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ASSESSING EDUCATIONAL OUTCOMES

Two boys are walking down the street. The first boy says, "I've been really busy this summer. I've been teaching my dog to talk."

His friend responds, "Wow! I can't wait to have a conversation with your dog."

The first boy shakes his head. "I said I've been teaching him. I didn't say he learned anything."

College and university faculty love their disciplines and want to share their knowledge and enthusiasm with students. Unlike the boy in this story, they are not satisfied unless their students are learning. They want their students to learn. Good teachers have always monitored student learning, frequently by unconsciously surveying student faces to find signs of understanding or confusion. Many faculty make this monitoring more systematic by integrating classroom assessment into their courses, allowing them to adjust course activities to improve student attainment (Angelo & Cross, 1993). This approach can be extended to entire programs. While classroom assessment examines learning in the day-to-day classroom, program assessment systematically examines student attainment in the entire curriculum.

A cultural change is occurring in higher education toward increased emphasis on student learning (American Association for Higher Educa-

tion [AAHE], American College Personnel Association [ACPA], & National Association of Student Personnel Administrators [NASPA], 1998; Weimer, 2002). This learner-centered approach focuses on engaging students in an environment that promotes learning. The emphasis is on what students learn and what students do. Faculty work collaboratively to decide what they want students to learn, and they develop courses and curricula to systematically help students synthesize, practice, and develop increasingly complex ideas, skills, and values. Assessment is an integral component of this approach. Assessment involves the use of empirical data on student learning to refine programs and improve student learning.

Agencies which accredit colleges and universities and their specialized programs are well aware of these trends in higher education, and they have been a major force promoting the use of assessment (Lopez, 1999; Wright, 2002). Although colleges and universities have considerable autonomy, most faculty, students, and others want to be associated with accredited campuses and programs. When accrediting bodies require assessment, campuses pay attention. Assessment, though, should be implemented because it promotes student learning, not because an external agency requires it. This book would not be complete without a discussion of accreditation expectations, and that topic will be addressed later in this chapter.

CHANGES IN HIGHER EDUCATION

The author of this book has been in higher education for over three decades, and the teaching and learning environment has changed in many ways over this period. These changes have led to increased faculty attention to assessing our impact on students. Program assessment is best understood in this context as a best practice in higher education.

Students have become more and more diverse (Baxter Magolda & Terenzini, 2002). Most faculty see increasing variety in many characteristics, such as writing and mathematics skills, English fluency, computer literacy, cultural background, world and work experiences, and learning styles. Faculty are challenged to find ways to engage *all* students in effective learning environments. Traditional teaching methods may not be the most effective for all learners in today's classrooms. Assessment

allows us to determine which pedagogical approaches work and for whom.

Educational theorists have developed new conceptions of how students learn and how faculty should promote learning (AAHE, ACPA, & NASPA, 1998; Barr & Tagg, 1995). Earlier teaching models, primarily based on delivering content through textbooks and lecturing, assumed that students learn through listening, reading, and independent work. Typical grading practices, based on grading on a curve, frequently put students into competition with each other, discouraging student collaboration. More recent conceptions of learning stress that students construct knowledge by integrating new learning into what they already know. Learning is viewed as a cognitive and social process in which students construct meaning through reflection and through their interactions with faculty, fellow students, and others. This approach involves expanded use of active learning pedagogies, such as collaborative and cooperative learning, problem-based learning, and community service learning. Our ability to meet the educational needs of our diverse student body depends on developing an expanded repertoire of pedagogical strategies with demonstrated effectiveness, and assessment helps us identify these strategies.

What faculty teach has changed, too (Halpern & Associates, 1994; Weimer, 2002). Knowledge is expanding so rapidly that thorough content coverage is not feasible in most disciplines. Representatives of the Association of American Colleges and Universities (2002) have concluded that "the explosion of readily available information means that being able to find out what one needs to know has begun to replace knowledge itself as an educated person's hallmark" (Our Nation Goes to College Because . . . section, ¶ 1). Faculty must make decisions about what they want students to learn. They have accepted responsibility for helping students become educated adults, and that involves more than mastery of a single discipline. We want our students to be able to integrate what they learn to solve complex problems. Writing-across-the-curriculum initiatives have encouraged faculty to help all students become better writers, and similar initiatives for critical thinking, information competency, interdisciplinary thinking, multicultural understanding, and oral communication have emerged. In addition, faculty are aware that students have to develop the ability and inclination for life-

long learning, and they are working to find ways to embed this in the curriculum. New expectations for student learning lead faculty to focus more on process than on content, to consider new ways to assess learning, and to examine the effects of changes in curricular focus.

