

Writing Student Learning Outcomes for an Academic Program

Student learning outcomes (SLOs) are statements of the knowledge, skills, competencies, or attitudes that students are expected to gain through a particular educational experience. In education, the term “learning outcome” is used to mean something more specific than the term “goal.” Goals tend to be broad aspirational statements about the desired ends to which a department or program aspires. In contrast, student learning outcomes are written to describe concrete, specific and observable or “measurable” student learning.

SLOs can be written at a variety of levels, ranging from the institution, to the major (or “program”), to the course. Student learning outcomes at the program-level articulate the knowledge, skills, and attitudes that students are expected to gain through that program’s curriculum.

Program Outcomes and Course Outcomes

While each course in a program should have its own list of learning outcomes, program-level learning outcomes are not simply a giant list of all the things taught in all the required courses. In a program, courses have been designed to fit together in order to build skills and knowledge over time, across many courses, often “scaffolding” knowledge and skills from introductory levels to more advanced levels. In most cases, a program will identify no more than ten learning outcomes, so these learning outcomes represent only the most important, long-lasting learning that faculty want to teach. The focus is on deep learning and long-lasting, transferrable skills. Program learning outcomes reflect best practices when:

- They are framed in terms of the program rather than individual courses, reflecting skills and knowledge taught across a program’s curriculum.
- They are collaboratively authored and collectively accepted among the program faculty.
- They are challenging yet attainable for most students.
- Taken together, they produce an accurate picture of the knowledge, abilities, values and dispositions that are essential for a successful graduate of the program.
- They relate to and support the program’s mission.
- They represent the level and type of competence appropriate to the educational degree (i.e. Associate’s level, Bachelor’s level, and Master’s level outcomes should reflect the levels of academic achievement appropriate to the degrees).

Program learning outcomes are supported by individual courses, and course-level learning outcomes will connect to (“align with”) one or more program-learning outcomes. For example, a learning outcome for a BFA in Fine Arts program might have a goal that students will be able to “use the appropriate visual and conceptual vocabulary necessary to articulate their work as well as that of others.” In support of this program goal, an introductory drawing course might have a course-level goal that students will be able to explain their work and critique classmates’ work using appropriate vocabulary from the field of drawing.

Once learning outcomes for each program have been articulated, faculty members can consider the learning opportunities students have to achieve the SLOs. A common tool for examining how SLOs are taught throughout a program is through a curriculum map. As programs identify how each individual course supports the program SLOs, faculty can be sure to align the course-level outcomes with those of the program.

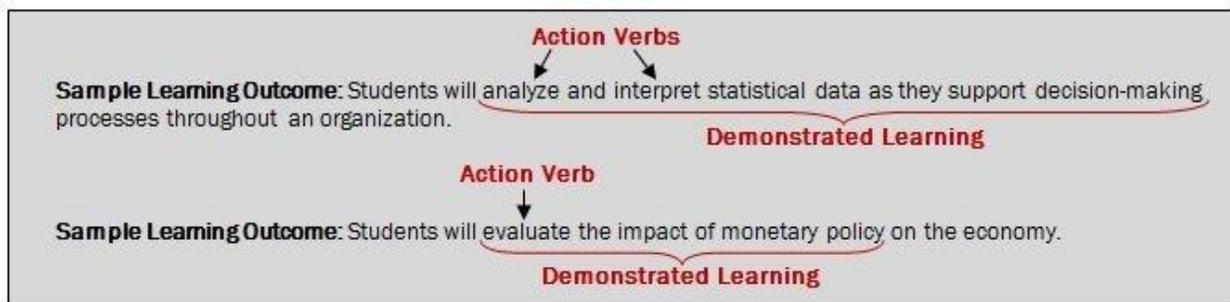
Writing Effective Student Learning Outcomes Statements:

This simple formula can help you write an appropriate learning outcome:

Upon completion of the FIT program,

students will be able to _____ (action verb(s)) _____ +

_____ (what the student will know/skills/affective change)



From the Center for Teaching and Learning, Indiana University-Purdue University Indianapolis

Possible add-ons:

**a student outcomes statement may include the criteria under which the learning will take place (e.g. “under the guidance of the clinical practitioner,” “with the aid of notes,” etc.)*

**sometimes, a descriptor of the standard of performance may be included. For example, phrases like “at a professional level” or “publishable” may provide important indicators of the level of performance desired. However, generally faculty establish specific performance criteria in the assessment phase.*

Note: Goals vs. Outcomes. There are two primary ways that programs across the country have approached learning outcomes. At some institutions, learning outcomes are developed in a two-tiered system, consisting of a broad, general “learning goal,” followed by more defined “learning outcomes” that concretely state what students can do. Some programs at FIT have successfully used the goals/objectives system successfully, and programs that prefer that system are welcome to continue to use it. The information below will apply to the “outcomes” that are defined from the more general goals. For programs starting this process, a single-set of learning outcomes is recommended.

Characteristics of Effective SLOs:

They are stated in clear terms and describe specifically what students should be able to demonstrate

- *Poor:* Students will think critically about literary works.
- *Better:* Students will present original interpretations of literary works in the context of existing research on these works.

- *Poor:* Students will know how to conduct research in the discipline.
- *Better:* Students will be able to independently design and carry out experimental and correlational research that yields valid results.
 - *Explanation:* It is important to provide some information as to what the skill looks like in the program. “Students will be able to conduct research” is vague and open to many interpretations. Does this mean students will be able to establish a research question? Review the literature? Establish hypotheses? Collect data? Analyze data? Interpret results? Draw conclusions? Some of these? All of these?

