"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.

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

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

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

<table>
<thead>
<tr>
<th>Receiving</th>
<th>Responding</th>
<th>Valuing</th>
<th>Organizing</th>
<th>Characterizing</th>
</tr>
</thead>
<tbody>
<tr>
<td>Students become aware of an attitude, behavior, or value.</td>
<td>Students exhibit a reaction or change as a result of exposure to an attitude, behavior, or value.</td>
<td>Students recognize value and display this through involvement or commitment.</td>
<td>Students determine a new value or behavior as important or a priority.</td>
<td>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.</td>
</tr>
</tbody>
</table>

- **Receiving**
  - Accept
  - Attend
  - Describe
  - Explain
  - Locate
  - Observe
  - Realize
  - Receive
  - Recognize

- **Responding**
  - Behave
  - Comply
  - Cooperate
  - Discuss
  - Examine
  - Follow
  - Model
  - Present
  - Respond
  - Show
  - Studies

- **Valuing**
  - Accept
  - Adapt
  - Balance
  - Choose
  - Differentiate
  - Defend
  - Influence
  - Prefer
  - Recognize
  - Seek
  - Value

- **Organizing**
  - Adapt
  - Adjust
  - Alter
  - Change
  - Customize
  - Develop
  - Improve
  - Manipulate
  - Modify
  - Practice
  - Revise

- **Characterizing**
  - Authenticate
  - Characterize
  - Define
  - Display
  - Embody
  - Habituate
  - Internalize
  - Produce
  - Represent
  - Validate
  - Verify

#### Elementary Values and Behaviors

- **Inherited Value System**
- **Egocentric View**

#### More Sophisticated Skills

- **Critical Understanding of Performance**

#### Higher Level Abilities

- **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)