Technological developments also have affected teaching and learning (Novak, Patterson, Gavrin, & Christian, 1999). Faculty are finding effective ways to use technology in “smart” classrooms and to offer educational opportunities to distant and asynchronous learners. Unlike lectures and books, the Internet allows students to follow links to explore course materials in idiosyncratic ways and to communicate asynchronously with faculty and peers at times that fit their busy schedules. While faculty are experimenting with technology-assisted teaching, some students are experimenting with technology-assisted cheating, such as cyber-plagiarism and the use of electronic communication devices during exams. Faculty and students interact in a rapidly changing technological environment. As faculty integrate technology into their courses and as campuses develop virtual programs, we ask questions about their effectiveness relative to traditional courses and programs. Assessment allows us to answer these questions.

New models of faculty roles have emerged in this context. Faculty less often are the sage on the stage and more often view themselves as designers of learning environments or choreographers of student learning (Honan, 2002). Faculty have recognized the need to evaluate the impact of their teaching on learning among all their students, and over 150 journals publish scholarship of teaching research in a wide variety of disciplines (Scholarship of Teaching & Learning at Indiana University Bloomington, 2002). Assessment engages faculty in reflection on what they and their students are accomplishing, and this is an important component of their professional roles. “Assessment is part and parcel of the teaching/learning process” (Association of American Colleges and Universities, 2002, We Can Ensure Ongoing Improvement by . . . section, ¶ 3).

WHAT IS PROGRAM ASSESSMENT?

As a whole, assessment is a framework for focusing faculty attention on student learning and for provoking meaningful discussions of program objectives, curricular organization, pedagogy, and student development.

Such discussions should be normal components of faculty life; however, many faculty report that responding to assessment demands led to the first formal, department-wide discussion of curriculum and instruction in decades. This is an important, immediate benefit of engaging in program assessment.

Program assessment is an ongoing process designed to monitor and improve student learning. Faculty develop explicit statements of what students should learn, verify that the program is designed to foster this learning, collect empirical data that indicate student attainment, and use these data to improve student learning. Conversations about what faculty expect their students to learn almost invariably lead to a discussion of the alignment of pedagogy and curriculum with these expectations, and this analysis can lead to curricular improvements *before* traditional outcomes data are collected. Chapter 3 expands on this concept of alignment.

Learning objectives are statements of what students are expected to learn. For example, objectives for an undergraduate psychology major might include statements that graduates can:

- 1) Write research reports in APA style.
- 2) Apply APA guidelines for the ethical treatment of human research participants to research plans.
- 3) Communicate effectively and sensitively with people from diverse cultural backgrounds.

These objectives should be consistent with campus and program missions. For example, faculty who teach in programs with a human services focus might have different objectives, such as graduates can:

- 1) Write clinical reports that meet agency needs.
- 2) Integrate ethical guidelines for clinical practice into their work with clients.
- 3) Provide services effectively and sensitively to people from diverse cultural backgrounds.

Curricula should be aligned with learning objectives because students cannot be expected to master objectives if they aren't given appropriate learning opportunities. For example, students are unlikely to develop strong information competence skills if they are never provided appropriate instruction, assignments, and feedback.

It is important to recognize that faculty do not have to collect information from every student every year on every objective! Many faculty are accustomed to collecting research data from samples, and the same strategy can be applied to collecting assessment data. Programs generally are subject to periodic review cycles, with formal program review every five to seven years. Faculty can develop an assessment plan that systematically examines learning objectives across this period, and they can give priority to objectives that they value most highly. In this way, assessment results in incremental improvements in curriculum and pedagogy. Notice that this model involves ongoing assessment. Rather than focusing on evaluating the program every five or seven years, faculty are engaged in assessment every year. Assessment is as much a part of their role as grading and holding office hours. You can judge how far your assessment program has progressed by comparing it to the stages described in Figure 1.1. Even on the same campus, departments and individuals within departments often vary in their commitment to assessment, but at its best, assessment is viewed as an indispensable tool for focusing faculty attention on student learning.

