

*Guidelines For The Assessment Of Learning Outcomes*

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## The Assessment of Learning Outcomes: An Overview

The assessment of learning outcomes is a process designed to improve teaching and learning. The process works best when integrated into the department's teaching, research, and service activities. That is, assessment is not a one-time event, but an on-going activity that serves to enhance the unit's mission. It is a dynamic process that is both circular and long-term. While assessment begins with an examination of curricular goals, it does not end with the initial assessment of the achievement of those goals. Indeed, the results of the initial assessment activities are applied to further discussions of the curriculum. Continued assessment activity promotes further examination of curricular goals and any necessary adjustments or revisions of the curriculum.

Departmental assessment should address at least four basic questions:

- What is the department doing?
- Why is the department doing it?
- How well is the department doing it?
- How can the department improve what it is doing?

Components that should be included in an assessment plan include:

- Specific program being assessed:
  - Major
  - Minor
  - Undergraduate
  - General Studies
  - Graduate
- Specific assessment requirements of such groups as:
  - Professional accrediting body
  - Professional licensing body
- Areas about which information needs to be collected, such as departmental majors':
  - Knowledge of subject matter
  - Skills competency
  - Critical thinking abilities
  - Communication skills
  - Writing skills
  - Speaking skills
  - Careers and experiences after graduation

## Input and Output Evaluation Measures

Departmental goals and objectives should be stated in terms of inputs and outputs. Inputs refer to such variables as entering students' GPAs, SAT/ACT scores, and faculty productivity (SCH, FTE, research, articles published, etc.). Outputs place the emphasis on student learning. When asked to identify their goals, objectives, and achievements, most departments traditionally have emphasized their inputs, not their outputs. That is, departments tend to state goals and objectives in terms of faculty activities and characteristics of entering students (inputs) rather than expected student accomplishments (outputs). Listed below are some examples of faculty and student-oriented activities.

- Examples of faculty-oriented goals (**inputs assessment**):
  - Preparing students for graduate school and/or careers
  - Providing students with a general knowledge of the discipline
  - Training students to view phenomena from the perspective of the major
- Examples of student-oriented goals (**outcomes assessment**):
  - Demonstrating a mastery of selected concepts and principles of the discipline
  - Applying a disciplinary perspective to topics and problems related to the major
  - Successfully employing research and communication skills
  - Appreciating differing value systems and cultural orientations
  - Interpreting numerical data and abstract models as presented in tables, graphs, measures of averages, charts, and diagrams
  - Distinguishing among and comparing several theoretical perspectives within the discipline
  - Critically evaluating texts for their theoretical and cultural assumptions and use of logic
  - Applying acquired knowledge and research skills to complete an original research project
  - Appreciating the value of objectivity in the analysis of appropriate subject matter

An emphasis on student-oriented goals and objectives (learning outcomes) focuses attention on what students actually achieve (learn) rather than on what the faculty may intend to convey (inputs).

## Outcomes Assessment Activities for Academic Departments: A Summary

Departments should place outcomes assessment in the context of the college's mission statement. Using the goals that have been identified, departments should develop operationalized measures, methods of data collection, and ways to use the results to improve the program. Guiding this effort should be a plan specifying what will take place, when it will take place, who will be involved in the various steps of the evaluation process, and the anticipated consequences of that process.

Outcomes assessment in the program review process should incorporate at least the following six criteria (See Diagram A, page 8):

- Department mission statement;
- Statement of departmental goals;
- Operational definitions of goals;
- Data collection and analysis;
- Evaluation of program on basis of the "fit" between the data and the goals; and
- Feedback of assessment findings in a manner designed to improve learning outcomes.

In the process of developing its assessment initiative, the department should have a well-developed time line or schedule for its implementation and continuance. The department also should specify a distinct division of labor with clear expectations for its success.

### Characteristics of Effective Assessment Plans

The following discussion is designed to assist departments in their efforts to evaluate the degree to which they are achieving their desired learning outcomes. The criteria mentioned can be used to provide feedback to faculty on their plans for program evaluation. The use of these criteria makes it possible to specify standards, to provide consistent feedback, and to facilitate communication within departments. These criteria also enable departments to design and implement relevant and useful assessment activities. One of the primary purposes of this process is to help departments become more effective in meeting their missions' goals and objectives.

The evaluation plan should start with a clear **mission statement** which includes the department's goals regarding teaching and learning and which is consistent with the university and college mission. The **program's purposes** are also part of the evaluation plan. The purposes relate to the departmental and institutional mission. If the mission or purpose statements are revised, such revisions should be dated and include discussions of the rationale. **Student outcomes** are stated in terms of important student achievements (for example, knowledge, skills, behaviors, competencies, and attitudes) and are related to and consistent with the stated mission and purposes of the department. Incorporated into the plan should be a **measures and procedures** section for each outcome. This section describes the methods and procedures to be used to measure the degree to which these outcomes are being achieved. The reliability and validity of the instruments to be used should be considered and discussed at this time. Both **quantitative and qualitative methods** should be used. A **time line** should be specified for implementation and the **methods of data collection and analysis** should be described.

