

A Guide to the Learning Outcomes Assessment Process at the Program Level

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Using the Program PUL Matrix: What Next?
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Fundamental Principles of Learning Outcomes Assessment at the Program Level

1. Learning outcomes assessment is the ongoing process of collecting, analyzing, and interpreting information about student learning in order to improve curriculum and instruction, and thereby enhance learning.
2. Assessment is the responsibility of faculty in the program. The members of the faculty are the experts in the intended learning outcomes, the curriculum, and the work of students.
3. The tasks of assessment should be shared so as not to be burdensome to faculty.
4. The results of assessment should be discussed by the faculty as a group, with the goal of improving curriculum and instruction.
5. Assessment requires the explicit specification of intended learning outcomes in the program.
6. When specifying program-level learning outcomes, it is important to focus on a small set of the most important outcomes, to avoid being overwhelmed with details.
7. It is very useful to examine the intended learning outcomes of individual courses and other learning experiences to see how these correspond with the intended outcomes of the program as a whole. This activity shows the extent to which the curriculum and the methods of instruction promote the attainment of the program's outcomes.
8. To the extent possible, information that provides direct evidence of student learning should be used in the assessment process. Direct evidence includes student products or performances. Indirect evidence may be useful in supplementing direct evidence but is not a substitute for it.
9. Using information that is already available should be considered before devising additional tasks for students. Most programs have enough student products generated in courses or in other learning activities to provide ample documentation of learning outcomes.
10. The best evidence should be used, rather than all evidence.
11. The primary focus of assessment should be on what students have learned at the completion of their programs or in the latter stages of their programs. It is also useful to know how students are building up their knowledge and skills as they move through the program. To determine students' progress in this way requires assessment of the learning outcomes attained at various stages of the program. It is recommended that such a formative or developmental assessment only be done after the summative or final outcomes assessment has been conducted, and that formative assessment be used primarily for those outcomes that are not being attained at the level desired.
12. Because assessment is an ongoing process, an assessment plan can be devised so that the intended learning outcomes are not all assessed at once.

Basic Questions for Planning the Assessment of Learning Outcomes

1. What do we want to find out about student learning?
2. Who are the intended audiences for our findings?
3. What are the most important learning outcomes that we intend for students to attain by the time they have completed our program?
4. For each of these outcomes, what constitutes an adequate level of knowledge or skill?

A more than adequate level?

5. Which learning experiences in the program contribute to the attainment of each of these intended outcomes?
6. Where can we look for evidence that students have attained these outcomes?
7. What is the best evidence that we have?
8. What additional evidence would be useful, and what would we need to do to gather this additional evidence?
9. How will we examine and assess the evidence and organize the information obtained?
10. What process can we establish for our unit to review the information that has been gathered and organized and then discuss any changes needed in curriculum and instruction? How will we monitor the effects of any changes made?

Steps in Program-Level Learning Outcomes Assessment

1. Develop and state precisely the intended learning outcomes for the program that are in harmony with the University's, the School's, and the Department's mission, vision, and values.
2. Conduct a curriculum audit to determine the expected contribution of each required course and learning experience (e.g., practicum, internship, participation in research) to the intended program outcomes.
3. Consider what evidence would be needed to determine whether students are attaining the intended outcomes and whether this evidence is available at the present time.
4. Construct rubrics for evaluating this evidence.
5. Decide on a procedure (who, how, when) to evaluate the evidence.
6. Devise a method for summarizing, reporting, and discussing the results of the assessment with all faculty members in the program.
7. When the results are discussed, follow up with any changes that are needed in the curriculum or the methods of instruction.
8. Document how the results of assessment have been used to improve curriculum and instruction.
9. Develop a plan to conduct assessment on a regular basis, or revise the existing plan if needed.

Curriculum Audit for Intended Student Learning Outcomes

Effective curriculum design involves an audit of the courses and other learning experiences required to complete a program in order to determine the following:

1. whether each course and learning experience contributes to at least one of the intended learning outcomes for the program as a whole,
2. whether the set of courses and experiences provides sufficient learning opportunities for students to attain the intended outcomes,
3. whether the courses and experiences are sequenced for optimal progress toward attaining the intended outcomes.

To conduct an audit properly, each course and learning experience should have explicit learning outcomes.

Because the intended learning outcomes for a program are generally those of the greatest importance as determined by the faculty, there will usually be other learning outcomes that are specific to each course and experience. These may be very important for the subject/topic of the course, but less important as overall program learning outcomes.

There is no expectation that each course and each learning experience will promote the attainment of all of the intended learning outcomes for the entire program. Indeed, this would be unusual.

The place within the program of electives or options among several courses must be carefully considered. With more choices, it is more difficult to ensure that the learning outcomes of the program are being enhanced by each course. Ideally, courses chosen from a "menu" should contribute to the same program learning outcomes, or should reinforce outcomes already adequately developed through other courses.

