



TOOLS & TECHNIQUES

for Course Improvement

Handbook for Course Review &
Assessment of Student Learning



Office of Institutional Assessment, Research, and Testing

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TOOLS AND TECHNIQUES FOR COURSE IMPROVEMENT:
A HANDBOOK FOR COURSE REVIEW AND ASSESSMENT
OF STUDENT LEARNING

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Office of Institutional Assessment, Research, and Testing
Western Washington University

Preface

This manual is designed to support Western Washington University faculty in the development, implementation, and improvement of course assessment plans and practices, and to guide faculty through the steps of including student learning outcomes assessment and best practices in teaching in their courses. It presents background information and strategies for assessing student learning at the course level and is particularly aimed to help instructors develop assessment strategies for their courses.

Western is grateful to the work of the contributing authors at the University of Massachusetts, Amherst, and for allowing the adaptation of their original handbook. We would also like to acknowledge the contributions of colleagues at other institutions of higher education whose work is referenced throughout.

This is one of two campus publications designed by the Office of Institutional Assessment, Research, and Testing (OIART) to guide faculty through the steps of student learning assessment. The companion publication, PROGRAM-Based

Much of this publication was originally developed by the Office of Academic Planning and Assessment at the University of Massachusetts, Amherst, and modified, by permission and under license, by the Office of Institutional Assessment, Research, and Testing (OIART) at Western Washington University. Western gratefully acknowledges and thanks Martha L.A. Stassen and her colleagues at the University of Massachusetts, Amherst, for their work in developing this valuable resource and in making it available for our use.

June, 2007

Review and Assessment: Tools and Techniques for Program Improvement focuses on assessment at the department/program level. Both publications are available in hard-copy through the OIART and as an easily downloadable pdf file on the OIART website at www.wvu.edu/depts/assess/.

Introduction: Course Level Assessment as a Teaching and Learning Tool

Most faculty members are already familiar with assessment at the program level, but may be less aware of the opportunities and benefits of using assessment to improve student learning in their individual courses. This manual is designed to support Western instructors in the development, implementation, and improvement of course assessment practices that improve teaching effectiveness and student learning.

Each individual course is not only a multidimensional creative construction that requires a college instructor to play many roles: artist, planner, manager, role model, expert, host, and performer, among others; but also every course is intended to *deliver results* in the form of student learning and development. Curiously, most college teachers have not trained for it directly, but invent themselves as teachers solely on the basis of their experiences as students.

Requirements now in place for course-based assessment demand that instructors examine their roles as course-creators and instructors much more intimately, articulate their goals and objectives much more clearly, and develop assessment tools and techniques that inform them in detail how well their intended learning objectives are being achieved day to day, class to class.

Broadly speaking, course-based assessment can facilitate student learning by:

- ♦ Helping you clarify your teaching goals and what you want students to learn.
- ♦ Providing you with increased information about student learning in your classroom, allowing you to adjust your teaching as the course progresses.
- ♦ Giving your students a better understanding of your expectations for their work in your course and how you evaluate their performance.

- ◆ Opening up the lines of communication and feedback between you and your students.
- ◆ Actively engaging students in their own learning.

The following chapters are intended to provide perspective on the relationships among teaching, learning, and assessment, and to provide specific assessment tools and techniques for helping you to improve student learning in your courses.

It is important to remember that the goal of course assessment is to assess the course, not the students; so for each student learning objective you must design corresponding standards and criteria for evaluating the success of the course in terms of the actual accomplishments of the students.

Noteworthy

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How to Use this Handbook

Chapter 1: Focus on Learning

If you are not familiar with the shift from traditional teacher-centered learning to student-centered learning, Chapter 1 discusses how teaching and learning can be made much more effective than with traditional methods, leading students to deeper understanding and increased knowledge retention.

Chapter 2: Why Assessment?

If you wonder what assessment is and why it is necessary, Chapter 2 introduces program assessment, its relationship to student learning, the basic elements every successful program assessment plan must have, and how they must be related to one another.

Chapter 3: Learning that Lasts

If you want to know how to stimulate deep learning that lasts in your students, Chapter 3 explores the qualities and techniques of teaching that have been shown to evoke enthusiastic engagement from students, and explores the activities and relationships that have been most effective at leading students to transformative, deep learning.

Chapter 4: What is Course-based Assessment?

If you want to review the nuts and bolts of the assessment process, Chapter 4 provides basic definitions and explanations of course assessment terminology and tools, and describes the similarities and differences between assessment and grading.

Chapter 5: Adapting Your Course to Include Assessment

If you want to understand how to use assessment to improve student learning in your course, Chapter 5 outlines ways to get started with assessment, offers suggestions on how to define course goals and objectives, and provides a worksheet to help you tie goals and objectives to your course syllabus.

Chapter 6: Selecting Learning Outcomes, Criteria, and Standards

If you have already established learning goals and objectives for your course, Chapter 6 helps you to frame learning outcomes, select assessment tools, set learning standards, and define outcomes criteria to determine how well your class has met your intended learning objectives.

Chapter 7: Closing the Assessment Loop

If you have defined learning objectives and collected assessment data on student learning, Chapter 7 shows you how to “close the assessment loop” by using your assessment results to improve learning in the next offering of your course

Chapter 8: Improving Your Teaching: Building a Course Portfolio

If you want to learn as much as possible about being an effective teacher, Chapter 8 introduces the Course Portfolio, a scholarly process for examining deeply how you teach and how you can improve your teaching.

Chapter 9: The Learning-Centered Course Syllabus

If you are ready to update your course syllabus to incorporate the best teaching principles and practices, Chapter 9 shows you how to make your syllabus learning-centered, making your job easier by clarifying student responsibilities and laying the foundation for a more effective learning in your class.

Chapter 1

Focus on Learning

The Purpose of this Chapter

Over the past thirty years ideas about what constitutes excellence in education have shifted from the traditional view of what teachers provide to a practical concern for what learners actually learn, achieve, and become. The evidence tells us that teaching and learning can be made much more effective, and can lead to deeper understanding which is retained longer by students than with traditional methods.

Chapter 1 at a glance

- **From Teacher-centered to Learner-centered**
- **Best Practices in Teaching and Learning**
- **Models of Student Development**
- **Bloom's Taxonomy: A guide to setting learning objectives**
- **The Perry Scheme**
- **Toward a Culture of Evidence**

From Teacher-centered to Learner-centered

For the past century or so, the focus of the traditional “teacher-centered” model of education has been on inputs: the credentials of faculty, the topics to be covered, the sequencing of courses, the physical resources of universities, and so forth.

Based on a great deal that has been learned about learning in the last thirty years, the traditional model is rapidly being replaced with a *learner-centered* model, which has its main focus on *outputs*: what knowledge and abilities have students actually acquired, what do they actually know, and what are they competent actually to do?

Implicit in the student-centered model is the idea that instructors are not *providers of knowledge*, but rather *facilitators of learning*. It is not enough to construct a syllabus and present information, however skillfully, to a captive audience; the job of instructors now involves creating and sustaining an effective learning environment based on a wide range of “best practices” in teaching and learning, which today’s instructors are expected to learn and adopt.

The increasing focus on student learning as the central indicator of institutional excellence challenges many tacit assumptions about the respective roles of college students and faculty. As shown below in Table 1.1, the responsibilities of students and faculty and the relationships between the two models are quite different.

In student-centered education, faculty bear less responsibility for being sources of knowledge, and take on more responsibility as facilitators of a broad range of learning experiences. For their part, students are called on to take on *more* responsibility for their own learning. Some main differences between the old model and the new model are shown in Table 1.1.

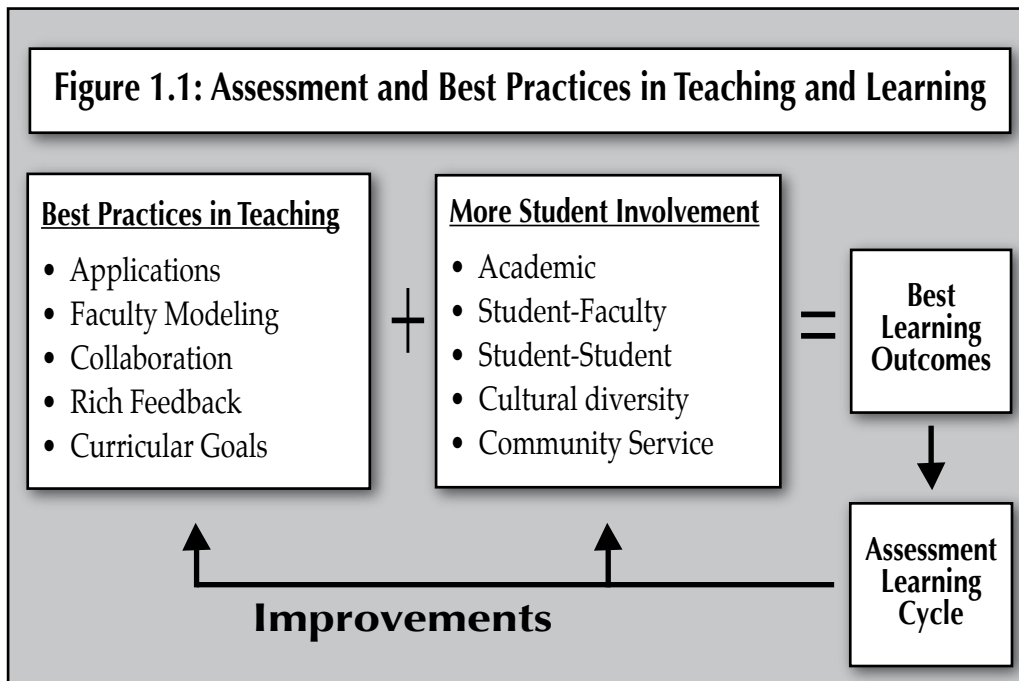
Table 1.1: Teacher-centered versus Learner-centered*

Domain:	Teacher-centered	Learner-centered
Knowledge:	Transmitted by instructor	Constructed by students
Student participation:	Passive	Active
Role of professor:	Leader/authority	Facilitator/learning partner
Role of Assessment:	Few tests—mainly for grading	Many tests—for ongoing feedback
Emphasis:	Learning correct answers	Developing deeper understanding
Assessment method:	Unidimensional testing	Multidimensional products
Academic culture:	Individualistic and competitive	Collaborative and supportive

*Huba & Freed (2000).

Best Practices in Teaching and Learning

New knowledge about how students learn has changed the way we define and achieve success in education, as summarized in Figure 1.1. In the learning-centered model, the best learning results from the interaction of *good teaching*, *student engagement*, and *ongoing assessment*.



A number of scholars have summarized the current knowledge about teaching and learning into various lists of “best practices.” Perhaps the best known and widely accepted set of teaching and learning principles is the *Seven Principles for Good Practice in Higher Education* (Chickering and Gamson, 1987, adapted below from Ehrmann and Chickering, 1998). The principles deserve careful reading and reflection, as they provide direct and effective suggestions to instructors for improving the quality and effectiveness of instruction. All of these principles are linked by the common thread of stimulating the kinds of student engagement that promote the most effective learning.

THE SEVEN PRINCIPLES FOR GOOD PRACTICE IN HIGHER EDUCATION

1. Good Practice Encourages Contacts Between Students and Faculty

Frequent student-faculty contact in and out of class is a most important factor in student motivation and involvement. Faculty concern helps students get through rough times and keep on working. Knowing a few faculty members well enhances students’ intellectual commitment, provides role models for their own development, and encourages them to think about their own values and plans.

2. Good Practice Develops Reciprocity and Cooperation Among Students

Learning is enhanced when it is more like a team effort than a solo race. Good learning, like good work, is collaborative and social, not competitive and isolated. Working with others often increases involvement in learning. Sharing one's ideas and responding to others' ideas improves thinking and deepens understanding.

3. Good Practice Uses Active Learning Techniques

Learning is not a spectator sport. Students do not learn much just sitting in classes listening to teachers, memorizing prepackaged assignments, and spitting out answers. They must talk about what they are learning, write reflectively about it, relate it to past experiences, and apply it to their daily lives. Because students are continually forming their own meanings from their experiences with new information, teaching methods which emphasize application, such as internships, service learning, and other practica all help to transfer abstract learning into concrete action and measurable skills.

4. Good Practice Gives Prompt Feedback

Prompt and frequent feedback is an important tool for learning. Knowing what you know and don't know focuses study efforts. Students need frequent opportunities to perform and receive feedback on their performance, so they can reflect on what they have learned and what they still need to know. Entrenched practices of midterm, final, and term paper may be adequate for assigning course grades, but they fall far short of the potential for learning engendered by frequent assessment feedback.

5. Good Practice Emphasizes Time on Task

Time plus energy equals learning. Learning to use one's time well is critical for students and professionals alike. Allocating realistic amounts of time means effective learning for students and effective teaching for faculty.

6. Good Practice Communicates High Expectations

Expect more and you will get it. High expectations are important for everyone—for the poorly prepared, for those unwilling to exert themselves, and for the bright and well motivated. An appropriate and continuing level of challenge stimulates student participation and learning, while too much or too little challenge discourages interest.

7. Good Practice Respects Diverse Talents and Ways of Learning

Many roads lead to learning. Different students bring different talents and styles to college. Brilliant students in a seminar might be all thumbs in a lab or studio; students rich in hands-on experience may not do so well with theory. Students need opportunities to show their talents and learn in ways that work for them before they can be led to learn in new ways that do not come so easily.

Models of Student Development

Since Western's mission and strategic goals are broadly based in the liberal arts tradition, and apply not only to general education requirements, but to the overall goals of the Western Experience, it is essential that Western faculty understand and are committed to the larger context of learning in which their courses and programs take place, as outlined in Western's Strategic Plan:

"Western Washington University is committed to engaged excellence in fulfilling its tripartite mission of teaching, scholarship, and community service in a student-centered environment, with a liberal arts foundation and opportunities to develop professional skill. Through engaged excellence, Western:

- instills in graduates a life-long passion for learning and fosters individual curiosity, intellectual rigor, critical thinking, and creativity;
- promotes scholarly and creative work of significance and applies that scholarship in regional, national, and global communities;
- creates opportunities for students to display leadership, civic engagement, social responsibility, and effective citizenship;
- brings together an increasingly diverse and talented student body, faculty, and staff to form a learning community that, along with community partners, involves its members in active learning, scholarly discourse, and reflection; and
- provides a high quality environment that complements the learning community on a sustainable and attractive campus intentionally designed to support student learning and environmental stewardship."

Clearly, the goals Western has embraced are about student development, very broadly defined. Fortunately, there are several very useful models of student development which illustrate and clarify the expanded roles of college teachers in learner-centered education. These include especially:

Bloom's Taxonomy: Cognitive domain
Bloom's Taxonomy: Affective domain
Perry model of intellectual development

Bloom's Taxonomy: A guide to setting learning objectives

Forty years ago American educational technologist Benjamin Bloom proposed that an assigned task stimulates in a student one of three hierarchical learning domains,

and developed a “taxonomy” that described a hierarchy of abilities in each domain. By linking assigned work to specific developmental levels of learning, Bloom’s Taxonomy is a valuable tool to help faculty clarify the kinds and levels of skills they are asking students to demonstrate, create assignments that better evoke the kinds of learning they want, and create assessments that are meaningful for both instructor and students. (See Table 1.2.)

Table 1.2: Bloom’s three learning domains

Cognitive domain:	Acquisition, integration, and application of knowledge.
Affective domain:	Evolution of attitudes, values, and feelings alongside cognitive development.
Psychomotor domain:	Acquisition of motor or physical skills.

Within each domain, abilities are organized into hierarchical levels, building from the simplest to the most complex and integrated. Higher level tasks of the taxonomy build on the foundation of the previous levels. A student goes through the hierarchy repetitively within each course, within a major or minor program of study, and within an entire collegiate experience in the process of maturing in all of the domains. In addition, Bloom developed lists of action verbs to describe different kinds of very specific abilities which can be learned, observed, and assessed. In Table 1.3 below are shown the six levels of the cognitive domain, along with a few representative keywords to describe the kinds of abilities involved at each level.

<p>Using concrete “action” verbs such as <i>define</i>, <i>argue</i>, or <i>create</i> to specify learning objectives is more helpful for assessment than vague terms such as <i>know</i> or <i>understand</i>, because they can be much more easily translated into observable, assessable outcomes. The <i>action keywords</i> in an assignment determine what kinds and levels of learning are being asked for and assessed. Comprehensive lists of keywords are available at many web sites; using “bloom’s taxonomy key words” as the search, over 50,000 sites were listed. One of these sites is:</p> <p style="text-align: center;">www.nwlink.com/~donclark/hrd/bloom.html.</p>	<p>Word Power</p>
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Table 1.3: Bloom's cognitive domain

Remember	Understand	Apply	Analyze	Evaluate	Create
Demonstrate recall and recognition.	Comprehend the meaning and interpretation of instructions and problems.	Apply learning to concrete situations.	Separate concepts into component parts.	Make judgments about the value of material or methods for a given purpose.	Put parts together to create new meaning.
recall recognize identify retrieve	interpret exemplify classify explain summarize compare infer	apply execute implement carry out use	analyze associate attribute differentiate discriminate organize interpret	assess critique check evaluate interpret judge justify	compose create, design integrate, plan originate, relate invent, revise synthesize
Keywords					

Although the cognitive domain tends to dominate our thinking about what students learn in college, development of affective skills like listening, responding, participating, collaborating, and valuing is an inseparable and important component of every course and program of study. Maturation of these affective abilities is one of Western's major strategic goals; therefore, learning objectives in the affective domain deserve explicit attention and articulation in course and program objectives. (See Table 1.4.)

Table 1.4: Bloom’s affective domain

Receiving phenomena	Responding to phenomena	Valuing	Organizing	Internalizing values
Sensory availability, directed attention, willing participation.	Engaged participation; attends to and interacts with phenomena; motivated to respond.	Motivated by worth or value attached to an object, phenomenon, or ideal; expressed in overt, identifiable behavior.	Organizes, compares, and synthesizes values into priorities, resolves conflicts among them, and creates a unique value system.	Internalizes a personal, consistent, and predictable value system that guides behavior.
ask, choose attend, listen select, reply observe	answer, assist comply, discuss practice present, read recite, report select, tell write	accept, adopt approve commit, endorse join, justify share, study work	adapt, combine categorize compare, defend generalize integrate organize systemize	discriminate, perform, act, practice, question, revise, serve, solve, verify
Keywords				

Baccalaureate learning objectives often emphasize the cognitive domain, while University mission and goals statements generally speak more broadly of affective outcomes. In a way, the cognitive domain says something about what a student has learned or can do, while the affective domain says something about how students have grown, developed, and evolved in their self-construal, values, and world view as an integrated result of their overall educational experience. Western’s mission is about both, which invites a brief discussion of the Perry model of intellectual development, which does not make distinctions between the cognitive and affective domains.

