

How to Write Learning Outcomes

This document is a work in progress. As faculty utilize these guidelines, they will make suggestions for improvement. Changes will follow.

What are learning outcomes?

Student learning outcomes (SLO) specify what a learner is expected to know, understand, or be able to do upon completion of a course.

Why are learning outcomes important?

1. They communicate expectations to learners.
2. They act as a template for course design.
3. They guide the selection/design of appropriate assessments.
4. They allow educators to match teaching strategies to stated outcomes.
5. They allow us to assess the impact of instruction.
6. They clearly communicate graduates' skills to prospective employers.
7. They provide benchmarks for formative, summative and prior learning assessment.

How many learning outcomes should there be?

There should be as many outcomes as needed to clearly reflect what students will learn from the course. Each major course topic may have 1-3 learning outcomes.

What are the required components of a learning outcome?

- 1) Student learning behaviors - knowledge, skill or attitude to be gained
- 2) The method of assessment - conditions of performance
- 3) Criteria for achievement - the levels of acceptable performance

What do I do after I have written the SLO?

After you've written the SLO, make sure it is stated in the course syllabus and discussed with students at the beginning of the semester so that they know what they will be expected to learn in the course.

During the semester, include formative assessments as opportunities for students to measure their progress toward the stated outcomes.

Provide information or resources that will help students improve their performance on specific stated outcomes.

What are the characteristics of a good student learning outcome?

Use the following acronym to check that the outcome for a course has the required characteristics: **SMARC**

1. It is **S**pecific.
2. It is **M**easurable
3. It is **A**ctionable.
4. It is **R**elevant.
5. It is **C**ommunicated.

A **s**pecific outcome refers to one learning behavior. For example, the following partial outcome statement is *incorrect*: "Identify potential sources of patient stress and create an intervention plan for each one." **Identify** and **create** are two separate behaviors. The following is the *corrected example (the missing parts of the outcomes have been added)*:

1. Identify the five most common potential sources of patient stress on a post surgical ward.
2. Create an intervention plan with at least three strategies for one major post surgical patient stressor.

A **m**easurable outcome includes actions depicting knowledge, skills, or behaviors that can be observed and rated in some form. For example, " Demonstrate an understanding of how government works." or "The student will know the cycles of cellular respiration." are hard to observe as they are stated. A more accurate way to state these outcomes would be:

1. Students will create a bill and describe the steps that must be taken for it to become a law.
2. Students will be able to depict, in a visual format with bulleted notes, the cycles of cellular respiration."

These outcomes can be measured in a number of ways.

An **actionable** outcome is one that can be demonstrated with evidence, or observed. For example, "Students will know the function of a cell wall." does not call for any evidence from the student. A better way to state that outcome would be:

1. Students will describe the two most important functions of a cell wall. Or
2. Students will compare a cell wall to a raincoat.

For an outcome to be measurable it should be actionable.

A **relevant** learning outcome is one that prepares the student for future experiences or coursework. For example, "Identify relevant sections of the Canadian Electrical Code." might not be relevant for students expected to work in the Central Texas area.

A **communicated** outcome is one that is made transparent to other faculty, college administrators and to the students. Outcomes communicated to students all them to control the semester and take responsibility for their learning.

Use this self checking chart or label each part of the written outcome with "S", "M", etc. self-checking chart.

SLO	Specific	Measurable	Actionable	Relevant	Communicated

What are the steps to writing a SLO?

1. Identify the major topics of a course.
2. Classify the outcome: focus on student behavior.
3. Identify the level of learning required of the student.
4. Choose a specific action verb for each outcome.

- 5.** Decide how you will measure the achievement of the outcome.
- 6.** State success criteria.

1. Identify the major topics of a course.

Think about the big picture of what the students are expected to learn from the course. You will want to consult the All Course Guide Manual (ACGM) at

www.theccb.state.tx.us/AAR/UndergraduateEd/WorkforceEd/acgm.htm

or the Workforce Education Course Manual (WECM) at

www.theccb.tx.AAR?UndergraduateEd/workforceEd

Your institution may have **established course syllabi** that you are required to use. A course may have 3-5 learning outcomes per major topic.

2. Classify learning outcomes.

When writing learning outcomes, think about what you want students to be able to do as a result of completing the course. There are three possible domains of learning...

- ❖ Thinking, knowledge (cognitive domain)
- ❖ Manual or physical skills (psychomotor domain)
- ❖ Attitudes, values (affective domain)

The Cognitive Domain is the area of learning that involves the development of intellectual skills. It may include recall of specific facts, routines, patterns and concepts. There are six major categories in the cognitive Domain. Each of these categories has different possible *levels of learning*. These range from basic recall or observation to the complex evaluation or organization of information. (KNOWLEDGE)

The Affective Domain includes the manner in which we value or appreciate concepts in a particular discipline. There are five major categories in this domain. (ATTITUDE)

The Psychomotor Domain includes physical patterns of movement, and use of the motor-skill areas. These skills require repeated practice and are measured in terms of speed, precision, or completeness of execution. (SKILLS)

