Some Assessment Definitions and Principles
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Principles

• Focus on the goals and learning outcomes **you** feel are most important. Don’t waste time measuring what you don’t care about.
• Make it doable and sustainable by keeping it simple. Choose between two and five priority outcomes for the first three-year cycle, and do them well.
• Aim for improving the quality of instruction and the educational experience of students.
• Assess learning outcomes for programs, not for individual students or individual instructors’ students.
• Obtain specific information that is fine-grained, which will tell you specifically what students know & don’t know and can & can’t do. (Grades cannot provide such fine-grained information.)
• Make it public. Your SLOs, methods, and results should be transparent for all stakeholders.
• Set high expectations for “success” to allow you uncover areas that can be improved. If students are “doing just fine,” then set the bar higher or get a different bar altogether.
• Don’t let what you can’t do prevent you doing what you can do. Some learning is difficult or impossible to capture and measure, but outcomes assessment can still be helpful.
• Target “greatest opportunities for improvement.” Act upon your assessment results by choosing the improvements that will lead to the changes you believe are most important.

Steps in the Process (for direct measures)

1. Faculty develop goals or outcomes (at least two and probably fewer than ten). Recommendations: two or more faculty collaborate; learn or steal from extramural colleagues.
2. Select the instrument—**what will be measured.** For direct assessment, some kind of student “performance” should be measured (papers, projects, art shows, dissertations, essay-exam responses, portfolios, objective exams (if broken down into learning outcomes). **Course- or program-embedded instruments near the end of students’ careers are best.**
3. Establish a rating scale. Make it as simple as possible (1–4); you can complicate it later.
4. Set a level for success. For example: “80% of our students should score 3 or above.”
5. Randomly select samples. Sample from 5% to 100% of the population.
6. Involve key faculty members in all aspects (scoring, analyzing, and interpreting).
7. Measure outcomes once a year, and measure only two to four outcomes each year.
8. Analyze “data.” Analyze using methods that make sense to your faculty.
9. Analyze findings. Faculty discuss what the data tell them about teaching and learning. Ideally, they look at specific examples of student work as they discuss data in aggregate. This should be one of the “rewards” of assessment: rich faculty conversation about students’ strengths and weaknesses, and about improvement.
10. “Close the loop” by taking measures to address program weaknesses or in some cases changing your assessment process or outcomes and by publishing the results. Writing Learning Goals and SLOs.
Goals and Outcomes

- **Goals**: general statements about knowledge, skills, attitudes, and values expected in graduates.
  - When identifying learning goals, start with the mission of the organization (college, department, or program) and be sure learning goals tie to the mission.

- **Outcomes**: clear, concise statements that describe in behavioral terms how students can demonstrate their mastery of program goals.
  - When identifying student learning outcomes, start with identified end of program attainment goals, break program goals into measurable activity, and develop criteria for rating students’ level of attainment/mastery.

Examples of Program Goals

**Knowledge**
- Students know basic principles and concepts in the physical and natural sciences.
- Students understand the major theoretical approaches used by at least two social science disciplines.

**Skill**
- Students can use appropriate technology tools.
- Students have effective collaboration skills.

**Attitude/Value/Predisposition**
- Students respect academic standards concerning plagiarism.
- Students appreciate the importance of considering diverse perspectives.

Examples of Learning Outcomes

- Students can define the basic principles and concepts in the physical and natural sciences.
- Students can describe the major theoretical approaches used by at least two social science disciplines.
- Students can locate sources by searching electronic and traditional databases.
- Students can work collaboratively to achieve project goals.
- Students can analyze the quality of the argumentation provided in support of a position.
- Students can define plagiarism, describe how to avoid it, and explain why it is important.
- Students can describe the importance of considering diverse perspectives.
Direct vs. Indirect Measures of Student Learning

Direct Measures of Student Learning
Students demonstrate what students know or can do with their knowledge. Whenever possible, these demonstrations should be “embedded” into typical college courses or programs.

- **Capstone experience**—reflected in student products such as projects, papers, theses, dissertations, presentations, performances, portfolios or research evaluated by faculty or external review teams
- **Exams**—entry-to-next level program exams, comprehensive exams, national standardized subject matter exams, certification or licensure exams, professional exams, or locally developed tests
- **Clinical, Internship or Practicum**—evaluations of specific student knowledge or skills from internship supervisors or faculty overseers based on stated program objectives and structured observation of student performance
- **Portfolios**—reviewed by program faculty, outside faculty, professionals, visiting scholars or industry boards
- **Professional jurors or Evaluators**—assessment of student projects, papers, exhibits, portfolios, auditions, performances, recitals
- **Student publications**—in campus, local, regional, national, or international venues
- **Successful research applications**
- **Student academic awards**
- **Essay questions**—blind scored by faculty across the department, division, school or college

Indirect Measures of Student Learning
Students self-report on their learning or others report on students’ performances. Indirect measurement can allow you to get at some outcomes (like attitudes and beliefs) that direct measurement cannot.

