Quick Guide: Overview of Types of Direct Measures for Undergraduate Program Assessment

This quick guide was prepared by the WSU Office of Assessment for Curricular Effectiveness (ACE) and is intended to help WSU programs and faculty consider advantages and challenges of various types of direct measures for assessing student performance on program-level student learning outcomes (SLOs). ACE is also available to collaborate with WSU undergraduate degree programs to design direct measures to assess student performance on program-level SLOs. Contact us at ace.office@wsu.edu for more information.

Introduction

Direct measures are assessments (by faculty or other professionals) of students work products or performances that provide demonstrated evidence of program-level SLOs (i.e., skills and knowledge). In this way, direct measures reveal what students have learned and to what extent.

Types of Direct Measures

Direct measures come in many forms and vary to best meet the needs of a program. WSU encourages programs to choose measures that provide useful information to their faculty and fit with disciplinary expectations.

Evaluation of Student Coursework

Description: Coursework that requires students to demonstrate their performance on specific program-level SLOs can be evaluated by course instructors, other program faculty, industry partners, and/or other professionals using a program rubric, rating scale, or similar tool to provide direct evidence of student performance on those SLOs. There are several approaches to evaluating student coursework that programs can implement to measure student performance on program-level SLOs, depending on the context of the program, coursework, etc. See ACE's Quick Guide: Approaches to Evaluating Student Coursework for Program Assessment for more information.

Types of coursework to utilize for program-level assessment will vary, depending on a program's context, and may include papers, presentations, posters, capstone or other culminating projects, portfolios, performances, demonstrations, exhibitions, short answer or essay type exam responses, or other types of assignments/activities.

Examples: A) Soon after grading, each [M] course instructor applies the program rubric to evaluate their own student's research papers. ***B)*** A faculty committee uses the program rubric to evaluate capstone portfolios. ***C)*** Following students' final presentations in the culminating course, program faculty and industry partners provide feedback on students' skills and knowledge using a debrief form developed by the department. ***D)*** A program considers evidence from UCORE's [CAPS] Assessment Reporting, where [CAPS] instructors provide an assessment of student achievement of [CAPS] designator learning outcomes (and associated WSU Undergraduate Learning Goals) as appropriate to their course and its assignments, for the program's culminating course that also carries a [CAPS] designation (see ACE's Quick Guide to Considering [CAPS] Assessment Reports for UCORE as Evidence for Degree Program Assessment for more information).

Evaluation of Student Coursework, continued

Advantages:

- Authentic work products can provide convincing evidence of real-world skills
- With graded coursework (i.e., work products that students complete as a regular part of a course and are graded by the instructor to contribute to the course grade), students may be motivated to do well and complete their best work
- Ability to collect representative data about student performance in courses that are required for the major (whether a census or random sample)

Challenges:

- Coursework should intentionally prompt students to demonstrate program-level SLOs; not all coursework will require students to demonstrate program SLOs at a sufficient level for program assessment purposes
- May be labor intensive for faculty to provide ratings, depending on the approach used
- Can require significant and ongoing effort and coordination to collect and analyze ratings
- Developing a new rubric and process to evaluate student coursework is an iterative process requiring effort to pilot, refine, and scale up to obtain results that are meaningful to faculty

Evaluation of Student Intern Performance

Description: For program assessment, internships and other field/professional experiences may provide programs with opportunities to assess student performance on skills and knowledge aligned with program-level SLOs in a work setting. A carefully constructed form or survey completed by supervisors/preceptors near the end of the experience can provide direct evidence of student's skills and knowledge based on supervisor/preceptor observations of student performance. See ACE's Quick Guide to Internships and Other Field/Professional Experiences for Program-level Assessment for more information.

Internships and other field/professional experiences are valuable high-impact practices that can provide students with opportunities to apply knowledge and skills from coursework in professional or work settings. Some programs may require or recommend that their majors complete internship, practicum, clinical, service learning, or similar experiences as part of the curriculum or program of study.

Examples: A) Clinical preceptors complete a form to evaluate their student's professional abilities against professional standards aligned with program-level SLOs. ***B)*** Internship supervisors are asked to complete a survey about their student's performance on knowledge and skills aligned with program-level SLOs.

Advantages:

- Student performance in a work setting can provide convincing evidence of real-world skills
- Students may be motivated to complete their best work in a work setting

Challenges:

- Some internships, especially those only loosely connected to a student's major, may be of limited value for assessment of program-level SLOs
- Experiences may vary widely in terms of the amount of supervisor/preceptor observation/oversight and the kinds of tasks completed, which can limit a supervisor's or preceptor's ability to evaluate students
- Supervisors/preceptors may not understand or share program faculty standards for student performance
- Sample size and representation of students may be limited (especially in instances where internships and other field/professional experiences are recommended, but not required, for students)
- Can require significant and ongoing effort and coordination to collect and analyze data

Course Exam Results/Scores

Description: The results/scores of course exams that require students to demonstrate their performance on specific program-level SLOs can be summarized to provide direct evidence of student performance on those SLOs. Depending on the context, a program may choose to consider overall scores on a specific exam and/or the results of certain questions (or groups of questions) on a specific exam.

