

## Assessment 101: Assessment Tips with Gloria Rogers, Ph.D.

### Direct and Indirect Assessment

August 2006

There has been a lot of discussion (and confusion) in the ABET community about **direct and indirect assessments**: What are they? Do you have to use both when measuring student learning?

Direct assessments (measures) are most familiar to faculty. Direct assessments provide for the direct examination or observation of student knowledge or skills against measurable learning outcomes. Faculty conduct direct assessments of student learning throughout a course using such techniques as exams, quizzes, demonstrations, and reports. These techniques provide a sampling of what students know and/or can do and provide strong evidence of student learning.

However, not all learning can be measured in a direct way. For example, a desired outcome of a course may be to create more positive student attitudes toward mathematics (or writing, or team work), which are difficult to assess using direct methods.

Indirect assessments of student learning ascertain the perceived extent or value of learning experiences. They assess opinions or thoughts about student knowledge or skills. Indirect measures can provide information about student perception of their learning and how this learning is valued by different constituencies.

However, as evidence of student learning, indirect measures are not as strong as direct measures because assumptions must be made about what exactly the self-report means. If students report that they have attained a particular learning outcome, how can that report be validated? An indirect assessment is useful in that it can be used to measure certain implicit qualities of student learning, such as values, perceptions, and attitudes, from a variety of perspectives. However, in the absence of direct evidence, assumptions must be made about how well perceptions match the reality of actual achievement of student learning.

It is important to remember that all assessment methods have their limitations and contain some bias. A meaningful assessment program would use both direct and indirect assessments from a variety of sources (students, alumni, faculty, employers, etc.). This use of multiple assessment methods provides converging evidence of student learning. Indirect methods provide a valuable supplement to direct methods and are generally a part of a robust assessment program.

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The table below illustrates examples of direct and indirect assessments.

Method	Direct	Indirect	Method	Direct	Indirect
Exit and Other Interviews		✓	Locally Developed Exams	✓	
Simulations	✓		External Examiner	✓	
Behavioral Observations	✓		Written Surveys, Questionnaires		✓
Archival Data		✓	Portfolios	✓	
Focus Groups		✓	Oral Exams	✓	
Performance Appraisal	✓		Standardized Exams	✓	