2

Learning Goals

Goals for student learning are the foundation of meaningful assessment. Statements of desired student outcomes can be derived through a variety of effective methods at the institutional, program, and course levels. This chapter describes the benefits of having clearly articulated learning goals, explores the characteristics of learning goal statements, and provides resources for implementing participatory processes for developing goals.

Benefits of Clearly Articulated Learning Goals

Clearly articulated statements of what each institution expects its students to learn at the course, program, and institutional levels are important to students, faculty, staff, the institution, and the public for many reasons.

Benefits for Students

Statements of student learning goals benefit students because they:

- ❑ Explain the sometimes "hidden agenda" (e.g., the expectation that students analyze relationships between causes and effects, rather than simply learn substantive material)

- ❑ Prioritize which goals are most important

- ❑ Provide assurance that a student has not "missed" an important goal

- ❑ Help students to understand the nature of skills acquired for use in other contexts—during and after college

Benefits for Faculty and Staff

Statements of student learning goals benefit faculty and staff because they:

- ❑ Identify what to teach, including discipline-specific knowledge and skills, as well as the discipline's perspective and values

- ❑ Provide structure for co-curricular programs

- ❑ Determine what will be evaluated at the conclusion of the course or program

- ❑ Ensure that skills that should be taught throughout the curriculum actually are included in instruction and evaluation of specific courses

Benefits to the Institution

Statements of student learning goals benefit the institution because they:

- ❑ Publicize to the institution's constituents evidence that it can demonstrate the accomplishment of clearly-defined student learning goals

- ❑ Ensure that goals the institution itself values are assessed, rather than those used by external assessors (e.g., sophisticated analytical math skills versus minimal national competency levels)

❑ Ensure that student learning outcomes are suited to the mission of the institution

❑ Ensure that core institutional values (e.g., professional career development and approaches of different cultural perspectives) are sufficiently incorporated

❑ Ensure that general education skills, such as proficiency in oral and written communication, the ability to think critically and analytically, and the ability to be effective decision-makers and problem-solvers are included in programmatic plans

❑ Ensure that the personal growth and affective development of students are addressed

❑ Focus attention on the use of direct methods of assessing student learning, supported by meaningful indirect methods, instead of potentially less meaningful indirect measures often used by:

- external assessors (e.g., graduation rates, cost efficiency, etc.)

- internal assessors (e.g., student evaluations of faculty)

Benefits for the Public

Statements of student learning goals benefit the public because they:

❑ Enable students to choose an institution based on a particular mission

❑ Satisfy accountability needs of legislators, funding agencies, and others

❑ Help the public to understand more clearly what an institution seeks to accomplish

Relationship among Learning Goals At All Levels

Before developing or revising learning goals institution-wide, it is important to consider the relationship among learning goals at the institutional, program, and course levels. In addition, different institutions might develop

goals and assess them at varying levels, depending on the needs of the institution.

Learning goals at the institutional, program, and course levels

Students learn specific content and skills in each course. In aggregate, those courses, together with other program experiences such as academic advising, internships, and faculty-directed research by students, should result in the desired student outcomes at the program level. Similarly, goals at the program level combine with general education goals, extra- and co-curricular goals, information literacy goals, and other goals (for example, ethical and civil leadership goals) to create institutional goals. In other words, goals at the institution, program, and course (or activity) levels are interconnected, complimentary, and reciprocal.

Institutions differ in the way that they characterize the relationship between general education goals and institutional goals. In one model, the institution develops a set of overall institutional learning goals stemming from its mission; these goals serve as the super-ordinate (highest level) goals from which program and course level goals flow. In this format, general education goals are essentially programmatic goals; that is, the general education program is one of the programs whose goals contribute to the achievement of overall institutional goals.

In another model, the institution adopts general education goals as overall institutional goals. In this approach, academic and co-curricular program goals would contribute to the achievement of the umbrella-like general education goals, which are essentially institutional goals.

Standard 14 of *Characteristics*, the Assessment of Student Learning, includes language that is most similar to the first model presented above—that is, it describes the assessment of student learning at the institutional, program, and course levels. Standard 12, General Education, also includes its own "fundamental element" related to the assessment of general education.

The Commission, however, is not concerned with the language that an institution uses to describe various levels of learning goals, nor is it concerned with the specific type of hierarchical structure an

institution adopts when defining its goals. It is concerned that the institution develops a coherent set of goals, that those goals stem from the institutional mission, and that goals at the subordinate levels contribute to the attainment of goals at the higher levels. The way in which a particular institution defines general education goals relative to institutional goals depends on the institution's mission (e.g., a specialized institution is unlikely to adopt general education goals as institutional goals). It also depends on how the general education program is structured (e.g., Is it "modular" or are its goals met in part through the major? Are some of its goals met through student affairs programs?) Finally, developing general education goals depends on the institution's history and culture.

