

DIRECT AND INDIRECT ASSESSMENT MEASURES

This document explains the difference between direct and indirect assessment measures of student learning and provides examples. Effective assessment plans must include a mix of direct and indirect methods of assessment.

Direct methods of evaluating student learning provide tangible evidence that a student has acquired a skill, demonstrates a quality, understands a concept, or holds a value tied to a specific outcome. They answer the question, “What did students learn as a result of this (assignment/project/exam...)?” and “How well did they learn?” Direct methods generally result in student “products” like term papers or performances.

Direct Methods of Assessing Student Learning:

- Capstone courses
- Review of senior projects by external evaluators (using scoring guidelines)
- Licensure or certification exams
- Places in the curriculum where multiple faculty members examine student work, e.g. theses, video documentaries, art projects, research projects, etc. Scoring guidelines should be used.
- Portfolios and e-portfolios, with material showing progression throughout major
- Entry and exit exams
- Homework assignments, examinations and quizzes, term papers and case studies
- Evaluations of student performance in internships, research projects, field work, or service learning.
- Classroom Assessment Techniques (CATs)
- Standardized tests
- Videotape of oral presentations or performances

Indirect methods provide more intangible evidence, demonstrating characteristics associated with learning but only implying that learning has occurred. When a student answers a question correctly, there is direct evidence that he or she has learned. When a student *says* that he or she has an excellent understanding of the topic, there is indirect evidence. While both methods of assessing learning are valuable, indirect evidence is more meaningful when it is tied to direct evidence.

Indirect Methods of Assessing Student Learning:

- Retention and graduation statistics
- Job placement or graduate school acceptance
- Career development over time
- Student perception surveys
- Course evaluations, with questions added regarding learning
- Alumni surveys or focus groups
- Employer surveys or focus groups
- Student activities
- Teaching strategies that promote learning
- Course grades not based on scoring guidelines or not linked to clear learning goals.
- Number of student hours spent on homework
- Number of student hours spent on service learning
- Number of student hours spent on cultural or intellectual activities related to learning outcomes
- Entry and exit student surveys

At the course level, course learning outcomes should be listed on the syllabi, and the course should be structured so that there are multiple opportunities for students to achieve the course outcomes.

Aren't Course Grades Enough? Assessment tries to link student performance to specific learning outcomes. Grades can be an excellent assessment tool, if the performance being graded is linked to a specific outcome. Traditional course grades tend to provide a summary measure of students' performance across many outcomes, which doesn't provide the kind of specific feedback necessary to link student performance to improvement. They can also include factors like attendance, participation, and test-taking skills. Course grades can provide insight, however, into a student's understanding of the course content and can serve as an indirect method of assessment.

What about Course Evaluations? Course evaluations are not a direct measure of student learning because they focus more on student perceptions of the quality of teaching than on learning outcomes. Some universities have modified their course evaluations to include questions that address student perceptions of learning as well. These kinds of questions would ask students how well they thought they achieved the learning goals of the course. An example of a revised course evaluation that does both is available at <http://www.idea.ksu.edu/StudentRatings/index.html>.

Examples of Direct and Indirect Measures of Student Learning (Course, Program, and Institutional Levels)

	Direct Measures	Indirect Measures
Course	<p>Course and homework assignments –Examinations and quizzes –Standardized tests –Term papers and reports –Observations of field work, internship performance, service learning, or clinical experiences –Research projects –Class discussion participation –Case study analysis –Rubric (a criterion-based rating scale) scores for writing, oral presentations, and performances –Artistic performances and products –Grades that are based on explicit criteria related to clear learning goals</p>	<p>Course evaluations –Test blueprints (outlines of the concepts and skills covered on tests) –Percent of class time spent in active learning –Number of student hours spent on service learning –Number of student hours spent on homework –Number of student hours spent at intellectual or cultural activities related to the course –Grades that are not based on explicit criteria related to clear learning goals</p>
Program	<p>Capstone projects, senior theses, exhibits, or performances –Pass rates or scores on licensure, certification, or subject area tests –Student publications or conference presentations –Employer and internship supervisor ratings of students' performance</p>	<p>Focus group interviews with students, faculty members, or employers –Registration or course enrollment information –Department or program review data –Job placement –Employer or alumni surveys –Student perception surveys –Proportion of upper-level courses compared to the same program at other institutions –Graduate school placement rates</p>
Institutional	<p>–Performance on tests of writing, critical thinking, or general knowledge –Rubric (criterion-based rating scale) scores for class assignments in General Education, interdisciplinary core courses, or other courses required of all students –Performance on achievement tests –Explicit self-reflections on what students have learned related to institutional programs such as service learning (e.g., asking students to name the three most important things they have learned in a program).</p>	<p>Locally-developed, commercial, or national surveys of student perceptions or self-report of activities (e.g., National Survey of Student Engagement) –Transcript studies that examine patterns and trends of course selection and grading –Annual reports including institutional benchmarks, such as graduation and retention rates, grade point averages of graduates, etc.</p>