

CENTER FOR TEACHING EXCELLENCE

Graduate Program Level Assessment

What should the students accomplish and how will we know they accomplish it?

Student Learning Outcomes

Learning Outcomes are statements that specify what students will be able to know, do, or be upon completion of a graduate program. They should answer the following questions:

- What knowledge should students possess? What should they be able to do with it?
- What skills should they demonstrate?
- What attitudes, values, or behaviors should they have?

When developing outcomes, consider the following:

- Do they emphasize the participant, use an action verb, and incorporate a learning statement?
- Are they specific and clear?
- Are they observable and measurable? How will they be assessed?
- Do they align with the outcomes/learning proficiencies of the Graduate School or University?

General format of a learning outcome:

As a result of completing (program name), students will be able to (action verb) (learning statement).

Examples of learning outcomes (taken from the Cornell Graduate School website): Upon completion of (course), students will be able to:

- Communicate in a style appropriate to the discipline.
- Think originally and independently to develop concepts and methodologies.
- Synthesize existing knowledge, identifying and accessing appropriate resources and other sources of relevant information and critically analyzing and evaluating one's findings and those of others.
- Show commitment to professional development through engagement in professional societies, publication, and other knowledge transfer.
- Listen, give, and receive feedback effectively.

Getting started with learning outcomes:

- What are the most important things a student should know (cognitive), be able to do (skills), or value (affective) after completing the course?
- Make a list and try to write them as learning outcomes using the general format above. Consult a list of action verbs, which are verbs that result in overt behavior that can be observed and measured. Avoid verbs that are unclear and which cannot be observed and measured easily, for example appreciate, become aware of, become familiar with, know, learn, and understand.
- Edit and review the outcomes. Consult with colleagues.



For more information, please contact the Center for Teaching Excellence at cornellcte@cornell.edu or 255-3990. Additional resources are available on our webpage, <http://www.cte.cornell.edu>.

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Learning Opportunities

Once learning outcomes are established, adequate learning opportunities should be given so that students can practice and then achieve the desired outcomes. When looking at the components of a program, it can be helpful to ask:

- What learning outcome do they help students practice/achieve? In other words, what knowledge, skills or behaviors will they be practicing or be exposed to?
- If the activities do not align with the outcomes, are they necessary or is there an important outcome that is missing?

Assessment Methods

After the outcomes have been identified and adequate learning opportunities have been developed, methods to assess the achievement of the outcomes must be identified. Assessment asks the following questions:

- How will you know that the learning outcomes for the program have been achieved?
- What are the measures will be used? How will the outcomes be assessed?
- How will the information obtained be used to inform changes?

In order to do assessment, information is gathered in the form of direct and indirect measures of student learning. Direct measures, such as A-exams, dissertations, projects, and presentations, provide direct, observable evidence of student learning that faculty members comment on. Indirect measures, such as surveys, teaching evaluations, and number of publications, evaluate student perceptions of their learning or generally indicate students are learning, but do not specify what or how much. The information gathered from these measures is used to evaluate the degree to which the outcomes of the course are met, and to inform changes to the program.

Constructing a matrix, where the learning outcomes are listed in the first column, and the assessment measures (such as assignments, prelims, surveys or projects) are listed across the top row, can be helpful. This method can be very useful when determining if there are any gaps in the program (where a stated learning outcome is not being evaluated). An example matrix is given below:

Matrix of learning outcomes and program assessments/measures

	Assessment 1 (e.g. A-exam)	Assessment 2 (e.g. B-exam)	Assessment 3....
Outcome 1	X (can indicate specifics of questions, etc)	X	
Outcome 2....			X

How the learning outcomes are assessed can be given in the boxes, including specific questions or if a rubric will be used.

Closing the Loop

Closing the loop is probably the most important part of the assessment process. It answers the question of how the program can be improved based on what has been found through the analysis of the data collected on the achievement of the learning outcomes. It is recommended not to try to do too much at once and to find a solution that works for the individual program faculty. Begin by examining one learning outcome at a time and proposing action(s) based on the data that were collected that are likely to enhance student learning. Determine a method of collecting, sharing and discussing data and action items (who, when, how). Once an action is taken, one should ask if student learning was impacted.

Taken from:

Walvoord, B. E. (2010). *Assessment clear and simple: A practical guide for institutions, departments, and general education* (2nd ed.). San Francisco, CA: Jossey-Bass.

Suskie, L. (2009). *Assessing student learning: A common sense guide* (2nd ed.). San Francisco, CA: Jossey-Bass.