



PART ONE

Assessment Basics

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How Do We Know They Know?

There is no doubt that online learning and the development of online courses is proliferating. The convenience of working online has proven to be very attractive to students and instructors alike. The ability to work from the comfort of home or a dorm room, the elimination of traffic and parking problems, the elimination of child-care problems, and the ability to attend class at any time have been driving forces in its popularity. Convenience, convenience, convenience has become the mantra for both students and instructors. Convenience does not make online learning any less rigorous than its face-to-face cousin; in fact, the combination of rigor and convenience seems to strengthen its appeal.

Despite its popularity, online learning is not without its challenges. As instructors are finding their way in the online environment and paying more attention to good course design and delivery, they are discovering that traditional forms of assessment of student work—such as tests and quizzes—that served them well in the face-to-face classroom may not work quite as well online. Milam, Voorhees, and Bedard-Voorhees (2004) note, “The online paradigm holds that learning itself may be different in the online environment and, if that is true, then the methodology for measuring it should also be different or should measure those things that are, in fact, different” (p. 74). Given that delivering education online is changing the landscape of learning, bringing with it approaches and

techniques that are not necessarily used in the face-to-face classroom, doesn't it make sense that the ways in which we assess student learning and evaluate courses should change as well? Furthermore, along with the dramatic increase in online offerings and concern about effective assessment has come increased concern about academic honesty, raising questions like these:

- Is the student who has enrolled in the course the student who is participating, taking exams and quizzes, writing papers, and so on?
- How do I, as the instructor, know that students really understand and can apply the material I'm teaching if I can't see them?
- How can I ensure that students won't cheat on exams or other assessments in my online course?
- How can I deal with plagiarism online?

Although it has brought convenience, the online environment has also brought additional concerns and a call to move beyond traditional means of identifying what students know during and at the end of a course. Our basic philosophy and approach to assessment may not change, but the techniques we use to get there are likely to be different.

DEVELOPING STANDARDS OF ASSESSMENT

Dunn, Morgan, O'Reilly, and Parry (2004) note that one of the problems with developing student-centered, authentic assessment policies is that assessment is a value-laden process, no matter how assessors attempt to standardize it. This problem does not improve when we move online, as it lies in the need to develop benchmarks of student completion of what the authors term "performable learning outcomes" (p. 25) that align with the knowledge base of the particular content area as well as the profession it serves. They further note the concern that assessment needs to be "about appropriate levels of skill and knowledge and about appropriate analytical, methodological, and theoretical frames of reference and their applications. These kinds of professional understandings are not necessarily explicit features of academic professions" (p. 26). Dunn, Parry, and Morgan (2002) further note that standards vary with the profession. The so-called soft sciences, such as the humanities and social and behavioral sciences, demand interpretations of the theory that undergirds those disciplines.

In these fields, assessment criteria cannot be too precise or rigid, as building arguments that provide new insights is the benchmark of good performance. In the hard sciences, however, assessment generally consists of application of existing knowledge and skill. Although the development of new knowledge is valued, it is the skill with which the student applies what is learned that is important. The authors note, “Competent assessment depends upon the extent to which disciplinary conventions and values are highlighted through assessment criteria” (Implications for setting standards and making judgments, para. 6).

It behooves instructors and other assessors, then, to become knowledgeable about best practices in assessment and how to develop standards and benchmarks based on both content and the professional context in which that content resides. The same is true with the evaluation of online courses and programs—what are the best practices in course and program evaluation? How do those practices align with what is demanded in the fields to which the courses and programs relate?

To tackle this sometimes complicated topic, we will first review some of the assessment basics that should guide assessment practice in any environment and thus form a foundation of best practices in assessment and course or program evaluation in any environment—online, face-to-face, or hybrid. We will then turn to a discussion of learning activities in courses and how those relate to assessment, accompanied by a discussion of learner-focused teaching and assessment.

