San Diego Mesa College
SLOs 101: FAQ

What are student learning outcomes?

Student learning outcomes, or SLOs, are statements that specify what students will ***know, be able to do or be able to demonstrate*** when they've completed or participated in a program, activity, or course.

Outcomes are usually expressed as knowledge (cognitive), skills (behavioral), or attitudes and values (affective), but these can overlap: there's no reason why knowledge should be separate from what we can do with it or how we feel about it. Cognitive skills themselves are sometimes divided into different groups, following Bloom's Taxonomy of Cognitive Behavior: knowledge, comprehension & application, and higher-level "problem-solving."

Finally, SLOs should be differentiated from traditional approaches that might be more teacher-centered or content-based. Asking "What material will I cover?" is the opposite of an SLO approach, which asks instead "What do I want students to take away?"

What are the characteristics of good SLOs?

SLOs specify actions by students that are ***meaningful, measurable*** (though not necessarily ***quantitatively*** measurable: more about that later) ***and able to be demonstrated.*** For example, it's better to say "students will verbally compare and contrast differing political theories" than to say "students will gain an understanding of world politics," which is internal and thus impossible to demonstrate or measure.

In addition, good student learning outcomes often suggest an activity by which they can be assessed. These activities can vary: tests, reports, portfolios, group projects, capstone projects, and even homework can all be employed. (See the section "Suggestions for Assessment" below.)

How can SLOs help students and Mesa College?

First and foremost, we need to compile, organize and assess SLOs because the process is mandated by our accrediting body, ACCJC. But assessing SLOs can also . . .

- ☐ help departments, disciplines and service areas understand how to improve student learning
- ☐ provide departments, disciplines and service areas with feedback (e.g., Are your services providing what they are supposed to? What

skills are students learning? Are they the ones we want them to learn? Are they the ones we're teaching?)

- ☐ enable students to articulate what they're learning and have learned and what they can do from attending our classes or using our services, inside and outside of the classroom
- ☐ enable students to better understand where they can go to learn more about particular sets of knowledge, skills, attitudes or values.

How can we get started?

1. Ask yourself, perhaps at a department meeting: what are the most important things a student should know, be able to do or demonstrate after completing my program or from utilizing my services? What are the most important things I'd like them to remember about the experience five or ten years down the line?

   (Another way to get started is by taking a useful survey called the "Teaching Goals Inventory," put together by Patricia Cross in the early 90s: it's a list of 50 different goals that faculty might have for students in a particular class. Faculty go through these goals and mark them "essential," "not at all essential," etc.: the overall score, and the number of goals that get the "essential" label, tell that particular faculty member something about which outcomes are important to him or her. There's a copy available at the college for anyone to try; it's also available in the public domain. One useful electronic version from Southern Illinois University is here.)

2. Make a list of these and try to write them as SLO statements, using the examples and hints below. If possible, work with others in your department, discipline or service area, perhaps people who are teaching the same core class or performing the same service. (You might also consult professional/technical websites.)

3. Don't be shy about using the six already-established college outcomes, but if you do, make them more applicable to your goals by adding more specific SLO statements under them. (Critical thinking, for example, would look different in a dental assisting class than it would in a history class: articulate what it means in your discipline or service area, perhaps as bullet points underneath the outcome. It's those definitions that will actually get assessed).

4. Faculty members might also check course outlines on Curricunet for specific course-related objectives that might "bundle" into a more general or overarching SLO – one of the college outcomes or, perhaps, a new one. You probably ***won't*** be able to just use your existing course outlines and call the objectives SLOs because

they're too specific: remember, SLOs have to "split the difference" between those and the very general overall college outcomes. (More information about the difference between broad departmental outcomes and specific course objectives can be found here.)

5. ***Focus on a small number***: three-five is probably enough.

6. Edit and review them, again using the hints below, and talk with your colleagues about adopting them.

Hints and Examples

--- Use active verbs: active verbs (like analyze, apply, calculate, classify, compare, design, develop, discuss, estimate, explain, indicate, label, operate, solve, etc.) result in behavior that can be assessed and measured

--- Avoid unclear verbs: abstract verbs (like appreciate, become aware of, become familiar with, know, learn, and understand) result in internal behaviors that can't be observed or measured easily

(Having said that, there really are no "good" or "bad" verbs: it depends on the context. Just remember that the behavior or knowledge or skill or value you list has to be observable and, somehow, measurable.)