3. Within each Domain, identify the level of learning required of the student.

<i>Domain</i>	<i>Levels of Learning, Basic to Complex</i>						
<i>Cognitive (K)</i>	<i>knowledge</i>	<i>comprehension</i>	<i>application</i>	<i>analysis</i>	<i>synthesis</i>	<i>evaluation</i>	
<i>Affective (A)</i>	<i>receiving phenomena</i>	<i>responding to phenomena</i>	<i>valuing</i>	<i>organization</i>	<i>internalizing values</i>		
<i>Psychomotor (S)</i>	<i>perception</i>	<i>set</i>	<i>guided response</i>	<i>mechanism</i>	<i>complex overt response</i>	<i>adaptation</i>	<i>origination</i>

4. Choose the specific action verb from that level of learning.

This step will (1) insure that the outcome is specific and (2) helps identify the method of assessment. Refer to a **Bloom's Taxonomy of Learning Chart**.

Please note:

If the outcome is written for an introductory course or a survey course, you may think that most of the learning outcomes would be only at a knowledge, comprehension or application levels of learning. However, you can still strive for higher levels of learning for your students. Take for example the levels of learning a student can achieve regarding persuasive writing in an introductory writing course:

a) To **identify** is a basic knowledge level

EX: Given a list of essay characteristics, students will be able to **identify** which are most important for a persuasive piece with at least 70 percent accuracy.

b) **Explaining** is a basic comprehension level.

EX: Students will be able to **explain** in writing the five essential characteristics of persuasive essays.

c) **Synthesizing** ideas and concepts is a higher level of learning.

EX: Students will be able to **compose** an original persuasive essay with five of the essential characteristics of persuasive writing.

d) **Evaluation** is a high level of critical thinking.

EX: Given three persuasive essays, students will **judge** their effectiveness based on five characteristics of persuasive writing.

5. Decide how you will measure the achievement of the outcome.

When assessing the extent to which the learning outcomes have been achieved, a variety of methods should be used. Note: Grades alone do not provide adequate feedback on students' performance because grades represent overall competency of students and do not identify strengths and weaknesses on specific learning outcomes. However, if the grading system is tied to a rubric, it can be a useful tool to identify specific areas for improvement that should be addressed.

The following is not an acceptable measurable learning outcome:

X Students will be able to communicate effectively, as demonstrated by obtaining at least a "C" grade in the course.

With slight modification, it can be stated in measurable terms:

✓ Students will be able to communicate in writing effectively, as exhibited by scoring 8 out of 10 points for all the components on the rubric for the final writing assignment.

Consider the end result you have in mind and the way in which you can document that the end result was achieved for each outcome. Design different assessment activities that will allow students to demonstrate their learning in ways that reflect the real world. Refer to the following chart of potential assessment activities or products for each level of learning:

Cognitive Domain	
Knowledge	Make a list... Make a chart...timeline...graphic... Retell... Tell who... Sequence the events of...
Comprehension	Illustrate with headlines...diagrams... Summarize the findings of ... Outline examples of ... Explain the impact of...
Application	Construct a model... Illustrate with a case study... Design a _____strategy... Complete an original ...
Analysis	Construct a survey to measure... Compare and contrast... Conduct an investigation using the scientific method. Prepare an explanation for ...
Synthesis	Invent... Create a product for... Develop a proposal for... Predict the impact of...
Evaluation	Judge the effectiveness of ... Justify your decisions regarding... Form a panel to discuss... Perform a self-assessment regarding...

6. State success criteria.

The learning outcome statement should include the ultimate level of success criteria, for example,

"with 90% accuracy"

"using at least 3 of the 5..."

"critiquing the ten features of..."

“by supporting a reasonable hypothesis of...”

What are the benefits of having appropriately written student learning outcomes?

Student learning outcomes written by the instructional faculty offer certain advantages to instructors. First, faculty will know exactly what students are expected to learn in their own courses, as well as courses taken previously and subsequently. There is a clear advantage for adjunct faculty who may not be able to dialogue with full time faculty frequently. Second, it is important for faculty to have input in the determining and prioritizing the learning outcomes not only for an individual course, but for all of the courses in a specific program, degree or certificate. Finally, with learning outcomes explicitly stated, it becomes easier for faculty to try non-traditional formats or new technologies without fear of lowering expectations for students.

Students also benefit from having specific learning outcomes. First, course learning expectations will be clearly stated and easily accessed by students. Students will know exactly what they will have to do or produce and can use time management skills to ensure their semester is productive and successful. Perhaps most important, students will take more responsibility for their own learning.

The institution, of course, benefits by having courses within their programs that have a measurable impact on students' success. Program managers will have access to information that is directly related to student performance and will be able to make programmatic decision based on relevant evidence. Course based learning outcomes are the foundation of organizational effectiveness.

References

Banta, Trudy, W., editor. Hallmarks of Effective Outcomes Assessment. (2004) John Wiley & sons, Inc. San Francisco, CA.

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<http://www.stedwards.edu/cte/resources/learningout.htm> St. Edwards University, Austin, TX

<http://www.nwlink.com/~donclark/hrd/bloom.html> Bloom's Taxonomy