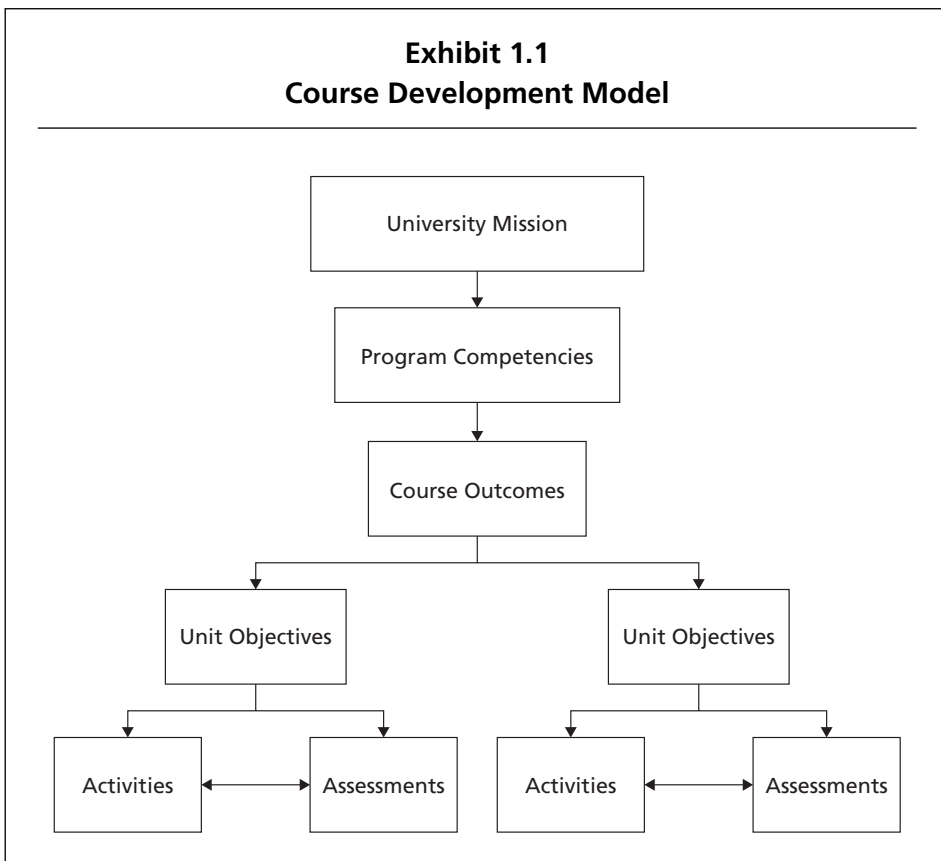
GETTING DOWN TO THE BASICS

Magennis and Farrell (2005) offer this definition of teaching: “Teaching is taken to mean a set of activities that makes learning possible” (p. 45). Fink (n.d.) further notes that teaching is not about providing instruction, but about producing learning. Learning, according to Fink, is defined in terms of change—for learning to occur, the learner needs to experience some form of change. Although this sounds very simple to understand on the surface, teaching activities and their relationship to learning and assessment are actually quite complex. Before an instructor can embark on the development of good online activities and assessments, he or she must have a solid understanding of how assessment fits into the scheme of course development as well as the components it comprises. Instructors need to understand learning outcomes, their importance in the learning process, their development, and how to achieve them. The components that make up course design are often referred to as *competencies*, *outcomes*,

and *objectives*. Although these terms are likely familiar to those reading this book, instructors often do not accurately differentiate among them. There are differences among these terms, however, and the assessment of each differs. The differences are as follows:

- Objectives: What students will *learn*, generally at the end of a unit of study
- Outcomes: What students will be able to *know or do*, generally at the end of a course
- Competencies: How students *demonstrate knowledge or skill acquisition*, generally at the end of a program of study

The three form a set of building blocks from the program level to the unit level of a course. Competencies form the foundation, with outcomes and objectives flowing from them. Exhibit 1.1 illustrates this configuration.



We will now look at how these work in the design of a course for delivery in any medium.

Competencies

Jones, Voorhees, and Paulson (2002) define competencies as “the combination of skills, abilities, and knowledge needed to perform a specific task” (p. 7). Competencies support the dynamic link between knowing and expressing. They are developmental, which partially explains why competencies can be defined at a programmatic level—by the time students complete a program of study, what knowledge, skills, or abilities do we hope they will possess? When they leave our institution, regardless of their majors, what do we want to see them be or do? Competencies assume that students will gain greater knowledge of who they are as learners as they complete a program of study or take numerous courses within one institution, regardless of means of delivery. It is through a focus on competencies that Fink’s (n.d.) notion of significant change in the learner’s life comes into play. Establishing competencies assumes that learners will enter the program at one point, experience learning opportunities that allow them to change and grow as learners and professionals, and exit the program in a very different place from where they began. There is an underlying assumption that the change will be lasting and significant to the learner.

The establishment of competencies provides the first step in a cycle of good course design. Dunn, Morgan, O’Reilly, and Parry (2004) discuss the importance of ensuring alignment when it comes to good assessment practice, meaning that any outcomes or learning objectives developed at the course level need to reflect the competencies that have been determined at the program level. They describe an even broader configuration, such as the one we presented in Exhibit 1.1, that begins with the university mission and links that to the desired attributes of graduates from the institution. This informs the development of competencies, which then inform the development of course outcomes that should directly relate to the determined competencies. Course outcomes, according to Dunn et al., should reflect required disciplinary skills and knowledge, along with a reflection of the values and traditions of that discipline. Although it appears complicated at first, as an instructor develops a course, he or she should be able to map the learning objectives for one unit of study; for example, to the larger program competencies that the institution is attempting to ensure that students achieve.

Another influence on the development of competencies is that many disciplines—such as computer science, management, and education—have established competencies for practice either through professional organizations that oversee that discipline or at the state or even federal level. The example in Exhibit 1.2 is an excerpt from a set of teacher competencies used in undergraduate teacher training programs delivered in the state of New Mexico. Academic programs designed to prepare teachers to teach in that state would need to somehow incorporate these competencies into program design.

Thus, the development of competencies also provides groundwork for program evaluation, a topic we will discuss in Chapter Three. With the concept of alignment as a foundation, we can now look at what it takes to design a course that incorporates these principles and wherein assessment is also in alignment.

Outcomes

Once competencies are established, the next level of focus should be the development of course outcomes. Course outcomes are important in that they help students learn more effectively and make it clear what students can expect to gain from taking the course. Additionally, they help instructors to design materials

Exhibit 1.2 Sample Professional Competencies

New Mexico Teacher Competencies for Licensure Levels I, II, and III
Assessment Criteria *Benchmarks*

New Mexico is one of the most diverse states in the nation, and this diversity is reflected in the strengths and needs of New Mexico's students. The ability of a highly qualified teacher to address the learning needs of all New Mexico's students—including those students who learn differently as a result of disability, culture, language, or socioeconomic status—forms the framework for the New Mexico Teacher Competencies for Licensure Levels I, II, and III Assessment Criteria Benchmarks.