The evaluation plan **identifies a process through which the results will be communicated** to the faculty and identifies mechanisms for using assessment findings to improve the program. In general, the overall plan should include **evidence of faculty and student involvement**. It will provide information that can and will be used to **improve teaching and learning** processes and **curricula** (See Diagram B, page 9). The plan should be feasible to implement (for example, in faculty time and costs). The evaluation plan should consider:

- The effective use of time (for example, collects information on students who apply, current students at appropriate points between freshman and senior years, non-returning students, and alumni);
- The program's impact on subgroups of students (for example, minorities, non-traditional, transfers, at-risk, honors, or female); and
- The effectiveness of important academic processes (for example, teaching, learning, and advising).

With the above-mentioned criteria in mind, an effective departmental assessment plan should contain the following characteristics:

- Assessment activities flow from the unit's mission statement and are built into the department's process of meeting its goals in terms of teaching, research, and service;
- Assessment consists of multiple measures, both qualitative and quantitative, rather than relying on one instrument, activity, or indicator;
- Assessment requires departmental ownership and faculty input and involvement since the faculty are directly involved in the process of student learning, departmental change, and improvement; and
- Assessment findings will lead to improvements in teaching and learning and be seen as *means* to an end rather than as *ends* in and of themselves.

### **Steps in Designing and Implementing Assessment Programs**

The following activities summarize the steps necessary in conducting an effective assessment program. While individual departments may spend differing amounts of time on each activity, all activities are important when implementing assessment initiatives.

Step 1: Identify program objectives.

Step 2: Determine what minimal knowledge and skills departmental majors should have when they graduate. One way to approach this is in terms of discipline-specific attributes as well as college and/or university-wide attributes.

Discipline-specific examples, may include:

- Theoretical perspective;
- Ability to use computers for communication, analysis, and design;
- Appreciation and understanding of world affairs and diverse cultures;
- Breadth and depth of technical background;
- Effectiveness in written and spoken English when communicating ideas;
- Fundamental understanding of mathematics, the natural sciences, and the life and social sciences;
- High professional and ethical standards;

- Inquisitive minds: mature, responsible, open, with a positive attitude toward life;
- Knowledge of business strategies and management practices;
- Motivation and capability to continue the learning experience;
- Match objectives to instructional program/curriculum; and
- Identification of current and alternative assessment procedures.

Note: If department is already doing considerable assessment, it may be just a matter of taking inventory and refocusing.

Step 3: Operationally define learning outcomes (program objectives).

Step 4: Develop methods for determining the degree to which graduates have achieved the identified learning objectives.

Examples of measures of learning outcomes:

- Senior level "comprehensive" exam
- Capstone course
- Course embedded testing
- Alumni survey
- Portfolios
- External review (consultant or outside evaluator)

Step 5: Feedback findings into program improvement (by comparing outcomes findings with learning objectives and curricular goals).

