

Continuous improvement practices of Program Learning Outcomes involve collecting and evaluating evidence of whether students are learning what the faculty intend, and at what level. There are two main types of evidence that are used in assessment:

- Direct Evidence: This type evaluates students' actual work using faculty specified criteria.
- Indirect Evidence: This type of evaluation looks at a student's self-reported or perceived learning (obtained skills, competencies).

Indirect evidence should be coupled with direct evidence. However, direct evidence doesn't always call for indirect evidence.

Sources of Direct Evidence

Direct evidence of student learning emerges from evaluating students' work based on criteria established by faculty and aligned with each of the Program Learning Outcomes (PLOs). The curriculum maps serve as a narrative for this process. A recommended approach is to utilize existing assignments from required courses that have already been designated at the demonstrable level of PLO learning. Assignments that prompt students to engage with real-life situations or tasks, applying their disciplinary training, often yield stronger evidence of student competencies compared to traditional exams. For instance, consider projects or assignments that require students to think and act as professionals working in the industry and are aligned with the specified PLOs.

The three main sources of direct evidence are:

- Embedded assignment,
- Capstone experiences, and
- Portfolios.

<u>An embedded assignment:</u> is a graded assignment that allows measuring a specific PLO and is included in individual course(s) aligned with that PLO. Embedded assessments may use an existing assignment that aligns well with one or more PLOs, a brand-new assignment designed by faculty collectively, or a modification of an existing assignment. Whenever possible, it is recommended to collect evidence for assessment across courses taught by multiple instructors (simultaneously or in different quarters), and all instructors should use the same assignment aligned with a given PLO. Moreover, assessment evidence can be collected from a short essay question, a set of multiple-choice questions, or problems designed to measure a specific PLO and embedded in the final exam. Below are examples of embedded assignments.

- Written or Oral Comprehensive Examinations: These assessments evaluate students' knowledge and understanding of program-specific content.
- **Final Exam Performance in Courses Mapped to Program-Level Outcomes**: Analyzing students' performance in final exams across relevant courses helps assess program outcomes.
- **Research Paper Evaluations**: Assessing the quality of research papers produced by students.
- **Problem Sets**: Evaluating problem-solving abilities.
- Research Project Performance: Assessing research skills.
- **Pre- and Post-Tests**: Comparing knowledge before and after a specific course or program.

Academic Program Review Year 3 Resources Sources of Direct & Indirect Evidence



- Clinical Skills/Competency Assessments: For programs in health sciences or clinical fields.
- Oral Presentation Evaluations: Assessing communication skills.
- Artistic Performance and Exhibit Ratings by Experts: For programs in arts and creative fields.
- **Grading with Scoring Rubrics Assessing Dimensions of the Learning Outcome**: Rubrics provide detailed criteria for assessment.

<u>Capstone experiences:</u> Tend to reflect a culmination of learning. There is breadth and depth of learning including knowledge, skill, and application. (e.g., senior research projects, recitals, exhibitions, civic engagement/collaborative Learning initiatives). These experiences challenge students to integrate and apply what they have learned over the course of their studies. Within a Capstone experience almost all, if not all, PLOs are evident. Capstone experiences are often found in internships, courses with significant HIPs embedded, field work/practicums, or capstone courses.

<u>An individual student portfolio</u>: A portfolio consists of multiple assignments guided by faculty. For example, students retain completed assignments from various courses, curating their portfolios based on faculty guidelines and Program Learning Outcomes (PLOs). The selected assignments within the portfolio should showcase a student's best performance related to one or more PLOs. Students themselves choose their most exemplary assignments related to one or more PLO. Additionally, faculty may encourage students to include an assignment that challenged them the most and from which they learned significantly. Faculty establish criteria to evaluate each PLO. The success of this method relies on the entire faculty's active involvement in thoughtful planning. Canvas can host individual student portfolios through a Portfolio course module where faculty then assess learning.

Sources of Indirect Evidence:

Indirect evidence primarily reflects a student's self-reported "perception" of learned knowledge/skills/competencies. Often, the instrument used to measure indirect learning is surveys. In some cases, faculty collect self-reflection papers and self-evaluations. As with direct evidence, survey questions or an assignment should be aligned with each of the PLOs. In the case when indirect evidence needs to be collected for one or several PLOs, a couple of survey questions or a reflection essay may be embedded in relevant courses or the capstone experience.

Exams (License, standard, internal)

Depending on the design of an exam, evidence could be indirect, direct or a combination of both. Exams often favor certain learning styles or cultural backgrounds. They might not accommodate diverse ways of demonstrating knowledge and skills. Furthermore, exams alone may not fully represent a student's overall growth, creativity, or adaptability. Please note that while exams may be good sources of evidence, consider the following limitations:

Narrow focus: Exams typically assess a limited range of knowledge and skills/competencies or application of learning outcomes.

Time constraints: Exams are often time-bound, which can hinder in-depth exploration and students may not have sufficient time to demonstrate all the PLOs.



Context Dependency: Many times, exams occur in controlled settings, unlike real-world contexts. Some PLOs, such as ethical decision-making or teamwork, are better assessed through authentic experiences.

Appendix

<u>University of California: Guidelines for the Development and Assessment of Program Learning</u> Outcomes. Version 1.0 2013. Retrieved on May 15, 2024.