

from Tips for Developing Student Learning Outcomes, from the University of Texas at Arlington

### **What are the characteristics of a well-defined student learning outcome?**

A well-defined student learning outcome specifies actions by students that are observable, measurable, and must be done by the students themselves. The crucial factor in determining if your learning outcome is well-defined is whether or not the action taken by the students can be assessed.

### **What does a student learning outcome statement look like?**

A student learning outcome statement needs to specify who is to perform (student), what action they are to take, and some result that must come from their action. Since the outcome must be measurable, the action specified must be an action verb. In other words, it should specify overt behavior that can be observed and measured.

Some examples include:

Create	Discuss
Analyze	Explain
Demonstrate	Critique

You should, however, avoid certain action verbs (like know, become aware of, appreciate, learn, understand, become familiar with), because they are unclear, subject to differing interpretations in terms of what action they are specifying. In addition, these verbs call for “covert” behavior which cannot be observed or measured.

### Unclear student learning outcome statements:

- \*The students will understand democracies.
- \*The students will appreciate art from other cultures.
- \*The students will learn about the law of relativity.

These statements are well-defined learning outcomes since they are not measurable.

However, these statements can be modified to become well-defined learning outcomes:

- \*The students will be able to describe the major theories of democracy.
- \*The students will be able to identify the characteristics of art from other cultures.
- \*The students will be able to explain the major tenets of the law of relativity.

### **How do I write student learning outcomes aimed at critical or higher-order thinking that should be expected from advanced undergraduates or graduate students?**

Consider incorporating words that reflect critical or higher-order thinking into your student learning outcome statements. The work of Benjamin Bloom, (Taxonomy of Educational Objectives, 1984) who developed a taxonomy that outlines the types of thinking skills people use in the learning process, may be a useful guide. Bloom believes that learners use different levels of thinking skills to process different types of information and situations. The levels range from the most basic cognitive skills, such as memorization, to more complex skills such as creating new ways to apply the information (e.g., critical thinking skills or higher-order thinking skills).

### The key Bloom categories are:

**Knowledge** – recalling previous material (e.g., define, recall, list, repeat)

**Comprehension** – ability to comprehend the meaning of the material (e.g., discuss, explain, summarize, predict)

**Application** – ability to use the material in a new and defined situations and problems (e.g., modify, demonstrate, implement, solve)

**Analysis** – ability to break the material down into its relevant parts and to understand its underlying structure (e.g., order, infer, estimate, differentiate)

**Synthesis** – ability to combine material in original and new ways (e.g., create, formulate, revise, design)

**Evaluation** – combines all elements of the other categories along with the ability to see the whole, judge the value of the material of other purposes and make value judgments based upon stipulated criteria (e.g., critique, discriminate, conclude, justify)