Figure 1 and Figure 2 describe levels of learning goals at the institutional, program, and course levels. Although some institutions actually create matrices like these to aid them in formulating goals, this matrix is not presented as a model of how goals should be illustrated but, rather, as an abstraction to help the reader understand the relationships between levels of learning goals.

Institutional and Program Goals. Figure 1 illustrates hypothetical relationships among learning goals or statements of student outcomes at the institutional and program levels. The desired outcomes at the institutional level provide the outline or framework for connecting goals at the program level into a coherent whole.

These illustrations include goals for disciplinary and major programs, general education, and a student-affairs oriented program, such as residence life. Goals from various activities and initiatives contribute to overall student affairs goals. Because student affairs and academic programs both contribute to the overall education of the student, goals from each of these programs work together to fulfill institutional goals.

Program and Course Goals. Figure 2 illustrates how program goals provide a framework for course goals. It presents general education as a program, but one could well imagine the institutional goals cited here as general education goals instead. Notice also that some of the goals for programs

overlap and that not all programs work toward meeting all institutional goals.

Figure 2 depicts the hypothetical relationship between a subset of the program goals presented in Figure 1 and sample goals from courses in each of those programs. Notice, for instance, that one of the goals in the course World Art History, to "identify and analyze major works representing several different cultures," contributes to the general education program goal to "recognize and appreciate artistic and literary contributions of diverse cultures," which in turn contributes to the institutional goal to prepare "global citizens."

At the course level, the faculty member teaching World Art History will have many additional goals. Some will contribute further to the achievement of general education goals, but others may contribute to the achievement of goals for the major in Art History. Because of the interdependence among goals and the course and program levels, it could be impractical, or perhaps impossible, to specify all of the links between goals for each course and for each program in matrices. It is more important to strive for conceptual coherence, ensuring that learning goals at the various levels are understandable, meaningful, and accessible to faculty and students alike.

Flexibility

In Standard 14, the Commission recognizes that institutions will be "flexible in their approach to defining student learning goals at these different levels, such as repeating goals (some general education goals, for example) across programs or defining the goals at the institutional or program level as synthesis of the goals set at the program and course levels."

For instance, an institutional goal for undergraduate students to become proficient in information literacy may be achieved through a combination of the active involvement of faculty in information literacy instruction (see Chapter 1), a first-year introduction to library and learning resources presented by a librarian, required assignments in a general education course, and/or a series of substantial research papers required in the major. The goals for student learning in each of these three situations, when combined, may fulfill the

Figure 1

Relationship between Institutional and Program Goals

Note: **Not all programs are designed meet all institutional goals. Some cells are left blank for illustrative purposes only, not to imply that these goals cannot be met by the programs used in this example.**

Institutional-level Goals	Programs and Program-level Goals				
	General Education	Residence Life	Business	History	Chemistry
Leadership	Function effectively as a team member to produce a scholarly product	Develop leadership skills Apply conflict resolution skills in a living-learning environment	Develop leadership potential in self and others	Analyze historical perspectives on individual and political leadership	
Global Citizens	Recognize and appreciate artistic and literary contributions of diverse cultures Exhibit engaged citizenry and value community service	Develop an appreciation for cultural and ethnic diversity	Value and exhibit comfort with cultural differences in business practices Function effectively as a team member to run a small business	Recognize and value culturally-diverse historical perspectives	Demonstrate an ability to work as a team with a diverse group of students
Technologically Sophisticated Individuals	Use technology effectively to communicate and analyze information		Use technology effectively to communicate and analyze information related to business	Use technology effectively to communicate and analyze information related to history	Use technology effectively to collect, analyze, and display data
Effective Communicators	Write and speak proficiently	Communicate effectively in social situations		Communicate effectively, orally, and in writing about historical topics	Cogently present research data and analyses in written, visual, and oral formats
Critical Thinkers	Distinguish critical from non-critical information		Use critical thinking to analyze business case studies	Critically analyze historical events and trends using scholarly techniques	Apply critical thinking skills to design an experiment that tests an hypothesis Collect, analyze, and interpret data relevant to testing an hypothesis