I. The Teacher Accurately Demonstrates Knowledge of the Content Area and Approved Curriculum.

Provisional Teacher: Level I	Professional Teacher: Level II	Master Teacher: Level III
A. Utilizes and enhances approved curriculum.	A. Enhances and extends approved curriculum.	A. Contributes to the refinement and development of the approved curriculum.
B. Gives clear explanations relating to lesson content and procedures.	B. Gives clear explanations relating to lesson content and procedures.	B. Provides clear explanations relating to lesson content and procedures in multiple ways and is aware of knowledge and preconceptions that students can bring to the subject.
C. Communicates accurately in the content area.	C. Communicates accurately in the content area.	C. Communicates accurately in the content area and can create multiple paths to the subject matter.
D. Shows interrelatedness of one content area to another.	D. Integrates other subjects into the content curriculum.	D. Can articulate to students the interrelatedness of the disciplines.

IV. The Teacher Comprehends the Principles of Student Growth, Development, and Learning, and Applies Them Appropriately.

Provisional Teacher: Level I	Professional Teacher: Level II	Master Teacher: Level III
A. Instructs students in the use of cognitive thinking skills, such as critical thinking, problem solving, divergent thinking, inquiry, and decision making.	A. Consistently integrates the use of cognitive thinking skills, such as critical thinking, problem solving, divergent thinking, inquiry, and decision making, into instruction.	A. Consistently integrates the use of cognitive thinking skills, such as critical thinking, problem solving, divergent thinking, inquiry, and decision making, into instruction.

(Continued)

Exhibit 1.2 (Continued)

Provisional Teacher: Level I	Professional Teacher: Level II	Master Teacher: Level III
B. Uses teaching techniques that address student learning levels, rates, and styles.	B. Adapts teaching techniques to accommodate a range of student learning levels, rates, styles, and special needs.	B. Selects the most effective teaching techniques to address a variety of student learning levels, rates, styles, and needs, as well as diverse interests and backgrounds.
C. Uses materials and media that address student learning levels, rates, and styles.	C. Adapts materials and media to address a range of student learning levels, rates, styles, and special needs.	C. Selects the most effective materials and media to address a variety of student learning levels, rates, styles, and needs.
D. Uses resources, such as community service agencies, school personnel, and parents, to meet student learning levels, rates, and styles.	D. Selects from a variety of community service agencies, specialized school personnel, and parents to address different learning levels, rates, styles, and needs.	D. Integrates community resources, service agencies, other school personnel, parents, and community members into the curriculum.

Source: New Mexico Teacher Competencies, 9/10/2003. Retrieved on June 10, 2007 from [http://www.teachnm.org/nm_teacher_competencies.html].

more effectively and to more precisely describe what an activity is designed to do. Finally, they assist in determining assessments for measuring student performance in the course. Outcomes are generally written to cover four areas of learning:

- *Knowledge*—Content, topics, and the like
- *Cognitive skills*—What students are expected to *do* with the content (based on Bloom's Taxonomy, which we discuss a bit later in this chapter)
- *Subject-specific skills*—Professional skills, motor skills, and so on

- *Key skills*—Specifically tied to the competencies established for the program of study

Well-written outcomes contain three parts:

- *Behavior*—Outcome described in performance terms
- *Criterion*—How well or how often a learner must perform to be judged adequate
- *Conditions*—The conditions under which the student is expected to perform

When we look at outcomes in this way, their relationship to assessment becomes clearer. Any time a course developer writes an outcome, he or she should ask, “Does this outcome *clearly communicate the desired behavior to be achieved?*” The behavior, then, becomes the focus of assessment. The following example breaks down what we have just discussed in terms of developing a possible outcome for a math class:

- *Condition: Given a set of data, the student will be able to compute the standard deviation.*
- *Behavior:* The student will be able to compute the standard deviation.
- *Criterion (implied):* The number computed will be correct.

In this example, the behavior to be achieved is clear, and the assessment takes into account not only the correct answer but also the process by which the answer was calculated. The student then understands that the process in this case is as important as the product, as that is what is communicated through the course outcomes.

Another important task in writing outcomes is the selection of language that is clear and indicates the desired behavior from students. Verbs that indicate action should be used. Vague verbs, such as *understand*, *learn*, or *know about* should be avoided in favor of such verbs as *describe*, *discuss*, *restate*, *analyze*, *synthesize*, and the like. In summary, to be effective, good learning outcomes are

- Consistent with the goals of the curriculum (competencies to be achieved)
- Clearly stated
- Measurable
- Realistic and doable

- Appropriate to the level of the learner
- Focused on the important results desired at the end of the course rather than minutia

