

ASSESSMENT METHODS

Now that you have successfully developed program learning outcomes, you are ready to start thinking about ways to measure them. Selecting appropriate means for assessment is an essential step in the assessment process.

Selecting Assessment Measures

There are many different ways to assess student learning. In this section, we present the different types of assessment approaches available and the different frameworks to interpret your results. (See examples on page 27.)

Direct versus Indirect Measures of Assessment

Direct measures of assessment require students to represent, produce or demonstrate their learning. Standardized instruments, student portfolios, capstone projects, student performances, case studies, embedded assessments and oral exams all provide direct evidence of student learning. Indirect measures capture information about students' perceptions about their learning experiences and attitudes towards the learning process. Informal observations of student behavior, focus groups, alumni surveys, self-reports (i.e., NSSE), curriculum and syllabi analysis, exit interviews, and evaluation of retention rates are some examples. The difference between direct and indirect measures of student learning has taken on new importance as accrediting agencies such as WASC have required the use of direct measures to be the primary source of evidence. Indirect measures may serve only as supporting evidence. (See table on the following page.)

Objective versus Performance Assessment

Objective assessments such as short answer, completion, multiple-choice, true-false, and matching tests are structured tasks that limit responses to brief words or phrases, numbers or symbols, or selection of a single answer choice among a given number of alternatives (Miller & Linn, 2005). Objective assessments capture information about recall of factual knowledge and are less useful for assessing higher-order thinking due to their structured response format that allows for only one best answer. Performance assessments allow for more than one correct answer. They require students to respond to questions by selecting, organizing, creating, performing and/or presenting ideas. For this reason, performance assessments are better at measuring higher-order thinking. However, these assessments are often less reliable than objective assessments since they require expert judgment to score responses.

Embedded and Add-On Assessment

Embedded assessments are tasks that are integrated into specific courses. They usually involve classroom assessment techniques but are designed to collect specific information on program learning outcomes. These assessments are typically graded by course instructors and then pooled across sections to evaluate student learning at the program level. Embedded assessments are highly recommended. They are easy to develop and to administer and can be directly linked to the program's curriculum and learning outcomes. Additionally, students are usually more motivated to show what they are learning since embedded assessments are tied to the grading structure in the course. Add-on assessments are additional tasks that go beyond course requirements and are usually given outside of the classroom such as during designated assessment days on campus. Generally they involve standardized testing. Because they are not typically part of the course grading structure, students are often less motivated to perform well. Some programs have tried to eliminate this problem by offering incentives for performance.

Local versus Standardized Assessment

Local assessments are instruments developed by faculty members within a program for internal use only. They are helpful in assessing standard-based questions (i.e., whether or not students are meeting objectives within the program), because they can be directly linked to program learning outcomes. Standardized assessments are published instruments developed outside of the institution. They rely on a standard set of administration and scoring procedures and because of this are often times more reliable. These assessments provide information about how students in a program compare to students at other peer institutions or to national/regional norms and standards. Knowing what you want to assess is key in the selection of standardized instruments. This includes making sure that these assessments contain enough locally relevant information to be useful. It also means that norms should be comparable in terms of the institution's size, mission and student population in order to draw valid conclusions.

Although standardized assessments are primarily used to generate benchmarking information, they are sometimes used to answer standards-based questions. If you decide to use a standardized assessment for this purpose, make sure that the test content aligns with your learning outcomes, otherwise interpretations will be invalid. Secondly make sure results are reported in the form of subscales so that you can identify where improvements need to be made. Testing companies should be able to provide you with this information.

Direct Versus Indirect Measures

Measures	Description	Examples
DIRECT	Prompt students to represent or demonstrate their learning or produce work <i>NOTE: WASC requires the use of direct measures of learning</i>	<ul style="list-style-type: none">• Standardized instruments• Student portfolios• Capstone projects• Performance, products, creations• Case studies• Embedded-assessments• Orals
INDIRECT	Capture students' perceptions of their learning attitudes, perceptions, and experiences. May also include informal observation of student behavior, evaluation of retention rates, and analysis of program procedures that are linked to student learning. <i>NOTE: Indirect methods alone do not provide adequate information about student learning outcomes. They must be supplemented with direct measures.</i>	<ul style="list-style-type: none">• Focus groups• Student surveys and exit interviews• Interviews• Alumni surveys• National surveys (e.g., NSSE)• Self-Reports• Observation• Curriculum and syllabi analysis

Examples of Direct Assessment Methods

Assessment Method	Description
Capstone Projects	<ul style="list-style-type: none"> • Culminating research projects that provide information about how students integrate, synthesize and transfer learning • Assess competence in several areas • May be independent or collaborative • Focus on higher order thinking • Are useful for program-level assessment • Examples: exams, integrative papers, projects, oral reports, performances • Typically disciplined based and may be designated as a “senior seminar” • Scoring Method: Pre-Specified rubrics
Course-Embedded Assessment	<ul style="list-style-type: none"> • Assessment procedures that are embedded into a course’s curriculum • May include test items or projects • May be take-home or in-class • Usually locally developed • Can be used assesses discipline-specific knowledge • Scoring methods: Raw scores or pre-specified rubrics
Performance Assessment	<ul style="list-style-type: none"> • Use student activities to assess skills and knowledge • Assess what students can demonstrate or produce • Allow for the evaluation of both process and product • Focus on higher order thinking • Examples: Essay tests, artistic productions, experiments, projects, oral presentations • Scoring Methods: Pre-Specified rubrics
Portfolio Assessment	<ul style="list-style-type: none"> • Collection of student work over time that is used to demonstrate growth and achievement • Usually allows student to self-reflect on incorporated work • May include written assignments, works of art, collection of projects, programs, exams, computational exercises, video or other electron media, etc. • Focus on higher-order thinking • Scoring Methods: Pre-Specified rubrics
Standardized Instruments	<ul style="list-style-type: none"> • Instruments developed outside the institution with standardized administration and scoring procedures and frequently with time restrictions • Psychometrically tested based on norming group • Sometimes allow for national comparisons • Caution: Content may not link to local curriculum and so may not pinpoint where to improve; normative comparisons may be inappropriate; do not allow for examination of processes of learning; • Scoring Methods: Answer key, scored by testing company
Localized Instruments	<ul style="list-style-type: none"> • Instruments within the university usually developed within the department for internal use only • Content may be tailored to match outcomes exactly • Caution: Not as psychometrically sound as standardized instrument unless validated internally • Scoring Methods: Answer key, scored internally