Figure 2

Relationship between Program and Course Goals

Program	Program Goal	Course or Activity	Course Goal
General Education	Recognize and appreciate artistic and literary contributions of diverse cultures	World Art History	Identify and analyze major works representing several different cultures.
		Caribbean Literature	Demonstrate familiarity with themes and genres of classic and contemporary Caribbean literature.
Residence Life	Apply conflict resolution skills in a living-learning environment	First Year Student Orientation Program	Work effectively as part of a group to analyze and resolve a hypothetical interpersonal conflict.
		Seminar led by resident assistants	Develop a plan, in cooperation with floor-mates, for handling conflicts as they arise.
Business Administration	Function effectively as a team member to run a small business	Introduction to Marketing	Develop a feasible marketing plan for a small business.
		Capstone in Business Administration	Work with a team of students to develop, plan, manage, and market a small business.
History	Communicate orally and in writing about historical topics	Modern American History	Present a cogent oral analysis of one long-term effect of the Cold War.
		Medieval History	Present a cogently-written, critical analysis of gender and class roles in Medieval England.
Chemistry	Collect, analyze, and interpret data relevant to testing an hypothesis	Introductory Chemistry Laboratory	Replicate chemical reactions using appropriate laboratory techniques.
		Introductory Biochemistry	Collect, analyze, and interpret data relevant to an hypothesis supplied by the instructor.

14

institutional goal. Thus, an institution need not articulate specific means of achieving a particular goal at the institutional level, or assess it at that level, if it has chosen to assess it at the course and program levels.

Learning goals are discussed throughout the remaining three chapters of this handbook. Chapter 3 discusses the means by which the attainment of goals is assessed. Chapter 4 describes Middle States expectations for assessing student learning and institutional effectiveness. Chapter 5 focuses on using assessment results and how information about whether or not goals have been attained can be used to adapt curricula and programs.

First Steps Towards Developing Learning Goals

The process of developing learning goals should begin with a "situation audit" or inventory of what exists and which practices have been successful. Practices that are identified will provide information for developing a plan for the assessment of student learning, establishing goals, and identifying assessment measures.

The Situation Audit: Taking an Inventory and Starting with What Already Exists[1]

A basic tenet for evaluating student learning is to begin with successful assessment activities already in place. Whether the objective is to develop learning goals and assessment techniques for an individual course, an entire program, or the institution as a whole, an inventory of what exists provides a strong foundation for later success.

An excellent method of gauging the level of an institution's existing evaluation of student learning is to survey the assessment practices embedded at the course, program, and institutional levels. Peter Ewell has referred to this as a "situation audit"—i.e., an inventory of information already on hand that may provide evidence of student learning.

Angelo, Ewell, and Lopez (2001) recommend that institutions begin assessment by "rounding up information you already have."

Institutional Level. At the institutional level, an audit may be accomplished easily by cataloging the means used to assess the entire student body through the activities of offices of institutional research, student affairs, career services, the library, and information management. Most institutions have existing information from some or all of the following:

- ❏ Surveys of student satisfaction and engagement that are designed and administered nationally and locally

- ❏ Alumni career and satisfaction surveys

- ❏ Tests: standardized and/or locally-created

- ❏ Statistics, such as placement and retention rates

- ❏ Program reviews of both academic and support programs

- ❏ Reports by instructional librarians on information literacy and collaboration with faculty members

Program Level. At many institutions, each department and program institutes evaluations of its students that are independent from those of other departments and programs. The choice of instruments and assessment activities is often idiosyncratic, grounded in the approach that is typical of each discipline. A comprehensive and well-designed institution-wide checklist of possible types of assessment activities may help each department to create an accurate description of its assessment activities.

At the program level, the checklist for assessment activities might include:

- ❏ Senior capstone theses, papers, individual or group projects, and performances or other presentations

- ❏ Student portfolios

---

1 This topic is placed here in the section on goals so that it appears early in the book, and it is referenced again in later chapters. Its placement also emphasizes the point that institutions should examine existing learning goals and develop new ones before making decisions about adopting previously-used measures.

- ❏ Student research participation

- ❏ Departmental student and alumni surveys

- ❏ Standardized tests of subject area or broad skills

- ❏ Reports from student internship supervisors

Additional assessment activities may be suggested by disciplinary accreditors who issue guidelines and standards for intended student learning, required or suggested educational experiences, recommended evaluation methods, and expectations for the use of results.

A survey designed to document assessment practices at the department or program level can assist departments in identifying where there are gaps in the learning goals they are assessing, duplicative teaching efforts, and the usefulness of existing assessment results.

Such an inventory also can offer departments a basis for comparing themselves with other departments, as well as creating an institution-wide resource of where to find advice about instituting assessment on their own campuses. Appendix 5 is an example of such a survey.

