Tips for Developing Student Learning Outcomes

What are student learning outcomes?
Student learning outcomes are statements that specify what you want your students to know and be able to do at the end of the course. Outcomes are usually expressed as knowledge, skills, or attitudes. For example, student learning outcomes can refer to knowledge, practical skills, critical thinking skills, areas of professional development, etc. that students are expected to develop or learn.

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.

How do I develop expected student learning outcomes for my course?
There are several key issues that you should consider prior to crafting your student learning outcome statements:

- Keep in mind the knowledge and skills that are central to the course and/or discipline
- Do not focus on small details, but rather on general knowledge and/or skills you expect your students to acquire through your course.
- Do not merely describe activities or lessons from the course, but rather articulate the learning that will result from the course.
- If possible, incorporate departmental learning objectives. This factor is especially important in the case of general education or introductory courses with multiple sections taught by differing faculty.
- Make sure your statement is centered not on what you are going to teach them, but rather on what the student will do. For example, “upon completion of this course students will be able to identify all the critical elections in 20th Century America” as opposed to “one objective of this course is to teach about the critical elections in 20th Century America.”

What does it mean to assess a student learning outcome?
Assessment is the process of gathering evidence of student learning, reviewing the evidence to determine if students are learning what they are expected to learn, and using this evidence to alter the direction of your course.

So for example, you might ‘map’ certain questions on a test to specific learning objectives. After administering a test, you would examine the students’ performance on the test questions to determine how well the students’ are grasping the intended learning outcomes. If you determine the performance is satisfactory, then you have evidence that the learning objective is being met. If you determine the students’ performance is below your expectations, you should use the feedback to reevaluate the way the material is presented or review the concepts with students.
It is important to remember that the purpose of the assessment is to create a better teaching and learning experience.

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
- Analyze
- Demonstrate
- Discuss
- Explain
- 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.

What are some basic examples of well-defined student learning outcome?

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 not well-defined learning outcomes since they are not measurable. However, these statements can be modified to become well-defined learning outcomes as follows:

* 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)

What benefit do well-defined student learning outcomes have for my course?

Determining desired learning outcomes provides direction in terms of allowing you to:

* Identify specifically what you want a student to learn in the course
* More efficiently design content, instruction, and evaluation in your course
* Convey to students and to colleagues what you are really covering in your course
* Allow for more effective use of resources in designing curricular offerings and priorities
* Allow you to manage your own expectations concerning what your students and course can actually accomplish