

Learning Outcomes Overview

Student Learning Outcomes are measurable expectations or anticipated outcomes. A comprehensive and well developed list can provide information about student learning, curriculum and teaching. Assessing or measuring learning outcomes can inform the institution about the educational environment. Learning outcomes are measured at various points during the educational experience. The degree to which outcomes are achieved will shape curricular planning and resource decision making. A culture of assessment enhances the ability to meet the changing needs of students and the University.

Writing SLOs

Student Learning Outcomes (SLOs) are an essential element of learning-centered institutions. By stating clearly the outcome that occurs as a result of the education, institutions and programs become better positioned for using techniques and pedagogies that are effective for advancing student learning. It is important that the SLOs be aligned throughout four levels: institution, school, program, and course, moving from more general to more specific.

SLOs are statements that specify what students will know or be able to do as a result of an activity and are expressed as knowledge, skills, attitudes, or values. They should be observable (and when appropriate measurable). They should be clearly written and easily understood by faculty, students, staff, administrators, and external constituencies. Each set of outcomes should be comprehensive, coherent, and contextualized for a specific discipline.

Student learning outcome should include a VERB that represents the level of learning that is expected.

For example,

Students will be able to < insert action verb > ... [describe knowledge, skills, attitudes, or values].

Bloom's Taxonomy

Levels of learning range from low (superficial learning) to high (deep learning). There are many good resources and guides on Bloom's Taxonomy to assist in using the correct action verb.

<http://cft.vanderbilt.edu/guides-sub-pages/blooms-taxonomy/>

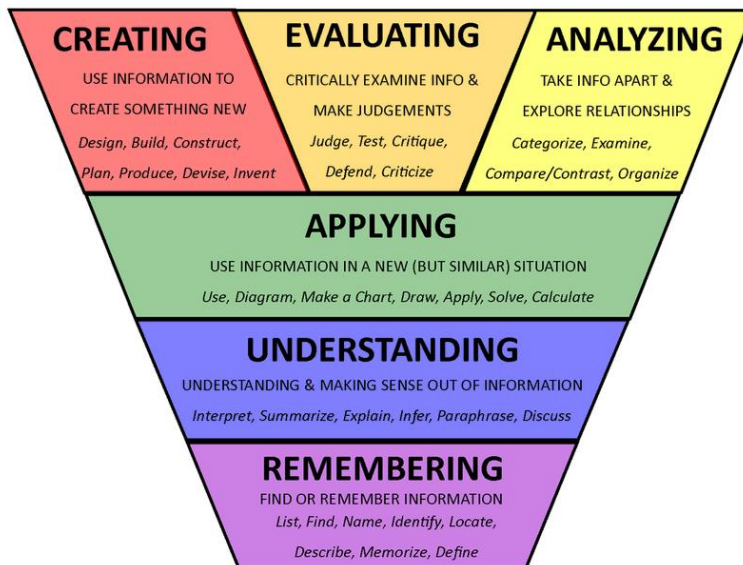
<http://teaching.uncc.edu/learning-resources/articles-books/best-practice/goals-objectives/writing-objectives>

The taxonomy below describes the levels of educational objectives. The following is a list of verbs from Bloom's (1956) taxonomy for use when creating student learning outcome statements:

REVISED Bloom's Taxonomy Action Verbs

Definitions	I. Remembering	II. Understanding	III. Applying	IV. Analyzing	V. Evaluating	VI. Creating
Bloom's Definition	Exhibit memory of previously learned material by recalling facts, terms, basic concepts, and answers.	Demonstrate understanding of facts and ideas by organizing, comparing, translating, interpreting, giving descriptions, and stating main ideas.	Solve problems to new situations by applying acquired knowledge, facts, techniques and rules in a different way.	Examine and break information into parts by identifying motives or causes. Make inferences and find evidence to support generalizations.	Present and defend opinions by making judgments about information, validity of ideas, or quality of work based on a set of criteria.	Compile information together in a different way by combining elements in a new pattern or proposing alternative solutions.
Verbs	<ul style="list-style-type: none"> • Choose • Define • Find • How • Label • List • Match • Name • Omit • Recall • Relate • Select • Show • Spell • Tell • What • When • Where • Which • Who • Why 	<ul style="list-style-type: none"> • Classify • Compare • Contrast • Demonstrate • Explain • Extend • Illustrate • Infer • Interpret • Outline • Relate • Rephrase • Show • Summarize • Translate 	<ul style="list-style-type: none"> • Apply • Build • Choose • Construct • Develop • Experiment with • Identify • Interview • Make use of • Model • Organize • Plan • Select • Solve • Utilize 	<ul style="list-style-type: none"> • Analyze • Assume • Categorize • Classify • Compare • Conclusion • Contrast • Discover • Dissect • Distinguish • Divide • Examine • Function • Inference • Inspect • List • Motive • Relationships • Simplify • Survey • Take part in • Test for • Theme 	<ul style="list-style-type: none"> • Agree • Appraise • Assess • Award • Choose • Compare • Conclude • Criteria • Criticize • Decide • Deduct • Defend • Determine • Disprove • Estimate • Evaluate • Explain • Importance • Influence • Interpret • Judge • Justify • Mark • Measure • Opinion • Perceive • Prioritize • Prove • Rate • Recommend • Rule on • Select • Support • Value 	<ul style="list-style-type: none"> • Adapt • Build • Change • Choose • Combine • Compile • Compose • Construct • Create • Delete • Design • Develop • Discuss • Elaborate • Estimate • Formulate • Happen • Imagine • Improve • Invent • Make up • Maximize • Minimize • Modify • Original • Originate • Plan • Predict • Propose • Solution • Solve • Suppose • Test • Theory

Anderson, L. W., & Krathwohl, D. R. (2001). A taxonomy for learning, teaching, and assessing, Abridged Edition. Boston, MA: Allyn and Bacon.



SLOs in Course Syllabi

Using SLOs in a course syllabus allows the professor to connect course learning outcomes with assignments that facilitate mastering the outcome and evidence to grade and assess student learning.

The outcomes should be aligned with program, school, and institutional learning outcomes. Outcomes should be clearly stated on the syllabus.

To align the course outcomes with assignments and assessment, a simple grid can aid in matching outcomes with course activities and will prepare for course assessment.

COURSE PLAN FOR ASSESSING LEARNING

Student Learning Outcome	What Students Do to Master the Learning Outcome	Evidence to Grade and Assess Student Learning (direct evidence)
1. Students will be able to describe changes in cognition, personality, and motor skills from birth to early childhood.	Assigned readings on the topic, class activities, and lectures. Develop a growth chart with milestones for each dimension. Observe 3 children of different ages and analyze their cognition, personality, and motor skills.	Multiple choice quizzes Observation report Final exam (multiple choice and short answer) Final class paper on a case study

An assessment plan for the course should include sample evidence from all of the outcomes. Both direct and indirect evidence should be used in the course assessment. Results from the assessment should be analyzed by all of the professors who teach the course. The results from the analyses should be used to inform curriculum changes and any resource allocation to ensure that course outcomes are being met.

Indirect Evidence Perceptions and Input (data is a reflection of knowledge, behavior, or thought processes)	Direct Evidence Products of Student Learning (data displays student knowledge, behavior, or thought processes)
Student Satisfaction Surveys Student Exit Surveys Alumni Surveys Employers Surveys Focus Groups Exit Interviews with Graduates	Student Work Samples Portfolios Capstone projects Assessment of student performance Case Analysis Observations of student behavior

SLOs Evidence

SLOs guide evidence for course assessment and program assessments, which are disseminated through annual reports and five year program reviews. SLOs are a key feature of program assessment. Required courses and SLOs should be linked through a curriculum map. Assessment includes developing SLOs, gathering evidence, analyzing the evidence, and closing the loop by making evidence-based decisions regarding course/program design and resource allocation. The assessment plan should be based on this process.

Curriculum Map Sample SLOS

SLO	When to Assess	Direct Evidence	Indirect Evidence	Analysis and Reporting
1. Students will be able to <insert action verb>...[describe knowledge]	2010/11	PSYCH 200 Comprehensive Exam	Student Satisfaction Survey	Annual Report/Program Review
2. Students will be able to <insert action verb> ...[describe skill]	2010/11	PSYCH 300 Final Paper	Senior Survey	See above
3. Students will be able to <insert action verb> ...[describe behavior]	2011/12	PSYCH 200 Embedded exam questions		See above
4. Students will be able to <insert action verb> ...[describe attitude]	2011/12	PSYCH 300 Group Projects	Senior Survey	Dean's Executive Summary

Curriculum Map Four Year Assessment Plan

Course	SLO 1	SLO 2	SLO 3	SLO 4
PSYCH 100	I	I, D	I	I, D
PSYCH 200	D		D,M	
PSYCH 300	D,M	M	M	M

I=Introduce, D=Develop, M=Master