- *Poor:* “Students will demonstrate understanding of...”; “Students will demonstrate the skills needed...”; “Students will demonstrate knowledge of ...”
 - *Explanation:* Learning outcomes are supposed to define exactly what it is that students will demonstrate, in terms of knowledge or skills. It is necessary to be specific about what students will be able to do. Avoid the term “demonstrate,” since it is already implied in the concept of a learning outcome.

They are neither too broad nor too specific. They are general enough to capture important learning, but clear and defined enough to be observable.

- *Too broad:* Students will demonstrate information literacy skills.
- *Too specific:* Students will be able to use the college’s online services to retrieve information.
- *Just Right:* Students will be able to locate information and evaluate it critically for its validity and appropriateness.

They are tailored specifically to a program and how that program’s faculty envisions student learning

- *Poor:* Students will write effectively.
- *Better:* Students will be able to write focused, convincing analytical essays, tailored to the intended audience, and using clear, grammatical prose.
- *Explanation:* “Students will write effectively” could apply to almost any academic program and does not provide any indication as to how a program defines effective writing. The second statement provides some clarity as what type of writing is expected.

They do not bundle too much into a single statement, particularly if different types of assessment are required.

- *Poor:* Students will be able to analyze and interpret marketing data using statistical software, and to present their results effectively in a written report and an oral presentation using appropriate visual aids.
- *Explanation:* This statement packs too many skills together and makes assessment challenging. Statistical analysis, written communication, and oral communication are important skills that should be distinguished from each other.

They are framed around the learning result and not the learning process, assignment or activities

- *Poor:* Students will become better at presenting a business plan and gain confidence.
- *Better:* Students will be able to present a business plan confidently and coherently in an oral presentation.
 - *Explanation:* Avoid framing learning outcomes around “improvement”; instead, state what students will be able to do.

They can be reasonably observed and measured, preferably by more than one assessment method.

- *Poor:* Students will demonstrate ethnical awareness.
- *Better:* Students are able to identify and analyze real-world ethical problems or dilemmas and identify those affected by the dilemma.

Examples of Effectively Expressed Learning Goals

In these examples, the goals are broad enough to capture significant, higher-order learning but are defined narrowly enough to be specific to the programs.

English

Present original interpretations of literary works in the context of existing research on these works*

Environmental Science	Critically evaluate the effectiveness of agencies, organizations, and programs addressing environmental problems*
Fashion Marketing	Analyze data related to the psychological and sociological characteristics that impact the changing buying habits of the consumer
Finance	Perform an applied financial analysis in a business situation
Theater	Use voice, movement, and understanding of dramatic character and situation to affect an audience*
Women's Studies	Use gender as an analytical category to critique cultural and social institutions*

*Linda Suskie, *Assessing Student Learning: A Common Sense Guide*, Second Edition. San Francisco: Jossey-Bass, 2009, page 132.

One advantage of well-written goals is that they help guide the choice of assessment methods. It is easy to imagine how the goals stated above might be assessed: an English student could write a paper presenting original interpretations of literary works, or a theater student could demonstrate these skills in a performance.

Parts adapted from the following materials:

*Linda Suskie, *Assessing Student Learning: A Common Sense Guide*, Second Edition, San Francisco: Jossey-Bass, 2009

*Marquette University, <http://www.marquette.edu/assessment/>

*University of Connecticut: <http://assessment.uconn.edu/docs/HowToWriteObjectivesOutcomes.pdf>

* Florida State University: <https://distance.fsu.edu/docs/instructors/LearningOutcomes.pdf>

Choosing Action Verbs

As may be evident, choosing the appropriate verb is the most important aspect of writing an effective student learning outcome. Learning outcomes phrased with concrete verbs will help guide the choice of assessment methods. It is much easier to assess whether a student can “define” something than whether he or she “appreciates” something. There are certain verbs that are fuzzy, passive, or unobservable...and are best avoided in learning outcomes. The **“SINISTER Sixteen”**:

Understand Appreciate **Comprehend** Grasp **Know** See **ACCEPT**

Have knowledge of Be aware of Be conscious of Learn

Value Apprehend Be familiar with Perceive

Bloom’s taxonomy is widely used in education as a framework for cognitive learning, and is the most frequent resource faculty turn to when constructing student learning outcomes statements. The taxonomy categorizes six levels of cognitive thought in order of increasing complexity; learning at the higher levels is dependent on having attained prerequisite knowledge and skills at lower levels. The categorization of these verbs into levels is useful to help faculty choose verbs appropriate to the educational degree and situation. While this taxonomy covers the cognitive domain, most programs will also have learning outcomes in other areas, such as skills or attitudes.

Action Words for Bloom’s Revised Taxonomy (Revised by Anderson and Krathwohl 2001)					
Knowledge	Understand	Apply	Analyze	Evaluate	Create
define	explain	solve	analyze	reframe	design
identify	describe	apply	contrast	criticize	compose
describe	interpret	illustrate	distinguish	evaluate	create plan
list name	paraphrase	modify	separate	order	formulate
state	summarize	calculate	select	appraise	invent
match	classify	sketch	categorize	judge	hypothesize
select	compare	complete	connect	support	substitute
locate recall	differentiate	interpret	divide	compare	write
reproduce	discuss	teach	prioritize	discriminate	construct
tabulate	distinguish	administer	subdivide	recommend	integrate
enumerate	estimate	employ	survey	assess	modify
	translate	establish	conclude	choose	produce
	generalize	examine	correlate	convince	rearrange
	give examples	list	diagram	defend	rewrite
	group	predict	dissect	find errors	adapt
	order	simulate	estimate	grade	anticipate
	report		outline	measure	collaborate
				predict	devise
				rank	make
				test	negotiate
				critique	originate
				justify	propose
				persuade	reorganize