Step 4: Plan the Assessment Process

Planning is arguably the most important step in the assessment process and one to which people are apt to devote insufficient attention. Without the foundation of a solid plan, the program's assessment activities are unlikely to produce valuable information.

To ensure the active involvement of a number of departmental faculty in assessment, departments might establish an assessment steering committee. So that there is broad faculty representation, the committees would, if possible, have no fewer than three ladder-rank members in total (ideally, at least one faculty member from each of the department's programs). The job of the committee would be to plan and conduct the assessment of the PLOs, oversee the assessment of programs' required courses, produce an annual assessment report, and supervise the implementation of any action steps that result from the assessment process. Committee membership should rotate periodically. In small departments, all faculty may be expected to serve simultaneously. The committee might plan to meet at least once per quarter, with the entire departmental faculty meeting annually to discuss assessment results.

Given that most faculty members have had little assessment training, the steering committee is advised to work closely with the Office Assessment and Accreditation to develop and approve the department's assessment plans. The Office can be reached at assessment@ewu.edu.

Selecting Culminating Student Products. The focus of academic program assessment is *summative*—that is, it examines the degree to which graduating seniors[1] demonstrate mastery of program learning outcomes. Faculty members are not expected to conduct "value-added" assessment, which is when data are collected from students at two points in time—"pre" and "post"—in order to measure improvement. To make assessment a more manageable process, departments need only collect and analyze "post" data—that is, when students have completed or nearly completed their programs.

The first major decision faculty members need to make when planning to assess their programs is how to measure the PLOs. In order to measure the PLOs, they need to use *direct evidence* of student learning. Students' perceptions about how much they have learned in a given area, such as the self-report data collected by course evaluations and departmental exit surveys are indirect evidence and may be used to supplement—but not replace—direct evidence. Course or program grading distributions, graduation rates, and employment rates are not student learning outcome data, though the latter two may be considered program outcomes (as opposed to program *learning* outcomes). Instead, faculty members are to select the *culminating student products* that their program will use to assess the degree to which students completing the program have mastered the PLOs. Examples of culminating student products include the following:

- A comprehensive final exam developed by departmental faculty
- A capstone project manuscript
- A student portfolio of written work, art work, or other learning artifacts
- A final performance or exhibition of work
- An oral presentation of a capstone project
- A major field test (MFT) published by a testing company such as the ETS or College Outcomes

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[1] Programs may in certain instances opt to collect PLO data from advanced students who are not necessarily poised to graduate that year such as those taking an upper-level methods course open to juniors or seniors in the major.

With the exception of published standardized tests, faculty would specifically design the assigned activities (e.g., comprehensive exam, portfolio, performance) to require students to demonstrate the PLOs. Programs should only select a standardized test as a culminating student product if the test generate results (such as sub-scores) that directly map onto one or more PLOs.[2]

An excellent paper on the important role assignments play in student learning assessment can be found at <http://www.learningoutcomesassessment.org/documents/Assignment_report_Nov.pdf>. A short, highly recommended article on how to design transparent assignments to improve student performance is available at https://www.academicimpressions.com/one-easy-way-faculty-can-improve-student-success/. Finally, you may want to look through the National Institute of Learning Outcomes Assessment's (NILOA's) assignment library to find assignments in your field from which to borrow ideas or become inspired: https://www.assignmentlibrary.org/.

If possible, the culminating products should be program requirements—that is, mandated of every student—in order to avoid sample bias. Programs with large numbers of majors might consider creating a multiple-choice exam that could be Scantron-scored as one of their required activities. They might also consider requiring all students to submit a product (e.g., a portfolio, an essay) of which the faculty would only assess a manageable-sized random sample.

Whether or not instructors grade the products as part of students' coursework is up to the program's discretion. That said, students are not likely to put forth their best effort on projects and tests that are ungraded. Faculty members' ability to ascertain students' actual level of skill development is impaired when they assess artifacts that students are not motivated to work hard to produce.

Use the Culminating Student Product Worksheet to list the culminating student products to be assigned to measure each PLO. You can download the worksheet from http://sites.ewu.edu/assessment/assessment-overview/assessment-resources/step-4-how-to-create-methods-to-assess-slos/.

Sampling. When a culminating student product to be evaluated is lengthy (e.g., long manuscripts) or will entail complex evaluation procedures (e.g., three experts rating a musical performance), programs with large graduating cohorts may choose to examine a sample of student products rather than assess all graduates' work. For any given product, a random sample of 30 to 60 students' work should provide a sufficiently large data set to enable meaningful inferences about student learning to be drawn. That the sample actually be *random*—that is, selected by a statistically valid randomizing procedure—and not haphazard or handpicked—is key to the validity of the assessment. Programs without the tools or know-how to produce a random sample are welcome contact the Office of Evaluation and Assessment to have OEA generate it for them.

Creating Measurements. How programs transform the student products into measures of PLOs will depend on whether the products generate qualitative or quantitative data.

Qualitative Data. To assess a PLO with a qualitative student product –that is, any product that is

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[2] If a standardized test has one or more sub-scores that correspond directly to a program's learning outcomes and one or more that do not, the faculty should disregard the results of the parts of the test devoted to material not covered or emphasized by the program's curriculum.

not of the one-correct-answer sort (e.g., an essay question on a comprehensive exam, a portfolio, a musical performance), faculty will need to use a rubric because rubrics convert qualitative into quantitative data. Faculty may choose to adapt a rubric that has already been created or develop one themselves.