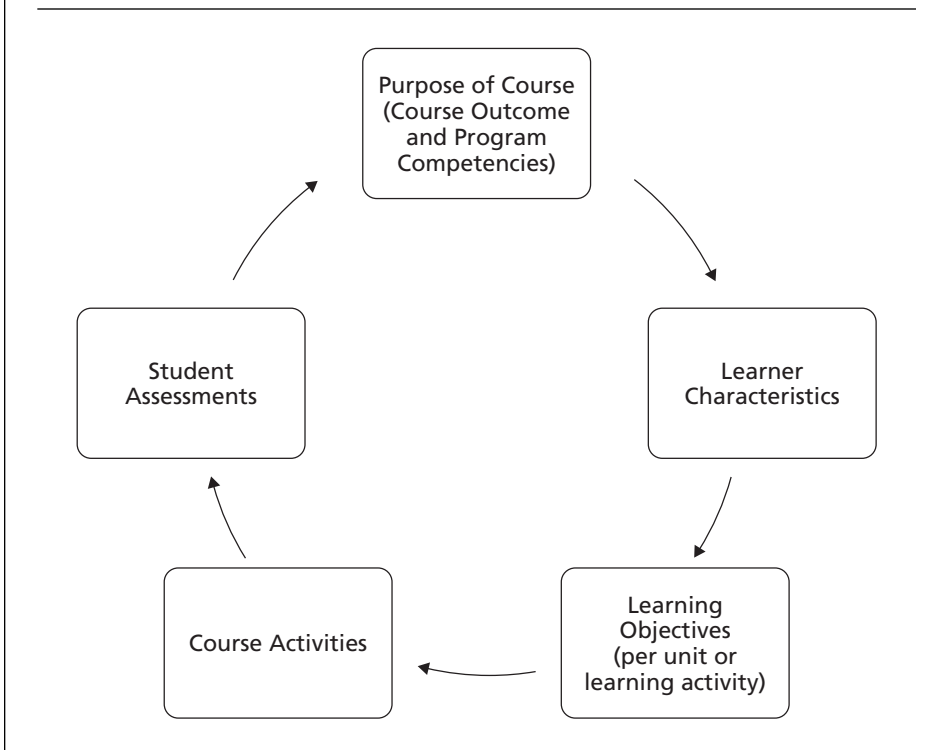
Elements of Good Course Design

Just as with the development of competencies and outcomes, and the use of them as a foundation, good course design or development begins with the end in mind. In other words, what is it that we want learners to be able to know or do at the end of the course that aligns with what we want them to be able to perform professionally when they leave the program? These course outcomes should be both measurable and observable in student behavior or application of course material. With outcomes as the foundation, we can then begin to create a cycle of course design that includes determining who our students are—what characteristics are they likely to possess? How much knowledge about this course will they bring with them at the start? Is this a foundational course or one that comes further along in a sequence of courses on the topic? Knowing who our students are and how they learn—a topic we will cover a bit later in this chapter—helps us to design a course that is learner focused and centered—a hallmark of good online course development.

Once we have a good understanding of what we want to accomplish in the course and to whom the course will be delivered, we can begin to tackle the task of laying out the course in units and determining what will be accomplished in each. The goal here is to link the unit objectives with the overall outcomes of the course—in other words, how will this unit serve to meet course outcomes? The objectives for each unit should drive the development of activities—what can we ask students to *do* that demonstrates they have achieved the objectives for the unit and eventually the outcomes for the course? Every course activity (perhaps with the exception of reading assignments) should have an assessment linked to it that demonstrates mastery of concepts within the unit and also links to demonstration of mastery of course outcomes. Exhibit 1.3 illustrates the cycle we have just described.

Following Exhibit 1.3 is an example of a graduate-level course in a master's program in organizational management, written and designed by one of the authors, that demonstrates the alignment of competencies with outcomes with unit learning objectives. Only one unit is presented in this example. However, the alignment should be seen in all units of the course.

Exhibit 1.3 Cycle of Course Design



COURSE DESCRIPTION—RESISTANCE TO CHANGE

This course provides an understanding of change and resistance to change from individual, group, and organizational levels. It focuses on the signs and symptoms of resistance and how to appreciate resistance as a catalyst and creative force. We will examine the issues of power, politics, fear, and loss often associated with resistance to change and will emphasize resistance to change in the context of transitional and transformational change. We will explore different theories of change and techniques and interventions for working with resistance in various organizational settings. In addition, we will explore means by which change can be accomplished without engendering resistance.

Some of the questions we will explore in this course are

1. How do various models of change affect individual, team, and organizational behaviors?
2. What are the key signals, symptoms, and underlying causes of resistance?
3. How can resistance be viewed and understood as a creative and catalytic force?
4. How can change processes be initiated and managed so that resistance does not occur?
5. How do I recognize and personally respond to change and resistance?
6. What interventions are effective when dealing with resistance to change?
7. What is the role of the consultant, team leader, and team members in dealing with resistance?

Program Competencies:

The program's "golden threads"—values, research, and professional practices—are integrated into our curriculum and our approach to professional development. The following key theoretical concepts and organizational practices are woven into every OMD course.

- Application of adult learning principles, collaborative dialogue, shared leadership, and integration of diverse perspectives to develop personal and organizational competencies in human systems
- Development of sustainable organizations that provide nourishment for the lives of their members, customers, and the communities and environments they influence
- Safe and supportive learning environment that embraces creativity, reflection, diversity, culture, systems thinking, and the professional practice of organization management and development in all manner of institutions and organizations
- Scholar/practitioner approach that values the practical application of organizational theory, critical thinking, and scholarly writing

- Student-centered curriculum that builds on student strengths and leadership qualities

Course Outcomes:

- Ability to access and utilize change management techniques in the workplace
- Ability to design interventions to address resistance to change in an organizational setting
- Gaining of an understanding of self as an instrument in the change process
- Appreciation of the historical and contemporary concepts of resistance to change and change management
- Demonstrated understanding of change and resistance to change at individual, group, and organizational levels
- Appreciation of resistance as a catalyst and creative force
- Demonstrated understanding of the role of change agents in the change process

Unit Objectives:

- Present the similarities, differences, strengths, and limitations of traditional models of organizational change management in terms of engendering or reducing resistance.
- Assess practical applications of the models at an organizational level.
- Research, explore, and present new models of change and resistance at the individual and organizational levels.

Assessments:

- Assessment 1—Review the change scenario provided in the Course Resources area. You will be assigned a partner for this activity. With your partner, present and discuss the one theory from the reading that you think best applies to this scenario and is most likely to reduce resistance to change, along with your rationale for why you think this is the best approach. Develop a consolidated response and post it to the discussion board. Respond to one other team's response.

