participation rate.

Recommended Readings _____

The following readings are recommended along with the references cited in this chapter.

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Porter, S. R. (2004). Raising response rates: What works? In S. R. Porter (Ed.), *Overcoming survey research problems* (pp. 5–12). New Directions for Institutional Research, no. 121. San Francisco: Jossey-Bass.

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