The bottom line for assessment is student learning. Assessment should be done because faculty are professional educators who want to ensure that the learning environments they provide support the development of their students.

KEY ASSESSMENT VOCABULARY

The glossary at the end of this book summarizes some key assessment terms. Standardized assessment vocabulary has not been firmly established, so when you read about assessment, be aware that terms might be used in different ways.

Assessments can provide *direct* or *indirect* measures of student learning. Direct measures require students to demonstrate their achievement. For example, say you were teaching students to juggle. Perhaps you

FIGURE 1.1
STEPS IN A CAMPUS ASSESSMENT PROGRAM

Denial:	It's a fad. If I ignore it, it will go away.
Acceptance:	OK, I guess we have to do it.
Resistance:	I feel threatened. My department feels threatened. My campus feels threatened. Can I subvert it by not participating in the process or in some other way?
Understanding:	Maybe we can learn something useful. Can we use what we've already been doing?
Campaign:	We have a plan. Maybe it's not perfect, but let's get moving!
Collaboration:	We have a plan with long-range objectives that are clearly defined, and, based on our experience with assessment, we believe it works.
Institutionalization:	We can't imagine working without assessment. It's a permanent part of our institutional culture.

Adapted from Wehlburg (1999).

would be satisfied with student progress if 90% of your students could juggle three tennis balls in a two-foot arc for five minutes. Indirect assessment is based on opinions. You could ask graduates of your juggling class to indicate if their juggling skills have improved, perhaps using a rating scale that runs from "0" (no improvement) to "4" (substantial improvement). You might be satisfied if no students gave a rating of 0 and at least 80% of the ratings are 2 or higher. You could obtain the opinions of others, too. For example, you might invite a professional juggler to rate the quality of students' juggling. If standards are met, you are satisfied. If not, then you must decide how to address this deficiency.

Another distinction is between *traditional* and *performance* measurement. Traditional measurements are based on the types of tests most of us took when we were in college, such as multiple-choice and true-false exams. Performance measurements, such as the above juggling test, require students to directly demonstrate their learning. Piano recitals by music students are performance tests, but an essay test asking students to

describe aspects of piano playing would be traditional measurement. Similarly, you could directly assess information competence by following students to the library and observing how well they locate relevant sources (performance measurement), or you could ask them traditional exam questions about relevant search engines. High scores on traditional tests are assumed to indicate mastery, but most of us know students whose academic skills are stronger than their practical skills when faced with actual clients or complex problems. This is why most experts suggest that we use multiple measures of our objectives. If different types of measures *triangulate* (i.e., lead to the same conclusion), we have more confidence in the accuracy of conclusions.

Another commonly used phrase is *authentic assessment*. Authentic assessment involves real-world activities that professionals in the discipline encounter. For example, accounting students could be asked to audit a set of actual or simulated accounting records and social work students could be asked to make recommendations about real or simulated clients. Authentic assessments also can be conducted at fieldwork sites in which students work with clients or address problems. Fieldwork supervisors could be enlisted to assess student mastery of learning objectives, perhaps using rating scales or rubrics that provide criteria for making judgments.

Assessments can result in *quantitative* or *qualitative* data. Quantitative data involve numerical scores that indicate how much students have learned. Scores are based on exams, papers, projects, or other evidence of student learning, and they frequently are summarized using descriptive statistics, such as the mean, standard deviation, and range. Qualitative data do not involve numerical scores and are described verbally. They may be based on interviews, focus groups, or responses to open-ended survey questions. The qualitative analysis involves writing a useful description of what was learned.

Assessments can involve *value-added* or *absolute* judgments. The distinction is whether the assessment is of change or of absolute performance. For example, faculty who teach a recreational swimming course might phrase their learning objective in value-added terms: Students who complete the course will improve their swimming ability. They might be satisfied if one student moves from being afraid of the water to swimming one lap and another student improves from swimming one lap

to swimming several laps. Alternatively, these faculty might have absolute expectations: Students who complete the course will be able to swim at least four consecutive laps. These faculty will be satisfied only if students meet this expectation. Value-added assessment generally involves comparing two measurements that establish baseline and final performance, but sometimes baseline data are not available and value-added criteria are assessed by comparing groups, such as sophomores and seniors.