Course Level. The commitment of individual faculty and teams of faculty is essential. Reviewing existing course-based assessment practices can help faculty members to reflect on assessment practices that have become routine. A review of course materials can provide useful insights into what students may or may not be learning.

A well-constructed course-level checklist might include:

- ❏ Embedded assessment elements faculty prepare, such as syllabi, curricula, instructional materials and methods, assignments, exams, and quizzes

- ❏ Direct evidence of student learning and development, such as student products and performances resulting from embedded assignments, tests, and other educational experiences

- ❏ Indirect indicators such as surveys, placement, and other institutional research data. These indicators can provide both

qualitative and quantitative information over time and across situations.

A more thorough discussion of course-embedded assessment techniques is presented in Chapter 3 of this handbook. It describes the relative uses of quantitative and qualitative information, as well as direct and indirect methods of evaluating student learning.

Examining Existing Practices for Success

Angelo, Ewell, and Lopez (2001) advocate building assessment plans and practices from those activities on campus that are already successful. When a "situation audit" of course-based, programmatic and/or institution-wide assessment is complete, local best practices will surface as models for additional assessment initiatives.

Faculty members and students probably already have a good sense of what is working best on a campus. For example, there may be anecdotal evidence that graduates of one program have particularly strong research skills, while students in another program may be especially adept at using and adapting what they have learned to solve unforeseen problems while working as interns. An audit of teaching and assessment practices used by successful programs will produce models for other departments.

Ideally, some of the faculty members or departments that have been evaluating student learning will have used the results of the evaluation to change practices and to enhance student learning. These efforts also can motivate and guide others in the institution.

Data collected from a comprehensive audit can be used to answer critical questions about which existing assessment practices on campus can form the core of the institution's assessment program and to identify the most critical gaps for which new assessment techniques are needed. Perhaps the most important benefit of conducting a situation audit is that the data gathered become a foundation for developing learning goals.

Starting with Successful Programs

Identifying successful programs and courses early can help later when organized assessment is started. Starting with the assessment of successful programs offers several benefits:

➢ **Effective teaching/learning efforts of faculty members and students are validated.**

➢ **The admissions, public relations, and development offices have substantive research information to use when publicizing the institution and its programs.**

➢ **External stakeholders have concrete, rather than anecdotal, evidence of the quality of the institution and its programs.**

➢ **Faculty members and administrators in other programs can learn from the successes of their colleagues.**

Defining Learning Goals before Selecting Assessment Methods

The most important step in developing successful methods for evaluating student learning is to develop meaningful, clear, and realistic goals for student learning at the course, program, or institutional level. These goals or statements of expected student learning are different from the actual evidence or the data gleaned from evaluations of student learning. Goals are the basis for determining how best to collect, assess, and interpret the data in order to improve. Data collection not tailored to goals will not provide information about the achievement of desired student learning, nor will it lead to new approaches to teaching and learning.

The goals or statements of student learning are hypotheses for what qualities or attributes will characterize students after they have completed a course or program, or after they have graduated from the college or the university.

The data generated from actual tests, surveys, or instruments used to gauge the outcome of the educational experience are the actual assessments[2].

For example, the learning goal might be to develop analytical skill. After a student has taken a course intended to promote this skill, he or she should have better analytical skill. This abstraction, analytical skill—the quality or attribute that students should possess after taking the course—is a generalized notion of what should be achieved. To evaluate the achievement of analytical skill, a test of learning might include problems that can be solved with syllogisms. The syllogistic problems "operationally define"—i.e., make concrete the abstraction "analytical skill." Thus, success in solving the problems (as indicated by scores above the norm, scores that surpass pretest scores, or scores that differ from those of similar students who did not take the same course) would indicate success in acquiring analytical skill.

Another way to move from the abstract to the specific when articulating student learning goals is to state those goals in terms of what, specifically, a student should be able to do in order to demonstrate that desired learning has occurred. In other words, what observable student behaviors should result from a learning experience? For example, astronomy faculty members may agree that their students will understand basic concepts about the solar system, but they may have differing opinions about what constitutes "basic concepts" and what it means to "understand" them. Do "basic concepts" refer to basic facts about each planet or also to theories about how the solar system was created? Should students memorize those basic facts, or should they be able to use information about our solar system to speculate about the characteristics of other solar systems?