The Perry Scheme

In the fifties and sixties, Harvard educational psychologist and student counselor William Perry, Jr., used students' own perceptions of overall changes in their learning and development during college to formulate a model of intellectual development that includes both the cognitive and affective development of increasingly complex forms of thought about the world, one's discipline, and one's self. Perry's work underscores the notion that the deep learning most faculty really want to see students achieve involves significant qualitative changes in the way learners make meaning from their learning.

Perry's "scheme" consists of nine hierarchical and integrative cognitive "positions" defined by how people make meaning of their experiences. Each position represents a quantum shift in thinking; like electrons jumping to higher levels, students need some quanta of integrative experience to "jump" to higher levels of complexity in their world views and behaviors. (See Table 1.5.)

Table 1.5: The Perry Model of Intellectual Development			
1-2	3	4	5
Dualism	Multiplicity 1	Multiplicity 2	Contextual Relativism
Truth is absolute and defined by an Authority.	Truth is absolute and knowable, but incompletely defined by Authority.	Truth can never be known with absolute certainty.	Any act of knowing requires taking a point of view.

Undergraduate college education generally involves development up to positions 4 or 5. In particular, the shift from level 4 to level 5, where students integrate their values with their evolving cognitive understanding, is regarded as a particularly significant transition in intellectual development, and is entirely consistent with Western's mission as stated above.

The Bloom and Perry models together present an unified way of looking at the kind of integrative learning that Western strives for all graduates to achieve. Lower levels of development are on the left, and higher on the right. (See Table 1.6.)

Table 1.6: Bloom and Perry models compared

Bloom's cognitive domain				→	
Remember	Understand	Apply	Analyze	Evaluate	Create
Bloom's affective domain				→	
Receiving phenomena	Responding to phenomena	Valuing	Organizing	Internalizing values	
Perry positions				→	
1-2 = Dualism	3 = Multiplicity 1	4 = Multiplicity 2	5 = Contextual Relativism		
Truth is absolute and defined by an Authority.	Truth is absolute and knowable, but incompletely defined by Authority.	Truth can never be known with absolute certainty.	Any act of knowing requires taking a point of view.		

Table 1-6 is also consistent with Robert Kegan's theory of lifespan development, which asserts that we make sense of the world in three primary, evolving, and interactive dimensions :

- cognitive: how one makes sense of knowledge;
- interpersonal: how one sees oneself in relation to others; and
- intrapersonal: how one develops an internal belief system.

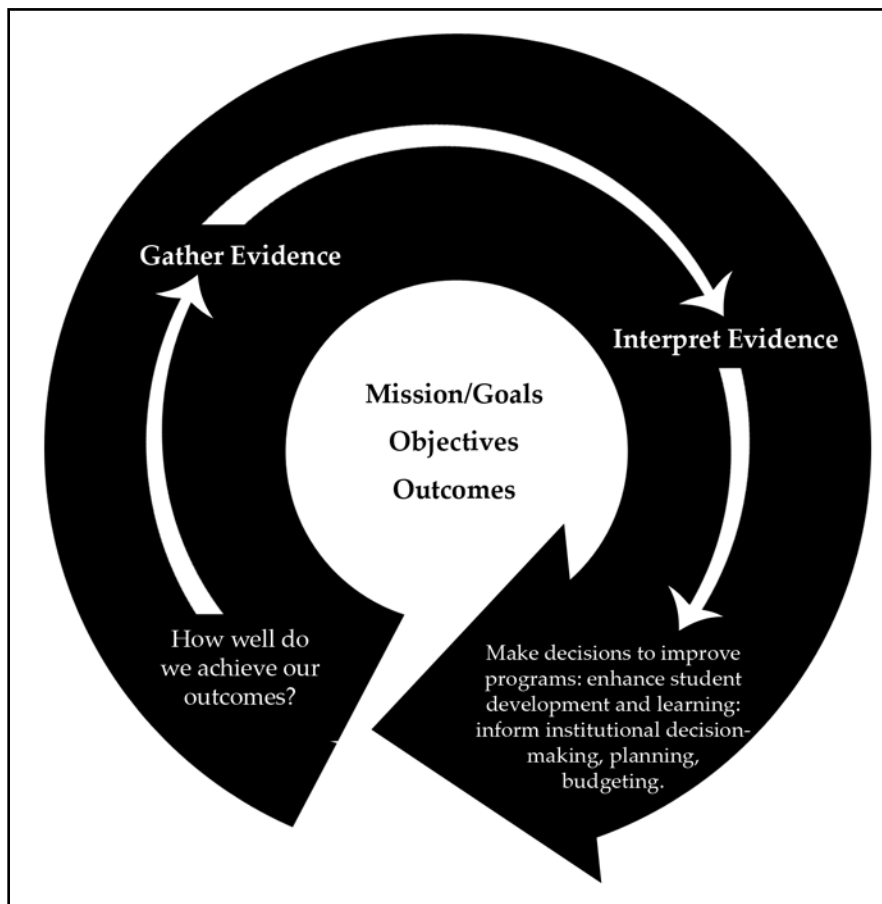
Because complex learning is a goal of higher education, and because people tend to become "embedded" in their beliefs, it is essential that students be engaged, challenged, and supported as they develop in all of these interacting dimensions.

Toward a Culture of Evidence

As shown in Figure 1.1 above (page 12), assessment is the “third pillar” of student-centered learning. Together with best practices in teaching and effective facilitation of student involvement, assessment is just the name for the ongoing, cyclical practice of setting goals, checking to see how well they have been achieved, and making appropriate adjustments to courses, programs, and assessment methods. The importance of assessment is that it is the mechanism which guides courses, academic programs, and support programs toward improving student learning.

These three elements when applied and practiced over time gradually build a “culture of evidence” in which assessment feedback becomes a regular and essential component of program development. (See Figure 1.2 below.)

Figure 1.2: Toward a culture of evidence*



*Adapted from Maki, 2001, and Bresciani, 2003.

Chapter 2

Why Assessment?

The Purpose of this Chapter

This chapter introduces course assessment and its relationship to student learning, describes the basic elements a successful course assessment plan must have, and suggests how the plan elements must be related to one another..

Chapter 2 at a glance

- **Assessment is Part of Learning**
- **Benefits of Assessment**
- **Nine Principles of Good Assessment Practice**
- **Assessment, Accreditation, and Accountability**

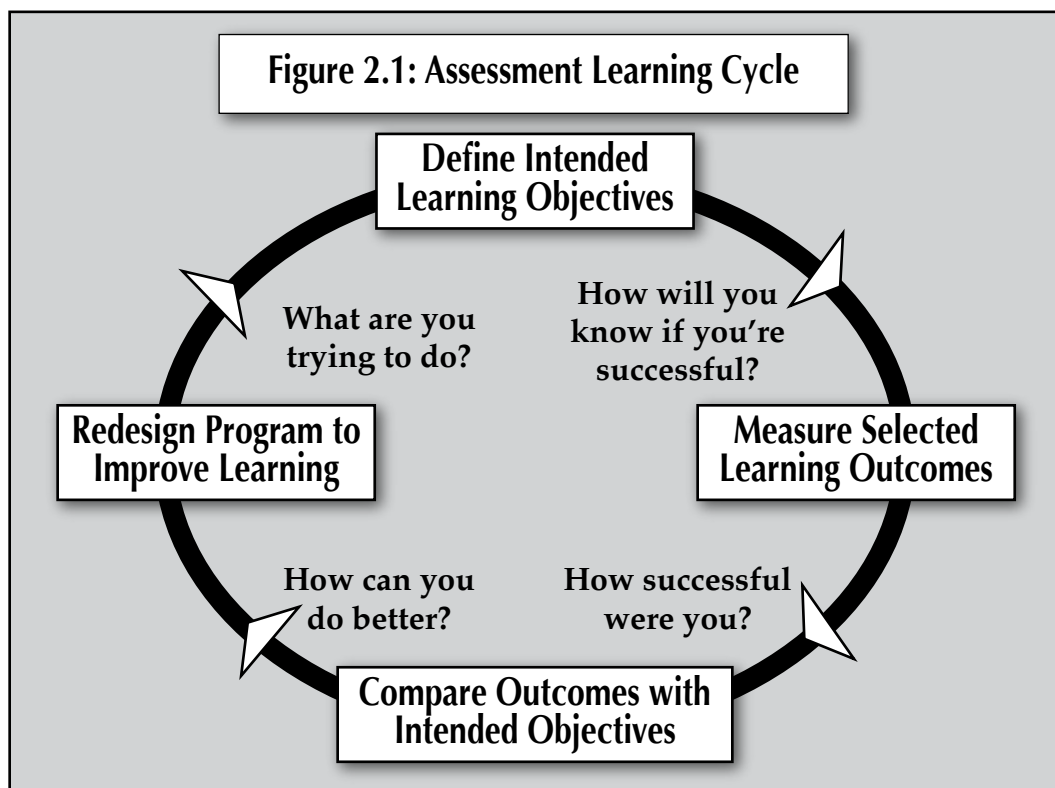
Assessment is the systematic collection and analysis of information to improve student learning

Defined in this manner, assessment asks you to think about the following questions:

- What should students be learning and in what ways should they be growing?
- What are students actually learning and in what ways are they actually growing?
- What should you be doing to facilitate student learning and growth?

Assessment is Part of Learning

As shown in Figure 2-1, assessment is an iterative, four-stage, *information feedback* process for setting intended learning goals and objectives and then gathering, analyzing, and interpreting outcomes evidence from actual student work in your course to see how well your intended objectives have actually been met, and using those findings to improve student learning. Assessment is intricately associated with the “learner-centered” model of institutional effectiveness, has become deeply embedded in American higher education, and reflects widespread acceptance among educational stakeholders that *student learning* is the predominant measure of teaching effectiveness.



As introduced in Chapter 1 (Fig. 1-1), assessment is the ongoing, cyclical practice of setting goals, checking to see how well they have been achieved, and making appropriate adjustments to improve results over time. Assessment guides your course toward improvement by continually asking one question over and over: *Are you doing what you think you're doing?*

**ASSESSMENT LEARNING CYCLE:
Are you doing what you think you're doing?**

STEP ONE: What are you trying to do?

Define intended course learning objectives: specifically, what do you want your graduates to know and actually to be able to do?

STEP TWO: How will you know if you are successful?

Define observable, measurable outcomes that will tell you how well each objective has been met.

STEP THREE: How successful were you?

Compare observed outcomes to intended outcomes: how well did you meet your objectives in general, and your student learning objectives in particular?

STEP FOUR: What should you do about it?

Accept or modify program objectives, outcomes, and assessment measures to better achieve target objectives in next cycle.

Benefits of Assessment

Of course, even without formal assessment procedures, faculty have constantly explored in their own ways what worked well and what didn't, and used those observations and impressions to make changes in courses and curriculum. Formal assessment (like the type discussed in this handbook) simply makes those informal activities more systematic, more focused, more effective, and more public. Assessment can facilitate improvement through a variety of venues. When faculty members are directly involved in the development, implementation, and analysis of assessment activities, a number of specific benefits result. (See Table 2.1.)

Table 2.1: Benefits of Assessment*

<p>BECAUSE ASSESSMENT CAN provide information about the knowledge and skills students have as they enter a course...</p>	<p>FACULTY CAN design instruction to target the knowledge and skill levels students should have upon finishing a course and better determine the levels of thinking or reasoning appropriate for the course.</p>
<p>BECAUSE ASSESSMENT CAN provide reliable data on student learning...</p>	<p>FACULTY CAN rely less on the comments that appear on student evaluations as indicators of their success in teaching.</p>
<p>BECAUSE ASSESSMENT CAN make available richer data about the effects of the curriculum or teaching methods...</p>	<p>FACULTY CAN engage in more productive conversations about the status of student achievement and make better decisions about how it might be improved.</p>
<p>BECAUSE ASSESSMENT CAN yield more reliable data about instruction...</p>	<p>FACULTY CAN make reliable decisions about innovations or experimental projects in instruction and share successes more easily.</p>
<p>BECAUSE ASSESSMENT CAN provide evidence that faculty make a difference in student learning...</p>	<p>FACULTY CAN enjoy greater satisfaction in their work as educators.</p>
<p>BECAUSE ASSESSMENT CAN offer a larger view of student needs and accomplishments...</p>	<p>FACULTY CAN identify directions for future instructional development.</p>

*Adapted from the *University of Nebraska, Lincoln Teaching and Learning Center, Teaching at UNL*, Vol. 21, No. 2 (Oct, 1999).

Nine Principles of Good Assessment Practice*

As discussed above, and as shown in Figure 1.1 in Chapter 1, because assessment is the mechanism by which we find out if our intentions for a program have been successfully transformed into actual student learning, it is essential that assessment practices are practically achievable and functionally effective. The American Association of Higher Education has summarized nine principles for good assessment practice. Though briefly stated, the principles are rich with detail about the linkages between assessment and learning. The ability for faculty to understand and apply these principles to their courses and programs is the primary goal of this handbook.

Assessment begins with educational values.

- 1 Effective assessment of student learning begins with a vision of the kinds of learning we most value for students. Where questions about educational mission and values are skipped over, assessment can become a futile exercise in measuring what's easy, rather than a process of improving what we really care about.

Assessment is most effective when it is multidimensional, integrated, and revealed in performance over time.

- 2 Learning entails not only what students know but also what they can do with what they know; it involves not only knowledge and abilities but also values, attitudes, and habits of mind that contribute to successful achievement of goals. Assessment should use a diverse array of methods to foster and reveal change, growth, and increasing degrees of integration.

Assessment works best when the programs it seeks to improve have clear, explicitly stated purposes.

- 3 Assessment is a goal-oriented process. Through an ongoing process of comparing educational performance with educational purposes, it pushes instruction toward clarity about where to aim and what standards to apply. Clear, shared, achievable goals are the cornerstone for assessment that is focused and useful.

Assessment requires attention to outcomes but also and equally to the experiences that lead to those outcomes.

- 4 Information about outcomes is of high importance; but we also need to know about student experience along the way—about how the curricula, instruction, campus climate, and kind of student engagement enhances students' overall cognitive and affective development.

Assessment works best when it is ongoing not episodic.

Systematic improvement is best fostered when assessment entails a linked series of activities undertaken over time. Whether tracking the progress of individual students or of entire cohorts, the point is to monitor progress toward intended goals in a spirit of continuous improvement. Along the way, the assessment process itself should be evaluated and refined in light of emerging insights.

5

Assessment fosters wider improvement when representatives from across the educational community are involved.

Student learning is a campus-wide responsibility, and assessment is a way of enacting that responsibility. Faculty play an especially important role, but so do student-affairs educators, librarians, administrators, and students. Assessment is not a task for small groups of experts but a collaborative activity of educators and stakeholders throughout the larger community.

6

Assessment makes a difference when it illuminates questions that people really care about.

Assessment recognizes the value of information in the process of improvement. But to be useful, information must be connected to issues or questions that people really care about, and produce evidence that is credible, applicable, and useful.

7

Assessment is most likely to lead to improvement when it is part of a larger set of conditions that promote change.

Assessment alone changes little. Its greatest contribution comes on campuses where the quality of teaching and learning is visibly valued and is central to the institution's planning, budgeting, and personnel decisions. On such campuses, information about learning outcomes avidly sought as an integral part of decision making.

8

Through assessment, educators meet responsibilities to students and to the public.

Colleges have a responsibility to the publics that support and depend on them to establish meaningful goals and expectations for students, to provide information about how well students meet those goals and expectations are met, and to strive continually to improve student learning over time.

9

*Adapted from American Association for Higher Education, *Assessment Forum*: Alexander W. Astin; Trudy W. Banta; K. Patricia Cross; Elaine El-Khawas; Peter T. Ewell; Pat Hutchings; Theodore J. Marchese; Kay M. McClenney; Marcia Mentkowski; Margaret A. Miller; E. Thomas Moran; Barbara D. Wright.

Assessment, Accreditation, and Accountability

Over the past fifteen years, the increasing attention higher education has been getting from both state regulators and from accreditation bodies has merged into a fairly unified focus on student learning as the “coin of the realm” for assessing institutional quality.

These changes increasingly mean that it is not enough that college teachers be well-trained in their disciplines; they also are increasingly being required to learn a great deal more about learning, teaching, setting course objectives, and organizing, integrating, and assessing curricula than has traditionally been the case. Their responsibilities have expanded considerably toward creating and maintaining an effective learning environment and gathering systematic evidence of student learning, and these are going to require them and their schools to invest relatively more of their time into their development as teachers.

At present, both the State of Washington and the Northwest Commission on Colleges and Universities require that all academic programs:

- have assessment plans that conform to specific standards, and
- are able to document the regular use of assessment data to improve student learning over time.

Accreditation:

Northwest Commission on Colleges and Universities Standard 2B requirements:

- “The institution’s processes for assessing its educational programs are clearly defined, encompass all of its offerings, are conducted on a regular basis, and are integrated into the overall planning and evaluation plan.
- The institution identifies and publishes the expected learning outcomes for each of its degree and certificate programs. Through regular and systematic assessment, it demonstrates that students who complete their programs, no matter where or how they are offered, have achieved these outcomes.
- The institution provides evidence that its assessment activities lead to the improvement of teaching and learning.”

Accountability:

Washington State Higher Education Coordinating Board program requirements:

- Program assessment: Describe the institution's plan for assessing how well program objectives will be met. Describe how the assessment information will be gathered and used.
- Student Assessment: Describe expected student learning outcomes of the program and how student learning outcomes will be measured and results used.

Table 2.2*: To meet the many external requirements for assessment, effective program assessment must generally be:

Systematic	It is orderly and includes all four steps in the assessment cycle.
Complete	Every program and course should be organized around clearly articulated learning goals and objectives, explicit assessment methods, and measurable outcomes.
Consistent with the program mission and goals	It focuses most on what the program says is most important.
Ongoing and cumulative	It builds a body of evidence over time.
Multi-faceted	It uses multiple measures of multiple dimensions of learning.
Pragmatic	It is practical to do and provides useful results.
Faculty-designed and implemented	It is unique to the needs of each program.

*Adapted from California State University, Chico, Assessment Plan (1998) and the Ball State University, Assessment Workbook (1999).

Chapter 3

Learning that Lasts

The Purpose of this Chapter

The primary question that serious teachers grapple with is how can they stimulate *learning that lasts* in their students, learning that goes beyond basic cognitive skills of remembering and understanding to encompass the integrative abilities to apply, analyze, synthesize, evaluate, and create that will make students effective lifetime learners. This chapter reviews the best practices in teaching and learning described in Chapter 1, explores the qualities and techniques of teaching that have been shown to evoke enthusiastic engagement from students, and explores the activities and relationships that have been most effective at leading students to transformative, deep learning.

Chapter 3 at a glance

- **Learning that Lasts**
- **Developing Expertise**
- **What Kind of Learning Are You After?**
- **Creating a Critical Learning Environment**
- **Relating**

Learning that Lasts*

Teaching ability is not a fixed personality characteristic; rather, it is a developable set of skills, behaviors, and perhaps most importantly, *attitudes*, that combine to create and maintain an effective learning environment. Similarly, student learning ability is not a fixed personality characteristic, either, but a set of characteristics and tendencies which can be evoked and enhanced in the appropriate learning environment.