For example, these outcomes . . .

--- will appreciate the benefits of exercise (how?)
--- will develop problem-solving skills (which ones?)
--- will be able to have more confidence in their abilities (how?)

. . . are too general and very hard to measure, compared to these . . .

--- will be able to explain how exercise affects stress
--- will be able to assist classmates in resolving conflicts
--- will demonstrate ability to analyze and respond to arguments

. . . which are more specific and relatively easy to measure.

Fixing Weak Outcomes

SLOs have to demonstrate that the students have learned something. It follows that weak outcomes either can't measure learning (in which case they might be course or program goals) or might be too specific, as with some of the course outline objectives on Curricunet.

For example, the statement "Students will be able to list the nine reasons for a needs assessment" is better than "Students will understand the nine reasons for a needs assessment" (where there's learning of some sort being proposed, but of a nature that's difficult or impossible to measure).

Mentioning measurement brings in the topic of rubrics: some faculty use them and others don't. Rubrics are valuable as ways to quickly assess student work, and can be as simple as "yes" or "no" – for example, when assessing the outcome in the last paragraph, students either can or can't list those nine reasons. Many rubrics are on a five-point scale: to use the example of the Teaching Goals Inventory mentioned above, we'd have "essential," "very important," "important," "unimportant," or "never important."

It's important, in a "culture of evidence," to be able to point to how student work was evaluated, and how outcomes were or weren't achieved. That's why adopting your own departmental rubrics is important. The work or activity being assessed might vary in each class, but the standards by which it's assessed have to be uniform; otherwise, we won't collect any data about student learning or accomplishments that's worth analyzing.

Finally, try using the following sentence template: "As a result of students participating in _____, they will be able to _____." That can yield both an outcome and a assessment method by which to measure it.

How Mission Statements Can Help

If your program, discipline or service area has a mission statement, it will often supply goals or objectives or content material that can be used to suggest outcomes. (For example, see how Mesa's Mission Statement works to support our SLOs).

Here are some other examples from Washington State University publications:

Natural Sciences **Program Goal:**
Students who major in the natural sciences will become critical thinkers who are able to judge scientific arguments created by others and see relationships between science and societal problems.

Natural Sciences **Learning Outcomes:**
- ☐ Students can apply scientific methodology
- ☐ Students can evaluate the validity and limitations of scientific theories and claims.
- ☐ Students can assess the relevance and application of science in everyday life.

Humanities **Program Goal:**

Students who major in the humanities will begin to recognize themselves as "knowers," be self-conscious about their participation in a particular culture, and cultivate their ability to discover new knowledge for themselves.

Humanities **Learning Outcomes:**

- ☐ Students can connect the contributions of the humanities to the development of the political and cultural institutions of contemporary society.
- ☐ Students can compare and contrast the meaning of major texts from both Western and non-Western cultures
- ☐ Students can apply the humanistic perspective to values, experiences, and meanings in their own lives.

Goal, Objective, or Outcome?

The statements below were written for programs and courses. Analyze them to determine whether they are goals, objectives, or student outcomes. Write G for goals, OB for objectives and SLO for student learning outcome in front of each statement.

___ 1. (Engineering course) This course introduces senior engineering students to design of concrete components of structure and foundation and integrates them into overall design structures.

___ 2. (History course) The student is able to function in teams.

___ 3. (Engineering course) Functioning as a member of a team, the student will design and present a concrete structure which complies with engineering standards.

___ 4. (Geography course) This course will develop perspectives on GIS for representing data, information, and knowledge – interplaying among reality, database, and map display.

___ 5. (Epidemiology course) Define and assess an epidemic for a given population and recommend factors influencing the use of health services.

___ 6. (Ecology course) Critically review and synthesize the findings in scientific literature and make appropriate ecological recommendations based on current knowledge.

___ 7. (Sociology course) Students will understand that individuals (and their families) must be regarded uniquely as individuals with many contributing variables such as multicultural issues.

___ 8. (Gen Ed. Communication course) We'll cover key issues in contemporary mass media, with an emphasis on the nature of media competition, entertainment and news, movies, television, newspapers and the Internet.