If you decide to develop a new rubric, you are encouraged to keep it simple to make the assessment process as straightforward as possible. To create the rubric, list in the left-hand column the PLOs that the particular assignment will be used to assess. The top row should show the rating scale, which could have three, four, or five points depending on how fine-grained the department wants to make its distinctions. (Bear in mind that the greater the number of points on the scale, the less likely faculty will agree on a product's rating.) The rubric for the English department's capstone paper might look like the following:

Assessment Rubric for Capstone Paper for English Majors		Exemplary 5	Above Expectations 4	Proficient 3	Below Expectations 2	Poor 1
ENGL-PLO-2	Closely analyzes literary texts using appropriate literary and critical vocabulary	☐	☐	☐	☐	☐
ENGL-PLO-4	Synthesizes theoretical knowledge to produce original written interpretations of literary texts	☐	☐	☐	☐	☐
ENGL-PLO-5	Appropriately employs pertinent secondary sources in writing	☐	☐	☐	☐	☐
ENGL-PLO-7	Demonstrates effective communication skills in academic, professional, or creative writing	☐	☐	☐	☐	☐

Sample PLO assessment rubric.

You will need a different rubric for each culminating student product assignment—that is, for example, one for students' portfolio of their artistic work and another for their oral presentation.

Quantitative Data. If faculty opt to create a one-correct-answer type of exit exam to evaluate students' mastery of some or all of the PLOs, they will want to have a minimum of three good questions for each PLO that the instrument is designed to assess in order to establish a sound measure of the learning outcome. The first time the test is used, it should have five or six questions per PLO to increase the chances that at least three of them will be useable items. You are also advised to pilot test the exam with a group of recent graduates or others with expertise in the field who did not participate in writing the exam (e.g., graduate students, faculty) in order to refine it before administering it.

When the test is developed, a key should be created to indicate which questions correspond with which PLOs. This key will be needed when the faculty conducts the data analysis. The average score that students receive on the items used to assess the PLO will be the department's measure of the PLO.

Programs that administer standardized tests should determine during the planning stage whether the overall test score will serve as the measure of a specific PLO or whether sub-scores will be used to measure particular learning outcomes. They should also decide if they want to use the cohort's average score/sub-score or the percentile ranking associated with the cohort's average score/sub-score. For instance, the Chemistry Department could choose to use its students' "Organic Chemistry" sub-score on the Educational Testing Service's (ETS's) Major Field Test (MFT) in Chemistry as its measure of its PLO that graduating chemistry majors should be able to demonstrate mastery of the concepts, principles, and knowledge of organic chemistry or it might use their percentile ranking on Organic Chemistry. Likewise, the Music Department might opt to use the sub-score or percentile ranking its students receive on the "Written History" portion of the Music MFT as its measure of the PLO that program graduates will be able to demonstrate knowledge of the history of Western music including styles, significant repertoire, performance practice, and historical context.

Setting Performance Targets. It is not sufficient for programs to simply decide how they will measure each PLO. They also need to determine what the measurements will *mean*. Learning, for example, that 81% of graduating seniors in the BS program in math are able to correctly describe the logical structure of proofs is not useful information unless the math faculty members have established expectations about the percentage of students who *should* be able to master this PLO.

During the planning stage, the steering committee should set performance targets for each PLO. Because targets are somewhat arbitrary, committees are advised to divide the scores into three ranges—that is, (a) a range of scores that demonstrate that the program has successfully taught the PLO to the graduating cohort, (b) a range indicating it has failed to teach the PLO adequately to the graduating cohort, and (c) a range in the middle, which signals that the program's success on the PLO is gray or ambiguous. For instance, the three ranges for a PLO measured on a five-point rubric (in which 5 = exemplary; 4 = proficient; 3 = adequate; 2 = needs improvement; and 1 = unsatisfactory) might be as follows: A cohort's mean score of 3.8 or greater is satisfactory; 3.0 to 3.79 is ambiguous; and 2.9 or lower is unsatisfactory. A program might determine that on a nationally standardized test a sub-score with an average percentile ranking of 75% or higher is satisfactory; 50% to 74% is ambiguous; and below 50% is unsatisfactory. Similarly, faculty might determine that students' average score on the four questions on the department's exit exam used to measure a given PLO would have the following ranges: 85% and above correct is satisfactory; between 79% and 84% is ambiguous; and below 79% is unsatisfactory.

When programs set their performance targets, they should bear in mind that their unit will not suffer any negative consequences for failing to meet their targets: the purpose of assessment is to inform and improve, not reward or punish. As such, faculty members are advised against establishing targets that students will easily surpass. Rather, they should set the bar in the medium-high range instead. If a cohort of students falls below the range on one or more PLOs, the program should make changes that will enable increasing numbers of graduates over time to clear the hurdle. Use the PLO Target Worksheet to provide the three ranges for each PLO. You can download the worksheet from http://sites.ewu.edu/assessment/assessment-overview/assessment-resources/step-4-how-to-create-methods-to-assess-slos/.