- **Alumni, employer, employer, or student surveys**
- **Exit interviews with graduates or focus groups**
- **Interviews with instructors, program coordinators, residence halls leaders, and others who have direct contact with students**
- **Graduate follow-up studies and alumni honors, awards, achievements**
- **Retention and transfer studies**
- **Length of time to degree**
- **SAT/ACT scores**
- **Job placement rates of graduates**
- **Satisfaction surveys**
- **Analysis of grade distributions**
- **Self-report measures assessing students’ perceptions of their learning**
- **Observing and recording students’ behaviors**

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1 Sources for this section were Cecilia Lopez, NCA Commission on Institutions of Higher Education: Opportunities for Improvement: *Advice from Consultant-Evaluators of Programs to Assess Student Learning*, March 1996; and Oklahoma State University.
Guidelines for Writing Student Learning Outcomes (SLOs)

Some Basic Principles about Assessment and SLOs

- “The purpose of assessment is to produce feedback to the department, school/college, or administrative unit on the performance of its curriculum, learning process, and/or services, thereby allowing each unit to improve its programs. It is not an evaluation of individual students or of individual faculty or staff” (UW-Madison).

- Well-written learning outcomes clarify the knowledge, skills and attitudes that faculty want students to learn and how the assessment should be conducted or what kind of data you will need to collect. By using active verbs that yield measurable behavior or activity, statements of SLOs focus on how students can demonstrate their learning rather than on what faculty will “cover.” For example:
  - Students can list major events in American History.
  - Students can describe major events in American History.
  - Students can apply their knowledge of American History to examine contemporary American issues.
  - Students can calculate solutions to mathematical problems.
  - Students can interpret information from data represented in charts, graphs, tables and spreadsheets.

Characteristics of Good Student Learning Outcomes (SLOs)

- Good SLOs spring from what faculty most deeply care that students learn.
- Good SLOs are measurable. They usually specify observable behavior or measurable product.
- They are specific, focused, and clear. General outcomes can be hard to measure. Each SLO should address a single measurable outcome.
- Address learning at multiple cognitive levels from factual knowledge through application, analysis, synthesis and evaluation.

Writing Learning Outcomes for the Appropriate Level

- **Course Level:** Students who complete this course can calculate and interpret a variety of descriptive and inferential statistics.
- **Program Level:** Students who complete the program can use statistical tools to analyze and interpret research data.
- **Institutional Level:** Graduates of UNM can apply quantitative reasoning to real-world problems.

Writing student learning outcomes for a degree or service program is a process that begins with what faculty/staff believe the ideal graduate would know, understand and be able to do. This is a collegial undertaking that often includes published professional/disciplinary standards, advisory bodies, and ideally alumni and students.

It is an iterative process producing drafts that change over time as a product of the assessment process, currency in the discipline, and the changing needs of students and changing emphasis of programs.
Helpful Verbs for Describing What Students Will Know, Understand, and Do

Use these verb sets to help you write your outcomes. Here we’ve used the recognizable verbs from Bloom’s Taxonomy.²

1. **What will my students know?**
   - observe and recall information; knowledge of dates, events, places; knowledge of major ideas; mastery of subject matter
     - Question Cues: list, define, tell, describe, identify, show, label, collect, tabulate, quote, name, who, when, where, etc.

2. **What will my students comprehend/understand?**
   - understand information; grasp meaning; translate knowledge into new context; interpret facts, compare, contrast; order, group, infer causes; predict consequences
     - Question Cues: summarize, describe, interpret, contrast, predict, associate, distinguish, estimate, differentiate, discuss, extend

3. **What will my students be able to do?**
   - **Application**: use information; use methods, concepts, theories in new situations; solve problems using required skills or knowledge
     - Question Cues: apply, demonstrate, calculate, complete, illustrate, show, solve, examine, modify, relate, change, classify, experiment, discover
   - **Analysis**: seeing patterns; organization of parts; recognition of hidden meanings; identification of components
     - Question Cues: analyze, separate, order, explain, connect, classify, arrange, divide, compare, select, explain, infer
   - **Synthesis**: use old ideas to create new ones; generalize from given facts; relate knowledge from several areas; predict, draw conclusions
     - Question Cues: combine, integrate, modify, rearrange, substitute, plan, create, design, invent, what if?, compose, formulate, prepare, generalize, rewrite
   - **Evaluation**: compare and discriminate between ideas; assess value of theories, presentations; make choices based on reasoned argument; verify value of evidence; recognize subjectivity
     - Question Cues: assess, decide, rank, grade, test, measure, recommend, convince, select, judge, explain, discriminate, support, conclude, compare, summarize

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Abbreviations
CARC = College Assessment Review Committee
HED = (NM) Higher Education Department

Timelines: Annual Assessment and Reporting Cycles for General-Education Courses and Degree-Granting Programs