

Student Learning Outcomes



Why Develop Student Learning Outcomes?

- Help students learn more effectively
- Make clear what students should expect from their educational experience
 - Encourage students to be intentional learners who direct and monitor their own learning
- Help faculty design courses, curriculum, and programs
- Make graduates' skills and knowledge clear to employers, accrediting agencies, etc.

What Do Student Learning Outcomes Address?

- What knowledge, skills, abilities, and values should the ideal student graduating from our program demonstrate?
- How will they be able to demonstrate these capabilities?
- How well does our program prepare students for careers, graduate school, professional study, and/or lifelong learning?
- What evidence can we use to demonstrate growth in students' knowledge, skills, abilities, and values as they progress through our program?

Elements of Program Level Student Learning Outcomes

- Focus is on the student: they are the main subject of the statement (e.g., Students will...).
- Learning Statement
 - Emphasis on demonstrated/observable knowledge, skills and/or attitudes that you expect.
 - Focus on the central abilities of the discipline.
 - Incorporate or adapt professional organizations' outcome statements when they exist.
- Use action verbs (e.g., compare and contrast). See the List below for suggestions.
- Clearly connect to learning opportunities of the program and you can see it in your requirements
- Assessable: you can obtain evidence to show student achievement. What would a skeptic need in order to see that your students are achieving in the ways you expect? How can you confirm that students are gaining the knowledge and skills you designed your curriculum around?
- Reflects collaborative faculty discussions on what you value most in the program.

Three Main Components of Learning Outcomes

1. A *verb* that identifies the performance to be demonstrated
2. A *learning statement* that specifies what learning will be demonstrated in the performance
3. A broad statement of the *criterion* or standard for acceptable performance

For example:

Verb (performance)	Learning Statement (the learning)	Criterion (the conditions of the performance demonstration)
produces and debugs	source code of programs	using at least programming languages (e.g., C++, Java).
analyzes	global and environmental factors	in terms of their effects on people

Tips: Effective program outcomes are widely accepted and supported by faculty members. Developing appropriate and useful outcomes is an iterative process; it's not unusual to revisit and refine outcome statements. In most cases, it is only when you try to develop ways of assessing program outcomes that the need for refining them becomes apparent.

Examples of program student learning outcomes

Natural Sciences

- Students can apply the scientific methodology in a research proposal.
- Students can evaluate the validity and limitations of theories and scientific claims in experimental results.
- Students can assess the relevance and application of science in everyday life.

Psychology

- Graduates can write research papers in APA (American Psychological Association) style.
- Graduates can analyze experimental results and draw reasonable conclusions from them.
- Graduates can recognize and articulate the foundational assumptions, central ideas, and dominant criticisms of the psychoanalytic, behaviorist, humanistic, and cognitive approaches to psychology.

History

- Students can list major events in American history.
- Students can describe major events and trends in American history.
- Students can apply their knowledge of American history to examine contemporary American issues.

Using Student Learning Outcomes

- Publicize program outcomes in the catalog, on web, on syllabi, annual report, brochures, etc.
- Use program outcomes to guide course and curriculum planning so students experience a cohesive curriculum
- Use program outcomes to shape assessment efforts and faculty/staff conversations surrounding student learning
- Collaboratively develop program outcomes; discuss and collectively accept program outcomes

Sources:

<https://www.oxy.edu/sites/default/files/assets/IRAP/AssessmentHandbook.pdf>

<https://manoa.hawaii.edu/assessment/howto/outcomes.htm>

Helpful Verbs for Student Learning Outcomes

Bloom et al identified a hierarchy of six categories of cognitive skills: knowledge, comprehension, application, analysis, synthesis and evaluation. As students learn, they start with the knowledge level and progress through the hierarchy. Advanced courses should include skills at a higher level than introductory or basic skills courses. Below is a list of measurable verbs to assist you in writing course objectives and assess learning outcomes. [Source](#).

Knowledge Level: The successful student will recognize or recall learned information.

list	record	underline	identify
state	define	Arrange	cite
name	relate	describe	label
tell	recall	memorize	select
recall	repeat	recognize	reproduce

Comprehension Level: The successful student will restate or interpret information in their own words.

explain	describe	report	convert
translate	express	summarize	arrange
identify	classify	discuss	reiterate
restate	locate	compare	interpret
discuss	review	illustrate	reference
tell	critique	estimate	

Application Level: The successful student will use or apply the learned information.

apply	sketch	perform	compute
use	solve	respond	change
practice	construct	role-play	employ
demonstrate	conduct	execute	dramatize
complete			

Analysis Level: The successful student will examine the learned information critically.

analyze	inspect	test	contrast
distinguish	categorize	critique	Break down
differentiate	catalogue	diagnose	debate
appraise	quantify	extrapolate	relate
calculate	measure	theorize	experiment

Synthesis Level: The successful student will create new models using the learned information.

develop	revise	compose	manage
plan	formulate	collect	modify
build	propose	construct	organize
create	establish	prepare	
design	integrate	devise	

Evaluation Level: The successful student will assess or judge the value of learned information.

review	appraise	choose	interpret
justify	argue	conclude	Judge
assess	rate	compare	support
defend	score	evaluate	measure
report on	select	interpret	investigate
investigate			