- Assessment 2—Each of you will do a library or internet search (or both) for an approach to resistance from a field other than business (such as psychology or education). Present that approach in a brief essay and then discuss its application to the same scenario you discussed with your partner.
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An example of how the program competencies might be mapped to the outcomes, objectives, and assessments in this example is shown in Exhibit 1.4.

The mapping of competencies to outcomes, objectives, and assessments should be transparent to anyone who looks at the course, including students. In fact, some academic institutions note the mapping in the syllabus by numbering the outcomes and then listing the outcome numbers in each unit so that students can more easily see how the unit assignments relate to the outcomes. Simply putting that in print is not enough, however. Brian Trautman, an online instructor, talks about his strategy for helping students understand the connection between the outcomes and the weekly activities in the course:

The mapping to course outcomes in the syllabus (and then again in the introduction to each week's discussion) is an interesting concept and practice. While I am not sure new students (at least those new to online learning . . .) see the significance and value, and while I am not sure most spend the time to tie the outcomes to the material and discussion, I do my best each week to incorporate each outcome into at least a few discussion questions/responses, which is to say that I use the language of the TCOs [Terminal Course Objectives] to communicate questions and follow up responses. Then, at the end of each week, I typically post a question along the lines of, "Are there any questions about how this week's readings and discussion correspond to our highlighted TCOs for the week?" I think this helps.

—*Brian*

When assessment aligns with competencies, outcomes, learning objectives, and course activities, the task of assessment becomes less cumbersome and student satisfaction with the learning process increases (Morgan & O'Reilly, 1999). Additionally, students' understanding of the purpose of the course in their overall program of learning grows significantly.

Exhibit 1.4
Map of Competencies to Outcomes, Objectives,
and Assessments

Program Competencies	Course Outcomes	Unit Learning Objectives	Assessment
Development of sustainable organizations that provide nourishment for the lives of their members, customers, and the communities and environments they influence.	Ability to design interventions to address resistance to change in an organizational setting.	Assess practical applications of the models at an organizational level	<i>Assessment 1—</i> Review the change scenario provided in the Course Resources area. You will be assigned a partner for this activity. With your partner, present and discuss the one theory from the reading that you think best applies to this scenario and is most likely to reduce resistance to change, along with your rationale for why you think this is the best approach. Develop a consolidated response and post it to the discussion board. Respond to one other team's response.

Activities That Promote Knowledge Retention

In thinking about designing assessments, it is also important to keep in mind how people learn and what activities contribute to knowledge retention. Kolitch and Dean (1999) suggest two theoretical models of teaching: the *transmission model*, in which the instructor imparts information and the learner absorbs it,

and what these authors call the *engaged critical model*, in which teaching and learning are seen as a creative dialogue. The critical model concerns itself more squarely with the function of learning and is learner focused, whereas the transmission model is more focused on teaching and is instructor focused. Much of what exists in traditional assessments is based on the transmission model. The forms of instruction that happen online, however, are more in line with the engaged critical model.

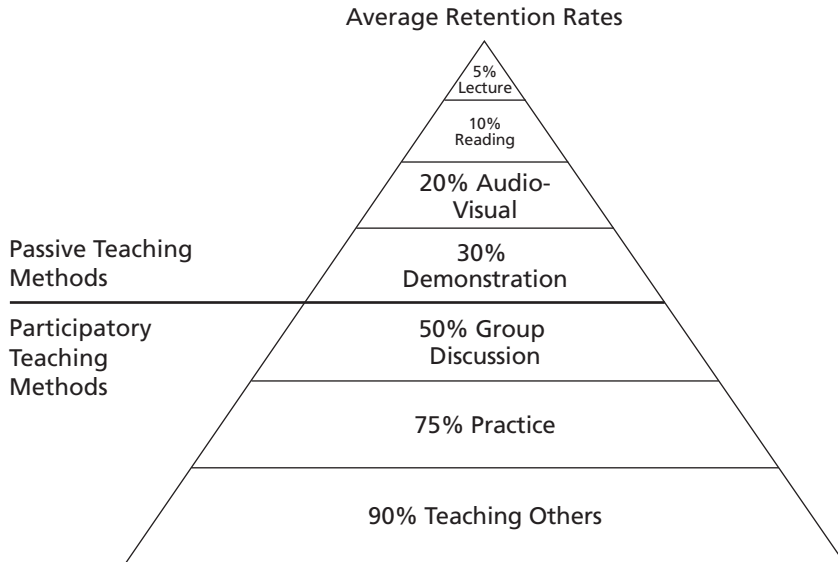
The Learning Pyramid, developed by National Training Laboratories in Bethel, Maine, in the early 1960s, provides information about the progression of activities that contribute to knowledge acquisition and retention, and helps to inform good assessment. Additionally, the top levels of the pyramid reflect the transmission model of teaching, while the lower levels reflect the engaged critical model. It follows then that instruction based in the engaged critical model should use assessments that align with that form of teaching. The lower levels of the pyramid include discussions, practicing by doing—also known as *authentic assessment*—and teaching others. Using these activities as assessments promotes learner-centered instruction, wherein the construction of knowledge and meaning is paramount.

From reviewing the pyramid and considering the theoretical concept of engaged critical teaching, it becomes clear that what we call authentic assessment—that is, assessment that encourages learners to actually *do* something to demonstrate knowledge acquisition rather than taking a test or quiz—is not only a better indicator of knowledge acquisition but also more likely to align with outcomes and competencies, and it also contributes to the retention of knowledge gained.

