

# **Writing Effective Student Learning Outcomes:**

## **Part I. Bloom's Taxonomy,**

### **Cognitive, Psychomotor, and Affective Domains**

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"Student learning outcomes" is one way of referring to the more or less specific skills and knowledge that we expect our students to acquire in our courses and our curriculum. Learning objectives are "assessable" or "measurable" to the degree that student mastery of these skills and knowledge can be gauged by careful review of student performances and student work, and the results of this review can be used to improve the course or the curriculum.

Course learning objectives should refer to a range of skills, knowledge, and attitudes, all bearing on General Education goals and, as appropriate, the student learning goals of the program in which the course is offered. The evidence that objectives are being met, and the degree to which students are meeting these objectives, can be both quantitative and qualitative – for example, presentations, research papers, response papers, standardized test scores, exams, and musical performances.

Clear statements of course learning objectives are helpful to students and professors, ensuring that both understand what students should accomplish in the course and providing teachers with a basis for determining how successful the course has been and how it can be managed more successfully in the future.

### **Using Bloom's Taxonomy to Write Student Learning Outcomes**

In 1948, education professor Benjamin S. Bloom developed classifications of intellectual behavior and learning in order to identify and measure progressively sophisticated learning. Bloom's taxonomy is especially important in higher education where outcomes need to address the student ability to use information, not just recall and regurgitate concepts. Lower levels of learning are easier to assess but do not adequately display what the student can DO with the knowledge.

Knowledge	Comprehension	Application	Analysis	Synthesis	Evaluation
Student remembers or recognizes information or specifics as communicated with little personal assimilation.	Student grasps the meaning behind the information and interprets, translates, or comprehends the information.	Student uses information to relate and apply it to a new situation with minimal instructor input.	Student discriminates, organizes, and scrutinizes assumptions in an attempt to identify evidence for a conclusion.	Student creatively applies knowledge and analysis to integrate concepts or construct an overall theory.	Student judges or evaluates information based upon standards and criteria, values and opinions.
Cite Label	Convert Define	Apply Chart	Analyze Compare	Assemble Create	Access Appraise

List	Describe	Compute	Contrast	Construct	Conclude
Enumerate	Discuss	Demonstrate	Correlate	Design	Critique
Identify	Estimate	Determine	Diagram	Develop	Decide
Imitate	Explain	Dramatize	Dissect	Formulate	Defend
Match	Generalize	Establish	Differentiate	Generate	Diagnose
Name	Identify	Make	Distinguish	Hypothesize	Evaluate
Quote	Illustrate	Manipulate	Infer	Initiate	Judge
Recall	Locate	Prepare	Investigate	Invent	Justify
Reproduce	Paraphrase	Project	Limit	Modify	Rank
State	Restate	Solve	Outline	Reframe	Recommend
Write	Summarize	Use	Separate	Synthesize	Support



Bloom's Taxonomy relates to cognitive aspects of learning. Learning, however, is not a purely cognitive function; learning occurs differently when it entails performing a skill or re-evaluating behavior. Three domains of learning are recognized:

- **Cognitive domain** defining knowledge classification.
- **Psychomotor domain** defining physical skills or tasks classification. (See below)
- **Affective domain** defining behaviors that correspond to attitudes and values. (See below)

## Psychomotor Domain

### Learning Outcomes Related To Skills

Observe	Model	Recognize Standards	Correct	Apply	Coach
Students translate sensory input into physical tasks or activities.	Students are able to replicate a fundamental skill or task.	Students recognize standards or criteria important to perform a skill or task correctly.	Students use standards to evaluate their own performances and make corrections.	Students apply this skill to real life situations.	Students are able to instruct or train others to perform this skill in other situations.
Hear Identify Observe See Smell Taste	Attempt Copy Follow Imitate Mimic Model	Check Detect Discriminate Differentiate Distinguish Notice	Adapt Adjust Alter Change Correct Customize	Build Compose Construct Create Design Originate	Demonstrate Exhibit Illustrate Instruct Teach Train

Touch Watch  *Usually no outcomes or objectives written at this level.	Reenact Repeat Reproduce Show Try	Perceive Recognize Select	Develop Improve Manipulate Modify Practice Revise	Produce	
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Basic Knowledge  
Basic Skills

More Sophisticated Skills  
Higher Level Abilities  
Critical Understanding of Performance

## Affective Domain

### Learning Outcomes Related To Attitudes, Behaviors, and Values

Receiving	Responding	Valuing	Organizing	Characterizing
Students become aware of an attitude, behavior, or value.	Students exhibit a reaction or change as a result of exposure to an attitude, behavior, or value.	Students recognize value and display this through involvement or commitment.	Students determine a new value or behavior as important or a priority.	Students integrate consistent behavior as a naturalized value in spite of discomfort or cost. The value is recognized as a part of the person's character.
Accept Attend Describe Explain Locate Observe Realize Receive Recognize	Behave Comply Cooperate Discuss Examine Follow Model Present Respond Show Studies	Accept Adapt Balance Choose Differentiate Defend Influence Prefer Recognize Seek Value	Adapt Adjust Alter Change Customize Develop Improve Manipulate Modify Practice Revise	Authenticate Characterize Defend Display Embody Habituate Internalize Produce Represent Validate Verify

Elementary Values and Behaviors  
Inherited Value System  
Egocentric View

More Highly Developed Attitudes  
Well Thought-out Value System  
Higher Level Abilities to Identify and  
Articulate Others' Values

Adapted from:

Janet Fulks, *Assessing Student Learning in Community Colleges* (2004), Bakersfield College. Available at [http://online.bc.cc.ca.us/courseassessment/Section\\_3\\_SLOs/Section3\\_1.htm](http://online.bc.cc.ca.us/courseassessment/Section_3_SLOs/Section3_1.htm)

“Examples of Assessable Student Learning Outcomes,” at <http://hilo.hawaii.edu/uhh/genedfac/objectives.php>