Sometimes assessment data are collected under special circumstances, such as Assessment Days in which classes are cancelled and students are invited to participate in campus assessment programs. Alternatively, assessment activities can be *embedded* within courses. For example, all faculty who teach a research methods course may agree to embed a question on research ethics in their final exams. Student responses to this question are used to grade them within their courses, and these same responses are analyzed to assess student mastery of relevant objectives. Students are likely to be motivated to demonstrate the extent of their learning on embedded assessments because they also are being graded on their performance, but they may not work as hard on Assessment Day tests if they view results as not having any personal consequences.

Assessment data can serve *formative* or *summative* purposes. Formative assessment provides feedback to improve what is being assessed, and summative assessment provides an evaluative summary. For example, a student paper receives a C+ (summative assessment), and comments are written in the margins to help the student improve (formative assessment). External reviewers may do program assessments with an emphasis on formative or summative goals. For example, they may be charged to do a summative evaluation of the quality of the curriculum, or they may be invited to do a formative assessment and provide recommendations for its improvement. Program assessment, as treated in this book, is for formative purposes—to improve the quality of student learning.

Developmental assessment tracks the development of individual students, and data can be summarized for all students to assess the program. Programs that use developmental assessment may have a series of checkpoints or hurdles (“progression exams”), and students may be required to meet specific standards before they can continue. For example, students

may be required to pass “riser exams” before they are allowed into upper-division coursework. The proportion of students who pass sections of the riser exam could be used to assess the overall effectiveness of the lower-division program for helping students master the relevant learning objectives. Sometimes students are given “prescriptions” for additional work if their performance does not meet expectations. For example, students may be required to repeat an ethics course before beginning fieldwork if the developmental assessment indicates insufficient understanding of relevant ethical principles. Developmental assessment may be particularly relevant in professional programs, such as teacher education, because degree completion may certify graduates for immediate entry into careers.

ASSESSMENT STEPS

Six basic steps underlie the assessment of student learning:

- 1) Develop learning objectives.
- 2) Check for alignment between the curriculum and the objectives.
- 3) Develop an assessment plan.
- 4) Collect assessment data.
- 5) Use results to improve the program.
- 6) Routinely examine the assessment process and correct, as needed.

As described above, the first steps are to develop learning objectives and to check for the alignment between the curriculum and objectives. Chapter 2 focuses on how faculty can develop statements of their learning objectives, and Chapter 3 describes aligning curricula with objectives.

Once faculty are assured that students receive opportunities to master objectives, they should develop an assessment plan. The plan describes how faculty will systematically assess the learning objectives and answers the big questions: who, what, when, where, how? This plan should describe a process that will generate meaningful data and that will be manageable and sustainable. Assessment is important, but it is not all that faculty do. It is better to develop a realistic plan that takes foreseeable constraints into account than to try to do too much, because

attempting too much is likely to result in the trivialization or abandonment of assessment efforts (Maki, 2002c; Nichols, 1995). Chapter 4 describes assessment planning.

The next step is to implement the assessment plan by collecting and analyzing assessment data. Chapters 5 through 7 describe a variety of strategies for doing this. It is important that faculty identify techniques they are comfortable with, so they will be interested in results and willing to act on them.

Step 5 probably is the hardest. Faculty and campuses are wonderful data collectors, as most of us know, but data which are filed away without analysis are useless. As they say in the Midwest, “You can’t fatten a pig by weighing it.” Results should be used to improve the program. The phrase used most often in this context is “close the loop.” Faculty discuss assessment results and reach conclusions about what results mean. They identify which learning objectives have been mastered at acceptable levels and which learning objectives require more attention. They determine implications for changes in curriculum or pedagogy, and they decide how to implement modifications. Good assessment leads to collective reflection and action.

The last step is sometimes forgotten. Faculty should think of each assessment study as a pilot project and examine the study itself. The assessment plan should not be set in concrete. If faculty find flaws in an assessment plan, they should change it. Repeatedly collecting problematic data is an exercise in futility, and faculty have better things to do with their time. Chapter 8 provides more information on effective assessment efforts.