Barnett (1990) notes that in higher education students should be able to (1) gain deep understanding of concepts, (2) critique concepts, (3) conduct that critique in front of others, (4) perform independent inquiry, (5) self-reflect, and (6) engage in open dialogue. The transmission model does not allow for the development of learners in this way, nor does reliance on multiple choice or true/false testing as assessments. Consequently, in consideration of how students learn and retain knowledge, when instructors are designing course activities and their related assessments they need to focus their efforts at the lower levels of the learning pyramid.

Keeping the focus on outcomes when developing learning activities helps instructors to

Exhibit 1.5 The Learning Pyramid



Source: Adapted from National Training Laboratories, Bethel, ME.

- Select content
- Develop instructional strategy
- Develop instructional materials
- Construct assessments that align with the competencies

Bloom's Taxonomy

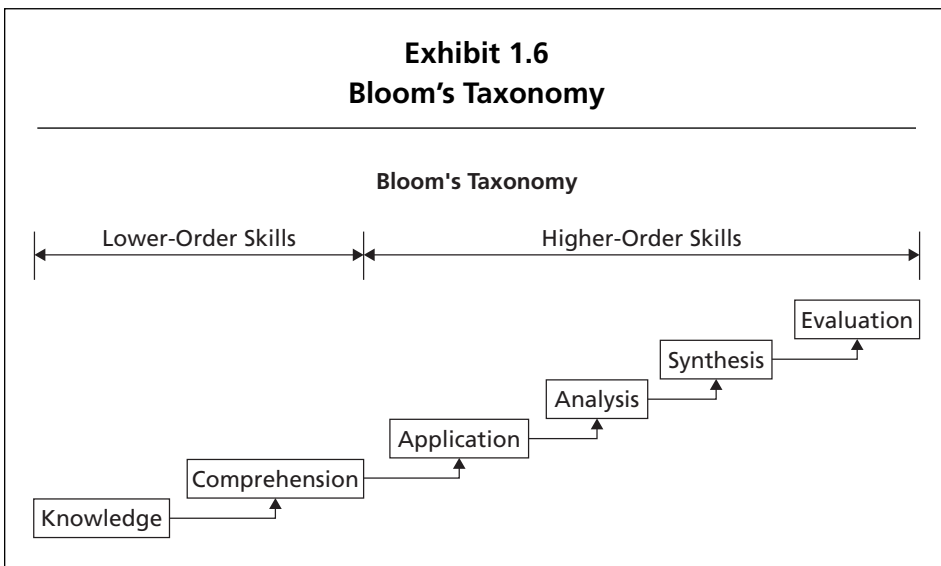
Outcomes and learning activities are generally created with an eye toward moving students from basic levels of understanding of concepts to the ability to apply those concepts in a professional or academic setting, to the ability to evaluate the concepts once they have been applied—in other words, from what are considered to be lower-order skills to higher-order skills. To accomplish this,

many educators have turned to Bloom's Taxonomy of educational objectives (Bloom & Krathwohl, 1956) for assistance. Bloom's Taxonomy lays out levels of outcomes in terms of increasing complexity, which build on one another, and to which activities and assessments can be mapped. Exhibit 1.6 illustrates the levels in the taxonomy.

To write course outcomes and assessment activities that match Bloom's levels, an instructor would determine the cognitive level of the desired outcome and then choose action verbs that measure the outcome at that level. It cannot be overstressed that verb choice is critical to the measurement of outcomes. Too often we have seen the verbs *discuss* or *understand* used in outcomes that should address higher-order skills. To assist the reader in developing good, measurable outcomes, we offer examples of action verbs that measure each level of the taxonomy.

Knowledge:

- Ability to recall previously learned material; know specific facts, methods, and procedures; and know basic concepts and principles
- Verbs: *define, label, recall, repeat, order, list, quote, match, state, recognize, identify, recite*
- Answers the questions: *Who, what, when, where, how? How do you define . . . ?*



- Possible assignments or assessments: reading and discussion of activities, tests, and quizzes; summaries of reading; homework assignments derived from reading the text or delivery of content, such as listening to lectures or reviewing web pages

Comprehension:

- Ability to understand the meaning of material, interpret charts and graphs, estimate future consequences implied in the data
- Verbs: *describe, discuss, restate, summarize, paraphrase, report, review, understand, explain, identify, locate, express, recognize*
- Answers the questions: *What are the main ideas? How would you summarize? Give examples of . . .*
- Possible assignments or assessments: summaries that call for paraphrasing of material, oral or written presentations, internet or library search activities, WebQuests

Application:

- Ability to use learned information in new situations, problem solving, solutions that have “best answers”; to demonstrate correct usage of procedures; to apply laws or theories to practical situations
- Verbs: *assess, demonstrate, examine, distinguish, establish, show, report, implement, determine, produce, solve, draw, interpret, provide, use, utilize, write, illustrate, operate, dramatize, sketch, employ*
- Answers the questions: *How is xx an example of yy? How is xx related to yy? Why is xx significant?*
- Possible assignments or assessments: demonstrations; research papers that apply concepts; development of websites or wikis; fishbowl activities; authentic assessments that call for application of material to real-life situations, such as case studies or simulations

Analysis:

- Ability to identify component parts of knowledge, to understand its structure and composition, to recognize logical fallacies in reasoning, to make distinctions between facts and inferences

- Verbs: *analyze, illustrate, discriminate, differentiate, distinguish, examine, question, infer, support, prove, test, experiment, categorize, write, appraise, calculate, criticize, compare, contrast, relate*
- Answers the questions: *What are the parts or features of xx? Classify according to . . . ? Outline/diagram . . . How does xx compare or contrast with yy? What evidence is there for . . . ?*
- Possible assignments or assessments: experiments, critiques, essays comparing and contrasting concepts, research assignments that require supporting materials beyond assigned texts, debates, blogs