*Adapted from Halloun & Hestenes, 1985, Bransford, 1999, and Mentkowski, 2000. See Appendix A (page 129) for the full reference listings.

Every student arrives in your class with existing views that are incomplete or simply wrong, and they need experiences which cause them not only to know the right answers, but also to *change their views for the long term*. Experiments have also shown that even when students can successfully apply formulas and obtain correct answers to test questions, they are still often unable to apply the new knowledge to explain actual phenomena; rather, students often hold firm to mistaken beliefs even when confronted with phenomena that contradict their unconscious beliefs. Engaging students in ways that focus their awareness on cognitive conflicts and the limitations of their previous models and thinking leads them to restructure their beliefs (Halloun & Hestenes).

To foster the kinds of deep learning that lead to mastery and expertise, instructors must not only have *content knowledge* of their disciplines; they must also have *pedagogical content knowledge* about the special considerations involved in teaching in their disciplines. They must “develop the cognitive road maps that guide the assignments they give, the assessments they use to gauge student progress, and the questions they ask in the classroom” that make difficult material easier to grasp and master (Bransford).

Mentkowski (2000), in her analysis of learning and assessment over 25 years at Alverno College (where many of the foundations of modern assessment have been developed), defines *four dimensions of learning* which contribute to the transformation of learners from *beginner* to *professional*. Each of the dimensions is an important element by itself, and interacts with the other dimensions to cultivate the level of learning we call “expertise,” and which we hope mightily to have developed in our graduates:

- ◆ Reasoning
- ◆ Performance
- ◆ Self-reflection
- ◆ Development

REASONING is “the ability to extend thinking systematically into hypothetical possibilities;” it is “abstract, sound, and insightful;” and requires the studied application of both habitual thinking processes and active extension beyond them into creative realms of “describing, explaining, predicting, arguing, critiquing, explicating, and defining,” all higher-order abilities from Bloom’s taxonomy.

PERFORMANCE is where learning is externalized and applied in the world, and where ability is transformed into action which can be observed, measured, and evaluated for its effectiveness.

SELF-REFLECTION is engagement in a narrative or storytelling mode of making meaning, with a focus on one's own attributes and accomplishments...learners judge how episodes in immediate experience relate to their ongoing personal story, and extend the meaning of their experiences to wider contexts.

DEVELOPMENT "is characterized by deep, enduring structures of the self; it entails a view of the self in process and a focus on the ethical or spiritual dimensions of life...it extends immediate experience into broader purposes, meanings, and commitments."

These interactive dimensions of learning actualize knowledge and make it usable. "Experts' knowledge is connected and organized around important concepts and core principles; it is "conditionalized" to specify the contexts in which it is applicable; and it supports understanding and transfer to other contexts rather than only the ability to remember." (Bransford, 1999.)

Developing Expertise*

Experts in any field don't just know more than novices; they are fundamentally different from novices in ways that we would particularly like to cultivate in students. Experts have absorbed into long-term memory large banks of facts, procedures, concepts, and applications, and over time have unconsciously coded and organized these banks of information so appropriate elements can be retrieved and applied with little effort of will or memory. The information and experience appear as if at "their fingertips."

When presented with a problem, experts are more likely to recognize patterns in the problem which lend themselves to the application of broad principles or the use of particular tools, while the novice to some degree starts every problem from scratch. What is *conscious with effort* for the novice is *unconscious with ease* for the expert.

Not only can experts select and apply a strategy to a problem more easily than novices; they also have developed the ability to monitor their own understanding and the effectiveness of their strategies. This *metacognitive* ability to think about their own thinking allows experts to "know when to apply a procedure or rule, predict the correctness of an action, plan ahead, and efficiently apportion cognitive resources and time...Assessment of knowledge and skill in any given academic domain should therefore attempt to determine whether an individual has good *metacognitive* skills."

*Adapted from Pellegrino, 2001. See Appendix A (page 129) for the full reference listings.

Development of this kind of expertise depends heavily on three principles which become the foundation of teaching for deep learning:

- ◆ The Power Law of Practice
- ◆ Feedback on Results
- ◆ Self-assessing Role Performance

POWER LAW OF PRACTICE

Early in the process of developing a cognitive skill, performance requires conscious effort because it is heavily dependent on the limitations of working memory. The more the skill is practiced, the more exercise of the skill can become fluent or even automatic, eventually bypassing entirely the conscious “talking through” process of beginners. The power law of practice means that each repetition of a cognitive process in a context improves skill with that process.

FEEDBACK ON RESULTS

But practice alone is not enough. Students develop skills faster and better when they receive feedback about the accuracy of their work; without feedback, practice produces little learning. When feedback is missing, or is too general, or is not timely, students continue making the same kinds of mistakes. This is why frequent assessment and feedback is so vital to learning: so practice of a skill will in fact lead to its acquisition and mastery.

SELF-ASSESSING ROLE PERFORMANCE

When students develop the ability to monitor and assess their own performance according to specific standards, they become able to adjust their understanding of a role at the same time they perform the role, while continually building confidence in themselves as self-directed learners.

What Kind of Learning Are You After?*

One way to view course (or program) learning objectives is to imagine that students will all learn the same kinds of things though perhaps in different amounts. So our assessment goal would be to figure out how to measure the different amounts of the different kinds of abilities, and that will tell us how successful our course has been. Ehrmann calls this the *uniform impact perspective*: the educator’s objectives are the same for all students.

*Adapted from Ehrmann (1998). See Appendix A (page 129) for the full reference listings.

In contrast, the *unique uses perspective* views each offering of each course as an open and unique opportunity where “each student shows up with different needs and different capabilities. Accidents and coincidences happen. Students are creative in different ways, leading to still more diversity of outcomes from the “same” course or experience. After the program, former students move into different life situations, further changing the shape of the program’s successes and failures. In short, for many reasons, different people learn different things as a result of their encounter with a learning opportunity. These differences in learning are qualitative, that is different in kind, and quantitative, that is different in degree.”

The choice of perspective matters considerably for defining “successful pedagogy” in your course, and for making assessment choices. Are your goals more about having everyone develop a very specific set of clearly defined abilities, or is the goal that all learners take away something of personally significant importance? Generally speaking, at the course level we act as if we are primarily interested in uniform impact, and at the program and University level we are more interested in the unique uses perspective.

In practical terms, however, just as “all politics is local,” so all learning is at the *course level*; the question is not *whether* the unique uses perspective should be adopted at the course level, but *in which courses*, and *in what ways* to foster the deep learning and expert abilities we are after. Ultimately, each student’s college experience is absolutely unique, and we want our graduates to be *both* fully proficient in their fields *and* self-actualized as unique, creative human beings. *When teachers begin with the key abilities they want students to develop, and continually monitor student learning toward their objectives, they develop over time an array of specific assessment tools which give them the information they want about student progress and about their own effectiveness as teachers.*

Creating a Natural Critical Learning Environment*

Ken Bain (2004) spent a number of years studying the qualities and practices of the best college teachers. His book serves to validate what we have learned about teaching and learning as summarized in the “Seven Principles of Good Practice” in Chapter 1, the “Nine Principles for Assessment” in Chapter 2, and in the work of numerous scholars over the past twenty years. Among his findings are that best teachers work hard to create what he calls a *natural critical learning environment* where the skills, habits, attitudes,

*This section has been condensed and adapted from Bain (2004). Please see Appendix A (page 129) for the full reference listings,

and information they want students to learn are embedded in authentic tasks that engage student curiosity, and where students are led to develop their cognitive and metacognitive abilities at the same time they develop expertise in the field. The critical learning environment is created not only by *what* these teachers do but also by *how* they do it.

The best teachers begin their course planning by defining the key abilities they want students to develop, and then designing the sequences of authentic learning experiences that will lead students to develop those abilities, making consistent efforts to apply a number of “best practices” discussed in Chapter 1.

WHAT THE BEST TEACHERS DO

- Relate course learning objectives to authentic and intriguing questions and problems that the course (or individual class or assignment) will help students to understand and resolve, and which are relevant to students’ lives;
- Create assignments that train students to reason, evaluate, and apply evidence to make decisions and defend their conclusions;
- Structure assignments to build the scaffolding of stepwise challenges that lead students to develop increasingly advanced abilities;
- Structure their courses to provide very frequent, useful feedback on student work that helps them focus their effort where it is most needed, in an environment where they can safely repeat a cycle of trying, failing, receiving feedback, and trying again;
- Create the challenge with encouragement that makes high demands on their students while at the same time providing continuing opportunities for feedback, revision, and improvement;
- Define the obligations associated with choosing to be in the class in ways that engage students to feel a commitment to be attentive, thoughtful, and responsive;
- Provide opportunities for students to work collaboratively;
- Design assignments to deepen both discipline-specific and generalized abilities like critical reading and writing, information literacy, quantitative reasoning, and social, cultural, and environmental interdependence; and
- Evaluate student work based on clearly articulated standards, while also training students to develop the ability to assess their own work accurately to specific standards.

Bain also found that the best teachers have common attitudes toward teaching and toward their students, which translate into how they organize their courses and assignments, the ways they relate to their students, and the effectiveness of the learning environments they create.

HOW THEY DO WHAT THEY DO

- Start with what students think they know and systematically take them beyond the familiar in manageable steps, carefully grafting new concepts onto existing ones rather than focusing on planting brand new ones;
- Treat anything they say to their students, in any setting, as a conversation rather than a performance;
- Give students a sense of control and responsibility for their own learning;
- Model with their own actions the specific reasoning processes germane to their disciplines;
- Combine the systematic with the kind of curiosity that lays the foundation for the sudden integrative insights that can come after deep involvement with a set of problems;
- Treat students fairly and hold them in positive regard;
- Maintain a stimulating and safe forum for students to challenge and update their beliefs and assumptions. The deepest learning happens when students are driven by their own curiosity to make their own meaning from their experiences; and
- Devise grading systems that reward the deepest learning, discourage superficial learning-for-tests, and encourage students who lack confidence. Grades are less effective motivators than internal satisfaction for evoking challenge and curiosity.

Relating

Whatever class format or pedagogical style an instructor uses, the same principles of learning apply. It's not just *what you do* that is important, it's also very much *how you do it*. The instructor's attitudes, beliefs, and behaviors are the key ingredients that define the classroom learning environment.

Experiments have shown that even after only a few minutes of observation, students give an instructor evaluation ratings which are surprisingly similar to those of students who spend an entire semester with the instructor. Thus students are very adept at recognizing the qualities of instructor behavior that

will stimulate their learning; the characteristics of good teaching have as much to do with *how teachers relate* and what kind of *environment* they create as to *what they specifically do*.

Though personality plays little role in good teaching, nevertheless the best teachers do have in common several ways of being and relating that oil the wheels of student learning. As a group, they invariably:

- are supportive and noncombative;
- invest in and share power with students;
- sincerely want to help students learn and to know how well they are learning;
- encourage all students to believe they can meet the same high standards;
- foster a relationship of trust and mentoring, not a competition with winners and losers;
- reliably and predictably show non-judgmental respect, concern, and positive regard;
- maintain a stimulating and safe forum for students to share ideas, through use of space, authentic topics, compelling questions, humor, or calling on non-volunteers;
- act as if every student is unique and brings contributions no one else can make; and
- convey high expectations along with assurance that each student can meet them.

CLASSROOM ARTS. Here are some points to remember about good teaching:

- it's a conversation, not a performance;
- it's about making contact with, not talking at;
- "warm language" makes you more human and the material more real
- "teaching is above acting, but acting is not beneath teaching";
- the ongoing intention is for learning to happen;
- good explanations give students the tools they need to construct their own knowledge.

Chapter 4

What Is Course-based Assessment?

The Purpose of this Chapter

This chapter offers basic definitions and explanations of course assessment terminology and tools. It describes the similarities and differences between assessment and grading, as well as what assessment can mean for your students. Reasons to assess and common questions about assessment are also included.

Chapter 4 at a glance

- **Assessment: Your Student and You**
- **Designing an Effective Course Assessment Plan**
- **Getting More Teaching Out of Testing and Grading**
- **Questions and Answers**

Assessment: Your Students and You

Effective instructors understand that it is not enough to present course material to students and be content that some will get it and some will not. Learning occurs when there is an effective interplay between the teaching process and student learning. Creative opportunities always exist for instructors to identify specific goals and objectives for each course, systematically gauge the extent to which learning actually is taking place, and make curricular and pedagogical changes to improve outcomes.

Assessment is the primary process for identifying and implementing these opportunities, by:

- making the learning process more effective and consistent by systematically linking assignments, course structure and grading practices to intended learning objectives;
- helping instructors become better teachers by generating specific feedback on what is working or not working in their classrooms; and
- providing systematic feedback to students about their own progress.

BENEFITS FOR STUDENTS

For students, assessment can mean:

- ◆ clarifying their instructors' expectations for their learning;
- ◆ focusing more on learning as they come to see the connections among learning, involvement, and course content;
- ◆ becoming more self-reflective learners;
- ◆ understanding their own strengths and weaknesses as students; and/or
- ◆ being able to monitor how well they are doing.

BENEFITS FOR THE INSTRUCTOR

Assessment can help instructors to:

- ◆ provide a more learning-centered, student-responsive classroom environment;
- ◆ track student learning progress as it occurs;
- ◆ adjust the teaching process to accommodate gaps in learning that can be tied to methods of instruction; and/or
- ◆ become more student-responsive in facilitating learning and the acquisition of knowledge.

Helping students understand these benefits is key. Enlisting student investment in the assessment process can both make the results more meaningful and encourage students' active participation in the learning process. Consistent and constructive feedback to students about the results of your in-class assessment can help you accomplish this goal.

COURSE-BASED ASSESSMENT refers to methods of assessing student learning within the classroom environment, using course goals, objectives and content to establish criteria and standards that reveal the extent of learning that is taking place in the course.

Designing an Effective Course Assessment Plan

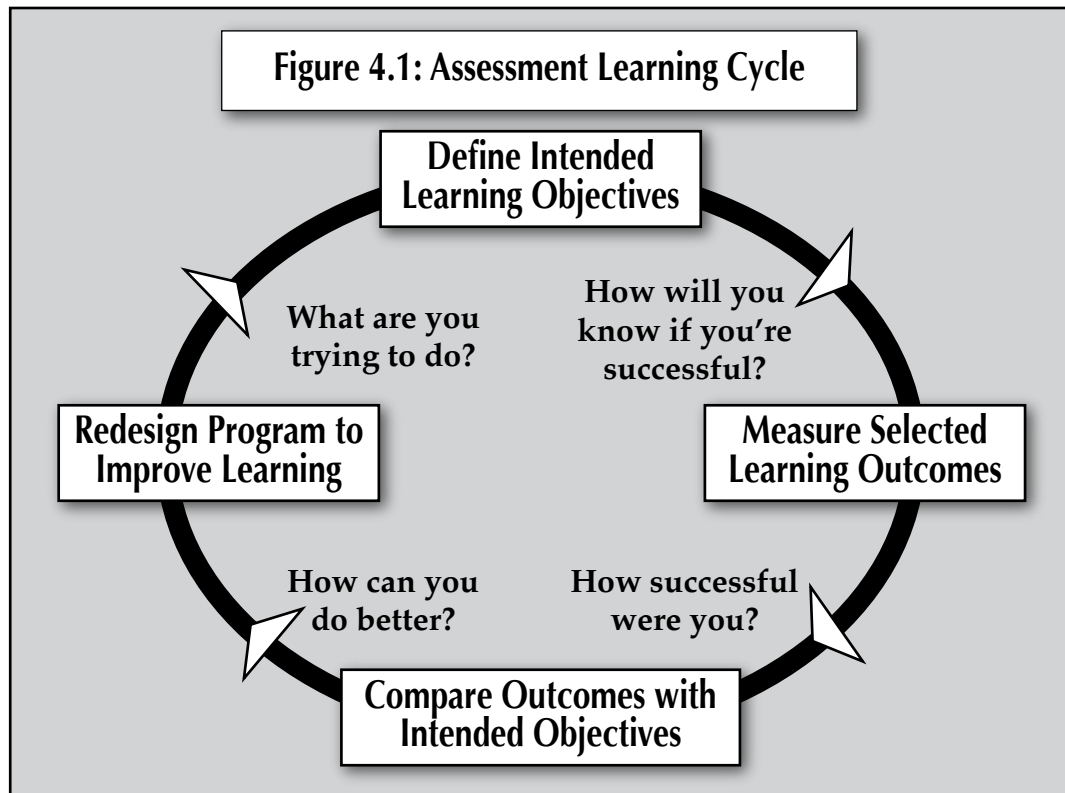
Course assessment is a systematic way of monitoring whether students have actually acquired the skills, knowledge, and competencies you intend for them to develop. Assessment is most simply an ongoing process of comparing intended outcomes with actual (observed, documented, realized, measured) outcomes, and working to improve those outcomes over time.

Traditionally, course objectives have tacitly revolved around the material to be covered rather than the learning to be realized. Today, like a piece in a jigsaw puzzle, every course has a context defined by where it interlocks with the University curriculum, the program curriculum, and each student's individual course of study. Each part of the context influences course goals and objectives, and it is the job of the instructor to build course learning objectives around these various constraints:

1. What abilities are students assumed to bring to the course?
 - ♦ How can you tell if they have those abilities?
2. What abilities must students take away from the course?
 - ♦ How can you tell if they have those abilities?
3. What abilities do you want students take away from the course?
 - ♦ How can you tell if they have those abilities?

The basic assessment process discussed in Chapter 2, when applied at the course level, can relate the course to the larger goals and objectives of the University, to the discipline-specific goals of the major, and to the immediate goals and objectives of the particular course.

Figure 4.1: Assessment Learning Cycle



In designing your course, you will want to consider and include the following*:

- | | |
|---|--|
| Learning goals and objectives: | What do you intend students in the course to know, value, and be able to do? |
| Learning processes: | To what learning experiences and strategies will students be exposed to achieve these learning objectives? |
| Assessment methods: | By what standards and criteria will you know that students are meeting your learning objectives?
With what tools will the information be collected? |
| Assessment processes: | When will you conduct each assessment? |
| Analysis: | What did you find out? How do the data support these findings? |
| Decisions, plans, & recommendations: | It is practical to do and provides useful results. |

*Adapted from California State University, Chico, Assessment Plan (1998).

Getting More Teaching Out of Testing and Grading*

When the issue of course-based assessment is raised, faculty members often say, “I already do assessment. I grade student assignments.” Grades are indeed one measure of student achievement. There are significant obstacles, however, to using grades to meet assessment’s primary goal: to improve teaching and learning.