Many learning outcomes can be thought of as being attained in a sequence from basic to intermediate to advanced levels of attainment. There may be an expectation that some program outcomes are attained at an advanced level and others at an intermediate level. In general, an outcome for which only a basic level of attainment is desired in the program will probably not rise to the status of an important program outcome. Because of these different levels, the issue of sequencing of courses and other learning experiences is important in guiding the students toward higher levels of attainment.

The contribution of each course and experience to the intended program learning outcomes should be documented and be readily available.

Developing Student Learning Outcomes Major/Minor/Program/Course Level

Explicit learning outcomes benefit faculty and students by:

- Clarifying how each course and other learning experience contributes to the program
- Promoting coherent and focused content
- Placing the emphasis on the student's learning
- Promoting consistency across sections so students have adequate background for higher-level courses and advanced learning experiences

Students should be informed about the expected outcomes for each course/learning experience and for their overall program so they can understand the purpose of each learning component in the overall program, thereby becoming more active participants in their own learning.

Student learning outcomes provide a focus for four processes:

- Alignment of course/learning experience content and curriculum content with intended outcomes
- Alignment of instructional approaches with intended outcomes
- Assessment of the extent to which intended outcomes have been attained
- Revision of course/learning experience content, curriculum content, and instructional approaches to enhance the attainment of intended program outcomes

A learning outcome is a statement specifying **an important component of the knowledge or skills acquired by the student in the course, learning experience, or program**. The statement of a learning outcome should make it evident that the student can demonstrate the knowledge or skill in a way that is overt and measurable; that is, the student can create a product or engage in a performance that is visible or audible.

Learning outcomes should describe the most important aspects of student learning. At the program or major level, it is recommended that outcomes should be stated broadly. At the level of a single course, some of the outcomes may be more specific than those stated for a major. A long list of very specific outcomes is not necessary at either level. In most cases, five to eight statements are sufficient to capture the essential learning outcomes of a program, and fewer for a single course.

Examples of learning outcomes—undergraduate major/minor/program level:

Students completing this program will be able to:

- summarize and critique research reports published in political science journals.
- “identify, describe, and classify common, and some uncommon, earth materials (minerals and rock); make scientific observations of these earth materials in the field and in the laboratory; and interpret their observations in a scientifically sound manner.”
- “analyze the impact of social policies on client systems, [social] workers, and agencies.”
- “prepare a set of financial statements in accordance with generally accepted accounting principles.”

Examples of learning outcomes—course level:

Students completing this course will be able to:

- “prepare . . . and present effective informative and persuasive public speeches.”
- “identify various psychosocial factors . . . that play a role in the behavior change process and utilize them in individual and group program planning.”
- “produce writing with APA or MLA formal documentation, which consists of in-text citations and final list of all sources cited.”

Counter-examples: There are several common types of statements that resemble learning outcomes but that would be more explicit or more useful if rewritten to conform to the format illustrated above. These are:

- Invisible/inaudible knowledge: It is stated that the student will know something or gain an appreciation of something, but not that the student can do something. Example:
 - [Students will] “understand the operations of financial institutions and the services they provide.”
 - Rewrite as: Students will be able to describe the operations of financial institutions and the services they provide.
- Learning process: The process of learning is stated, rather than the outcome. Example:
 - The student will read a textbook describing the history of Western music.
 - Rewrite as: The student will be able to summarize the important features of major periods in the history of Western music.
- Teaching perspective: The statement is made from the perspective of the instructor or as a goal of instruction, rather than from the perspective of what the student has learned and can demonstrate. Example:
 - “[This course will] provide learners with the theoretical underpinnings of oral history as a ‘way of knowing’.”
 - Rewrite as: Learners will be able to identify the theories employed by researchers who use oral history methods.
- Student satisfaction with the course or the instructor: It is stated that the student will have a rewarding experience in the course or program. Example:
 - Students will come to see that statistics can be fun, like solving puzzles.
 - Rewrite as: Students will be able to apply basic techniques of hypothesis testing to draw conclusions about populations from samples.

Evidence of Attainment of Learning Outcomes

After specifying the program's intended learning outcomes and auditing the curriculum to determine which courses and other learning experiences are contributing the most to these outcomes, the next step is to consider the evidence needed to determine whether students are attaining the outcomes. The key questions are:

1. What information would you find most useful in determining whether students are attaining the intended outcomes?
2. Does this information already exist as a result of student work in the program? With which courses is the information associated?
3. If so, is the information available for study? Could it be made available in the future?
4. If the information does not currently exist, how could it be generated?

The use of already existing documents is an efficient way of conducting assessment. If the documents are not optimal for determining if learning outcomes have been attained, however, it will be necessary to consider what could be done to ensure the generation of useful evidence.