It is important, therefore, to understand that the qualities or attributes that students should exhibit after a learning experience should be operationally

2 In research terms, educational experiences are the "independent variable or treatment," the assessments are the methods, and their results would be called the "dependent variable." The student learning outcomes, then, *depend* upon the educational experiences.

defined in order to be assessed meaningfully. For example, a statement of student learning (a learning goal) might be that a student will think critically after completing an introductory course in philosophy. Another learning goal might be that, after completing a service-learning course, a student have greater appreciation for others who are different. Each of these goals can be operationally defined, and then learning can be documented by a test or other instrument created to assess the specific goal. The results of the assessment demonstrate (or do not) the outcome one would expect to see—i.e., What would a student's performance on this particular assessment look like if he or she is a critical thinker? What would the student's performance look like if he or she is a person with appreciation for differences between people?

Appendix 6 is a worksheet for an exercise that faculty and staff members can use to begin to develop learning goals for courses and programs and to begin to think about how those goals might be achieved, how they might be assessed, and how a course or program might be altered to ensure greater student learning. The worksheet contains space for only three goals, in order to emphasize that the focus should be on important goals.

The remainder of this chapter 2 is devoted to developing learning goals; Chapter 3 is devoted to evaluating those goals.

Ensuring the Quality and Relevance of Learning Goal Statements

The institution can ensure the quality and relevance of learning goal statements by focusing on those that are most important, widely accepted by the various stakeholders, meaningful, sufficiently explicit, and interconnected among the various academic levels and curricula within the institution.

Key Learning Outcomes

Effective statements of expected student learning are focused on the most important goals of a course, program, or institution. They are not a collective list of goals that are idiosyncratic to a few faculty or staff members. Attempts to evaluate every possible goal can overwhelm an institution

with tasks, provide too much information, and dilute the focus on areas that need the most attention.

The departmental, school, or institutional mission statement, as described in *Characteristics* (Standard 1), should provide the basis for determining the most important goals at each level. It is useful to concentrate statements of expected learning outcomes by asking, "What are the *most* important learning outcomes we seek for our students in the context of the goals of our institution/program?" For example, the programs and learning outcomes of an institution whose mission includes giving each student a strong spiritual grounding may emphasize different learning outcomes from those of an institution whose mission includes teaching its students technical skills.

Widely Agreed-upon Concepts

Statements of expected learning outcomes will not be effective unless they are developed collaboratively and widely accepted by stakeholders: faculty members, students, employers, alumni, and others affected by or concerned with the program or institution. While it is unlikely that there will be unanimous agreement on expected learning outcomes, there should be a shared sense among most members regarding which learning is most important. The mission of the institution and the subsidiary missions of departments and programs serve as the natural sources for shared expectations.

Communication of Learning Goals

If the institutional community shares learning goals and if they are expressed clearly, then the resulting statements of expected learning outcomes can be used by the entire campus community. Clearly-expressed expectations for the learning outcomes of courses and programs can help students to focus their studies and, as a result, to learn more effectively. Prospective students who are aware of the specific types of expected learning outcomes of a program to which they are considering applying can make a better-informed decision about whether the program meets their

needs, especially when evidence is available that those goals actually are achieved.

Faculty members who teach prerequisite courses or "service" courses can prepare students better for later courses and programs if they are familiar with the expected learning outcomes of subsequent courses or courses in the target program. For example, faculty members in the English department who are familiar with the expected learning outcomes of the theater department's programs and courses can better meet the needs of theater students taking literature courses, and physics faculty members can meet the needs of engineering students.

Meaningful Learning Goal Statements That Lead to Improvement

Meaningful statements of student learning goals address learning as a multidimensional and integrated process, occurring over time. They do not focus on trivial learning outcomes. Stated cogently and clearly, meaningful learning goals will lead to the improvement of teaching and learning at the course, program, and institutional levels. The importance of each learning goal should be obvious to students, faculty, and prospective employers.

Meaningful learning goals stress generalizable and higher-order thinking skills rather than memorization of facts or very simple conceptual understanding. For example, a goal to identify grammatical forms (past participles, etc.) is, in most cases, not as meaningful as a goal of being able to write and speak grammatically. Similarly, the successful memorization of important historical dates is not as meaningful as a goal for students to be able to place historical events within a social and political context, to draw meaningful comparisons between events, and to analyze current events within an historical framework. For both of these examples of more meaningful or higher-order goals, the more trivial goals of memorizing dates and acquiring the names of parts of speech probably will be achieved naturally in the course of achieving the larger goal.

Sufficiently Explicit Learning Goals

Although it is not helpful for statements of student learning goals to be so specific that they focus on unimportant or trivial outcomes, it is important for statements to be sufficiently *explicit* for all stakeholders to have a common understanding of their meaning.

