



Identifying or Designing Methods to Assess Students' Learning

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Tasks that Prompt Students' to Represent Their Learning

“Every assessment is also based on a set of beliefs about the kinds of tasks or situations that will prompt students to say, do, or create something that demonstrates important knowledge and skills. The tasks to which students are asked to respond on an assessment are not arbitrary.”

National Research Council. *Knowing what students know: The science and design of educational assessment*. Washington, D.C.: National Academy Press, 2001, p. 47.

Assumptions Underlying
Teaching

Actual Practices

Assumptions Underlying
Assessment Tasks

Actual Tasks

What Tasks Elicit Learning You Desire?

- Tasks that require students to select among possible answers (multiple choice test)?
- Tasks that require students to construct answers (students' problem-solving and thinking abilities)?

Approaches to Learning

- Surface Learning



- Deep Learning



When Will or Do You Seek Evidence?

- **Formative**—along the way?
For example, to ascertain progress or development
- **Summative**—at the end?
For example, to ascertain mastery level of achievement

Direct Methods

- Focus on how students represent or demonstrate their learning (meaning making)
- Align with students' learning and assessment experiences
- Align with curricular-and co-curricular design verified through mapping

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- Invite collaboration in design (faculty, students, TAs, tutors)



Standardized Instruments

- Psychometric approach—historically has valued quantitative methods of interpretation
- History of validity and reliability
- Quick and easy adoption and efficient scoring
- One possible source of evidence of learning

Do Not Usually Provide

- Evidence of strategies, processes, ways of knowing, understanding, and behaving that students draw upon to represent learning
- Evidence of complex and diverse ways in which humans construct and generate meaning
- Highly useful results that relate to pedagogy, curricular design, sets of educational practices

Authentic, Performance-based Methods

- Focus on integrated learning
- Directly align with students' learning and previous assessment experiences
- Provide opportunity for students to generate responses as opposed to selecting responses
- Provide opportunity for students to reflect on their performance



Do Not Provide

- Immediate reliability and validity (unless there has been or will be a history of use)
- Usually do not provide easy scoring unless closed-ended questions are used.

Some Options


- **E-Portfolios**
- **Capstone projects (mid-point and end-point) or culminating projects (solo or team-based)**
- **Demonstrations**
- **Videotapes of team work, performances, etc.**
- **Visual representations (mind mapping, concept mapping, charting, graphing)**





Disciplinary or professional practices, such as laboratory reports or field reports

- Agreed upon embedded assignments
 - Written response to a prompt
 - Question on a final exam
 - Assigned paper (duplicate handed in for department-level or program-level review using a scoring rubric)

- Writing to speaking to visual presentation

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- Team-based or collaborative projects
 - Internships and service projects
 - Critical incidents
 - Chronological responses to a problem or issue
 - Field-Tested Learning Assessment Guide
(<http://www.flaguide.org/extra/download.php>)

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- Externally or internally juried review of student projects
 - Externally reviewed internship
 - Performances on a case study/problem
 - Performances on a case study accompanied with students' analysis

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- Performance on national licensure examinations
 - Locally developed tests
 - Standardized tests
 - Pre-and post-tests



Learning Logs or Journals

- **Oral defense/response (sometimes as part of a capstone project)**
- **Self-reflective writing (often accompanies student work or occurs after feedback) that demonstrates that students have internalized criteria and standards of judgment**
- **Student questions directed to monthly disciplinary speakers or other scheduled events that illustrate the kinds of questions or problems students raise—can be videotaped**
- **De-construction of a problem or issue**

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- **Debates (especially useful to examine ethical perspectives)**
 - **Problem with solution and ask for other solutions**
 - **Inferences from a discourse selection**
 - **Interactive virtual simulations (geography, chemistry, medical fields, physics—PHET Simulations, for example)**
 - **Concept inventories, such as in physics and other sciences**
 - **Data mining (learning object sites, such as Merlot)**



○ Technology-based methods

- Wikis
- Virtual simulations
- Virtual labs and journals
- On-line case studies
- Role-playing
- Web-based learning labs
- Clickers
- Gaming
- Pod Casts
- Discussion Boards

Indirect Methods (companion with direct methods)

- Focus groups (representative of the population)
- Interviews (representative of the population)
- Locally designed surveys
- Nationally designed surveys (NSSE)
- SALG—Student Assessment of Learning Gains

SALG

- How much each aspect of the class helped your students learn
- How much students gained in understanding, ability, subject appreciation and confidence
- How much the course added to particular skills
- How well students think they will retain material learned

<http://www.wcer.wisc.edu/nise/cl1>

These kinds of questions can also be used at various points in a program to ascertain chronological progress in learning



- Small Group Instructional Design

Identify Methods to Assess Outcomes

- Referring to pages 13-23, identify both direct and indirect methods you might use to assess one or more of the outcomes you have developed for project management:
 - Determine the kinds of inferences you will be able to make based on each method. (See handout)



Make a Case for Another Method

- After you listen to the method or methods someone has shared with you, make a case for one or more other methods that might also align with teaching and learning and student feedback practices.

References

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