Potentially useful information and documentation includes both direct and indirect evidence (note: data can be qualitative or quantitative):

Direct evidence of students' knowledge and skills (a product or performance by the student) may include:

- Senior thesis, honors thesis, master's thesis, dissertation
- Research paper or term paper
- Oral presentation
- Standardized test
- Departmental exam, comprehensive exam, preliminary doctoral exam
- Course exam
- Portfolio
- Artistic performance or show evaluated by faculty
- Course project
- Internship or practicum performance evaluated by supervisor
- Instructor summary of performance with respect to a particular outcome

Indirect evidence of students' knowledge and skills may include:

- Post-graduation employer survey (indirect because additional learning may have occurred after graduation)
- Student or alumni self-assessment of learning or of behavior by survey (e.g., NSSE), interview, or focus group (self-assessment cannot be independently confirmed)
- Jobs attained and placement rates (only partly dependent on attainment of learning outcomes)
- Graduate programs into which students were accepted and rates of graduate school attendance/completion (factors besides attainment of learning outcomes contribute to acceptance and completion)

Evaluation of Evidence Available for Assessing a Learning Outcome

(Use a separate sheet for each learning outcome.)

Program:

Intended learning outcome:

Course #/Title or other source	Type of evidence	Advantages	Disadvantages

Ideally, faculty responsible for a given course, and even similar courses in a discipline, will develop their own definitions for the ratings of Very Effective, Effective, Somewhat Effective, Not Effective, but you have decided for yourself the basis for your ratings. Please tell us about this process.

1. What kinds of student work formed the basis for your ratings of student effectiveness in learning the PUL(s) you emphasized in your course?

- A. 1 assignment
- B. Combination of assignments (for example, test items, oral presentations, projects)

Please explain -

2. Did you use the VALUE rubrics, or another form of rubric, to help you decide how to rate each student on the PULs?

- A. Yes, I used VALUE rubrics.
- B. Yes, I used another form of rubric.
- C. Yes, I used a combination of VALUE and other rubrics.
- D. No, I did not use rubrics.

3. Did you make up your own explicit definitions for the ratings Very Effective, Effective, Somewhat Effective, Not Effective to help you decide how to rate each student on the PULs?

- A. Yes
- B. No

If yes, please explain -

4. What did you find most difficult about assigning the student ratings?

5. Based on your experience, what assistance would be most helpful for the campus to offer as we ask your faculty colleagues to begin assigning these student ratings in their own courses in Spring Semester 2010?

To Program Faculty: Please **select only those items** in the list below that pertain to the **one** or **two** PULs to which you have given **major** or **moderate emphasis** in this course.

To Students: How effective was this course in helping you learn each PUL emphasized in the course?

PUL/Survey Question	Very Effective (3)	Effective (2)	Somewhat Effective (1)	Not Effective (0)
1A - Language Skills				
Reading and understanding books, articles, and instruction manuals				
Delivering a prepared presentation to a group				
Writing a final report on a project or other work assignment				
Contributing to a team to solve problems				
1B - Quantitative Skills				
Solving mathematical problems				
Using mathematics in everyday life				
Understanding a statistical report				
Preparing a report using quantitative data				
1C - Information Resource Skills				
Identifying the sources of information that are most appropriate for a project				
Using computer software for work (word processing, spreadsheet, graphics, etc.)				
Evaluating the quality and accuracy of information found on a web site				
Recognizing which ideas or material need to be fully acknowledged to avoid plagiarizing				
2 - Critical Thinking				
Analyzing other people's ideas and proposed solutions				
Systematically reviewing your own ideas about how to approach an issue				
Creatively thinking about new ideas or ways to improve things				
Discussing complex problems with co-workers to develop a better solution				

PUL/Survey Question	Very Effective (3)	Effective (2)	Somewhat Effective (1)	Not Effective (0)
3 - Integration and Application of Knowledge				
Applying what you learned in college to issues and problems you face every day				
Gather information from a variety of sources when deciding what action to take				
Finding new ways to use what you have learned as you encounter new situations/problems				
Putting ideas together in new ways				
4 - Intellectual Depth, Breadth and Adaptiveness				
Learning new approaches to work or to advanced studies				
Having an in-depth understanding of your major field of study				
Having a general understanding of subjects other than the one in which you majored				
Being able to modify how you approach a problem based on the requirements of the situation				
5 - Understanding Society and Culture				
Dealing with conflict among co-workers and friends				
Seeing the relationships between local, national, and global issues and problems				
Working effectively with people of different races, ethnicities, and religions				
Communicating effectively with people who see things differently than I do				
6 - Values and Ethics				
Exercising my responsibilities as a citizen (voting, staying current with community and political issues, etc.)				
Making informed judgments when faced with ethical dilemmas				
Recognizing the consequences of my actions when facing a conflict				
Understanding and appreciating the arts				