**Diagram A: Steps in Conducting Successful Learning Outcomes Assessment (Program Evaluation)**

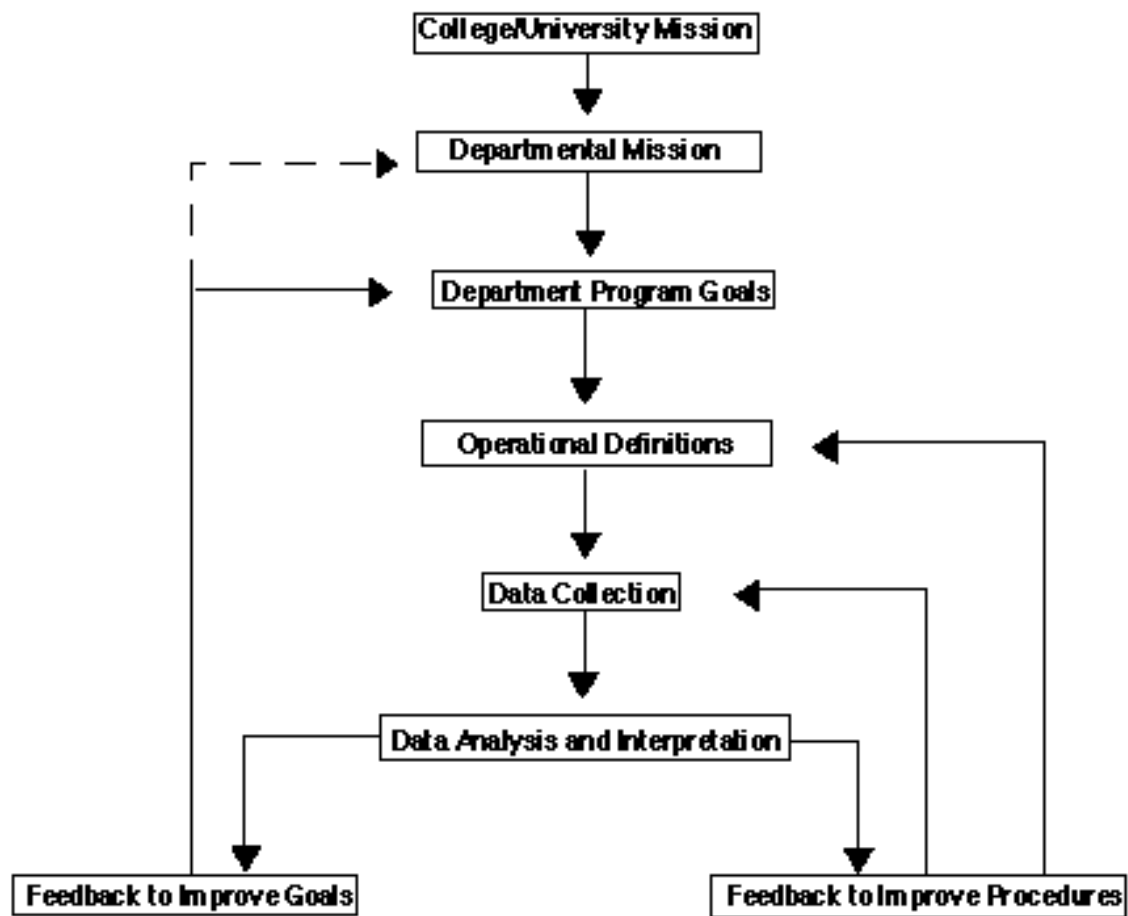
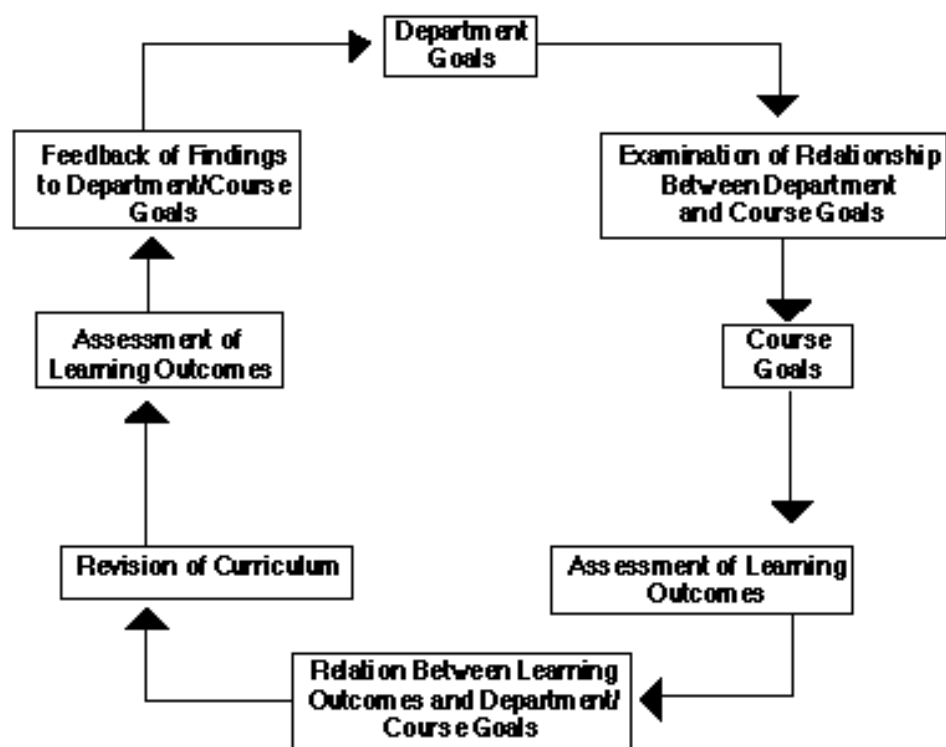




Diagram B: Using Assessment to Aid in Curriculum Reform



Referring to diagrams A and B, it can be seen that the department should place outcomes assessment in the context of the college's mission statement. **Then, using the goals that already have been identified, the department should develop operationalized measures and methods of data collection and anticipated ways of evaluating and feeding back results into program enhancement efforts (including curricular revisions).** Guiding this should be a plan that specifies each activity, a time line for each activity, who will be involved in the various steps of the evaluation process, and what consequences are anticipated. A brief description and rationale for each component in the model are contained in the following sections.

## Mission Statements

The first step in developing an assessment plan is to develop a mission statement which describes a department's overall goals regarding teaching and learning. In order to develop such a statement, individuals should examine the mission statements of both the University and their College. Ultimately, the mission statement should identify a department's overall goals regarding teaching and learning which are specific to its discipline but which also are consistent with the goals of the College and the University.

The following is an example of an ASU department's mission statement in relation the mission of its College and the University.

### Mission Statement for Arizona State University

As a major research university, ASU's reputation and horizons are world wide but it places significant, although not exclusive, emphasis on the nature, characteristics and needs of modern American metropolitan areas, with metropolitan Phoenix as the model for that attention. ASU functions as one university serving multiple sites. Currently three anchor campuses, ASU Main, ASU West and ASU East, and a major satellite location--the ASU Downtown Center--serve local, state and national constituencies. The University provides comprehensive undergraduate, graduate, research and service programs. In all of these endeavors, the University strives to provide outstanding programs in instruction, research and creative activities, economic development, and service.

### Mission Statement for the College of Engineering and Applied Sciences

- To provide undergraduate and graduate students with a variety of high-quality educational opportunities that will serve their professional interests into the 21st Century
- To enhance the economic well-being of the state and nation
- To meet the rapidly expanding need for research and educational support for the high-technology industry of Arizona

### Mission Statement for the Department of Civil and Environmental Engineering

The mission of the Department of Civil and Environmental Engineering at Arizona State University is to produce new ideas and knowledge within the field of civil and environmental engineering and to educate people who can extend and apply that knowledge for the benefit of the State of Arizona, the Nation, and society in general.