DIFFERENCES BETWEEN GRADING AND ASSESSMENT

At this point you might be asking a pressing question: Why should faculty do all this work to assess student learning when they already routinely examine student attainment to assign grades? Don’t students’ transcripts indicate how well students have learned?

Grades do indicate something about student learning, but at a level too broad for meaningful assessment. If the average GPA of program graduates is 2.89, which learning objectives are being mastered and which require faculty attention? Similarly, if the average grade for stu-

dents in a course is 2.75, which learning objectives associated with this course have been mastered?

Other differences between grading and assessment exist. An important aspect of grading is to create transcripts that have *summative validity*; that is, transcripts accurately summarize overall student attainment. Transcripts are high stakes for students because they are used to certify graduation requirements, and they influence entry into careers, graduate programs, and other opportunities. Assessment, though, is a formative process, and formative validity is more important than summative validity—it is more important that assessment projects result in meaningful improvements to curricula and pedagogy than that they provide precise summaries of the achievement of individual students. Qualitative techniques are sometimes avoided when grading students because they are perceived as being too subjective, but such techniques have an important place in assessment, especially when these subjective judgments are respected by faculty who plan and offer the curriculum.

Grading focuses on individuals, and individual students are associated with their grades. When we grade, measurement precision is important so each grade reflects individual attainment. When we assign a B+ to one student and a B to another, we are claiming that we made an equitable distinction between these students and that the first student's course performance was better than the second's. In addition, course grades are generated based on student success in individual courses. Exams and assignments may focus on course-specific content, rather than on broader learning objectives, and course grades may reflect relatively short-term learning—knowledge that is forgotten after the final exam is completed.

The emphasis on measurement precision becomes less important in assessment because individual students are not identified. Generally, anonymity, confidentiality, and privacy are preserved. Assessment studies are used to inform conclusions about student mastery of learning objectives. Data are aggregated across students, and measurement errors due to measurement imprecision cancel out unless there is a systematic bias to overestimate or underestimate achievement. Assessment data should not be sloppy or deliberately imprecise, but measurement precision is less important when collecting assessment data than when collecting data to grade students. This, again, is why subjective judgments

often play a larger role in assessment than in assigning grades. Program assessment focuses on broad learning objectives that cut across courses in the curriculum, placing more emphasis on the integration of learning and long-term retention, so it may require different types of data than typical course grading.

WHY SHOULD FACULTY DO ASSESSMENT?

Faculty are busy people. They serve increasingly diverse student populations, they experiment with new pedagogies, they maintain currency with technological changes, and their personal and professional lives make conflicting demands on their time. Why should they take on one more responsibility: program assessment?

Teaching and learning at colleges and universities are components of a complex process. Faculty can improve the quality of this process through engaging in assessment. Assessment data allow them to confirm assumptions about student progress and to identify discrepancies about what students actually learn. They can use assessment results to make informed decisions about pedagogical or curricular changes, and they can use assessment data as baseline information for demonstrating the impact of curricular innovations. Assessment should lead to improved student mastery of learning objectives that faculty value, an ample reward for faculty who take teaching and learning seriously. In addition, as Maki (2002b) points out, intellectual curiosity is the basis for much of what faculty do. Faculty should be curious to learn how their teaching impacts student learning and, as rational decision-makers, they should want to reflect on evidence, rather than rely on conjecture, to guide decision-making. Facione and Facione (1996) agree:

Bright people have real anxieties with regard to why they are being asked to engage in student outcomes assessment. The culture of the faculty on most campuses would find the call to student outcomes assessment threatening, insulting, intrusive, and wrongheaded. But, in the final analysis, committed faculty want their students to learn. (¶ 8)

Assessment should not be the tail that wags the dog. Embedding assessment within what faculty and students normally do, such as target-

ing program learning objectives in course assignments and exams, allows faculty to conduct meaningful assessment studies without adding excessive amounts of extra work to their lives. Even in departments without formal assessment programs, faculty often are aware of gaps in student mastery of program objectives, but these notions are often anecdotal in nature and not systematically addressed. Assessment focuses faculty attention on the use of evidence to guide planning.