Assessment links student performance on *specific learning outcomes to targeted learning objectives* to provide useful feedback about how successfully students are meeting course objectives. Traditional grading, which offers one “score” to represent the sum total of students’ performance across a whole host of outcomes, *does not* provide the sort of detail-specific information necessary to link actual student performance to specific learning objectives, and therefore provides little information on the success of your course in helping students attain the array of distinct learning objectives of interest.

Testing and grading can sometimes feel like necessary evils of teaching, far removed from the loftier goals of higher education, and a source of potential conflict with students. It doesn’t help that many students see grades as evaluations of their intelligence, abilities, and potential, and not as a context-specific measure of how well they have met the specific learning goals and objectives of a course. Students and teachers can easily forget that receiving a positive evaluation is not, in fact, the central goal of a class. Common approaches to assessment—especially those that provide only a number or letter grade—can reinforce these student perceptions.

Assessment can actually be one of your greatest teaching tools and a way to connect with your students, but this requires rethinking the role of assessment in your course.

Learning goals and objectives answer the question: “What am I preparing students to do, in the real world or as scholars in my field?” Once you have identified your learning goals, the next question is: “How can I create opportunities for students to prepare for, practice, and demonstrate particular instances of this learning?” The answer will guide your choice of specific course learning objectives, appropriate pedagogy, assessment strategies, and the particular classroom activities that will help students to develop your intended learning abilities.

This approach has been called *forward-looking assessment*, (Fink, 2003) meaning that your focus is on how students will use course experiences in meaningful

*McGonigal, 2006; Reprinted with permission from the Center for Teaching & Learning, Stanford University. (Full reference: Speaking of Teaching, Center for Teaching and Learning, Stanford University, Spring 2006, Vol 15, No.2.)

ways, not on how much material you can cover or how well students remember what was covered in the course. Assignments and exams with a *backward-looking* focus answer questions such as: “Did the student attend lecture?” and “Did the student read the textbook?” These questions typically arise by looking over your lecture notes and texts and thinking: “Which parts of this should I test students on?”

Backward-looking assessments include those that ask students to recall or recognize information or to solve problems that are nearly identical to those presented in class. In contrast, *forward-looking assessment* starts from the question: “What do I want students to be able to do with the knowledge acquired in this class?” Exam questions, paper topics, and projects should require students to demonstrate their ability to use knowledge in the ways in which scholars or professionals do.

Compare the following two assessment strategies for a course in art history. The instructor wants to assess how well students have achieved the learning goal of understanding how politics can influence popular aesthetics.

A BACKWARD-LOOKING assessment might ask students to identify the political influences on specific artists or architects, as discussed in lecture or the text.

A FORWARD-LOOKING assessment might present students with several unfamiliar works of art or artifacts from before and after an important political transition. This assessment asks students to discuss what they observe and relate their observations to examples covered in class. This assessment draws on the same material but assesses whether students are able to apply the material in a novel, scholarly way.

This kind of *forward-looking* approach assesses whether students can transfer information and experiences from the class to the meaningful learning goals and objectives of your course. Exams and assignments with a forward-looking focus also make the learning goals of the course clear to students, which can broaden a student’s narrow focus on grade achievement.

Create Criteria and Standards for Every Assessment

When you begin to design assessments that go beyond recall and basic problem solving, evaluating students’ learning becomes more challenging. How would a student’s work demonstrate meaningful learning? According to Fink’s model of educative assessment, the solution is to be clear about the *criteria and standards* of successful learning for every learning goal.

For example, consider an assessment that asks students to develop a campaign for health promotion. One criterion of success at this task could be the effectiveness of the main campaign message. The instructor would then identify what makes a campaign message effective and might include standards such as:

- ♦ the message takes into account the target audience,
- ♦ the language of the message is carefully chosen and persuasive, and
- ♦ the message effectively appeals to either rational or emotional responses.

On the basis of these standards the instructor has a way to evaluate a student's demonstrated learning.

Criteria and standards do more than provide a metric for assigning grades. These standards also give the instructor a clear outline for what students need to learn in class and give students a clear framework for approaching the project. Criteria and standards can help students direct their efforts to meaningful learning, by highlighting what is most important. For this reason, it is helpful to give students in advance a copy of the standards and criteria you will use to assess their learning. Explain your reasoning for the criteria and share examples of strong work that meets your standards.

Include Peer- and Self- Assessment

An important part of educative feedback is helping students understand the process of assessment. Grades should not be mysterious, and students should be taught to determine for themselves when they are truly doing their best work. Developing students' ability to assess their own work helps them better understand the skills that are valued in a particular field and develop the general life skill of being able to look honestly at and improve their own work.

Having students assess other students' work is good practice before attempting to assess their own work. The process of peer-assessment gives students experience interpreting criteria and standards and developing a standard of comparison for their work. Peer review can be an eye-opening experience for students who have never been on the receiving end of a last-minute effort or a truly top-rate performance.

To include peer and self-assessment in your course:

- Teach peer review as an important process in your field and have students peer-review each other's work according to the standards of your field.
- In class, have students develop solutions to a problem and share their solutions in a small group or with the whole class. Discuss the solutions using pre-established criteria and standards, or use the discussion to develop criteria and standards.
- Allow students to come up with the set of criteria and standards for an assignment by having them review and assess one another's work, or examples from previous classes. Then invite them to use those criteria and standards to revise their own work.
- If you give students a list of criteria and standards for an assignment, ask them to evaluate their work using that list and to turn in their self-assessments with the assignment.

Provide Educative Feedback

Grades are essentially a ranking system, and most students experience receiving a grade as reward or punishment for their performance. Educative feedback serves a different goal entirely: It is provided for the sake of learning, focusing the student's attention on areas that need more study, and encouragement, not for the sake of rating a student's performance. Students who receive feedback on non-graded as well as graded performances come to see the process, not as a justification for a grade, but as a resource to help them learn. Such feedback should lead students to improve their performance and balance constructive criticism with positive comments.

To meet these goals, feedback should be:

- frequent, to reinforce recent learning and to give students a chance to change study habits or seek help;
- delivered as close in time to the learning experience and performance as possible, not handed back weeks later without discussion;
- discriminating, by being clear about how well the student has met criteria and standards and where and how they might improve; and
- given with respect and encouragement, including opportunities for students to respond to feedback.

To provide educative feedback in your course:

- Give students a problem to solve or question to answer in class. Provide immediate feedback through class discussion.
- Give students practice exams, with answers and explanations available.
- Require students to submit outlines for papers, or proposals for projects, and provide them with guidance and direction.
- Provide detailed and constructive feedback on papers and require students to revise them based on your feedback.
- Schedule meetings with students to discuss their learning goals for the course and to review their performance on tests or assignments.
- Ask students to assess their own work and respond to your comments during feedback discussions.

Questions and Answers

Q. Doesn't assessment ask me to become an education researcher, conducting research in the classroom on how and why students learn?

A. If we define research as systematically making observations and collecting data, then assessment certainly may be looked at as classroom research that some faculty may want to pursue. However, the primary purpose of classroom-based assessment is to improve the teaching/learning process by identifying new ways to re-examine the courses you teach and to measure what works with students and what doesn't.

Q. Won't classroom-based assessment add greatly to my workload?

A. Articulating course goals and objectives in measurable terms and developing assessment tools and data collection methods will be time-consuming at first. However, instructors often find that what seemed like a lot of unnecessary work may actually generate renewed interest in an old course and a recharged excitement about teaching. Once you've figured out how assessment fits into your teaching style and goals and objectives and have developed the tools you'll need to implement it in your classroom, student evaluation may become easier and more efficient, freeing up more of your time while making the overall course more satisfying to teach.

Q. Assessment activity is not established as part of the faculty reward system on campus. How can I benefit from assessment on a professional level?

A. Assessment activity is not yet an explicit part of the faculty reward system but is taking on more institutional importance. Assessment can also benefit you professionally by improving your teaching skills and facilitating your interactions with students, which are important to the faculty reward structure. In addition, many grant funding agencies now require strong assessment components to any projects designed to improve teaching and learning.

Q. I'm convinced of the potential benefit of bringing assessment into my classroom, but I'm unclear where to start.

A. Once you've made the decision to do classroom-based assessment, the actual process is quite simple and focuses around identifying course goals and objectives, and developing assessment tools to evaluate how well you and your students meet those goals during the semester. The next chapter in this handbook helps you get started on this plan.

Chapter 5

Adapting Your Course to Include Assessment

The Purpose of this Chapter

This chapter outlines ways to get started with assessment, offers suggestions on how to define course goals and objectives, and provides a worksheet to help you tie goals and objectives to your course syllabus. It helps you clarify what assessment methods you are already using and discusses how to start including more deliberate assessment in the courses you teach.

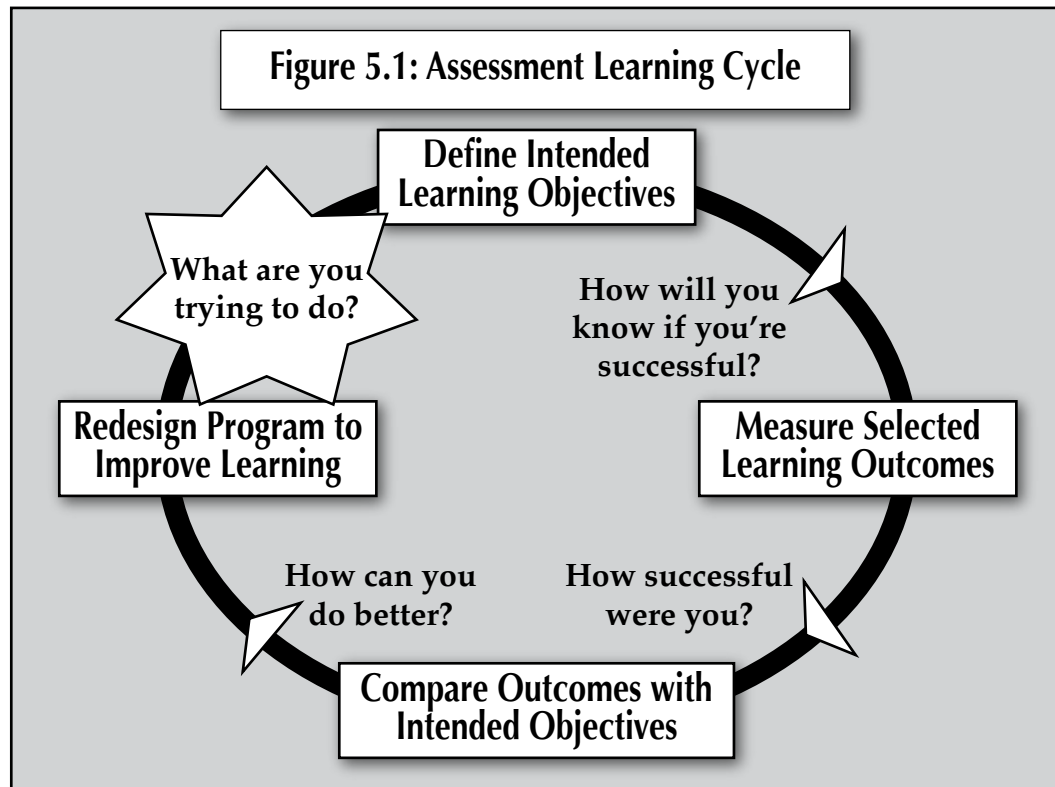
Chapter 5 at a glance

- **Getting Started**
- **Step 1: Establishing Learning Goals and Objectives**
- **Step 2: Examples of Effective Goals and Objectives**
- **Appendix 5-A: Goals and Objectives Worksheet**
- **Appendix 5-B: Linking Goals and Objectives Worksheet**

Getting Started

At its most basic, the assessment process can be broken down into three parts:

1. establishing student learning goals and objectives for the course;
2. measuring how well these goals have been met; and
3. using the results to improve learning in the course.



You already go through similar steps, at some level, whenever you develop a new course or revise an existing one. In formal assessment, these often unconscious steps are just more explicit, systematic, and detailed to clarify links between what you intend for students to learn and what they actually do learn. In this chapter, we will walk you through each of these three parts of the assessment process.

It is worth noting at the outset that trying to incorporate assessment into an existing course structure can be problematical if, like most, the course has evolved over time in response to new material you wanted to cover rather than in direct response to new learning objectives you have articulated for students to achieve.

In Chapter 3 we made a distinction between *forward-looking* assessment (*what do you want students to be able to do?*) and *backward-looking* assessment (*what have you covered that you can test them on?*). The difficulty is that setting course goals and objectives based on an existing *backward-looking* course structure may be somewhat counterproductive, because it limits your freedom to

reorganize the course from the ground up beginning with goals and will likely lead to keeping some objectives that should be dropped or changed, and failing to create new ones that better represent your real goals.

With that caution in mind, begin by taking some time to reflect on the course you will be assessing:

- Take an inventory of your current classroom teaching goals to clarify your intentions for the course. Are the goals forward-looking or backward-looking?
- Identify what information you currently gather on your students and their performance (e.g., tests, exams, surveys etc.). How explicitly does this information reflect particular abilities?

Step 1: Establishing Learning Goals and Objectives

For consistency and ease of understanding in this manual, and because there are varying definitions of assessment, goals, and objectives, throughout this manual we have adopted the following conventions:

COURSE GOALS describe *broad learning outcomes and concepts*—what you want students to learn—expressed in general terms (clear communication, problem-solving skills, etc.).

COURSE OBJECTIVES describe the specific skills, values and attitudes you intend students will be able to exhibit that reflect the broader goals (e.g., “students are able to develop a cogent argument to support a position”).

COURSE OUTCOMES describe *specific abilities* that students *have actually demonstrated* in ways which you have actually observed, documented, and evaluated against specific standards.

Noteworthy

“Course-embedded assessment involves taking a second look at materials generated in the classroom so that in addition to providing a basis for grading students, these materials also allow faculty to evaluate their teaching.”

Palomba, C. A. & Banta, T. W. (1999)

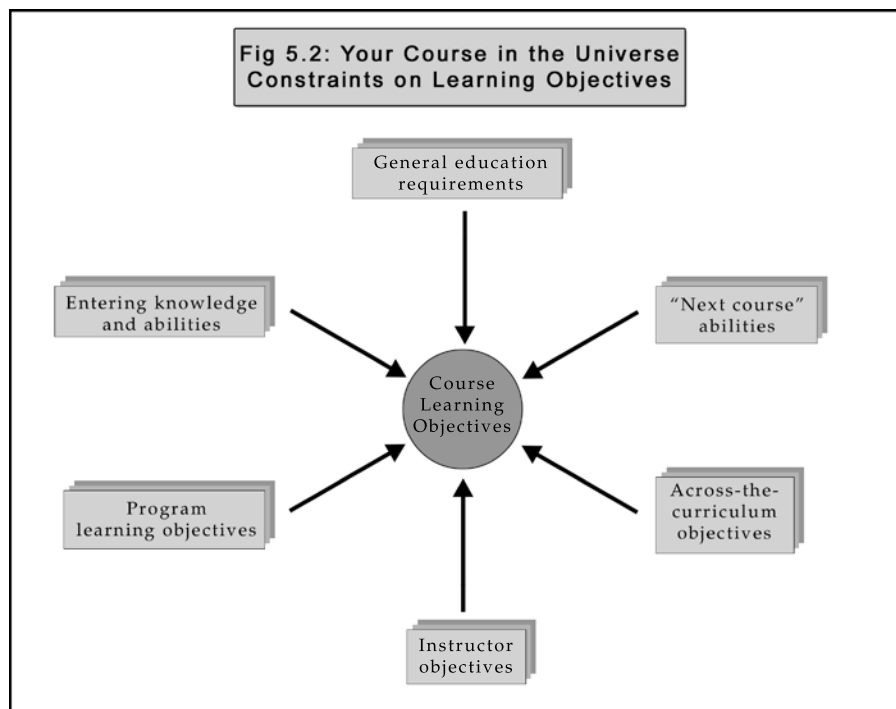
Constraints

It has long been the practice for instructors to begin planning a course curriculum by asking “What do I want to cover?” Implicit in this question are deeper questions about what students should know, what they should value, what they should be able to do, how they should be able to think,

and how they should be able to manifest their knowledge and ability in their chosen lives. Assessment is a process for making the process of asking these questions explicit in the course planning process.

Each course occupies a unique place in the academic Universe which both defines and constrains the range of learning objectives appropriate for the course:

- **Entering abilities:** What should students entering the course know and be able to do?
- **Program objectives:** What program learning objectives should this course develop, and to what levels?
- **Instructor objectives:** What do YOU want students to know and be able to do on completion of the class?
- **General Education objectives:** If a gen ed course, what gen ed knowledge and abilities will students develop in addition to discipline-specific knowledge and abilities?
- **Across-the-curriculum abilities:** Which overall developmental abilities (like critical thinking, quantitative reasoning, citizenship, etc.) will students develop in the course, and to what level?
- **Sequential objectives:** What must students know and be able to do to go on to the next likely courses in their programs?



Identifying and Articulating Course Goals

Course goals reflect the broad concepts and skills you want students to develop as a result of your course. Explicit goals can help you integrate the design and structure of your course and guide the development and implementation of specific, measurable course objectives.

So begin by asking yourself, “*What are the major academic goals I want students to achieve in this course?*” and write down your responses. Remember that the goal statements can be quite broad and theoretical. You will become more specific when you develop the learning objectives for the course.

If you are having trouble identifying course goals, try answering these questions:

- ◆ Why do you use current assignments, course structure, and activities? What broad learning goals are implicit in your course organization?
- ◆ What do you want your students to learn and in what ways do you want them to grow?
- ◆ In the past, have your goals for students been realistic?
- ◆ What do you think your students usually learn and in what ways do they usually grow?
- ◆ Where do students typically have difficulty in this course?
- ◆ What knowledge must students take away from this course as prerequisites for further study?
- ◆ What would you hope a graduate of the course would say about the course?
- ◆ What specific abilities or skills of professionals in your discipline can students develop in this course?

NOTE: Use the Goals Worksheet in Appendix A to help define course goals.

Noteworthy

The University of Iowa maintains an on-line version of the Cross and Angelo (1993) Teaching Goals Inventory (<http://www.uiowa.edu/~centeach/tgi/>). On the site, you can rate the importance of a host of learning goals and submit the results. You are provided with a summary report of the relative importance you place on various types of goals.

Drafting Course Learning Objectives*

Course learning objectives are the specific skills, values and attitudes you want students to develop as a result of your course. Course objectives transform goal generalizations into specific student performances and behaviors that demonstrate student learning and skill development.

There are many ways to clarify your learning objectives. However you do it, your chosen objectives must be congruent with your stated goals, so that each learning objective is associated with one or more broad goals. Here are three questions that focus on objectives in slightly different ways. You can use them to help you identify course objectives.

- ◆ For each of your stated goals, what are the specific student behaviors, skills, or abilities that would tell you this goal is being achieved?
- ◆ Ideally and briefly, what would a skeptic need (what evidence needs to be present, what specific behavior needs to be visible) in order to see that your students are achieving the major goals you have set out for them?
- ◆ In your experience, what evidence tells you when students have met these goals? How do you know when they're "getting" it?