For instance, one goal for an undergraduate psychology program might be for students to exhibit proficiency in conducting research. While faculty members may implicitly understand what this goal might mean, increasing the specificity of the goal would enhance its clarity and allow for more direct assessment of the attainment of the goal. For example, a statement of the goal might read: "Students will learn the statistical, organizational, writing, and analytical skills necessary to conduct meaningful and valid scientific research." Statements then could describe the evidence needed to demonstrate that students have achieved the kowledge and abilities related to each of these components.

Interconnectedness of Student Learning Goals

Student learning can occur at many levels and in many venues:

- ❑ Course, program, and institutional levels (Standard 14);

- ❑ Undergraduate, graduate, and professional program levels (Standard 11);

- ❑ General education curricula (Standard 12);

- ❑ Related educational activities, such as basic skills, certificate programs, experiential learning, non-credit offerings, and distance or distributed learning (Standard 13); and

- ❑ In co-curricular and extracurricular activities (Standard 9).

An institution's curriculum may address particular learning outcomes in different complementary or overlapping courses and programs. Statements of learning outcomes for courses or programs should recognize and clarify these relationships, and student learning outcomes assessment plans should be structured to avoid duplication.

Choosing Learning Goals

Start with success

Determine which learning goals are already being assessed and what data may be available to assess other goals

> ➤ **Institutional Level**
> ➤ **Program Level**
> ➤ **Course Level**

Ensure relevance of goals

> ➤ **Identify key learning outcomes**
> ➤ **Use widely agreed-upon concepts**
> ➤ **Communicate goals**
> ➤ **Select important and meaningful goals**
> ➤ **Be explicit**
> ➤ **Integrate goals in different areas and levels**

Choose goals that can lead to improvement

Emphasize higher-order thinking skills

Define learning goals before choosing assessment methods

> ➤ **Operationally define each goal**
> ➤ **Tailor data collection to defined goals**

Resources for Creating Student Learning Goal Statements

This section includes a discussion of several specific resources for crafting actual statements of student learning goals. Each of these resources presents opportunities both for "brainstorming" and for comprehensively and systematically reviewing sets of possible goals.

Existing Learning Goals

An institution already may have explicit and clear statements of student learning goals in place, and it is important to resist the urge to redesign entire sets of course, program, or institutional goals if they already exist. The focus should be on developing those that are missing, those that are unclear, those that have changed, or those that are complementary. For instance, many institutions developed learning goals for general education programs when those programs were initially created, and some may have been substantially revised during subsequent program review. However, faculty members may determine that no measures are being used to assess whether the goals have been achieved. The goals, then, may not need to be re-written; instead, they should be evaluated for their importance and relevance, and they should be supplemented with additional goals where appropriate. Of course, it is still important to measure student outcomes in these areas.

Existing Syllabi and Course Descriptions

Existing syllabi and catalogue descriptions provide a logical starting point for developing learning goals at the course level, because many faculty members already include learning goals in their syllabi, and many course descriptions include statements about course content, goals, and/or what the student should be able to do once the course is completed. Existing goals such as these can be reviewed for their relevance to programmatic mission, and faculty members should be encouraged to think about whether these goals reflect the current or changing focus of their disciplines. Examples of syllabi that already address learning goals can serve as resources for faculty members who have not previously

developed goals, and faculty members familiar with the process can serve as mentors.

Leading Questions

Leading questions also can serve as the basis for a brainstorming exercise in developing learning goals.
The leading questions listed in Figure 3 can be tailored to apply to any discipline and can be refined to address more specific outcomes. In general, they focus attention on the most important learning goals for individual programs.

The following additional questions related to basic improvement are adapted from the work of Stufflebeam (2001):

❏ What alternative educational practices and experiences are available, and what are their comparative advantages over current practices at our institution?

❏ What are the characteristics of a good syllabus that can serve as a guide to teaching and learning?

❏ What facilities, materials, and equipment are needed to ensure success in reaching our educational objectives?

❏ What are the roles of faculty members, students, and others in the pursuit of learning?

❏ Is the course providing learning experiences for all of the students who are enrolled?

❏ Is a particular course worth the required institutional investment?

❏ Is the course meeting the minimum accreditation requirements for the discipline?

❏ Is the course equal to or better than analogous courses at comparable institutions?

Analysis of Student Work

The work products and performances of students that are the result of existing assignments and tests may already embody the important learning outcomes, even though the faculty member may not have explicitly conceived or stated those goals. A retrospective review can suggest how the original statements of goals might be revised, especially if the unstated learning goals are important and if the evaluation methods are valid.