___9. (Math course) Given data, students will analyze information and create a graph that is correctly titled and labeled, appropriately designed, and accurately emphasizes the most important data content.

How'd you do? The answers are at the end of this document.

Suggestions For Assessment

- ☐ Evidence of student learning outcomes being attained can take many forms but should involve ***direct examination of student performance:*** either individual students or representative samples of students. Does "observable" mean "quantitatively measurable"? Not necessarily. Do we have to somehow alter our observations to fit systems of standardized measurement? No.

- ☐ The evidence should be relevant to what's being claimed (i.e., the outcomes themselves) and potentially verifiable through replication or third-party inspection.

- ☐ Examples of the types of evidence that might be used appropriately in accreditation settings include (but aren't limited to):
  --- Faculty-designed comprehensive or capstone examinations and assignments
  --- Performance on licensing or other external examinations
  --- Professionally judged performances or demonstrations of abilities in context
  --- Portfolios of student work compiled over time
  --- Samples of representative student work generated in response to typical course assignments
  --- Oral reports or group projects

It's important to emphasize that such assessment is ***formative***: the results of these assessments should be shared not only with departmental colleagues, but with the students themselves. They can help students understand where they might be falling short of the intended outcomes before the final "summative" grade is assigned.

Some other suggestions would be to **include direct and indirect measures of outcomes**: direct measures ask students to demonstrate their learning (student performance). Indirect measures ask students to reflect on their learning (changes in student behavior, attitudes, or values).

Also, **include qualitative and quantitative measures:** Qualitative measures rely on description rather than numbers (interviews, observations, writing samples, surveys, etc.). Quantitative measures analyze numeric data using statistics (rubric ratings, grades, test scores, demographics, teaching evaluations, etc.).

Timeline

Programs, departments, disciplines, and service areas need to carry out the four-step process by the following dates:

1. Choose 3-5 outcomes; feel free to use some of the already-established college outcomes, but if you do, tweak them to be relevant to what goes on in your classes or service areas. Ask yourselves: what's most important for students to know or be able to do when they finish our classes or use our services? **(by the end of the Spring '08 semester)**
2. Select (or create) an assignment, some student work or survey question that you feel speaks, somehow, to the outcome you've chosen to assess. In choosing this "assessment activity," ask yourselves: how can a student show mastery of or facility with the outcome? There's no need for different faculty members to choose the same assessment activity **(by the end of next semester, Fall '08)**
3. Assess the work or the survey question you've chosen, using a common departmental rubric or system of measurement, prioritizing direct observation; feel free to use qualitative and quantitative measures, and direct and indirect measures **(again, by the end of next semester, Fall '08)**
4. Analyze the evidence, and decide whether or not to modify the outcomes (i.e., are students demonstrating something else that might be essential?), the assignment (too difficult? too easy?), or even the criteria or rubric the assignments are judged by **(by the end of Spring '09)**

A Final Note

Our mandate is clear: at the program, department, discipline or service area level, we need to identify outcomes and assess them.

But longer-term, we also need to develop faculty commitment and buy-in to the process. No matter what happens in the national elections this year or who becomes the next Secretary of Education, ***student learning outcomes are not going away***; it follows that our college faculty and service professionals need to find a way to make their assessment serve our own learning and educational purposes, and not just make this process a mass

audit for accreditation – and for that, we need to develop sustainable structures that we can be happy with.

To that end, we'd now like to explore a few of the numerous software systems that have recently been developed and marketed to colleges and universities to compile, organize and evaluate their student learning outcomes. Then we'll decide whether or not we might want to buy a license for one of them; the newly formed SLO Advisory Committee will also offer guidance.

(Answers to Quiz Questions: 1-O; 2-G; 3-SLO; 4-O; 5-SLO; 6-SLO; 7-G; 8-O; 9-SLO)

(The information in this document was compiled from many different sources: the college websites with the most valuable information about outcomes include, in California, Bakersfield and Cabrillo (a comprehensive list of other good SLO links besides the ones there); Washington State University, the University of Rhode Island and BYU are also worth checking out. Finally, don't forget the state Academic Senate and the ACCJC Standards themselves).