Synthesis:

- Ability to creatively apply knowledge to new areas, to integrate new knowledge, to write a well-argued paper or speech, to propose a research design to test a hypothesis
- Verbs: *compile, categorize, generate, negotiate, reconstruct, reorganize, revise, validate, organize, plan, propose, set up, write, substitute, initiate, express, compare, modify, design, create, build, devise, integrate, compose, assemble, manage*
- Answers the questions: *What would you infer or predict from . . . ? What ideas can you add to . . . ? How would you create or design . . . ? What might happen if you . . . ? What solutions would you suggest?*
- Possible assignments or assessments: small group projects, jigsaw activities, proposals, wikis

Evaluation:

- Ability to judge the value of evidence or material for a given purpose
- Verbs: *appraise, criticize, assess, argue, justify, defend, interpret, support, estimate, evaluate, critique, review, write, judge, measure, choose, value, compute, revise, score, select*
- Answers the questions: *Do you agree that . . . ? What do you think about . . . ? What is the most important . . . ? Prioritize and give a rationale for . . . Decision making—what is your rationale . . . ? Criteria for assessing . . .*
- Possible assignments or assessments: debates, critiques, action research projects, peer review of papers

This discussion and illustration of how outcomes and assessments might be linked to Bloom's Taxonomy are not meant to ascribe judgment by indicating that all outcomes and assessments should be written at the highest levels of synthesis and evaluation. Instead, the instructor should once again think about what it is that he or she wants students to be able to perform, think, know, or do at the end of the course, and then link those thoughts to the appropriate level in Bloom's Taxonomy that they represent. For example, introductory courses may have outcomes and assessments that do not go beyond the comprehension level, whereas courses that are taken by students who are further along in their studies are likely to contain outcomes and activities that may span the taxonomy. When recognized as a developmental process, the use of the taxonomy can be helpful in determining outcomes that are appropriate to the level of the course (meaning introductory to advanced) as well as the level of the learners.

Grading

When the focus of a course remains on outcomes and when assignments are designed to elicit the kind of learning that is desired, the task of grading becomes much easier. Additionally, the assignments should (1) align with the type of desired learning, (2) be reasonable in terms of workload, (3) be strategically placed in the course, and (4) sustain ongoing learning. Furthermore, directions for completing the assessment need to be clear and unambiguous to minimize student confusion and maximize successful assignment completion. Walvoord and Anderson (1998) state, "Students will complete the assignment they think you made, not the assignment you actually made. With sketchy or ambiguous instructions, you run the risk of having students draw off previous learning that may not be relevant or desirable in your situation" (p. 38).

Faculty often note that they want to help students develop their ability to analyze, synthesize, and think critically—the higher-order skills of Bloom's Taxonomy. However, the assignments in a course may not align with those goals, and consequently the task of assessment and the assigning of a grade become difficult. Walvoord and Anderson (1998) further recommend using grading scales or rubrics (which we will discuss in more depth in Chapter Two) that are assignment-specific and designed with criteria that are highly explicit. When students understand what is expected of them in the assignment, the final product received matches instructor expectations, and final grades can be assessed using

the criteria developed for that assignment. Walvoord and Anderson further note that ongoing formative feedback on student work is much more valuable than waiting to provide extensive feedback on the final assignment. By providing feedback throughout the course or on pieces of large assignments as they are completed, the instructor acts as a coach, moving students toward the goal of achieving higher-order thinking skills. Having clear expectations and grading criteria creates consistency in grading and helps to engage learners in their own learning process, as they know what they are aiming for and can assess their own progress along the way.

LEARNER-FOCUSED TEACHING

Another concept to keep in mind when thinking about appropriate assessment is learner-focused teaching. Maryellen Weimer (2002), in her book *Learner-Centered Teaching*, discusses the benefits of keeping a learner focus in a class. Huba and Freed (2000) further note that in a learner-centered paradigm, students construct knowledge by gathering together and synthesizing information by using inquiry, communication, critical thinking, and problem solving. The instructor's role is to facilitate the process, and instructors and students together assess learning, much as we have described in our philosophy of learning community-based online teaching. In this way, teaching and learning are intertwined and the results are best assessed through papers, projects, performance of authentic application activities, portfolios, and the like. The benefits of such practice, as described by Weimer (2002), are that it

- Focuses attention squarely on the learning process
- Focuses on what the student is learning, how the student is learning, the conditions under which the student is learning, and whether the student is retaining and applying the learning
- Focuses on how current learning positions the student for future learning
- Focuses on learning, not grades
- Empowers learners to take on the learning task
- Gives learners input into the assessment process
- Ensures that the instructor retains responsibility for monitoring progress and assigning the final grade, if one is necessary

We review these and other means by which assessment of this nature can be performed in the online environment in Part Two of this book. Grading becomes easier when learners are involved in the learning and assessment process, as self-assessment becomes a critical component.

Student Involvement and the Element of Choice

McVay Lynch (2002) notes that learners should be involved in the development of the assessment process online. This can also be said of the face-to-face environment. To do so, however, the instructor must be willing to give up control and must believe that the course that he or she has created has already provided the knowledge base that the student needs to gain mastery in the particular content area. McVay Lynch states that when the instructor gives up control and engages the student in the process by using criteria for assessment, the following can result:

- The student is given responsibility for learning and evaluation.
- The student learns to use resources outside of the teacher for ongoing assessment after the course.
- The evaluation reflects a real-world environment instead of that in the classroom.
- The student must use higher-order thinking skills of application, analysis, synthesis, and evaluation in writing a reflection of the event. (p. 125)

A learner-focused assessment designed with student input, such as that which McVay Lynch describes, can apply as much to exams as to other means of student assessment in a course. For example, students might be asked to submit an exam question that would be incorporated into the final exam or to create their own essay question that is approved by the instructor and then answered by the student. Unfortunately, instructors tend to rely on test banks to create exams and use tests and quizzes as their only means of assessing student performance.