Effectively stated course learning objectives:

- use action words that specify definite, observable behaviors (see Bloom's Taxonomy information on next page);
- indicate a minimum standard of attainment;
- are assessable through one or more indicators;
- comprehensively and meaningfully define a goal;
- are realistic and achievable; and
- use simple language.

Bloom's Taxonomy

Forty years ago American educational technologist Benjamin Bloom proposed that an assigned task stimulates in a student one of three hierarchical learning domains (cognitive, affective, and psychomotor), and developed a "taxonomy" that described a hierarchy of abilities in each

*Adapted from California State University, Bakersfield, PACT Outcomes Assessment Handbook (1999).

domain. In addition, Bloom developed lists of action verbs to describe different kinds of very specific abilities which can be learned, observed, and assessed. Shown below in Table 5.1 are the six levels of the cognitive domain with their definitions. Table 5.2 delineates some representative keywords to describe the kinds of abilities involved at each level.

Table 5.1: Bloom’s Cognitive Domain Learning Levels and Behaviors

Level	Cognitive behaviors
Knowledge	To know specific facts, terms, concepts, principles, or theories.
Comprehension	To understand, interpret, compare, contrast, or explain.
Application	To apply knowledge to new situations; to solve problems.
Analysis	To identify the organizational structure; to pull meaning from parts, relationships, and organizing principles.
Evaluation	To judge the quality of something based on its adequacy, value, logic, or use.
Synthesis	To create something, to integrate ideas into a solution, to propose an action plan, to formulate a new classification scheme.

Word Power

Concrete verbs such as *define*, *argue*, or *create* are more helpful for assessment than vague verbs such as *know* or *understand*, or passive verb phrases such as *be exposed to*. Some examples of action words frequently used in writing program objectives for the Cognitive Domain are included in Table 5.1 below.

Table 5.2: Objectives and Examples of Applicable Action Verbs

Knowledge	Comprehension	Application	Analysis	Synthesis	Evaluation
define	classify	apply	analyze	arrange	appraise
identify	describe	compute	calculate	assemble	assess
indicate	discuss	construct	categorize	collect	choose
know	explain	demonstrate	compare	compose	compare
label	express	dramatize	contrast	construct	contrast
list	identify	employ	criticize	create	decide
memorize	locate	illustrate	debate	design	estimate
name	paraphrase	interpret	determine	formulate	evaluate
recall	recognize	investigate	diagram	manage	grade
record	report	operate	differentiate	organize	judge
relate	restate	organize	distinguish	perform	measure
repeat	review	practice	examine	plan	rate
select	suggest	predict	experiment	prepare	revise
underline	summarize	schedule	inspect	produce	score
	tell	shop	inventory	propose	select
	translate	sketch	question	set-up	value
		translate	relate		
		use	solve		

Step 2: Examples of Effective Goals and Objectives

The goals and objectives that follow are examples for you to consider as you think about your own (action verbs *italicized*)

BIOLOGY [Adapted from California State University Multi-Campus Team Drafts (1998).]

Course Goal

Students will learn and demonstrate use of the scientific method for original scientific research.

Objectives

- ★ The student will *demonstrate* that s/he has *formulated* an hypothesis, *designed* a good experiment, *controlled* variables, operationally *defined* terms, and *interpreted* data appropriately
- ★ The student will *demonstrate* understanding of the scope and sequence of the scientific report format by *outlining* and *completing* a report based on one of the in-class experiments.

ENGLISH COMPOSITION [Adapted from California State University Multi-Campus Team Drafts (1998).]

Course Goal

Students will learn to acknowledge and adjust to a variety of writing contexts.

Objectives

- ★ The student will *demonstrate* an awareness that audiences differ and that readers' needs/expectations must be taken into account as one composes text, through discussion, planning, and writing,
- ★ The student will *demonstrate in writing* the ability to draft and revise work with a sense of purpose and an awareness of audience

MANAGEMENT [Adapted from Diamond, Designing and Assessing Courses and Curricula (1998).]

Course Goal

The student will identify those activities that are most likely to distinguish effective, well-managed technology development programs from ineffective programs.

Objectives

- ★ The student will *outline* the six components of an effective management development program.
- ★ The student will *develop* a formal evaluation checklist to assess program success.

Religion [Adapted from Diamond, Designing and Assessing Courses and Curricula (1998).]

Course Goal

The student will demonstrate an understanding of the theological foundation of the course.

Objective

- ★ When given a definition of the term "religion," the student will *identify* and *explain* how each of the following characteristics is emphasized: feeling, ritual activity, belief, monotheism, the solitary individual, social valuation, illusion, ultimate reality, and / or value.

History [Adapted from Walvoord & Anderson, Effective Grading (1998).]

Course Goal

The student will learn to work as a “knowledgeable practitioner” in the discipline.

Objectives

The student will be able to:

- ★ *describe* relevant historical events and people;
- ★ *argue* as an historian does;
- ★ *defend* a position on a debatable historical issue;
- ★ *use* historical data as evidence for a particular position or point of view; and
- ★ *raise* and *answer* counter-arguments.

MATHEMATICS [Adapted from Walvoord & Anderson, Effective Grading (1998).]

Course Goal

The student will be able to apply course concepts to mathematical problem-solving models.

Objectives

- ★ The student will be able to *solve* algebraic and quadratic equations
- ★ The student will *demonstrate* the ability to explain each step in the problem solving process.

ECONOMICS [Adapted from Walvoord & Anderson, Effective Grading (1998).]

Course Goal

Students will use economic theory and modeling to explain government policies and their effects.

Objectives

- ★ Students will *choose* one topic relevant to current economic events and *explain* its relevance in terms of economic principle and theory
- ★ Students will *develop* and *run* a statistical model analyzing the current rate of inflation in relation to the CPI

PHYSICS [Adapted from Walvoord & Anderson, Effective Grading (1998).]

Course Goal

The student will be able to state and apply physical concepts in their own words and to discuss what they don't know.

Objectives

- ★ The student will *select* one physical law and *design* an experiment to demonstrate its application
- ★ The student will *write* a report on the experiment, including a section addressing unanswered questions

EDUCATION [Adapted from Walvoord & Anderson, Effective Grading (1998).]

Course Goal

As a result of taking this course, the student will be able to evaluate and apply educational theory and philosophy to the reality and challenge of today's system of education.

Objectives

At the conclusion of this unit, the student will be able to:

- ★ *discuss* the philosophical foundation of education;
- ★ *identify* popular theories of education and teaching;
- ★ begin to *apply* philosophy and theory of education to their own development as an educator; and
- ★ *assess* the contribution and development of the other members of the assigned task group.

Appendix 5-A:
Course Assessment Goals Worksheet

Course Assessment Goals Worksheet

Course Title _____ Department & Number _____ Quarter _____

In column 1: State each goal as a general sets of abilities that you want students to be able to exhibit or demonstrate. (For example: “*Students will be able to use economic theory and modeling to analyze government policies and their effects.*”)

In column 2: As a prelude to defining course learning objectives, for each goal list some the kinds of specific skills, values, or attitudes students should exhibit to reflect the broader goal listed in column 1. (For example: “*Use demand and supply curves to show the relative burdens of various taxes on different groups.*”)

Course Goals	Specific Abilities

Appendix 5-B:
Course Objectives Worksheet Linking Goals and
Objectives

Course Objectives Worksheet Linking Goals and Objectives

Fill in a separate sheet for each course goal.

Course Title _____ Department & Number _____ Course Goal _____

Course objectives are brief, clear, focused statements of very specific *intended learning outcomes*. Remember that the goal of course assessment is to assess the *course*, not the *students*; so for each

Worksheet: Fill in a separate table for each Learning Goal.

Title Row: Briefly state the Learning Goal for which you are writing objectives.

Row 2, Column 1: List the learning objectives associated with this goal as specific actions or behaviors (*i.e., verbs*) graduates should be able to demonstrate.

Row 2, Column 2: For each objective specify the target level of performance or expertise that will be expected.

Row 2, Column 3: Consider the availability of evidence that objective is being met.

Goal Title:		
Objectives: What should students be able to do?	Standards: How well should they be able to do it?	Assessment Criteria: How will you know whether and how well they can actually do it?
Describe Objective #1	Target standard #1 Target standard #2 Target standard #3	Existing measures? Possible new measures?
Describe Objective #2	Target standard #1, #2, #3, etc.	Existing measures? Possible new measures?
Describe Objective #3	Target standard #1, #2, #3, etc.	Existing measures? Possible new measures?

Chapter 6

Selecting Learning Outcomes, Criteria, and Standards

The Purpose of this Chapter

Building your pedagogy and curriculum design around your intended learning goals and objectives greatly simplifies the task of defining assessable learning outcomes for the course. By carefully establishing intended learning *objectives* in Chapter 5 that describe *specific actions or behaviors* a student must perform to demonstrate mastery of each ability, you have already set the stage for *selecting assessment tools, setting learning standards, and outcomes criteria* you will use to determine how well your class has met your intended learning objectives

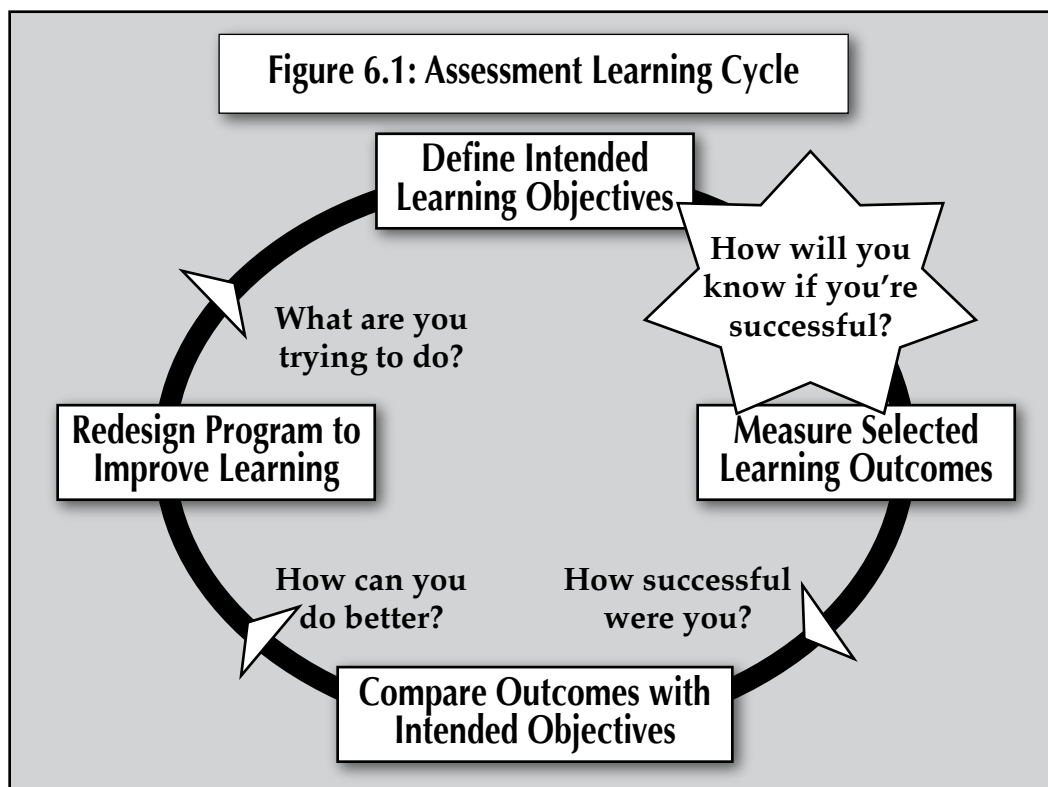
Chapter 6 at a glance

- **Defining Learning Outcomes**
- **Classroom Tools for Assessing Student Learning**
- **Assessment Tools for Large Lecture Classes**
- **Engaging Students in Assessment**
- **Appendix 6-A: Examples and Worksheets**

Defining Learning Outcomes

Having set course goals and objectives, your next task is to establish mechanisms for assessing student learning by comparing *observed learning outcomes* with your *intended objectives*. Each *objective/outcome pair* must have corresponding assessment criteria and standards. Recall from Chapter 4

that outcomes criteria describe the elements of the student's work that will be evaluated, and outcomes standards describe what successful learning "looks like" for each criterion. Criteria and standards do more than provide a metric for assigning grades; they also give you and your students a clear picture of what students need to learn in class and how they are expected to demonstrate their learning.



For each specific intended learning objective, you must devise learning outcomes that will provide observable evidence of actual student learning relative to that objective, including changes in behavior, attitudes, or values, and where:

- Each outcome is a measurable estimator of at least one course objective.
- Outcomes selected are feasible measures given the resources available.
- Outcomes link actual student learning to intended course abilities.
- Outcomes accurately reflect ability and knowledge.
- Outcomes can be direct or indirect measures.

By highlighting what is most important, outcomes criteria and standards can help you to help students best direct their efforts to meaningful learning.

For this reason, it is helpful to give students a clear understanding of the standards and criteria you will use to assess their learning. You can use the worksheet in the Appendix to this chapter to clarify for yourself and for your students your reasoning for each criterion and share examples of strong work that meets each standard.

What are you already doing?

Your first step is to identify evidence you already collect during the course about student progress and consider how well these measures cover your intended learning objectives, by asking the following questions, and then, using the worksheets in Appendix 6-A and the tools listed below in the next section of this chapter, you can devise appropriate outcomes measures, standards for evaluating them, and mechanisms for assessing them.

Outcomes inventory questions:

1. What information on student learning/performance do you currently collect (e.g., surveys, readings, tests, papers, projects)?
2. How effectively and congruently do these data sources provide evidence that students have accomplished your newly articulated goals and objectives?
3. What gaps exist between your outcomes evidence and your course objectives?
4. What assessment instruments must you develop to fill those gaps?

Classroom Tools for Assessing Student Learning

Informing instructors what learning is taking place in the class is the primary purpose of assessment. Monitoring student development in key abilities is vital in gauging whether students are really “getting” important fundamental concepts, or just moving through the course with superficial understanding. Ongoing feedback about the breadth and depth of actual student learning is essential for students to make their best efforts and for instructors to know whether to slow down, move faster, or otherwise adjust pedagogy to keep learning on track. In this section we will describe a number of assessment methods to gauge the development of student understanding and abilities, both at a *point in time* and changes over a *period of time*.

Tools for Assessing Learning at a Point in Time

- ◆ Misconception/Preconception check
- ◆ Primary trait analysis
- ◆ Minute papers
- ◆ Muddiest point
- ◆ Punctuated Lectures
- ◆ Chain Notes
- ◆ Classroom Opinion Polls
- ◆ Reading reaction
- ◆ Paper reaction

MISCONCEPTION/PRECONCEPTION CHECK

The misconception/preconception check is a way to assess what students bring with them into class, or how they are processing information at various points in the semester. Used at the start of a course, the misconception/preconception check is a short survey, questionnaire or essay-type evaluation that asks students to comment on information and key points relevant to course content. Student answers provide the instructor with an understanding of the extent of “real” understanding or knowledge that students bring with them on the first day of class. It also offers information about misconceptions students may also have, misconceptions that the instructor can subsequently address and clear up during class.

The misconception/preconception check can also be used at various points in the semester to help assess whether :

- ◆ misconceptions are clearing up or growing;
- ◆ preconceptions are being reshaped; and/or
- ◆ students are improving in their ability to assess relevant course content and filter out untruths or inaccuracies.

PRIMARY TRAIT ANALYSIS

Primary trait analysis (PTA), adapted by Walvoord and McCarthy (cited in Walvood & Anderson, 1998) combines traditional grading practices with classroom-based assessment. This technique asks the instructor to link specific goals and objectives outlined for a particular course assignment to varying levels of achievement (e.g., excellent, good, fair, poor). These levels are based

on the degree to which the student has met the identified learning outcomes for the assignment. To conduct PTA, the instructor:

- ♦ breaks down individual components, or primary traits, of an assignment that are key to successfully meeting assignment requirements;
- ♦ identifies levels of achievement for each trait; and
- ♦ constructs a grid (rubric) on which student achievement is scored.

For example, an essay for an English course might be analyzed for primary traits and levels of achievement as follows:

PRIMARY TRAIT ANALYSIS					
Trait	5=Excellent	4=Good	3=Adequate	2=Weak	1=Poor
Introduction					
Argument					
Grammar					
Tone					
Conclusion					

The instructor would check off the score for each of the five primary traits listed as important for the assignment, with a minimum total score of 5 (poor) and a maximum total score of 25 (excellent). In this way, PTA can reduce some of the subjectivity in grading and facilitate more reliable tracking of student progress on important course objectives throughout individual assignments.

This example of a PTA rubric is very simple. PTA is also particularly useful for long-term tracking of results as the scores from the PTA rubrics are easily quantifiable and can provide clear data on student progress across key traits for course assignments. (*See worksheet in Appendix 6-A for more information.*)

MINUTE PAPER

The minute paper may be one of the most widely-used and accepted methods of classroom assessment. This method offers a quick and easy way to assess

student learning at a particular point in time. Credited to Angelo & Cross (1993), the minute paper not only provides helpful feedback but requires little time or effort to administer. Several minutes before the end of class, you might stop your lecture or end the discussion to ask students to take one or two minutes to answer, in writing, several questions about the day's work. These questions might include "What is the most important thing you learned in today's class?" or "Do you still have questions about the material we covered today?" Students respond on a sheet of paper and hand them in before leaving.

You can use the minute paper to assess:

- ◆ Student recall and understanding.
- ◆ Student evaluation of what they recall.
- ◆ Student ability to self-assess their learning and understanding.

MUDDIEST POINT EXERCISE

The muddiest point exercise (Angelo & Cross, 1993) is a variation of the minute paper. Administered during or at the end of a lecture or class discussion, the muddiest point exercise asks students to think about what went on in class that day and to write about what was the "muddiest" (least clear) point in that day's class.

This exercise:

- ◆ asks the student to reflect on the class lecture or discussion;
- ◆ asks the student to decide what was understood and what was unclear; and
- ◆ asks the student to self-assess learning and to identify what did/did not work.

One way to address the potential for confusion on key points is to incorporate into your course syllabus pre-planned times to assess students for their "muddiest point." You can also use a more informal approach and assess for confusion or misunderstanding when you sense there may be a problem.

PUNCTUATED LECTURES [Adapted from Angelo & Cross, Classroom Assessment Techniques (1993).]

The punctuated lecture technique provides immediate, on-the-spot feedback on how students are learning from a lecture or a demonstration, and how their behavior may be influencing the process. It also encourages students to become self-monitoring listeners and self-reflective learners. This technique is

designed for use in classes where lectures or lecture-demonstrations are a primary method of instruction.