## Departmental Goals

The department's goal statement should reflect the overall purpose of the department and should be consistent with the stated mission of the university as well as that of the college or school to which the department reports. The goal statement should describe the roles, services, activities, unique functions, and educational philosophies of the department within the college and university. The goal statement typically covers all dimensions of the department's purpose (for example, teaching, research, and service) and should contain explicit statements about the department's educational mission.

Statements of the program's purposes should focus on the educational component of a department's mission and identify general program goals (for example, prepare middle-grade teachers for public schools or law students with sufficient in-depth knowledge to pass the bar examination). Such statements provide criteria for evaluating the effectiveness of a program and the basis for identifying specific student learning outcomes.

Educational programs typically have multiple, diverse purposes, and no department has the resources to assess all possible aspects of each purpose. Departments should set priorities and focus on three or four purposes that are of primary importance. Statements of purpose may be added or revised in subsequent years.

While establishing goals and objectives may sound relatively simple, this procedure generally takes the longest amount of time. If a program already has objectives in place, these objectives must be discussed and reaffirmed. If a program has not developed objectives, the discussion will be quite valuable (and may be quite long!). Departments often have faculty members with widely varying perceptions of the program's purposes and thus of what a student is expected to know as a graduate of the program.

Departments should review and, as appropriate, revise their mission or program purpose statements in light of the assessment charge. If revisions are made, they should be dated and the updated statements should be used for all subsequent university documents and purposes.

### The Relationship Between Goals and Performance Objectives

The primary difference between goals and performance objectives is that **goals** (departmental and course) are intended to provide general information and thus are not as measurable, while performance objectives indicate concrete measurable outcomes. Performance objectives are developed from departmental and course goals. Goals are the lens through which faculty can focus attention on specific requirements of a program. Objectives provide the means to focus on specific requirements of a department or course: they facilitate the selection of course content, teaching techniques or strategies, and assessment procedures. With this in mind, an important first step for the department is to decide on programmatic and curricular goals. These are typically presented to the students in the departmental description (sometimes included in the university catalog) and/or in a course syllabus. Examples of learning goals for students would be statements such as:

- Gain an understanding of;
- Become aware of; and
- Develop an appreciation for.

Performance objectives, on the other hand, would be written to:

- Indicate what concrete actions the student should be able to perform as a result of majoring in the program ;
- Specify the conditions under which certain actions are to be performed; and

- State the minimum criteria for successful completion of the program or course.

### **Establishing Goals and Objectives**

In preliminary meetings faculty can familiarize themselves with assessment concepts. Articles may be circulated to provoke thought and suggest possibilities for rating instruments. One of the first formal activities may be to survey comparable departments at peer universities in order to learn what others are doing to assess learning outcomes.

The approach should be cumulative and consensus based. Data from meetings or interim activities can be used to set the agenda for later meetings. Whatever techniques are used, there should be agreement that they are representative of all faculty interests -- i.e., the product of consensus rather than voting. Early discussions probably will focus on what competence in the discipline means, as well as identifying expectations for student outcomes.

Following these discussions and background readings, the department can begin to develop "statements of competence" for majors in the discipline. Individual faculty members can develop lists and produce working papers that tend to be encyclopedic in nature. Responses are likely to be a mixture of content-based and non-cognitive areas and include philosophical narrative as well as more terse statements. There probably will be areas overlapping making it possible to create groupings. There also may be some resistance to using the term "objectives;" thus, other terms such as "indicator areas" or "criterion" may need to be considered.

Once programmatic goals have been identified, the knowledge and skills necessary for their mastery are listed. This process allows the desired behavior of the students to be described and will eliminate ambiguity concerning mastery of the objectives.

### **Operational Definitions of Goals (Performance Objectives)**

Operational definitions of goals as expressed through intended student learning outcomes (performance objectives) are precise statements of what students are supposed to learn. These performance objectives should be stated in terms of student achievements (i.e., knowledge, competencies, skills, behaviors, and attitudes). Initially, departments should not attempt to operationalize all student outcomes (performance objectives). Rather, a limited number should be selected early in the assessment process and others added in subsequent years.

Since the program's goals and objectives are multi-dimensional, it is a good idea to incorporate a variety of assessment instruments. For example, cognitive testing is only one dimension of programmatic assessment. Additionally, departments will probably want to know what graduates (alumni) think of the program, what graduates are currently doing (and how they feel the department contributed to their career development), and what employers of graduates think of the program. Another dimension that departments typically wish to assess is the attitudes and behaviors of current students: why they enter the program, what they think of the program, what they hope to gain by majoring in the program, and patterns of course-taking.

## Characteristics of Good Learning Outcomes Statements

In order for the process of outcomes assessment to produce the desired results, the department must develop statements of learning expectations. Statements of learning outcomes should specify the department's expectations for what students should learn and be able to do by the end of a program of study. Listed below are some of the characteristics of such statements of learning outcomes.

- They involve objectives that can be operationalized and are empirically verifiable.
- They should permit multiple paths of demonstrating mastery of program goals.
- They should clarify or establish a link between what students accomplish in the program and what they do after they graduate.
- They should be attainable or feasible given the resources of the department, though sometimes creating learning outcomes can be part of a process of forward planning to make the case for additional or different resources.
- Learning outcomes should include an action verb and a statement of ability: For example, "Students will be able to analyze . . ." or "Students will be able to compare . . ."