For instance, a political history course may not have the explicit goal of increasing awareness of and participation in current political events. Nevertheless, after taking the course, students may report increased civic awareness, an increased tendency to vote, and increased participation in local political activity. Therefore, it may make sense to make the development of political awareness an explicit course goal and to revise the course accordingly.

Inventory of Teaching Goals

Faculty members and students can use the Teaching Goals Inventory (Angelo and Cross, 1993), shown in Figure 4, to identify the priority of various learning goals in courses and programs. For example, individuals or groups of faculty members could use the inventory to understand better their expectations for a single course, a course with many sections, or a series of courses. They can use the inventory to review faculty documents, to examine existing disciplinary accreditation guidelines and standards, and
to analyze direct evidence of student learning and development. Students also could complete the inventory so that the institution can determine whether students and faculty share the same perceptions about the relative priority of different types of learning.

Figure 3

Leading Questions for Developing Learning Goals

Questions for Faculty

❑ In general, what are the most important things a student gains from your field of study?

❑ What qualities and capabilities do you strive to foster in your students?

❑ What is the most important knowledge that your students acquire from your field of study or from working with you?

❑ How does your field of study or your work change the way students view themselves?

❑ In what ways does your field of study or what you do contribute to a student's well being?

❑ How does your field or what you do change the way a student looks at the world?

❑ What does your field of study or what you do contribute to the well being of society at large?

❑ How do people in this area of study differ from those in other areas (knowledge, skills, and/or values)?

❑ How do we know the extent to which students are learning what we hope from our field of study?

❑ How do we use information about student learning and development to enhance student learning?

Questions for Students

❑ What is the most important knowledge you have gained from taking courses, minoring, or majoring in this subject?

❑ What are the most valuable skills or abilities that have you developed as a result of taking courses, minoring, or majoring in this subject?

❑ How has taking courses, minoring, or majoring in this subject changed the way you look at yourself?

❑ How has taking courses, minoring, or majoring in this subject changed the way you look at the world?

❑ How has taking courses, minoring, or majoring in this subject changed the way you think about the future?

❑ How do you know whether these changes have occurred?

❑ How do people in this area of study differ from those in other areas (knowledge, skills, and/or values)?

❑ What changes might be made in course and programs of your major or minor to enhance student learning?

Based on leading questions developed by Prof. C. Ewart, Department of Psychology, Syracuse University, 1998. Reproduced with permission.

Figure 4

Teaching Goals Inventory
Self-Scorable Version

Purpose

The *Teaching Goals Inventory* (TGI) is a self-assessment of instructional goals.

Its purpose is three-fold: (1) To help college teachers become more aware of what they want to accomplish in individual courses; (2) To help faculty locate Classroom Assessment Techniques they can adapt and use to assess how well they are achieving their teaching and learning goals; and, (3) To provide a starting point for discussions of teaching and learning goals among colleagues.

Directions

Please select ONE course you are currently teaching. Respond to each item on the Inventory in relation to that particular course. (Your responses might be quite different if you were asked about your *overall* teaching and learning goals, for example, or the appropriate instructional goals for your discipline.)

Just to remind yourself, please print the title of the specific course you are focusing on below:

_____

Please rate the importance of each of the 52 goals listed below to the specific course you have selected. Assess each goal in terms of what you deliberately aim to have your students accomplish, rather than in terms of the goal's general worthiness or overall importance to your institution's mission. There are no "right" or "wrong" answers; only personally accurate or inaccurate ones.

For each goal, circle *only one* response on the 1 to 5 rating scale. You may find it helpful to quickly read through all 52 goals *before* rating their relative importance.

In relation to the course you are focusing on, indicate whether each goal rated is:

   (5) **Essential**   A goal you *always/nearly always* try to achieve (76% to 100% of the time)

   (4) **Very Important**   A goal you *very often* try to achieve (51% to 75% of the time)

   (3) **Important**   A goal you *sometimes* try to achieve (26% to 50% of the time)

   (2) **Unimportant**   A goal you *rarely* try to achieve (1% to 25% of the time) or

   (1) **Not Applicable** A goal you *never* try to achieve.