America's professoriate is graying, and many new faculty will be hired in the next decade. In addition, many departments make extensive use of part-time or temporary faculty. Having statements of program objectives and clear understanding of how the curriculum aligns with these objectives allows departments to clarify program needs when recruiting faculty and to communicate expectations to them. Too often in the past, new faculty were shown a catalog description and turned loose to generate their courses, with little attention to how these courses contributed to a cohesive curriculum.

Involvement in assessment can be useful to individual faculty. Assessment should give them a better overview of the curriculum and how their teaching activities contribute to student learning. In addition, they may become better able to contribute to the growing literature on the scholarship of teaching or to identify grant opportunities based on their ability to define, measure, and help students master meaningful objectives.

Assessment can lead to better communication with others about what we are doing. Programs can use assessment information for public relations—communicating success stories to funding bodies, administrators, and prospective students and their families. Accrediting agencies require faculty engagement in assessment programs and the use of assessment results to improve student learning. Some states require or are considering performance-based funding based on the assessment of outcomes. Campuses that fail to take the lead in this effort run the risk of having people less informed about their mission and institution impose ill-conceived or inappropriate assessment processes and criteria.

Competition in higher education is increasing. Students can select among alternative institutions, including national and international college systems and Internet-based universities. Nontraditional providers tend to have highly articulated objectives and supportive assessment

data (e.g., Klor De Alva & Slobodzian, 2001; Scarafiotti, 2001). Faculty may need to demonstrate the uniqueness and quality of learning in their programs to maintain program viability.

CAMPUS POLITICS AND POLICIES

Every campus has its own culture, and this culture may prevent or promote meaningful assessment. The engagement of program faculty in the process is essential (AAHE, 2002; Association of American Colleges and Universities, 2002; Middle States Commission on Higher Education, 1996), and campus policies should reward and encourage their participation.

Collegiality among program faculty is essential. Agreeing on learning objectives, checking for program alignment, developing an assessment plan, collecting data, using results, and examining assessment practices are not tasks for one person; they especially are not tasks for an outsider who is not aware of your program mission or student needs. Assessment is not something that someone does *to* you or *for* you; it is the responsibility of the faculty who control and offer the program. The assessment process is more likely to have a positive impact on program functioning if faculty collectively agree upon what is important, buy into assessment strategies, and are flexible to correct identified problems. This is the goal, and campus policies should promote faculty collegiality and involvement.

Faculty report that trust is essential—they must be able to trust that their peers will not unfairly retaliate for differences of opinion or unexpected results. Occasionally new, untenured faculty members are given assessment responsibilities, and they sometimes express legitimate fears that senior faculty will “shoot the messenger” if results do not support their preconceptions. Faculty also need to trust administrators and others who will learn about assessment results. They are concerned that deans or provosts might punish departments that assess difficult-to-reach objectives and reward departments that assess easy-to-reach objectives. Policies and practices must reward faculty and programs that are willing to examine important, challenging learning objectives.

Faculty also are concerned that personnel decisions might be affected by assessment results. Campus policies should reward faculty

who take leadership roles in program assessment because it is an important task that takes time away from other activities. Faculty should be allowed to use relevant assessment information in their personnel files, as long as the privacy and confidentiality of colleagues are protected. However, requirements that program assessment data be analyzed separately for individual faculty are not recommended. At the 1999 annual meeting of the Higher Learning Commission, Lopez (1999) concludes that "The mantra on every campus must be: 'assessment is about student learning; it is not about faculty evaluation'" (p. 13). Assessment data should be aggregated across faculty and courses because they should be used to assess the entire program. If personnel decisions are based on assessment data, faculty may seek ways to undermine the process. They may choose not to participate in assessment activities that threaten their integrity or careers, or they may trivialize the process rather than endanger themselves or their program.