Another means by which to involve students in designing assessments is to allow a team or small group to determine what they will submit to the instructor to demonstrate team competence at the close of a collaborative activity. In the case of a presentation to the larger group, for example, the students can be left to determine not only what they will present and how they will present it but also the deliverable that accompanies that presentation. Allowing the students the

flexibility to produce a presentation, a web page, a joint paper, a handbook, a brochure, or some other artifact that represents their collaborative learning allows them, as Angelo and Cross (1993) contend, to increase their grasp of course concepts. It is also an important aspect in building an effective learning community. Stein and Wanstreet (2003) note that the element of choice in assessments appears to be a factor critical to learning success with adult learners and that the ability to choose allows students to work from a preferred learning style.

Allowing students to choose, however, does not always go smoothly. Consider a graduate-level course that one of us was teaching. Students were given a collaborative assignment at the beginning of the course to develop a handbook that was due toward the end of the course. Although the general parameters of the assignment were given, it was up to the students to choose what the final product would include. They were also advised to break up into two small groups; the groupings could be based on common interests or a desire to work toward a particular type of handbook. This assignment and the parameters accompanying it had been given to other classes in the same manner, and the students were able to self-organize with little difficulty. This group, however, struggled. Early in the course, one student suggested they begin discussing how they might work together. This was met with a positive response from a number of group members; however, three or four students claimed to have missed this discussion thread and did not participate. About three or four weeks into this twelve-week course, another student became anxious about the lack of progress and called for a division of the large group into two smaller groups. She created the two groups and then proceeded to organize her small group to begin the work on the project, although not all voices had been heard. Another student objected, and conflict resulted. The instructor in this case intervened and set limits around the decision-making process, imposing a time limit of three days during which the group had to make the decisions about how they would proceed. Yet another student stepped forward and negotiated an amicable division of the group into two smaller groups based on the desired content of the handbooks put forth by the group members. In this situation, although time was wasted in negotiation with one another, the groups felt that they learned a tremendous amount about what is necessary for online collaboration and working on a team—both of which were desired outcomes of the course. In cases like this one, instructors may need to set firmer limits or reduce the number of choices available so that students can complete the assignment and the final product can be assessed.

Aligning Assessment with Course Activities

In many instances the assessment of an online course is not in alignment with the type of instruction that may have occurred in the course. Several years ago we were asked to teach two different online courses at a university—one in social psychology and one a capstone course for a management degree. Both courses were designed using a combination of discussions and authentic activities that encouraged students to bring in real-life examples related to concepts in the course. However, at the end of the term, a multiple-choice and true/false exam was mandated by the program administrators. As instructors, we were not permitted to write the exam—it was written by a department chair—and students were required to take the exam at a proctored site. Every student in both courses failed the exam. The issue was a lack of alignment between the teaching methods used in the course, which were based on the engaged critical model, and a final exam that was based on the transmission model. Students were used to engaging in dialogue and completing assignments that emerged from the lower levels of the learning pyramid. The exam, however, was based on rote memorization of minute facts contained in the textbook. Clearly, this lack of alignment resulted in unhappy students and two unhappy instructors.

McVay Lynch notes that good assessment uses multiple measures of student performance. When instructors use multiple measures and authentic assessments that are based in real life and not just classroom learning, there is more likelihood of alignment with outcomes and competencies, a lower possibility that cheating will occur (a topic we will discuss in more depth in Chapter Two), and an increased likelihood that a true measurement of student competency and performance will result. The use of multiple measures of assessment is simply good pedagogy.

Although we have been focusing on assessment as it pertains to any environment, as we turn now to the application of assessment practices online, we find that many of the same principles apply. Given that a well-designed online course should be learner focused and centered, it follows that student assessment within that course should be the same. The reflective process that should be included in an online course provides the basis for learner-centered assessment. Students should be given credit for self-reflection, and it should be incorporated into the design and expectations for the online course. Each collaborative activity should contain a reflective component. At the very least, students should be asked to reflect on their participation in the activity and their contributions to the group.

In addition, asking students to reflect on the process not only helps enable them to evaluate the activity but also gives the instructor very important formative and summative information that can be incorporated into future iterations of the assignment. We will discuss all of these elements in more depth in the next chapter. Learner-focused assessment, then, can help move students from basic knowledge acquisition and repetition to development as reflective practitioners.

APPLYING WHAT WE HAVE LEARNED

This chapter has focused on the basics of good assessment, from the development of program competencies to looking at course outcomes, and mapping those to learning objectives and assignments at the unit level of the course. These principles apply to any course, whether it is delivered online or face-to-face, or in a hybrid of the two delivery methods. In the next chapter, we look specifically at the online environment and discuss how these practices translate into good assessment when the major portion of the course is delivered online.

The following key principles were presented in this chapter:

- When designing a course, attention needs to be paid to the alignment of competencies at the program level with outcomes at the course level and with learning objectives at the unit level.
- Assessments should be designed with the end in mind—that is, both competencies and outcomes—and should answer the question, “What is it we want our students to be able to *know and do* at the conclusion of this course?”
- Competencies, outcomes, objectives, and assessments should be learner-focused.
- Assignments should have explicit, clear directions, and grading criteria for the assignment should be equally clear and explicit.