This technique requires students and teachers to go through five steps:

1. **Listen:** Students begin by listening to a lecture or demonstration.
2. **Stop:** After a portion of the presentation has been completed, the teacher stops the action.
3. **Reflect:** Students reflect on what they were doing during the presentation, and how their behavior may have helped or hindered their understanding of the information
4. **Write:** Students write down any insights they have gained
5. **Feedback:** Students give feedback to the teacher in the form of short, anonymous notes

Punctuated lectures can be used to monitor student listening skills throughout the semester by asking students to save their written reflections in folders. After they have done several of these self-reflection assignments, ask students what they have written, looking for patterns and changes over time.

CHAIN NOTES [Adapted from Angelo & Cross, *Classroom Assessment Techniques* (1993).]

To respond to Chain Notes, students in a lecture course pass around a large envelope on which the teacher has written one question about the class and/or teaching of the class. The students have all been given index cards beforehand. When the envelope reaches a student, he or she spends less than a minute writing a response to the question, then drops the card in the envelope and passes it on. This assessment technique results in a rich, composite record of each individual student's reactions to the class in action. In this way, Chain Notes allow teachers a view of their class through all their students' eyes.

Chain Notes are most useful in large lecture or lecture-discussion classes where many students have little direct contact with the teacher.

When you review the cards in the envelope, categorize them into relevant groups: engaged/not engaged; interested/not interested; question/praise/neutral comment, etc. Try to detect patterns in responses. Discuss these patterns in your feedback to students. Ask for suggestions to promote more effective teaching and learning.

CLASSROOM OPINION POLLS [Adapted from Angelo & Cross, *Classroom Assessment Techniques* (1993).]

You may already use de facto opinion polling in your classes when you ask students to raise their hands to indicate agreement or disagreement with a particular statement. Create a short survey (one or two questions) and ask students to complete it and hand it in. By making the Classroom Opinion Polls anonymous, they will provide more honest and accurate results for you.

Classroom Opinion Polling can help you discover student opinions about course-related issues. In this way, you can better gauge where and how to begin teaching about issues that come up in students' responses, and where potential conflicts or divisions may arise. Students also learn about their own opinions, compare those opinions to others', and test their opinions against evidence and expert opinion. A number of UMass faculty use "class talk" to gather this type of information.

Classroom Opinion Polls are particularly useful in large lecture classes where there are limited opportunities for students to express their thoughts. They are useful preparation to discuss a controversial issue, or to assess student opinion after you have presented class material.

Over a period of time or over the course of a semester you can create pre- and post-assessment polls to help you determine whether and how much students' opinions have changed in response to class discussions and assignments.

READING REACTION

We often ask students to read and synthesize a wide variety of material during a course. Because the reading for one course is only part of the entire reading load a student may carry, the reading is often done in a hurry with the main purpose not to learn but "to get through it." This poses two problems:

1. The student is not reading to understand and gain knowledge, but reading to complete an assignment.
2. The student may not have the time or inclination to think critically about the reading, to judge its validity, or to evaluate its worth.

The reading reaction paper forces students to slow down the reading process and asks them to actually think about what they have read. It may be administered as a short homework assignment to be completed after the reading has been done or as an in-class assignment to stimulate class discussion. Typically, a reading reaction paper asks students to respond (or react) to the reading (i.e.,

what did the author say, did you agree with what was written, why / why not, etc.) in one page or less (typed or handwritten). Part of the class that day can be used to discuss student reactions to the reading, or the papers can simply be passed in to provide feedback on student levels of understanding. Either way, it is a good idea to record at least a pass / fail grade for these exercises to ensure student commitment to the task.

The reading reaction paper helps students learn by:

- ♦ building skills needed for critical thinking and argument construction; and
- ♦ encouraging students to take charge of a reading assignment and to judge its worth-asking students to “think” instead of simply taking in the words as they read.

PAPER REACTION EXERCISE

In addition to asking students to analyze assigned reading, we can ask them to think critically about their own writing. The paper reaction exercise asks students to reflect back on a paper they have just written for course credit. It is usually administered during class just prior to when the students turn in the paper and is attached to the paper for the instructor’s information and feedback. To complete this exercise, students might be asked to:

- ♦ think about and write a few sentences on what they really like about their papers;
- ♦ write what they do not like about their papers and what they would change if they had the time ; and / or
- ♦ reflect on one or two things about the subject that are still unclear even after writing their papers.

This technique can be particularly effective when you have clearly stated objectives / grading criteria (using a scoring rubric like the PTA) of the paper and ask students to evaluate their own paper using these criteria. It is also a valuable tool for helping students develop skills at assessing their own work accurately. The purpose of the paper reaction task is to:

- ♦ assess student ability to reflect on what they have learned and how well they have transferred that learning into their own words;
- ♦ allow the instructor greater insight into student thought processes as they relate to reading, writing and interpretation skills; and
- ♦ open up the opportunity for discussion about the assignment in general, the papers in particular and student response to both.

Tools for assessing learning over time

SYSTEMATIC PROGRESSION OF ASSIGNMENTS

Systematic progression of assignments refers to a group of assignments that has been scheduled throughout the quarter to track student progress on specific learning objectives as they occur. These often (or may) focus on one particular learning objective the instructor is particularly interested in studying. Each assignment is connected both to the one before and to the one after to maintain a formal record of student progress. Ways to develop this record include:

- ♦ breaking down a large term project into individual components spread out over the course of the quarter, evaluated separately, and then evaluated as a final product;
- ♦ weekly quizzes and lab reports; and/or
- ♦ an essay question on each exam that is directly related to a specific course objective.

When using systematic progression of assignments to assess student learning, your most important task is to maintain clear and consistent records of results. The extent to which these results identify overall student learning or student learning on specific objectives that have been identified on the course syllabus depends on the method of tracking that you use. By using the same scoring rubric throughout the quarter, you can track individual student progress on specific key traits over time.

PRE/POST-TEST SURVEY

Pre- and post-test surveys are another way to assess student learning from the start of the course until the end. A pre-test survey can be used at the beginning of the quarter to capture the extent of student knowledge and understanding about key course concepts they will study that quarter. It can also be used to measure students attitudes and values relevant to course concepts and predictive of their response and position on course materials. Using a follow-up post test (either the same as the pretest, or somewhat different) at the end of the quarter and comparing results from the two can be an effective way to demonstrate student achievement over time.

PORTFOLIO ANALYSIS

Portfolio analysis is becoming an increasingly popular method of assessment, both at the classroom and the program level. Portfolio analysis looks at student work during a period of time and evaluates the extent of learning based on the

progression of the work from the first assignment until the last. At the course level, this might include:

- ♦ a series of assignments of increasing difficulty;
- ♦ all work that the student has produced for a particular course; and/or
- ♦ an integrative project or performance.

The advantages of the portfolio as a method of longer-term assessment include:

- ♦ A visual representation of student learning from beginning to end.
- ♦ A concrete way to track and document student progress over a period of time.
- ♦ A hard copy record of tasks and output for the student to retain for future reference and use.
- ♦ A systematic progression of tasks that can be linked to course goals and objectives and interpreted in the context of individual student outcomes.
- ♦ An opportunity for students to reflect on their own progress as they review their portfolio.

Portfolios offer not only an opportunity for the instructor to see the progression of students' performance over time, but can also help students develop skills at reflecting back on their own work.

A key piece in portfolio work is providing students with practice at self-assessment by analysis and reflection on their portfolio – how they can evaluate their own learning and document the progression of their own ideas and work through the course or program. As one student wrote in a final paper that asked her to reflect back on a series of six essays written over the semester:

One of the most valuable aspects of this course, for me, has been the opportunity to look back on the work that I have completed. Through these papers, I can see how my ideas have changed, how my writing has improved and how my understanding of course material is reflected more in the last two papers than in the first.

Noteworthy

Punctuated Lectures, Chain Notes, and Classroom Opinion Polls are particularly useful for faculty teaching large lecture classes.

Assessment Tools for Large Lecture Classes (100+ Students)

Assessing teaching and learning in a large class, where students may feel as though they are little more than numbers on an attendance roster, is as important as assessing at the small-class level. Students in large lectures often complain about being faceless, and many do not even bother to come to class because they believe it doesn't really matter. Large lectures can be equally alienating for the instructor. An in-class exam can only begin to suggest the level at which individual students understand what is being taught in the class. Creating opportunities for student interaction and applying classroom assessment techniques can improve the teaching and learning process in large classes for both student and instructor.

Making Large Classes More Interactive

- Breaking a lecture class into **INTERACTIVE, SELF-DIRECTING GROUPS** can make even large classes more participatory. Even if chairs are bolted to the floor, students can still talk in pairs. Many teachers use intermittent small-group interaction to break up the lecture and to allow time to assess student learning on a more personal level. For example, some teachers stop their lecture several times during the class to ask students to compare and rework their class notes. Another strategy is to write a questions on the overhead projector and then ask students to form pairs to discuss the question. You may ask some pairs to report to the entire class.
- Give **FORMATIVE, UNGRADED QUIZZES** to determine how students are comprehending course material. Using the kinds of questions that students might see on your exams, place questions on the overhead, and then give students a few minutes to respond. If the question entails multiple choices, break the question down into components that students can quickly answer. The preview of students' answers can help you determine student understanding of course content and show students problem areas that warrant further study.
- Build in **TASKS THAT ENSURE STUDENT PREPARATION AND COMMITMENT**. Time can be taken during lecture to ask students to complete a few questions, talk with a neighbor, or sketch out a lab procedure to prepare them for the lab or discussion to come. Alternatively, some instructors collect a "ticket" from each student before the student is allowed into class. The "ticket" might be a short statement of basic principles the student should have learned from the reading or in the lecture, thus showing the instructor that the student is prepared.

Engaging Students in Assessment

One of the great benefits of many assessment techniques is that they provide an opportunity to create clearer communication with your students. Key to the success of this process, however, is engaging your students in assessment, motivating them to take the activities seriously, and helping them see how it can become a valuable complement to their learning. Angelo and Cross (1993) write that:

“Students are unlikely to realize the value of assessment, or of self-assessment, unless faculty make them explicitly aware of it through instruction and modeling. When students are helped to see the useful ways that classroom assessment can inform teaching and learning, they are much more likely to participate fully and positively” (p. 32).

They recommend that instructors maximize the positive impact of classroom assessment by letting students know:

- ◆ what the assessment results were;
- ◆ how you interpreted them; and
- ◆ what you intend to do in response.

How Can You Enlist Student Involvement in Assessment?

MAKE IT COUNT

Students are people, too, and like the rest of us, they want to know what is in it for them. What will they gain by taking course-embedded assessment seriously? Altruistically, we may not want to attach grades or rewards to assessment exercises. Unfortunately, this often translates into a lack of importance in the eyes of many students. Therefore, for the most potentially reliable results:

- ◆ make all assessed assignments count in one way or another;
- ◆ let students know how and why it will count; and
- ◆ explain how you will use the assessment component to evaluate their work.

For instance, if you are using a scoring rubric, give them a copy of the evaluation standards, or explain the standards to them in class. You can even ask them to evaluate their own work using the rubric.

IT'S A "TWO-WAY-STREET"

Beyond grades, students are also intelligent consumers. Help them understand why assessment matters and how it can help you become a more effective teacher and help them become more efficient learners. Explain how you will use the data to adjust the course as it goes along and to fine tune it before you offer it again. Let them know that their input will help future students who take this course. This will help students:

- ◆ invest in the process-see the big picture outside of the immediate effect assessment will have on them;
- ◆ keep lines of communication open; and
- ◆ facilitate student-faculty interaction.

MAKE IT RELEVANT

Use course goals, objectives, and anticipated learning outcomes to show students how classroom assessment will benefit them, beyond grades, now and in the future:

- ◆ clearly articulate the "transferability" of the skills you are asking them to produce;
- ◆ stress what the data can tell all of us about student learning, skills, abilities and achievements in general and how it can help them, as individuals, become self-reflective learners; and
- ◆ show them how to use the data to alter and/or improve their own performance.

Appendix 6-A: Examples and Worksheets

Student Background Knowledge Probe

Course: *English 267, A Survey of English Literature I*

Semester: *Fall 2005*

Name:

Address:

Phone and e-mail:

What is your major and class year?

Do you have a minor? If yes, what is it?

What preparation have you had (courses, work experience, etc) that you believe will help you do well in this class?

What goals do you have for this course?

What do you already know? To help you (and me) understand the level of knowledge and experience with English literature that you bring to this course, please complete the following table by first listing the Shakespeare plays with which you are familiar and then indicating whether you read them, saw them performed in a theater, or saw them at the movies or on television.

Name of Play	Read	In Theater	Movies/TV
1.			
2.			
3.			
4.			
5.			
6.			
7.			
8.			

Adapted from Angelo & Cross, Classroom Assessment Techniques (1993).

Primary Trait Analysis (PTA) Worksheet

It is helpful in understanding PTA, to place it along two continua: 1. The continuum from unstated criteria ("It feels like a B") to highly explicit criteria (Primary Trait Analysis); 2. The continuum from norm-referenced scoring (grading on a curve) to criterion-referenced scoring (evaluation of student performance on predetermined standards).

PTA is both highly explicit and criterion-referenced. To construct a PTA scale, the teacher: 1. identifies the factors or traits that will count for the scoring (such as thesis, materials and methods, use of color, eye contact with client, and so on); 2. builds a scale for scoring the student's performance on that trait; and 3. evaluates the student's performance against those criteria.

Steps for Constructing a PTA Scale

If possible, work from examples of past student performances, grading check-lists, descriptions of criteria, comments on assignments or tests—anything that has helped you in the past to articulate criteria for students' performances.

1. Choose a test or assignment that tests what you want to evaluate. Make clear your objectives for the assignment.
2. Identify the criteria or "traits" that will count in the evaluation. These are nouns or noun phrases, such as thesis, eye contact with client, use of color, or control of variables.
3. For each trait construct a two- to five-point scale. These are descriptive statements tailored to the assignment criteria. For example, "A '4' thesis is limited enough to treat within the scope of the essay and is clear to the reader; it enters the dialogue of the discipline as reflected in the student's sources, and it does so at a level that shows synthesis and original thought; it neither exactly repeats any of the student's sources nor states the obvious."
4. Try out the scale with a sample of student work or review with colleagues and revise.

The following worksheet will help you identify the performance levels and an appropriate scoring rubric. List up to four of the primary traits you identified above and the scoring criteria you would use for each trait. We've provided an example below and left room for you to continue with your own.

Rating/Scoring Level

Traits The student is able to construct a logical argument	4-Excellent The student takes a position and defends the position with examples and reference to the reading.	3-Good The student takes a position and defends it with examples but does not refer to the reading.	2-Weak The student takes a position but does not defend it with examples or reference to the reading.	1-Poor The student takes no discernible position on the issue.
1.				
2.				
3.				
4.				

Minute Paper Example

Concerned that his students may not be understanding the importance of multiple points within his introductory statistics lectures, this instructor took several minutes at the end of each class to ask the following question:

"What are the five most important points from this session?"

"What one or two questions still remain in your mind?"

The students were given five minutes to write. The instructor collected the responses and read them through, making a list of "important points" and "important questions" and tallying how often each item was repeated.

Results

- *Many points that students listed as "important" the instructor felt were simply details.*
- *Students came up with as many as 20 different important points from the same lecture.*
- *Some students mentioned points that he had not even brought up in the lecture at all.*

The next day, the instructor listed the 10 or 12 most common responses on the board before class. He began class by explaining the relative importance of each point and their relationship to each other. He also told them which points were not related and used the discussion to answer several of the important questions that had been raised in the minute papers.

After a month of using the minute paper at the end of each class, with a feedback session at the start of the next, the average number of different "important points" dropped from 20 to 8. Repeated use of the minute paper helped his students learn to listen more carefully and helped him realize the importance of being explicit in his lectures.

adapted from Angelo & Cross, Classroom Assessment Techniques (1993).

Misconception/Preconception Check Example

At the start of the semester, the instructor of a pre-Columbian history course explained to the 25 students in class that she was gathering information on what each student already knew about the Americas and Native Americans before 1492 so that she could better tailor her teaching to fit their existing knowledge. She passed out sheets of blank paper and asked the students to write their answers to the following questions, without putting their names on the papers. They had five minutes to write.

The questions were:

- 1. About how many people lived in North America in 1491?*
- 2. About how long had they been on this continent by 1491?*
- 3. What significant achievements had they made in that time?*

After she had collected the papers, the instructor wrote a fourth question on the board:

- 4. Where did you get those first three answers?*

The students spent the rest of the class period trying to answer the fourth question and realized that they could not. Their impressions of pre-Columbian history were based on vague knowledge whose source they were unable to identify. At the end of class, the instructor gave the students their first library research assignment: work in pairs to double-check the accuracy of their answers to the first three questions.

From Angelo & Cross, Classroom Assessment Techniques (1993).

The Misconception/Preconception Check shows not only how an instructor can quickly gauge a student's initial knowledge or understanding, but how to catch students' interest in a particular subject. This technique can also be an end-of-the-semester exercise used to assess the accuracy of student understanding after completing the course.

Muddiest Point Exercise

In thinking about one of the courses you teach, which topics do you believe might be most likely to cause confusion or "muddiness"?

- 1.
- 2.
- 3.
- 4.

Can you think of ways to adjust your teaching methods to anticipate and address this potential confusion?

Possible Muddy Point	What Can I Do In Advance?
1.	
2.	
3.	
4.	

Use the following table to help you think about possible muddiest points and when you might want to assess student understanding of these topics.

Key Point / Knowledge	Start of Semester	Mid-Term
1.		
2.		
3.		
4.		

Systematic Progression of Assignments

Tracking student learning through a series of course assignments can provide a wealth of information on how well course objectives and outcomes are being met. For example, a faculty member teaching a junior-level accounting course decided to study the extent to which her students were able to report on the results of their in-class auditing assignments. She put together a series of assignments as follows to track expected skills and knowledge.

Sample Assignments to Track Skills and Knowledge

Assignment	Why Use?	Assess What?
One-paragraph audit report (first four weeks of the semester)	Begin to expose students to techniques on writing clear and easy to understand accounting documents.	Basic understanding of accounting practice and general technical writing skills.
One-page audit report (at week 6 and week 8)	Help students learn to expand on introductory exposure to writing audit reports.	Moderate understanding of accounting practice and ability to explain the results of this practice to layperson. Technical writing skills.
Two-page audit report with charts and tables (week 10)	Offer students the opportunity to create more formal, explanatory report in greater detail and help them learn to provide examples from accounting and use effective graphs and charts.	Solid understanding of accounting practice and increased ability to translate results in a format that will be easily accessed by the reader.
Formal oral presentation with audio-visual aids and written 5-7 page report with charts and tables.	Present a real-life scenario that asks students to prepare and present results of accounting practice, as might be required in the corporate world.	In-depth understanding of accounting practice. Strong oral and written presentation skills. Ability to translate classroom theory into a hypothetical situation.
Two essay exams, one at mid-term and one at the end of the semester.	Ask students to write short essay questions related to course concepts and lectures.	Evaluate particular broad course concepts that are interconnected through each class discussion and each assignment outlined earlier in this table.