Campus and program faculty should articulate policies about the use of assessment data. Who has access to program data? What level of detail leaves faculty hands? Program faculty, of course, require access to assessment details, but raw data from assessment projects might be summarized first, with identifying information for students and faculty removed. For example, when focus groups are used for program assessment, summaries should not identify individual faculty by name. The goal of assessment is to assess student learning in the program, not to identify scapegoats or provide details for personnel decisions. Administrators should have reasonable access to assessment findings, but they probably do not need the same level of detail as program faculty. Some campuses require departments to file annual assessment reports that summarize what was done, what was learned, and what impact the assessment had on program functioning. This allows administrators to monitor campus assessment activities, to identify programs that require extra encouragement or assistance, and to identify programs with assessment expertise that might be shared with others. Administrators and relevant campus governing bodies should expect the use of relevant assessment evidence to support budget and curricular requests. Assessment findings should guide decision-making.

Faculty are rarely exposed to outcomes assessment techniques in their graduate training, and the assessment literature is growing rapidly.

In addition, not all faculty have expertise in empirical research, so some will need additional assistance to move into assessment. Campuses should establish appropriate training opportunities and support services. Some campuses have professionally staffed assessment centers; others award time to a person or team to develop and share expertise. Campuses may bring in consultants, send faculty to assessment conferences, provide internal assessment grants, publish assessment newsletters, and host assessment forums for faculty to learn from each other. Faculty in some programs may need local support for the development of learning objectives and the selection and implementation of assessment procedures, including assistance in data analysis. Some assessment procedures, such as interviews and focus groups, often work best when conducted by impartial outsiders, and campuses should find ways to support such activities. Assessment takes time and support. It does not come for free, and administrators may have to provide start-up funds or incentives for programs to move forward, as well as support for ongoing assessment activities.

Closing the loop (using results to make curricular or pedagogical changes) may be especially difficult if faculty do not have the flexibility to make curricular changes or are not aware of alternative teaching methods. Campus curricular policies should respect well-informed faculty decisions to effect changes. Faculty development opportunities that engage faculty in reflection on their teaching and that provide information and assistance on new pedagogies may be essential for effective change.

Teachers and students do not interact in a vacuum. Students who cannot buy textbooks because their financial aid checks are delayed, who lack access to materials when they participate in online courses, or who need counseling or tutoring assistance that is only available during their work hours will not be able to fully benefit from their coursework. Although this book emphasizes program assessment focusing on student mastery of learning objectives, effective change may require the coordinated effort of faculty and other campus professionals who support students. Many campuses create formal structures to promote the types of communication and problem solving required for campus professionals to assess and improve what they do. As a joint committee of the American Association for Higher Education, the American College Personnel

Association, and the National Association of Student Personnel Administrators (1998) concluded,

Despite American higher education's success at providing collegiate education for an unprecedented number of people, the vision of equipping all our students with learning deep enough to meet the challenges of the post-industrial age provides us with a powerful incentive to do our work better. . . . only when everyone on campus—particularly academic affairs and student affairs staff—shares the responsibility for student learning will we be able to make significant progress in improving it. (¶ 1)

Assessment provides a context for important discussions of how to work together to accomplish this goal.

ACCREDITATION

Accrediting organizations certify that institutions and programs have appropriate infrastructure, policies, and services to support their operations and that they are accomplishing their missions. They generally focus on two major issues: capacity and effectiveness. Capacity involves questions about financial stability, physical plant (classrooms, offices, computers, libraries, etc.), governance structure, faculty, policies, catalogs, enrollment histories, and student support services. In addition, institutions are expected to operate with integrity in their relationships with accreditors, funders, other institutions, employees, and students. Accreditors must certify that institutions or programs have the capacity to execute their mission; and the mission may be one of a major research university, a regional comprehensive university, a small liberal arts college, a specialized campus (such as a dental college), or a professional program housed within a larger institution.

Accrediting organizations require serious examination of educational effectiveness, and they expect campuses to document their impact on student learning. Accreditors certify that campuses and programs have quality assurance mechanisms in place, and program assessment provides the context for monitoring and improving the quality of academic programs. Just as the bottom line in business is the generation of

profit, the bottom line in higher education is the generation of learning. Although institutions may have excellent capacity, as indicated by outstanding library holdings, faculty with exceptional academic credentials, and labs equipped with the latest technology, they are still expected to demonstrate that their students have learned.

Six major regional accrediting organizations serve geographical segments of the United States (see Appendix 1.1). They accredit entire institutions, rather than single programs within them, and they expect programs within these institutions to have active assessment programs that impact program functioning. *Impact* is the key word here. Assessment requires more than just collecting data; assessment involves using results to effect change. Sample statements from regional accreditation standards are provided in Appendix 1.2.