## **Data Collection and Analysis**

For each operational definition and intended student outcome, a detailed discussion of data collection and analysis (measures and procedures) should be presented that describes performance standards<sup>1</sup>, evaluation procedures<sup>2</sup>, evaluation results, and the use of results. This is the methodological component of the assessment process and must be sufficiently rigorous to allow reviewers and others to have confidence in the findings.

The process of data collection will reflect the goals and objectives mentioned in the previous sections. Since not all of the goals and objectives need to be assessed every year, a systematic plan for collecting and using data should be established early in the process. For example, alumni surveys only need to be done every few years. (If alumni receive a questionnaire every year they will soon tire of filling them out!) Likewise, testing learning outcomes through graduating senior comprehensive examinations needs only be done every few years. Again, the point of testing is to obtain information about how well the program is doing in reaching its goals and objectives. Testing is only one means to that end. With a well-designed plan, some component of the program will be undergoing evaluation at any given time. The data collected will then be analyzed and interpreted in the context of the overall plan and program objectives.

### **Methods of Measuring Learning Outcomes**

Having identified departmental learning outcomes, the department then develops methods with which to evaluate the degree to which its students are achieving the identified outcomes. In this manner, it may use assessment information to:

- Clarify and more effectively communicate objectives for individual courses;
- Improve advising;
- Change requirements;
- Strengthen curriculum areas;
- Develop new courses and other learning options;
- Make a case for funding; or
- Give feedback to students on their strengths and weaknesses.

### **Assessment Tools**

All departments evaluate student performance and, to some extent, program effectiveness. Consequently, departments may wish to begin by examining current practices and available information in the context of outcomes assessment before considering new initiatives. Faculty members often engage in evaluative or research endeavors that can be translated into assessment activities. A review of these will determine whether they are appropriate for assessment purposes and whether the department is making the most of existing points of contact with its students. Possible sources of information (historical and/or current) include:

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<sup>1</sup> Performance standards identify the specific student achievement and the level of performance required to determine success in achieving the outcome (for example, the majority of all seniors who take the major field test in Sociology will obtain a score that is at or above the national average for that year).

<sup>2</sup> Evaluation procedures should identify data collection methods (for example, alumni survey, capstone course project, exit interview, portfolio, focus group, or standardized test) and procedures (who, what, when, where, and how the data will be collected, analyzed and the results distributed).

- Transcript analysis
  - Patterns of course-taking
- Trends in student performance
  - Tracking exam or course grades over time
- Trends in student enrollment
- Input descriptors for enrolled students
  - Student data such as SAT, ACT, high school percentile rank, honors, GPA, or GRE scores
- Output descriptors for graduates
  - Student data such as GPA, students' perceptions of quality of program, employment patterns, or continuing education

After reviewing current data and collection methods, consideration may need to be given to developing new methods of data collection. For example, surveys of new, current, and past students may need to be developed. The department may want to consider conducting exit interviews with graduating seniors and graduate students. Alumni and employer surveys also may be useful sources of information. Examples of data collection sources and methods include:

- Portfolio of work completed during program
- Comprehensive examinations
- Analysis of transcripts (core work, elective work)
- Exit interviews with students completing degrees
- Focus groups
- Success on national accreditation exams (if appropriate)
- Placement records of graduates
- Survey of alumni
- Survey of employers of students
- Success of students continuing on in graduate programs
- Continued scholarly success of graduates
- Awards/grants received during and following program
- Independent research leading to work being published or presented at professional meetings
- Theses, dissertations, and creative projects
- Publication of theses and dissertations

Many of these techniques are already being employed by departments but may not be recognized for their usefulness in program assessment. Some of the techniques listed above will be elaborated on in this section.

## Standardized and Locally Developed Tests

Although it might be tempting to select instruments that are readily available and easy to administer, reliability, validity, and relevance *to program goals* are crucial. It is important to incorporate instruments that are relevant to your program, not just those that are easy or popular. The advantages and disadvantages of locally-developed versus standardized, commercial tests should be considered. In most instances, a combination of the two will be employed.

Standardized tests have the advantages of being normed and readily available and allow for comparisons with peer groups. On the other hand, the topics contained on such instruments may not be totally applicable to your particular program. Locally developed instruments, however, offer the advantages of being designed for a specific program, involve the input of a department's faculty (and students), and can react to changing conditions in a department. Results of locally developed tests, however, do not lend themselves to comparisons with peer departments. Depending upon the constituencies, the department may need to consider both locally-developed and standardized tests. It is a good idea, if possible, to *use more than a single instrument* in order to obtain different kinds of information about the program.



## **Portfolios (Performance Based Assessment)**

Collecting examples of student work provides a record of change for each student, and when aggregated, provides performance-based documentation that can be used to evaluate the degree to which the department is reaching its learning-outcome goals. The use of portfolios, while rather common in disciplines such as art and architecture, is rapidly being adopted by other disciplines. One of the primary reasons for the increasing popularity of portfolios is the renewed interest in writing (thus, samples of students' written work provide the basis for the development of a portfolio).