Portfolio Analysis

In a basic writing course, an instructor used portfolio analysis to assess students' development as writers over the course of the semester. Each student collected the essays that he or she had written over the course of the semester, edited the essays again briefly, printed clean copies, and then compiled the essays into a self-designed "oeuvre" or portfolio. In addition to the essays, students included introductions to their portfolios. The instructor provided students a list of criteria that they could address in their introductions. Criteria included: self-assessment of their development as a writer, self-reflection about their strongest and weakest essays, and other insights about themselves as learners. Rather than a final exam, the instructor used the portfolio as an end-of-the-semester assessment measure.

The portfolio allowed the instructor to:

- assess each student's writing development over the course of the semester
- assess the effectiveness of specific assignments across student portfolios and adjust her curriculum accordingly
- review the order of assignments in relation to student progress
- gauge student perceptions of the assignments
- learn more about her students' perceptions about themselves as writers and the purpose of writing in their academic lives

The portfolio allowed students to:

- assess their progress as learners and writers over the course of the semester
- review the amount, quality, and kind of writing that they had accomplished. For basic writers who are often hesitant about their abilities as writers, the portfolio was a way to showcase their writing in a way that valued their work
- reflect on their struggles and successes during the semester and consider why these struggles or successes occurred
- become more articulate in discussing their writing process

University of Massachusetts Writing Program

Chapter 7

Closing the Assessment Loop

The Purpose of this Chapter

Having defined learning objectives and collected assessment data on student learning, your next task is to “close the assessment loop” by using the information to improve learning in the next offering of your course. (See Figure 7.1.) “Closing the loop” means analyzing what the data tell you, deciding what to do about it, and documenting the improvements and your rationale for making them.

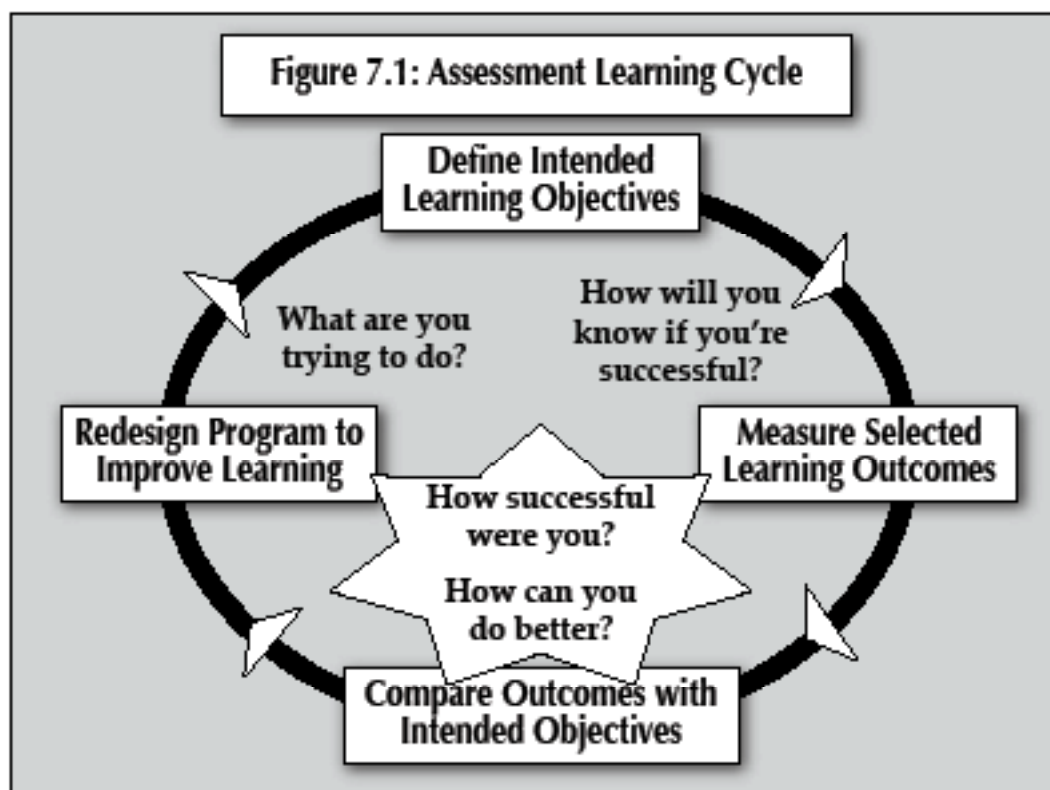
Chapter 7 at a glance

- **Organizing Your Data**
- **Analyzing Your Data**
- **Reporting Your Results**
- **Questions and Answers**

Organizing Your Data

As highlighted in Figure 7.1, you have reached the point in the assessment cycle where you are making meaning from your assessment data, and applying what you have learned to change your pedagogy and/or your assessment tools and procedures the next time you teach the course. You will also want to document your analysis, your conclusions, and the changes you make to try to improve learning next time you teach the course.

The primary purpose of course assessment is to determine how well students have accomplished the learning objectives you set for them, and



to use that information to improve your teaching and student learning. Designing, implementing, and documenting course improvement is where the “assessment rubber hits the road.”

The first step is organizing the information you have collected. Start by reviewing what you were assessing, what assessment methods you used, and what data you have collected. After you determine the types of data you have collected, you will want to analyze the data and determine what the results tell you. There are a variety of ways to analyze your data, ranging from informal “eye-balling” analysis to more formal statistical manipulation.

The key tasks are to understand what the data are telling you and to document what you do with that information. Whether you are assessing for your own edification and better learning in your class, for internal review, or for external accreditation, assessment begins with collecting and analyzing the data.

To organize your assessment information, you could use the Course Assessment Analysis worksheet in the Appendix to this chapter, or you could use something like Table 1 below which provides an example of how you might organize information from a Student Background Probe that you might have used as an initial assessment tool at the beginning of your course:

ORGANIZING YOUR DATA (The first entry offers examples of answer you may give.)

Assessing What?	Assessment Method	Type of Data Collected	What Do the Results Say?	What Will You Do?	Any Surprises?
Student knowledge of course content prior to beginning course	Student background probe	Quantitative survey data & open-ended response	Students with some pre-knowledge = 60%. Students with none = 40%.	Challenge those who know, bring those who don't up to speed	I thought more students would already know the information I asked for.

Analyzing Your Data

The next step is to analyze your results and make them more specific. For instance, the table above tells you that, based on your data from the background knowledge probe, you would like to create ways to challenge students who have more initial background knowledge than others. You now have the opportunity to adjust your instruction and course requirements in response to assessment results. How will you do this? Using an action plan, such as the one following, can help in the process.

AN ACTION PLAN (Entries 1 and 2 offer examples of answers you may give.)

Action Item	Action to Take	Steps to Implement
1	Encourage students who have demonstrated prior knowledge.	<ol style="list-style-type: none"> 1. From the data, identify content areas of greater knowledge. 2. Develop extra credit tasks for students to complete to build on their knowledge. 3. Establish a reward system to eliminate sense of extra work as "punitive".
2	Bring those with less prior knowledge up to speed.	<ol style="list-style-type: none"> 1. 2. 3.
3		<ol style="list-style-type: none"> 1. 2. 3.
4		<ol style="list-style-type: none"> 1. 2. 3.

Using such an action plan can help you clarify what you liked about student progress in the course, the assessment process itself, and the changes the data suggest might improve learning. It can also guide you in adjusting your instructional methods during the quarter, or when you teach it again, based on the results of your assessment work. Collecting and analyzing the data, then documenting the changes you make in the way you teach the course can help you track and be able to demonstrate your effectiveness at meeting your goals and objectives.

Reporting Your Results

In many cases, the sole purpose of your assessment activity may be for your own edification. If so, you need go no further with your results. However, in other situations, your assessment information may also be valuable to your department's curricular revisions, general education reform, or to granting organizations that help support your course revisions. In order for your findings to be more broadly useful, you will need to communicate your findings to other audiences. This type of "report" should cover five major components of assessment:

1. The objectives and outcomes you established for your course.
2. The assessment methods you chose or designed.
3. What you found out about student learning in your classroom.
4. How these findings are being used for improvement.
5. Action to take.

The matrix which follows may help you organize your results.

ASSESSMENT MATRIX				
Objective/ Outcome	Method	Results	Interpretation	Action to take

Questions and Answers

Q. I'm a math teacher. While I can see the value of assessing individual assignments, as well as assessing over the course of the semester, I'm not convinced that primary trait analysis and portfolio analysis can be adapted to my discipline. Aren't grades the best measure of math proficiency?

A. Mathematics faculty and faculty from other "quantified" disciplines often believe that assessment other than grades would be difficult to implement in their courses. The literature on this dilemma is clear (Keith, 1995; Walvoord & Anderson, 1998); math and science lend themselves as successfully to assessment and primary trait analyses as do the humanities and social sciences. For example, math instructors often give partial credit for partially correct answers. This situation is a particularly good match for the scoring rubric, where the student may do well ("5") in outlining the problem, but poorly on the actual calculation.

Q. After assessing student learning outcomes over the course of the semester, what if my results show that students are not learning in some areas? Who will see the data?

A. One of the most positive aspects of classroom-based assessment is the potential for self-reflection and self-evaluation, both on your part and by your students. By collecting and documenting assessment results, you will have the opportunity to see what is working for your students and what is not. Using these results can help you adjust your syllabus, instructional methods and assignments to make them more effective. The data can also show you the aspects of your course that are working really well. In addition, sharing the results with your students can help them evaluate their own learning and reflect on ways that they can improve as participatory learners.

Another positive aspect of assessment is that if you are collecting the data, they are yours to share or not to share. You can use this information for your own purpose, or pass it along to your peers to help them re-evaluate their own teaching and course materials. The specific purpose of the assessment (e.g., achieve learning outcomes, improve instruction, complete departmental evaluation requirements, etc.) and who is involved in the process determine who sees the results.

Q. I can see the value of collecting data on student learning as the quarter moves along, but I'm unclear what the data will mean as well as what to do with the results once I have them.

A. At times it may seem like collecting the data is the easy part while knowing what to do with the results is another story. However, data from classroom assessment can be invaluable to improving teaching and learning, and improving curriculum quality. The results can go to whom you choose, and can be used for a variety of purposes, from professional growth to institutional evaluation. How and why you use the data depends on your purpose in assessing. Chapter 6 discusses using the results in greater detail.

Q. As a faculty member, I hesitate to use assessment within my classroom because it seems as though there is a potential for misuse of information. Aren't I setting myself up for negative repercussions if I end up collecting negative data?

A. Collecting assessment data can only be a positive step. First, the results are yours, to release or to keep private. Second, collecting data on student learning outcomes can be used to improve your teaching and your course, which will result in additional data the second time around, continuing the opportunity for improvement and re-evaluation. Third, the more we get assessment out on the table for discussion and the more faculty we involve in the process, the more productive and effective our discussion will be.

Q. Once I have collected the data, how do I analyze it? My knowledge of statistical analysis is very limited.

A. Analysis of assessment data collected in the classroom does not have to be complicated. It can be as simple as figuring out what percent of students passed the mid-term exam or as complicated as running a linear regression model to predict final grades for next semester. It's up to you, to your areas of interest and to the level of your ability to analyze data and communicate results. Also, there are individuals and offices on campus who can help you analyze the data if you have more complicated analyses in mind. This list of resources is given at the end of this handbook.

Q. I plan on using a variety of assessment activities in one of my courses this semester. Should I prepare feedback reports to the students on each assignment as it occurs or will one final report at the end of the semester be sufficient.

A. One of the advantages of providing feedback to students on assessment results is the opportunity to use these results as a teaching tool to not only refine your own methods of instruction but to demonstrate to students the extent to which they are achieving designated learning outcomes for the course. While preparing a final report is a good way to give students an overview of the semester, providing feedback as assessment results are gathered helps students stay in touch with both learning and the learning process. If preparing feedback reports for each assignment seems overwhelming, select only a few of the most important ones to report back to students.

Q. I have a lot of assessment data collected from a course I'm teaching this semester but have no idea what to do with it. Are there certain report guidelines I should follow?

A. Once you have collected the data, you should analyze it in the context of the goals and objectives you have set for the class and the learning outcomes you identified for each assignment. If you need more help in analyzing the data, check out the on-campus resources listed in the back of this handbook.

Appendix 7-A:
Course Assessment Analysis Worksheet

Course Assessment Analysis Worksheet

Course Title _____ Department & Number _____

This worksheet is a simple modification of the course objectives worksheet in Chapter 5. You can make one worksheet for the entire course, or a separate worksheet for each goal, theme, or other useful learning unit.

1. In the title row, briefly state the learning goal for which you are writing objectives.
2. In row 2, column 1 list the learning objectives associated with this goal as specific actions or behaviors (i.e., verbs) graduates should be able to demonstrate.
3. In column 2, for each objective specify the target level of performance or expertise that will be expected.
4. In column 3, consider the availability of evidence that objective is being met.

Course:				
Objectives What should students have learned?	Standards How well <i>should</i> they have learned it?	Outcomes Evidence How well <i>did</i> they learn it?	Analysis Compare standards and outcomes	Conclusions How will you change the course to improve learning?
Describe objective #1	Target Standard #1: Target Standard #2: Target Standard #3:			
Describe objective #2	Target Standard #1, #2, etc.			
Cont.	Cont.			

Chapter 8

Improving Teaching: Building a Course Portfolio

The Purpose of this Chapter

The course portfolio is perhaps the most valuable single project any college teacher interested in improving teaching and learning can undertake. It provides an unparalleled opportunity for an instructor to explore and reflect upon the relationships between what we think we are doing as teachers and what students actually learn.

This chapter draws almost entirely from *The Course Portfolio, How Faculty Can Examine Their Teaching to Advance Practice and Improve Student Learning* (Pat Hutchings, ed., published in 1998 by AAHE). It contains numerous detailed case studies that illustrate the wide range of possibilities for structuring the portfolio. Copies of this book are available for loan from the Center for Instructional Innovation. In addition, the CII website (<http://pandora.cii.wvu.edu/cii/>) regularly features samples of online course portfolios in its Innovative Teaching Showcase.

Chapter 8 at a glance

- **Teaching as Scholarship**
- **Vision**
- **Design**
- **Enactment**
- **Results: Evidence, Analysis, and Reflection**
- **General Tips**

Teaching as Scholarship

“For an activity to be designated as scholarship, it should be public, susceptible to critical review and evaluation, and accessible for exchange and use by other member’s of one’s scholarly community...Teaching, like

other forms of scholarship, is an extended process that evolves and unfolds over time. It embodies at least four elements: vision, design, enactment, results." (Shulman, in Hutchings, 1998)

The course portfolio is a mechanism for studying, documenting, and sharing the years of effort and experience of a community of teachers in ways that improve overall teaching and learning. It is a scholarly inquiry into the anatomy, processes, and products of an individual course, is itself the culmination of years of experience in teaching a particular course, and it inevitably improves the effectiveness of both the course and the instructor who teaches it. The course portfolio can serve a number of functions for the individual faculty member, colleagues, and community. It can:

- **remind** us of successes, questions, and concerns encountered in the development a course;
- **document** what has been learned about teaching a particular course;
- **describe and analyze** the evolving pedagogical reasoning behind a particular course organization;
- **document** student learning and its relationship instruction;
- **enhance** the effectiveness of a course;
- **make public** and share pedagogical insights; and
- **enable** professional recognition of the teaching roles of college faculty.

Vision

Designing a course begins with a vision of what kind of learning is possible, then evolves in many directions toward actual enactment. There are many overlapping ways of conceptualizing a course:

- **Course Anatomy:** Successful courses have an organic wholeness; the parts fit together into a seamless learning experience for students, with all the parts illuminating and meshing with each other into a cohesive whole.
- **Course as unfolding narrative:** Part of course wholeness is its evolution over time, and the story it tells both through a quarter for an individual class, and over years as a creative expression of the instructor's ongoing development.
- **Ecology of a course:** As mentioned in Chapter 5, each course occupies a unique place in the program curriculum and in each student's development, and also reflects the instructor's skills and interests at a unique moment; each offering of each course is a unique creation.

- **Course as investigation:** Every course unfolds as a set of experiments and surprises that provide opportunities for learning and improvisation.

Design

The Design component of a course portfolio is all the planning and preparation that has to happen before a course begins. Design is about translating the overall course vision into a script, with carefully drawn parts for instructor and students. What are the course learning objectives, and what set of experiences will lead students to achieve those objectives? How can the course best be structured to evoke student engagement and deep learning? What are the assignments? How will learning outcomes be assessed?

Quite naturally, the course syllabus is a primary element of the Design component of a course portfolio, along with a detailed narrative reflection on how and why the syllabus looks the way it does. What are you trying to accomplish? What is your pedagogical philosophy about how best to make that happen? What is the rationale for doing the course this particular way?

Design artifacts might include:

- ◆ Syllabus
- ◆ Schedule/Calendar
- ◆ Course description
- ◆ Goals
- ◆ Objectives
- ◆ Governing question (overall question that the course addresses)
- ◆ Course topics or concepts
- ◆ Learning outcomes

Some questions to consider in writing a Design Narrative. (In answering these questions, be sure to explain why you say what you do.)

- ◆ What overall question does the course address?
- ◆ What are your overall goals and objectives for this course?
- ◆ What are your criteria for “success” in meeting your objectives?
- ◆ How does this course fit in with other courses in its surrounding curriculum?

- ◆ How did this course come to be? What is your attitude toward this course?
- ◆ What is the attitude of other faculty in your department toward this course?
- ◆ What expectations do you have for this course in terms of student learning? What main challenges does this course present you?
- ◆ What main benefits does this course provide you?
- ◆ Why did you select this particular course to use as the basis of your portfolio?
- ◆ What do you want students to know and be able to do at the end of the course?
- ◆ How will you know how well they have met each criterion?

Enactment

Enactment is about what actually happened in the course, in and out of the classroom. If design is writing a script, enactment is about performance. What did you actually do? What did students actually do?

To some degree the enactment portion of a course portfolio is a course diary, a narrative on what unfolded in the class day to day together with your reflections on those events. It can also include numerous artifacts, including samples of student work that illustrate or illuminate important elements of the course experience.

Enactment artifacts might include:

- ◆ Assignments
- ◆ Readings
- ◆ Exercises
- ◆ Overhead copies
- ◆ Lecture notes
- ◆ Quizzes/Tests
- ◆ In-class/out-of-class activities
- ◆ Labs/Demonstrations
- ◆ Study Questions/Guides

- ◆ Research/Inquiry questions
- ◆ Videotapes/peer observations of class sessions
- ◆ Audiotapes of out-of-class interactions such as conferences
- ◆ Hard copies of individual and group listserv discussions

Some questions to consider in writing an Enactment Narrative. (Remember, the most useful comments here are those that explain why you do what you do.)