Institutions that serve a national or international student body may be accredited by one or more agencies. For example, The University of Phoenix Online is accredited by the North Central Association. Sometimes accrediting bodies work together. For example, an Interregional Accrediting Committee (IRAC) was created by North Central, North-western, and Western regional accreditors to oversee the accreditation program for the Western Governors University.

In addition to the regional commissions, other national accrediting bodies are associated with the Council for Higher Education Accreditation (CHEA), and many professional programs have program-specific accrediting organizations associated with the Association of Specialized and Professional Accreditors (ASPA). These specialized accreditors review individual programs within universities as well as entire colleges or universities that offer specialized programs, such as medical schools, and they often provide lists of required learning objectives. You may have noticed a lot of “alphabet soup” in this section, and more is to come. Faculty in relevant disciplines know these accreditors by their acronyms, and these are provided here. Appendix 1.3 lists these specialized accrediting bodies.

Accrediting organizations are subject to review by the Council for Higher Education Accreditation, which has the ultimate authority to *recognize* American accreditation agencies. CHEA (1998) explicitly requires that “accrediting organizations have standards that encourage institutions to plan, where needed, for purposeful change and improve-

ment; to develop and sustain activities that anticipate and address needed change; to stress student achievement; and to ensure long-range institutional viability" (p. 2). Accreditation should involve "faculty and staff comprehensively in institutional evaluation and planning" (Office of Postsecondary Education, 2002, Some Functions of Accreditation section), and program assessment is an essential component of this process. Most accrediting bodies expect to see ongoing program assessment and the use of assessment data for decision-making, and program faculty should expect to demonstrate the extent and impact of their assessment activities during self studies and accreditation visits. Assessment is more than a fad. It is an integral part of higher education.

Although accrediting organizations have provided major motivation to many institutions, meaningful, sustainable assessment of academic programs will not emerge unless faculty integrate assessment into their normal work. Research suggests that campuses that primarily do assessment to comply with accreditation requirements are less likely to have assessment programs that impact campus functioning (National Center for Postsecondary Improvement, 2002). As Maki (2002b) noted, "Viewed as externally mandated, assessment of student learning typically ebbs and flows within an institution in relation to the timing of accreditation visits" (¶ 1). Assessment, properly executed, is an ongoing activity, not one that emerges every ten years, and it is an intrinsic component of effective student development. As Tom Angelo (1999), former director of the American Association for Higher Education Assessment Forum, reminds us, "Though accountability matters, learning still matters most" (¶ 1).

**APPENDIX I.1
LIST OF REGIONAL ACCREDITING BODIES**

Organization	Primary Region	Web Site
Middle States Association of Colleges and Schools (MSA)	Delaware, the District of Columbia, Maryland, New Jersey, New York, Pennsylvania, Puerto Rico, the US Virgin Islands, the Republic of Panama	http://www.msache.org/
New England Association of Schools and Colleges (NEASC)	Connecticut, Maine, Massachusetts, New Hampshire, Rhode Island, Vermont	http://www.neasc.org/
North Central Association of Colleges and Schools (NCS)	Arizona, Arkansas, Colorado, Illinois, Indiana, Iowa, Kansas, Michigan, Minnesota, Missouri, Nebraska, New Mexico, North Dakota, Ohio, Oklahoma, South Dakota, West Virginia, Wisconsin, Wyoming, including schools of the Navajo Nation	http://www.nca/higherlearning.com/mmission.org/
Northwest Association of Schools and of Colleges and Universities	Alaska, Idaho, Montana, Nevada, Oregon, Utah, Washington	http://www.nwccu.org/
Southern Association of Colleges and Schools (SACS)	Alabama, Florida, Georgia, Kentucky, Louisiana, Mississippi, North Carolina, South Carolina, Tennessee, Texas, Virginia	http://www.sacs.org/
Western Association of Schools and Colleges (WASC)	California, Hawaii, the US territories of Guam and American Samoa, the Republic of Palau, the Federated States of Micronesia, the Commonwealth of the Northern Mariana Islands, the Republic of the Marshall Islands	http://www.wascweb.org/