Examples of items that could be included in portfolios:

- Exams (multiple choice and essay)
- Research papers
- Essays
- Creative projects

Possible uses of portfolios:

- Students are asked to submit a portfolio of their work as an admission requirement to the program. They would then be asked to maintain their portfolios as they progress through the major, adding selected materials from each course they take. Portfolios would allow the department to chart the progress of their majors.
- To assess writing skills in the major, a department could choose to keep samples of student writing from all the courses in the major. Reviewing such portfolios would help determine if students are getting sufficient opportunities to write, what types of writing assignments are being required, how the writing ability of entering students compares with that of graduating students, and whether there is one particular course (or courses) in the program that seems to have a significant impact on the writing skills of the major.

Steps in the development of portfolio-based assessment:

- Begin by collecting a representative range of student work -- from marginal to outstanding -- and determine what learning appears to be taking place and what does not. This can be the basis for a discussion of what the most important intended outcomes ought to be.
- Identify a group of "exemplary students," collect their course work or observances of their performances, ask the students to describe what experiences in the course helped them the most, and then do an analysis of the interviews and course work.
- Concentrate on one or more outcomes of the program for which portfolios or performances seem most useful or appropriate. Some outcomes, such as reading or computational skills, may have been adequately assessed. Higher-order or more complex outcomes may be more appropriately assessed by a performance-based process.
- Base the evaluation on the department's statement of intended learning outcomes. Build the assessment around this detailed statement of goals and guidelines.

## **Materials That Can Be Included in a Departmental Assessment Portfolio: A Summary**

Items for possible inclusion in a departmental assessment portfolio are described in groups below.<sup>3</sup> Departments should select from the list those items best suited to portray evidence of learning in their department.

### **The Products of Teaching**

- Students' scores on teacher-made or standardized tests, possibly administered before and after course has been taken
- Student laboratory workbooks and other kinds of workbooks or logs
- Student essays, creative work, and project or field-work reports
- Publications by students on course-related work
- A record of students who select and succeed in advanced courses of study in the field
- Establishing or running a successful internship program
- Documentary evidence of the effect of courses on student career choice
- Documentary evidence of help given by faculty to students in securing employment
- Evidence of departmental assistance given to faculty to improve their teaching and/or experiment with teaching innovations

### **Material From Faculty (Descriptive material on current and recent teaching responsibilities and practices.)**

- List of course titles and numbers, unit values or credits, and enrollments, with brief elaboration and discussion of their relevance to the department's mission
- Information on teacher availability to students
- Report on identification of student difficulties and encouragement of student participation in course or program development
- Description of how film, computers, or other non-print materials are used in teaching
- Description of steps taken to emphasize the inter-relatedness and relevance of different kinds of teaching and learning within the department
- Information on departmental involvement in professional associations or societies concerned with teaching and learning
- Description of instructional innovations attempted and the evaluation of their effectiveness

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<sup>3</sup> Adapted from *The Teaching Dossier: A Guide to its Preparation and Use*. The Canadian Association of University Teachers. (1986)

- List of general support services used in improving the department's teaching, such as the Faculty Development Office or the Consortium for Instructional Innovation (CII)
- Record of participation in seminars, workshops, and professional meetings intended to improve teaching
- Record of course or curriculum development
- Record of research pursued that contributes directly to teaching
- Textbook, software, or other instructional materials prepared by departmental faculty and with the support of the department

### **Information Provided by Others**

#### **Material From Students**

- Student course and teaching evaluation data that suggest improvement or produce an overall rating of effectiveness or satisfaction
- Written comments from a student committee to evaluate courses and provide feedback to department
- Unstructured (and possibly unsolicited) written evaluations by students, including written comments on exams and letters received after graduation
- Documented reports of satisfaction with out-of-class contacts with faculty and staff
- Exit interview data collected from students near the end of their program of study

#### **Material From Colleagues**

- Statements from colleagues at other institutions on such matters as how well students have been prepared for graduate studies
- Honors or recognition, such as a distinguished teacher awards and/or participation on college, university or professional association committees on teaching

#### **Material From Other Sources**

- Statements about teaching achievements from administrators at one's own institution or from other institutions
- Alumni ratings or other graduate feedback
- Comments from parents of students
- Reports from employers of students (e.g., in a work-study or "cooperative" programs or alumni surveys)

## Interviews

Interviews are a useful method of gathering information in a focused, one-on-one conversation when the purpose is to obtain information on a broader scale than would be possible on a paper and pencil survey. They are also useful when the purpose is more exploratory or suggestive than representative or generalizable. That is, you may wish to explore some general issues that are of interest to the department but for which there is no consensus as to what students might think. Such information could be useful in helping to design a paper and pencil survey from which factual information could be obtained.

### Types of Interviews

- **Standardized interview with closed responses:** In this type of interview, a set of standardized questions is prepared and asked of each participant. The role of the interviewer is simply to ask the questions and record the responses. The only information that is gathered is that which is specifically asked for and is almost a verbal version of a paper and pencil survey.
- **Standardized interview with open responses:** This type of interview also relies on a set of standardized questions, but the questions are designed to elicit open-ended responses. The participant is encouraged to talk at length on each item. The interviewer uses the questions to guide the interview.
- **Non-standardized interview:** This last method is essentially a conversation between the interviewer and the participant in which they agree to discuss the participant's views of the subject matter. There are no set questions to be asked -- the interviewer merely probes the participant on his/her opinions or perceptions on a particular topic.