- ◆ What rhythm does this course have from beginning to end? (Starts quickly/starts slowly/gets intense at midterm/or?)
- ◆ If you were going to describe your role in this course, what overall metaphor would you use? (For example, are you like a conductor who orchestrates the learning? Or like a midwife who oversees the labor of the learners? Or?)
- ◆ If you were going to describe the students' role in this course, what overall metaphor would you use? (Musicians working to harmonize their learning? Expectant parents working to birth new ideas? Or?)
- ◆ How would you describe the assignment sequence in this course and your rationale for this line-up?
- ◆ What is the most important assignment/reading/activity in this course?
- ◆ What is your favorite assignment/reading/activity in this course?
- ◆ What is your least favorite assignment/reading/activity in this course?
- ◆ If you were going to highlight one piece of this course that is most representative of its process, what would it be?

Results

The course portfolio is in itself a reflective process of evaluating your teaching by comparing what students actually have learned and are able to do against the intended learning objectives outlined in your course vision. The results section consists of: a) *evidence* that you gather during the course to document how well students have learned what you intended for them to learn, b) *analysis* of results, comparing what you intended with what actually happened, and c) *reflection* on your findings. Results can include a wide range of artifacts which demonstrate student competencies, understandings, and attitudes.

Choice of which results to present and how to present them also raises an array of editorial questions, which will have different answers depending on instructor, course, instructor experience with the course, and instructor's current interests, such as:

- how much student work should be included?
- should only the best work of best students be documented, or a range of work and/or students?
- should focus be on a few individual students through the course, or on average class performance on only key outcomes?

When writing your Results narrative, focus your reflection on why the results occur as they do. What have you learned about your teaching?

Results artifacts might include:

- ◆ Learning outcomes
- ◆ Student papers
- ◆ Quizzes
- ◆ Tests
- ◆ Oral reports/presentations/demonstrations
- ◆ Lab reports
- ◆ Conferences
- ◆ Web board/electronic discussion comments
- ◆ Pre- and post-tests
- ◆ Surveys
- ◆ Evaluation rubrics
- ◆ Grades, particularly if questions or products are tied to specific learning outcomes
- ◆ Reflections on what you have learned

Based on the evidence of student performance that you have for this course:

- ◆ What main learning outcome do most or all students seem to achieve?
- ◆ What main learning outcome do some or many students fail to achieve?

- ◆ How do you account for these results?
- ◆ What is the most surprising result and what does it tell you?
- ◆ What result are you most pleased about? Why?
- ◆ What result are you most disturbed about? Why?
- ◆ What feature(s) of the course do you definitely plan to keep? Why?
- ◆ What feature(s) of the course might you revise/add? Why?

General Tips

1. **BE SELECTIVE.** The value of a portfolio results from highlighting essential features of a course. If it includes every scrap of instructional material or student response, the overall effect can be numbing, instead of informing.
2. **CONSIDER USING AN ELECTRONIC FORMAT.** A hypertext format can resolve the design challenge because it allows you to present readers with summaries or condensed discussions along with electronic access to more detailed examples and additional evidence. It also facilitates going public by making the portfolio more portable.
3. **USE NAVIGATION GUIDES.** No matter how selective you are, readers undoubtedly will need some help sorting through the portfolio, especially because it will likely be a new genre for them. Here are some options:
 - ◆ **Table of Contents:** You might want to make it briefly annotated, so readers can spot items of particular interest to them.
 - ◆ **Executive Summary or Overview:** Beginning with an overall view of the course can help readers get a sense of the big picture or larger theme of the course before jumping into its details.
 - ◆ **Section Summary or Overview:** You might use the three main portfolio categories as your sections: Design, Enactment, and Results. In that case, the narrative for each component could serve as the section introduction. Or you might create even more sections and provide a brief preface to each one.
 - ◆ **Tabs:** You could use colored tabs to divide the sections or use clear tabs in combination with color-coded pages to distinguish between different kinds of documents, e.g. blue for narrative/reflective commentary.

- ♦ **Index:** A comprehensive index at the back of the portfolio could include key terms or concepts that readers might use to navigate the smaller parts of each section.
 - ♦ **Navigation Bar:** If you are using an electronic format, you could include a bar at the bottom of each page with each portfolio component available through links.
4. **CHECK OUT A COPY OF THE COURSE PORTFOLIO MANUAL FROM AAHE.** Copies are available at the Center for Instructional Innovation and include detailed guidelines for compiling a portfolio, along with case studies drawn from the humanities, social sciences, and math/sciences.
 5. **CONSULT WITH COLLEAGUES.** Like all pieces of writing, portfolios can benefit from multiple readers, so seek out responses from colleagues inside and outside your department.
 6. **PARTICIPATE IN THE TEACHING-LEARNING ACADEMY.** (See below.)

Teaching-Learning Academy

The Teaching-Learning Academy (TLA) is an ongoing central forum for the scholarship of teaching and learning at Western Washington University and brings together a broad spectrum of perspectives from across campus. Engaged in studying the intersections between teaching and learning, TLA members include faculty, students, administrators, and staff from across the University, as well as several alumni. In addition to biweekly study group sessions, the TLA also sponsors all-campus forums with featured speakers as well as professional development workshops and seminars.

Grounded in the scholarship of teaching and learning, the TLA's central mission is to create a community of scholars who work together to understand better the existing learning culture, to share that understanding with others, and to enhance the learning environment for everyone. TLA discussion themes to date include General Education reform (2002-03), the features of an optimal learning environment (2003-2004), civic engagement and ethical responsibility (2004-2005), and defining what it means to be 'educated' (2005-2006).

Chapter 9

The Learning-Centered Course Syllabus

The Purpose of this Chapter

The syllabus is the first line of communication between you and your students, and it sets the tone for your ongoing relationship. When the traditional course syllabus is redesigned to incorporate the best teaching principles, it can make your job easier by clarifying student responsibilities and laying the foundation for the more effective learning environment you want to create for your students.

Chapter 9 at a glance

- **Syllabus Planning and Design**
- **Orienting Your Syllabus to Student Learning**
- **The Learning-Centered Syllabus**

Syllabus Planning and Design

Over the years the course syllabus has evolved into something of a “cover all the bases” document, with quasi-legal implications which obligate both instructor and institution. These elements both announce and pronounce: here is what will be taught, here is what you will read, here is the exam schedule and grading policy, and so forth. An artifact from a century of teacher-centered pedagogy, it is really more of an edict than a contract.

Still, even with a shift to learning-centered practices, much of the material in a typical syllabus serves as the primary guide to your students about your course and about working with you, both in the first few sessions and throughout the quarter. Even when the syllabus is web-based, many instructors prefer to produce a hard-copy syllabus which their students are expected to bring to class, and which serves as a course manual throughout the course.

In this section we review briefly the common planning and design elements of a course syllabus, which serve as a course road map, glossary, timetable, and handbook. In the following section we will explore how the syllabus can be made more learner-centered and become more of a mutual contract than an unilateral edict.

Table 9-1 lists most of the common planning and course design elements found in a typical syllabus about the course, instructor, and course protocols. Most instructors also provide in their syllabus elaborate descriptions of their grading policy, usually tied to student performance rather than to student learning. As we discussed in Chapter 3, many students who get good grades are not deep learners, and many good learners don't get good grades. We will discuss grading policy in the next section, along with other ways to orient the course syllabus toward student learning. Table 9-1 (next page) lists the kinds of information that are common to a typical course syllabus.

Western's Office of Instructional Innovation is developing an online syllabus tool called **CALYPSO** to help instructors build an effective course syllabus. Many of these planning and design elements are already built into the syllabus tool. For more information visit the CII website at <http://pandora.cii.wvu.edu/cii/> and follow the links under "Teaching and Learning Resources". The tool is expected to be available for testing by Fall 2007.

Noteworthy: Syllabus Tool

TABLE 9-1: PLANNING AND DESIGN ELEMENTS OF THE COURSE SYLLABUS

Course Info	Title, course number, quarter, where and when class meets.
Instructor info	Name, office hours, phone, email, contact policy.
Expected entering competencies & strategies for refreshing them	Prerequisite knowledge and skills. Prerequisite experiences with issues related to the course. Specific proficiencies such as oral and written communication. Comprehension of discipline-specific language, theory, or methods. Competency in certain procedures.
Course rationale	Course place in the curriculum, general expectations of students and yourself.
Website	Description, URL, features, logon info, participation expectations.
Contact info	When, where, and how to communicate with you, including boundaries.
Student backgrounds	Student information/background form/survey.
Materials	Texts, Handouts, readings, supplies, tools, and other materials needed for the course (e.g., dissecting kits, calculators).
Course Calendar	Schedule of classes with meeting dates including special meetings, topics, readings, deadlines for assignments, school holidays, source materials, , and scheduled test dates.
Assignment guidelines	Guidelines for writing reports, research papers, reviews, etc., including the preferred format for each assignment, research and writing tips, collaboration permitted on homework and other assignments, and the criteria which will be used to grade them.
Sample tests	Examples of test questions.
Sample papers	Samples of written assignments.
Feedback	Feedback policy.
Facilities	Equipment, procedures, safety protocols.
Supplemental readings	All required texts and readings not easily available elsewhere, workbooks.
Academic Policies and Procedures	Detailed explanation of course procedures for papers, homework assignments, other outside activities, lab work, field trips, etc.
Behavioral Policies and Procedures	Policies about attendance, late papers, class participation, instructional technology, late/misssed work or exams, makeup exams, reporting illness, extra credit, cheating/plagiarism, behavioral guidelines, accommodation, library, lab procedures, safety protocols, online participation, deadlines, etc.

Orienting Your Syllabus to Student Learning

The effectiveness of course organization is measured by student learning. Therefore instructors who are committed to deepening student learning ask themselves a number of questions as they organize their courses (adapted from Bain, 2004):

1. Is the material worth learning?
2. Are students learning what the course is supposedly teaching?
3. Am I helping or hindering student learning?
4. Do I take specific steps to avoid harming my students by:
 - ◆ fostering short-term learning by intimidation;
 - ◆ discouraging interest in my field;
 - ◆ fostering only short-term learning;
 - ◆ neglecting needs of some kinds of students; or
 - ◆ failing to evaluate learning accurately?

In earlier chapters you have already learned how to:

- develop specific objectives for student learning,
- define observable learning outcomes to correspond to the most important objectives, and
- establish procedures for assessing how well each objective is being met.

You can now look critically at your existing course syllabus, to see how well it articulates intended learning objectives and ties them to course content, specific assignments, and class processes. Once your learning objectives are clearly stated and directly linked to specific, assessable assignments, you will have considerably less difficulty with course assessment.

As we explored in Chapter 3, the most effective teaching is as much about how teachers relate through the learning environments they create as about any specific behaviors. In this chapter we will explore some ways to adapt the conventional content-centered course syllabus to a learning-centered syllabus.

Your first tasks in making this transition are:

- to design the experiences that students must have in your course to develop intended target abilities to the skill levels you are aiming for, and then
- to develop the pedagogical tasks and tools you will use and the sequence of assignments students must complete to provide those experiences.

A good place to begin is to expand the Course Objectives Worksheet that you developed in Chapter 5 so that it links your *intended learning objectives* to the *specific assignments and learning experiences* you intend for students to have in your class. In the modified course objectives worksheet below, two columns have been added where you can articulate for each learning objective *how you will structure assignments* to provide students with the learning experiences they will need to *meet the standards you have set* for their (and by inference, your) success in the course.

Using the worksheet will help you to eliminate or modify assignments that have no direct linkage to course objectives, to clarify how well your assignments support your course plan, and to specify what outcomes you will need to assess to know what students are actually learning.

A blank worksheet is included in the Appendix to this chapter.

TABLE 9.2: MODIFIED COURSE OBJECTIVES WORKSHEET

Goal:				
Objectives	Experiences	Assignment	Standards	Outcomes & Criteria
What should student be able to do?	What experiences will lead them to develop these abilities?	Through what specific activities will students gain these experiences?	How well and at what level should they be able to demonstrate the ability?	How will you know they can actually do it to that level?
Describe ability #1			Standard #1 Standard #2 Standard #3	Existing measures? Possible new measures?
Describe ability #2			Standard #1 Standard #2 Standard #3	

Experiences

Your first task is to design the experiences students will need to have to develop your target abilities. How did *you* learn these abilities? Given what you now know about learning, what might be better ways for students to learn them? With regard to Bloom's Taxonomy of cognitive abilities (see Chapter 1) of Remembering, Understanding, Applying, Analyzing, Synthesizing, Evaluating, and Creating, what kinds of assignments will evoke the level of inquiry and learning you intend? What levels of cognitive and affective abilities are you aiming for them to achieve? What activities, assignments, interactions, and feedback will best teach them these abilities? Simple reading? Discussion? Writing? Research projects? Working in groups?

Assignments

Once you are clear on the experiences you want your students to have, it is a short step to design specific assignments that will lead to these experiences. Then, working back and forth between what you want students to be able to do and what is feasible for them to learn to do in your course, you can assure that your assignments are consistent with your learning objectives, and that your assessment strategies will give you the information you need to evaluate how well students have learned what you intended.

Elements to include in the Learning Syllabus

Besides its function as a reference manual for the course, the course syllabus also lays the foundation for your relationship with your students as partners in learning, helping you create the critical learning environment discussed in Chapter 3.

Letter to students.

A good place to begin is with a letter to students, introducing yourself, welcoming them to your class, and sharing your teaching philosophy. The letter is best written as an informal first person narrative and lays out where the course fits in the curriculum and why it is important to student development in the field. You might also want to address issues like these:

I bring to teaching a belief that...

In the classroom, I see my role in this course as...

I believe the student's role in this course is...

I appreciate when students...

I seek to foster in students...

I chose this field because...

I think this course is important because...

What students may expect *you* will do in the course

The syllabus begins a course-long conversation in which you continually model how professionals or scholars in your discipline reason, and explain what constitutes evidence that the student has achieved various levels of that kind of thinking. The syllabus sets and maintains high standards at the same time it encourages students to believe they can achieve them.

It should also describe your feedback policy, which should be designed to keep students informed about their progress, and to avoid penalizing them for intermediate errors. That is, a basic strategy for improving learning is regularly letting students know how well they are “getting it,” providing detailed strategies for improving their understanding, and making successive exams comprehensive, so they can benefit from feedback about earlier errors.

What you expect *students* will do in the course

The learning syllabus describes the activities through which students will learn; the readings, the class activities, the assignments. Define the obligations associated with choosing to be in the class in ways that evoke a commitment to be attentive, thoughtful, and responsive. The more clearly students understand the kinds of commitment they are expected to make to succeed in the class, the more likely they are to do it. You are after the kind of learning that demonstrates functional understanding, and that may differ in many ways from the kind of learning which earns the best grades.

What students will gain from the course

Using the information from Table 9-2, talk about what students will learn in the course and how they will learn it. What are your learning objectives, and why are they important? How are they going to learn? What experiences do you plan for them to have? What will they have to do to meet your expectations, and what are their specific responsibilities? What are the short term and long term benefits of engaging fully in the course, and what does full engagement mean? In addition, you can list or discuss how the course will change a students’ knowledge, abilities, attitudes, and perspectives, by elaborating on:

- ◆ How the course fits with the larger curriculum.
- ◆ Rationale for your instructional approaches and their implications for students.
- ◆ Learning experiences they will have.

- ◆ Content overview.
- ◆ Your specific student learning objectives.
- ◆ Cognitive skill development: critical thinking, quantitative reasoning, information technology literacy, writing proficiency, problem solving.
- ◆ Affective skill development: awareness, perspectives, abilities, and attitudes about teamwork, citizenship, environment, and multiculturalism.

Objective-oriented calendar

The important issue here is to show students how readings, assignments, exams, and projects are directly tied to specific course learning objectives. In this way, students come to understand the rationale behind their assignments, and are better able to use assessment feedback for improvement in areas where it is most needed.

Evaluation/assessment

A major paradigm shift implicit in the learning-oriented syllabus is taking the opportunity to reframe grading as a demonstration of achievement of course learning objectives. Students have become habituated to grading as a reward system which can steer their efforts away from deep learning. A considerable amount of misdirected effort takes place on the part of both students and instructor with regard to grading, as if grades were the *Obscure Object of Desire*, and the game is for students to steal it from the instructor's guarded lair. Grades only work when they accurately reflect student mastery of the course learning objectives and provide incentives for deep involvement and understanding.

Grading procedures and scales.

A central element in student-centered teaching is the explicit goal that everyone in the class should achieve your course learning objectives. The traditional model is more supply-side oriented: *here is the material, here is the test, here is your grade, for better or for worse*. What we really want is for both instructor and students to make an explicit commitment to learning; Instructors should want to convey the clear belief that every student can achieve the learning goals of the course, and that you are committed to providing the individual encouragement each needs to achieve them. In exchange, students must commit to full engagement in the learning environment the class provides.

The more you can tie grades to attainment of actual learning outcomes and divorce them from performance scores on particular tests, the more students will be free to take responsibility for their own learning.

It has become common to list in the course syllabus the activities that will be graded (e.g. projects, quizzes, exams, homework, papers, lab work, class participation), how each will be graded, and the percentage of the grade each one represents. But it is often *not* made clear to students what are the Big Concepts, or what specific knowledge and abilities are most important, or how their grades are tied to particular kinds of learning, or how to best allocate their time among assignments. The goal here is to articulate specific evaluation criteria and standards, your specific expectations of students for meeting them, and the measures you will use for assessing their levels of attainment.

Many tests measure students' abilities to take a test, but say little about how much or how deeply the course has changed their beliefs and world views, or improved their ability to live satisfying lives. Good teachers create many opportunities for providing feedback about student progress, make successive examinations comprehensive, and link grades clearly to actual understanding.

Grading practices must be tied to real learning outcomes in ways that reward actual learning, and which discourage several kinds of student beliefs and behaviors around grading that can impair learning.

- ◆ *I can learn anything if I work hard enough:*
Because these students want to learn more than they want to avoid mistakes, they often learn more than their grades might show.
- ◆ *My academic success is measured by my grade compared to others:*
For these "strategic" or "bulimic" learners, each course is a short-term competition for grades; they often learn less than their grades might show because their learning is often superficial.
- ◆ *If I keep low expectations, failure will be easier to bear:*
Students who are used to losing the competition for grades have learned to avoid the kinds of challenge and commitment at which they might incur penalties for failure. They usually learn less than their potential (Bain, 2004).

Appendix 9-A:
Linking Assignments to Course Objectives

Worksheet

Linking Assignments to Course Objectives

Course Title _____ Department & Number _____

Course:				
Objectives What should student be able to do?	Experiences What experiences will lead them to develop these abilities?	Assignment Through what specific activities will students gain these experiences?	Standards How well and at what level should they be able to demonstrate the ability?	Outcomes & Criteria How will you know they can actually do it to that level?
Describe ability #1			Standard #1 Standard #2 Standard #3	Existing measures? Possible new measures?
Describe ability #2				
Describe ability #3				
Describe ability #4				

Appendix A: References

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