Rate the importance of each goal below in terms of what you aim to have students accomplish in your course.	Essential	Very Important	Important	Unimportant	Not Applicable
1. Develop ability to apply principles and generalizations already learned to new problems and situations	5	4	3	2	1
2. Develop analytic skills	5	4	3	2	1
3. Develop problem-solving skills	5	4	3	2	1
4. Develop ability to draw reasonable inferences from observations	5	4	3	2	1
5. Develop ability to synthesize and integrate information and ideas	5	4	3	2	1
6. Develop ability to think holistically: to see the whole as well as the parts	5	4	3	2	1
7. Develop ability to think creatively	5	4	3	2	1
8. Develop ability to distinguish between fact and opinion	5	4	3	2	1
9. Improve skill at paying attention	5	4	3	2	1
10. Develop ability to concentrate	5	4	3	2	1
11. Improve memory skills	5	4	3	2	1
12. Improve listening skills	5	4	3	2	1
13. Improve speaking skills	5	4	3	2	1
14. Improve reading skills	5	4	3	2	1
15. Improve writing skills	5	4	3	2	1
16. Develop appropriate study skills, strategies, and habits	5	4	3	2	1
17. Improve mathematical skills	5	4	3	2	1
18. Learn terms and facts of this subject	5	4	3	2	1
19. Learn concepts and theories in this subject	5	4	3	2	1
20. Develop skill in using materials, tools, and/or technology central to this subject	5	4	3	2	1
21. Learn to understand perspectives and values of this subject	5	4	3	2	1
22. Prepare for transfer or graduate study	5	4	3	2	1

K. P. Cross & T. A. Angelo, U.C. Berkeley School of Education, 1992

Rate the importance of each goal below in terms of what you aim to have students accomplish in your course.	Essential	Very Important	Important	Unimportant	Not Applicable
23. Learn techniques and methods used to gain new knowledge in this subject	5	4	3	2	1
24. Learn to evaluate methods and materials in this subject	5	4	3	2	1
25. Learn to appreciate important contributions to this subject	5	4	3	2	1
26. Develop an appreciation of the liberal arts and sciences	5	4	3	2	1
27. Develop an openness to new ideas	5	4	3	2	1
28. Develop an informed concern about contemporary social issues	5	4	3	2	1
29. Develop a commitment to exercise the rights and responsibilities of citizenship	5	4	3	2	1
30. Develop a lifelong love of learning	5	4	3	2	1
31. Develop aesthetic appreciations	5	4	3	2	1
32. Develop an informed historical perspective	5	4	3	2	1
33. Develop an informed understanding of the role of science and technology	5	4	3	2	1
34. Develop an informed appreciation of other cultures	5	4	3	2	1
35. Develop capacity to make informed ethical choices	5	4	3	2	1
36. Develop ability to work productively with others	5	4	3	2	1
37. Develop management skills	5	4	3	2	1
38. Develop leadership skills	5	4	3	2	1
39. Develop a commitment to accurate work	5	4	3	2	1
40. Improve ability to follow directions, instructions, and plans	5	4	3	2	1
41. Improve ability to organize and use time effectively	5	4	3	2	1
42. Develop a commitment to personal achievement	5	4	3	2	1
43. Develop ability to perform skillfully	5	4	3	2	1

K. P. Cross & T. A. Angelo, U.C. Berkeley School of Education, 1992

Rate the importance of each goal below in terms of what you aim to have students accomplish in your course.	Essential	Very Important	Important	Unimportant	Not Applicable
44. Cultivate a sense of responsibility for one's own behavior	5	4	3	2	1
45. Improve self-esteem/self-confidence	5	4	3	2	1
46. Develop a commitment to one's own values	5	4	3	2	1
47. Develop respect for others	5	4	3	2	1
48. Cultivate emotional health and well-being	5	4	3	2	1
49. Cultivate physical health and well-being	5	4	3	2	1
50. Cultivate an active commitment to honesty	5	4	3	2	1
51. Develop capacity to think for one's self	5	4	3	2	1
52. Develop capacity to make wise decisions	5	4	3	2	1

Self-Scoring Worksheet

1. In all, how many of the 52 goals did you rate as "Essential"? _____

2. How many "Essential" goals did you identify in each of the six clusters listed below?

Cluster Number and Name	Goals included in cluster	Total number of "Essential" goals in each cluster	Clusters Ranked (1st to 6th) by number of "Essential" goals included
I. Higher-Order Thinking Skills	1 - 8	_____	_____
II. Basic Academic Success Skills	9 - 17	_____	_____
III. Discipline-Specific Knowledge & Skills	18-25	_____	_____
IV. Liberal Arts & Academic Values	26-35	_____	_____
V. Work and Career Preparation	36-43	_____	_____
VI. Personal Development	44-52	_____	_____

K. P. Cross & T. A. Angelo, U.C. Berkeley School of Education, 1992