### Suggestions for Using Interviews

- Faculty members can be interviewed on their perceptions of the strengths and weaknesses of the department or of a particular program within the department. The department could generate the questions for the interviews or suggest the topics that they would like to have covered. A person from outside the department could be called in to administer the interviews and summarize the results.
- A telephone interview can be conducted with department alumni.
- Graduating seniors can be asked to participate in an individual exit interview.

## **Focus Groups**

Focus groups are a form of group interview where a researcher supplies the topics and monitors the discussion. The emphasis is on group interaction through which individuals are encouraged to share insights and ideas. The use of focus groups allows a small group of people to discuss at length and in depth a pre-designated topic. The dialogue is usually led by a moderator who works to keep the discussion focused on the chosen topic. For program evaluation purposes, the subject of a focus group could be the perceived effectiveness of a course or program, students' perceptions of the strengths and weaknesses of the program, reasons for entering a program of study and students' expectations upon entering, and suggestions for changing the program.

### **Use Focus Groups When . . .**

- You need to get feedback from a small group of people;
- You need a non-threatening format for a discussion; and
- You want to facilitate discussion among a mixed audience, such as the students, alumni, and faculty of the department.

### **Suggestions for Using Focus Groups**

- Department faculty can keep notes on what and how students in their classes are learning and then share their ideas and experiences with their colleagues.
- To facilitate faculty involvement in designing an assessment plan, faculty members can be asked to respond to such questions as, "How would we identify a successful student in our course(s)?" or "What outcomes do we value?"
- The department can ask a group of their graduating seniors to meet with faculty members to discuss the perceived strengths and weaknesses of the program. What did the students experience in the program? Where did they have problems? From what experiences did they gain the most? If they had a chance to do it over, what would they do different?

## Exit Interviews

Interviews with students leaving the program (either due to graduation or other reasons) can be conducted by the department chair or some other member of the faculty. These students can be asked to discuss their experiences while a departmental major. Such an interview can include topics ranging from entering expectations through future plans. All of this can be in the context of departmental goals.

### Major Areas for Review in Exit Interviews

For example, questions which could be asked in exit interviews with graduating students:

- Were your expectations for majoring in the department/discipline realized?
- What were your most important experiences in your major classes?
- What were your most disappointing experiences in your major classes?
- What were your most important/disappointing academic experiences while a student in this department?
- Are there any areas to which the department should pay greater attention?
- Are there any areas to which the department pays too much attention?

### Example of A Graduating Student Exit Interview Protocol

What is your overall evaluation of your major?

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Why: (Please Describe):

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What is your overall evaluation of the instruction in your major?

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Why: (Please Describe):

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What is your overall evaluation of the type and number of courses offered in your major?

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Why: (Please Describe):

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What is your overall assessment of the facilities offered by your major? (classrooms, computer usage, etc.)

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Why: (Please Describe):

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What is the likelihood that you will be using your major in your work?

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Why: (Please Describe):

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What is the likelihood that you will be using your major following graduation?

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Why: (Please Describe):

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Additional Comments or suggestions:

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## **Course-Embedded Testing**

Course-embedded assessment includes any evaluative procedure that is embedded in the curriculum. For example, course-related exams (whether objective or essay tests) could be evaluated once in the context of the particular course and a second time from the perspective of specified departmental learning outcomes. That is, tests could be constructed in such a way as to allow portions to be reviewed by outside evaluators. In this manner, students are not asked to participate in assessments external to their course work, but in fact, have assessment as part of their regular course work. Written assessments that are embedded in a department's L-2 course(s) would be an example of this type of activity.

## **Transcript Analysis**

Transcript analysis allows a department to obtain a "running" record of how their majors have moved through their program of study. A primary advantage of transcript analysis is that it requires no additional data-gathering and is unobtrusive. Analysis of transcripts provides the department with information regarding the course-taking and grade patterns of its majors. For example, the use of transcript analysis will help a department determine if majors who follow a particular course-taking path are more likely to succeed.

Transcript analysis, for example, is useful when you:

- Would like a "moving snapshot" of a group of students at particular points in time;
- Need to know what classes students took and in what order; and
- Are interested in patterns in student grades.

## **Graduate and Alumni Surveys**

Surveys of program graduates can serve as one of the better mechanisms for determining the short-range and long-range impacts of being a departmental major. Surveys can provide perceptions of the quality of degree programs and related services as well as post graduation plans and activities (employment, graduate school). Additionally, they can focus on particular departmental concerns or initiatives or on innovations in teaching and instruction. For example, a department that has recently modified its curriculum may wish to survey a sample of alumni who graduated under the old system and a comparable group who graduated under the new system in an attempt to determine if the curricular change had the desired impact.



## **Evaluation of "Fit" Between Findings and Goals**

The next step in the assessment process takes place when the department compares assessment findings with its previously stated goals. Here the department will be evaluating the degree to which it is meeting its desired outcomes. For example, what are the implications of finding that 50% of a department's graduates are employed in an area related to the degree, when the goal was to have 40% so employed? The department will then attempt to determine what it is about the program that is leading to higher than expected employment rates.

In order to reinforce the point that assessment is a departmental process (being done by and for the faculty for the betterment of the department), faculty should be the ones responsible for the analysis and interpretation of data. Probably the single most important area to which the collected data will be compared is the department's curriculum, an area of professional and personal interest to most faculty members. It is in this way that the department can, in effect, monitor its curriculum and determine if it is doing what it was designed to do (in the context of the goals and objectives it has identified as important for its majors).