Examples: A) A course's final exam addresses two program-level SLOs, with five questions addressing each SLO. The program averages the proportion of students that answered the aligned questions for each program SLO correctly. ***B)*** A course exam addresses one program-level SLO. The program examines the proportion of students that scored 75% or above the exam.

Advantages:

- Multiple-choice and other objective tests can be fairly fast and easy to score
- With graded exams (i.e., exams that students complete as a regular part of a course and contribute to the course grade), students may be motivated to do well and complete their best work
- Ability to collect representative data about student performance in courses that are required for the major (whether a census or random sample)

Challenges:

- Exams should intentionally prompt students to demonstrate program-level SLOs; not all exams will require students to demonstrate program-level SLOs at a sufficient level for program assessment purposes
- May be better suited to some program-level SLOs (e.g., knowledge and basic understanding, or concepts) than others (e.g., thinking and performance skills)
- Writing clear multiple-choice exams with good distracters can be difficult and time consuming
- Students tend to guess on questions that are too difficult, which can skew results

National Exam Results/Scores

Description: The results/scores of national exams that require students to demonstrate their performance on specific program-level SLOs can be summarized to provide direct evidence of student performance on those SLOs. Depending on the context, a program may choose to consider overall scores on a specific exam and/or the results of certain questions (or groups of questions) on a specific exam.

National exams may be commercially developed and/or designed by national disciplinary societies. Types of national exams may include professional certification exams, licensure exams, concept inventories, etc.

Examples: A) A program examines the results of a concept inventory designed to measure student's understanding of fundamental concepts in the discipline. ***B)*** A program examines pass rates along with performance on each content area on a national licensure exam (a requirement to practice in the field).

Advantages:

- Offer potential for comparing local results to peers from other colleges
- Generally designed in consultation with experts in the field and thoroughly tested
- Require less faculty time/labor if an external organization handles the administration and provides results

Challenges:

- Level of congruence between a program's SLOs and those addressed by national exams; national exams may not require students to demonstrate program-level SLOs at a sufficient level for program assessment
- May be better suited to some program-level SLOs (e.g., knowledge and basic understanding, or concepts) than others (e.g., thinking and performance skills)
- Extent to which exam results and/or scores for individual questions or content areas are available to the program (e.g., overall exam scores may be of limited value for assessment of a specific program-level SLO)
- May be expensive
- Students tend to guess on questions that are too difficult, which can skew results

Additional Considerations

- Choose direct measures that:
    - Provide evidence of student performance on specific program-level SLOs and answer specific assessment questions.
    - Will be seen as credible to program faculty and the intended users of the results.
    - Provide useful information for program improvement.
    - Are feasible given your program's resources, money, and the amount of time faculty can devote to assessment activities.
- Developing a new measure is an iterative process requiring effort to pilot, refine, and scale up to obtain results that are meaningful to faculty. Successful implementation of a new measure typically requires ongoing efforts and regular attention over several semesters, as well as clarifying expectations about faculty roles and participation. *Note: Programs should be sure to update their assessment plan to reflect considerations around when and how the assessment data will be collected, analyzed, and discussed/shared, and who will be involved.*
    - Consider where there are opportunities to collect program assessment data with good representation of majors, what kinds of assessment data can be collected, and who is positioned to participate in the assessment (e.g., instructors, other program faculty, industry partners, etc.).
        - Programs should consult their curriculum map and four-year schedule of study to identify opportunities to leverage student coursework and exams for program-level assessment.
    - Use or modify existing evidence/artifacts whenever possible. Inventory what evidence of student learning on program-level SLOs already exists in required courses for the major. Again, the curriculum map is a useful tool to consider when identifying opportunities for assessing student work.
    - Depending on what the program wants to learn, assessment can be done toward the end of the curriculum or throughout a program of study.
- If it isn't feasible to assess all students, a representative sample of students can be assessed. See ACE's Quick Guide to Sampling, Sample Sizes, and Representation for more information about sampling for program assessment.

Additional Resources

- Barkley, E. & Major, C. (2016). Learning Assessment Techniques: A Handbook for College Faculty. San Francisco, CA: Jossey-Bass.
- Suskie, L. (2018). Part 4: The assessment toolbox. In Assessing Student Learning: A Common Sense Guide. San Francisco, CA: Jossey-Bass.
- University of Hawaii at Manoa Assessment and Curriculum Support Center. How To: Choose a Method to Collect Data or Evidence Website.