## **Feedback of Assessment Findings into Departmental Improvement Initiatives**

Following the evaluation of data, the department relates these findings to its curricular/teaching initiatives. That is, the findings are used to revise and improve the curriculum in a manner consistent with its mission and the findings of its assessment initiatives. In this way the department describes how evaluation results will be used to strengthen student learning and development, teaching effectiveness, courses, and curricula. (Note, in some cases the department may determine that its mission needs to be revised to be more consistent with the findings.) At this stage it is important, for example, to describe how the department's curriculum fits the findings and stated learning objectives.

As with any research, the department needs to be aware of its audience. Also, when reporting assessment results, the department also should be aware of the political context of its findings. Faculty need to know where the results will be sent and how they will be used. For example, as mentioned earlier, the results of standardized tests (such as the ETS Major Field Test) may be useful if comparisons need to be made with other departments. However, if the department is focusing on changes in its curriculum over time, comparisons need only be made with different graduating classes. In this case, locally developed test results would be more appropriate for reporting purposes. Typically, locally developed instruments have a great pedagogical (internal) impact while the results of standardized tests are more meaningful in a political (external) context.

In the process of developing this assessment effort, there should be a well-developed time line/schedule for implementation. Within this time line, there is a need for a division of labor with clear expectations so that all aspects of the assessment process can be conducted on schedule.

## **Involving Faculty in Assessment**

In order for assessment to be effective, faculty must be involved. This is not to say that they must be wildly enthusiastic about the idea of assessment, but most should at least appreciate the value of conducting such assessments.

There are various ways to encourage faculty participation in the assessment process. For example, it could be pointed out that faculty have long been involved in assessment, although it has not been labeled as such. Also, departments have undergone self studies and program reviews (e.g., decennial reviews) for regional accrediting agencies and/or for internal or external governing bodies for many years.

It can also be demonstrated that the faculty and the program have much to gain through assessment. Assessment provides an opportunity to discuss thoroughly the curriculum strengths and weaknesses of the program (not of individual faculty members or students). It also can provide data to justify additional resources, such as additional equipment or assistance for faculty development.

### **Stages of Faculty Involvement**

Although the person coordinating assessment might be ready to jump in and initiate the assessment, it is important to let the faculty take the time to go through whatever stages are necessary to make the assessment valuable and effective. There are five stages through which faculty typically pass as they become involved in assessment: discovery, questioning, probing, acceptance, and commitment.

#### **Discovery**

When the idea of assessment is first introduced to the faculty, there probably will be some wary curiosity. What is assessment? What does this mean? How does this differ from testing and other activities we have been doing?

#### **Questioning**

The first stage may be followed by one in which faculty critically question assessment and the assessment/evaluation movement. Why are we doing assessment? Whose idea is this? Will it affect my raise? Is someone trying to abolish my program? Isn't this just some administrator's idea of creating more busy work with no appreciable reward for engaging in the work?

#### **Deeper Probing**

The questioning continues and often may evolve into complaining, hostility, and suspicion. In this stage, questions such as the following are likely to be raised: How will this information be used? How can we avoid assessment? What is behind all of this assessment? Isn't it just a fad? Can't we just wait out the passing fad?

### **Acceptance, Involvement, and Participation**

After working through long discussions, faculty members generally reach some level of acceptance of assessment. In most cases, faculty become involved in the assessment process. They actively participate in outlining goals, developing procedures, and interpreting results.

### **Commitment**

Faculty then go on to the next stage in which they become committed to the idea of assessment. Although not all faculty become "born-again" assessors, most at least see the positive value of the assessment process for their program.

## Examples of Higher Education Assessment Programs

The University of North Carolina

Internet Resources for Higher Education Outcomes Assessment:

<http://www.ga.unc.edu/UNCGA/assessment/resources.html>

This site provides links to resources, university and community college assessment sites, and accrediting organizations.

### Internet Resources

#### ORGANIZATIONS

American Association for Higher Education (AAHE) Assessment Forum	<a href="http://www.aahe.org/assessment/assessnw.htm">http://www.aahe.org/assessment/assessnw.htm</a>
American Evaluation Association (AEA)	<a href="http://www.eval.org/">http://www.eval.org/</a>
American Educational Research Association (AERA)	<a href="http://www.aera.net/">http://www.aera.net/</a>
ERIC Clearinghouse on Assessment and Education	<a href="http://www.ericae.met/">http://www.ericae.met/</a>
National Center on Postsecondary Teaching, Learning, and Assessment (NCTLA)	<a href="http://www.cac.psu.edu/~nctla/">http://www.cac.psu.edu/~nctla/</a>
North Central Association of Colleges and Schools. Commission on Institutions of Higher Education (NCA-CIHE)	<a href="http://www.ncacihe.org/index.cfm">http://www.ncacihe.org/index.cfm</a>

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Assessment Measures and Methods: Advice from NCA. Lopez, C. L. (1996).  
[http://www.calumet.purdue.edu/public/eval\\_plan/mea&meth.htm](http://www.calumet.purdue.edu/public/eval_plan/mea&meth.htm)

#### ASSESSMENT METHODS USED BY ACADEMIC DEPARTMENTS & PROGRAMS

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