Writing About Evaluation of Student Learning/Classroom Assessment

Focus only on **direct measures of student learning**—any activity in which students **demonstrate** their learning such as tests, quizzes, papers, exercises, projects, discussions.

Classroom Assessment Approaches—assessment takes place

1. before or at the start of class (Pre)
   - Students do pre-tests regularly and the instructor uses these to plan the class period

2. at the end of class period, next class period, future test, final exam, follow up in next course (Post)
   - Students write a minute paper at the end of class. The instructor uses it to identify common gaps or misconceptions and then plans a way to address these next class period
   - Students take a test two weeks after class. Instructor analyzes student performance on items related to the specific class. Creates a tutorial for students who need additional work with specific material
   - Students take general education assessment task. Instructor reviews results and identifies ways modify class to better address general education outcome.

3. at the start and end of class period or some later date (Pre + Post)
   - Students do a task before or at start of class and again at the end. The instructor can use gain scores as evidence of student learning. Mau also use results to identify learning gaps and plan next class

4. at start and end of class period (immediate effect) and a second time at some later date--long term effect (Pre + Post1 + Post2)
   - Students do a pre-instruction task and then two post-instruction tasks, one at the end of class and the second at a later date. Instructor can analyze immediate and longer term learning and forgetting. Plan follow-up instruction to reduce misconceptions and bring achievement up.

5. during the teaching-learning process
   - During class instructor asks students to write a response to a question or solve a problem. Uses responses to analyze student learning and give feedback
   - During class instructor observes students working in small groups. Uses checklist to record instances of learning and thinking related to learning objectives.

How to write about your assessment so that it *speaks for itself*

- Identify intended learning outcome(s): Define outcome in terms of what students should 1) know 2) be able to do or 3) care about, value, act

- Describe instruction: A brief description of how you taught the class period, course, lab, studio, etc to address the outcome.

- Describe assessment task: Describe task and how you used it and Include copy in appendix

- Describe evaluation: Describe how you evaluated student performance (criteria, standards); Include copy of rubric or scoring guidelines in appendix

- Summarize and explain results: Highlight major finding; Explain the significance and implications of the results; What's good, not so good, what do the results mean, signify.

Types of Classroom Assessment Tasks

Go with what you already use

- Writing assignment
- Small group exercise
- Problem sets
- Student presentations
- Case study
- Tests, quizzes
- Etc., whatever the typical tasks are that you use

Looking for alternative types of tasks?

- Transfer of student learning
- Tests and quizzes as a study method
- Observations of student performance in class, studio, lab, in the field

Examples of Evidence of Teaching Effectiveness

Example Promotion Portfolios—examples of 13 faculty promotion portfolios
http://www.uwlax.edu/provost/academics/promotion_sample/portfolios.html

Using samples of student work—describe the intended learning outcomes, the assignment or task, analyze the samples—what do the samples indicate about student learning, describe changes you might make and why.

Example Promotion Portfolios—examples of 13 faculty promotion portfolios
http://www.uwlax.edu/provost/academics/promotion_sample/portfolios.html

Meredith Thomsen, Biology

Teaching Evidence 3

Answer key I provide on D2L for a Plant Biology in-class exercise on secondary growth in trees. This is a tough concept for students because it requires them to think in three dimensions to visualize the process and its effects on the plant's structure. My questions are designed to help students think about how the stem changes as secondary growth proceeds.

Download File (thomsen.mere/promotion/9 Secondary growth key001-1.pdf)

Teaching Evidence 4

My assessment of student learning for the learning objective "Students refine their ability to interpret statistics and graphical data, and to infer relationships among variables based on that data" in Ecology.

Download File (thomsen.mere/promotion/stats and graphs assessment-1.doc)

Teaching Evidence 5

Student posters detailing the group experiments they carried out in my S09 Plant Ecology class. These were presented at a poster session to which I invited the Biology faculty and area researchers.

Download File (thomsen.mere/promotion/all posters-1.ppt)

Teaching Evidence 6

Documentation of my grading process with student written Critique assignments in Ecology. Contains a student's first draft (with my handwritten comments), the second draft that incorporates my suggestions, and the rubric I used to grade the assignment. I

Download File (thomsen.mere/promotion/Critique_sample001-1[1]-1.pdf)

Teaching Evidence 7

Assessment of student learning gains in Ecology: evaluation of pre- and post-tests. Students completed the pre-test the first day of class, and I worked the same questions into my final exam. The mean score across all questions increased by 35%. I also used these results to identify concepts that students were not mastering (e.g. definition of net primary productivity) and changed my presentation of those topics.

Scott Cooper, BIO

1. **Evidence of Student Learning**

In these large introductory courses we are forced to rely more heavily on multiple-choice questions. We typically use a GRE/MCAT format in the exam in which students read a short passage and have to use some problem solving skills to answer a series of multiple-choice questions related to the passage. Some instructors also give one to two short answer questions on each exam; however, with 100-140 students in a typical class, this is about the limit to what can be graded in a reasonable amount of time. We have also demonstrated that in-class problem solving by students followed by feedback and formative assessment improves student learning as measured with both free response and multiple-choice questions (**Appendix E**). These improvements persist for several semesters but eventually fade, stressing the importance of making strong connections between introductory and second tier courses (**Appendix I**). While recollection of specific content does appear to wane over the semesters, instructors have reported that students in upper level courses do seem better at problem solving, especially in lecture settings (**Appendix J**). A survey of the students indicates that 90% like in-class problem solving, and rate it as the most effective factor in preparing them for exams, above the lecture, textbook, and notes placed on D2L (**Appendix K**).

Cynthia Berlin, Geography/Earth Science

Assessment of Conservation of Global Environment (GEO 200) and discussion student learning outcomes.
Download File (berlin.cynt/promotion/GEO200-Assessment-1.pdf)
Outcomes of preliminary assessment of Global Warming (ESC211).
Download File (berlin.cynt/promotion/ESC211-Assessment-1.pdf)
Global Warming (ESC211) discussion student learning outcomes with example student postings
Download File (berlin.cynt/promotion/ESC211-Discussions-SLOs-1.pdf)
Exercise manual developed for Remote Sensing of the Environment (GEO/ESC345)
Download File (berlin.cynt/promotion/GEO345-Exercises-1.pdf)
Example student project posters with assessment of learning outcomes for Advanced Remote Sensing (GEO/ESC445)
Download File (berlin.cynt/promotion/GEO445-Project-Assessment-1.pdf)
Results of most recent assessment of Advanced Remote Sensing (GEO/ESC445)
Download File (berlin.cynt/promotion/GEO445-Assessment-1.pdf)
Example PowerPoint lectures (two) for Interpretation of Aerial Photographs (GEO/ESC440). The first is the introductory lecture, the second is on making measurements (photogrammetry).
Download File (berlin.cynt/promotion/GEO440-ExampleLecture-PPTs-1.pdf)
Field Methods (GEO/ESC390) writing emphasis student learning outcomes and assessment.
Download File (berlin.cynt/promotion/GEO390-WE-SLOsAssessment-1.pdf)
Examples of undergraduate student projects for Advanced GIS (GEO485) and student learning outcomes analysis.
Download File (berlin.cynt/promotion/GEO485-Undergrad-Projects-1.pdf)
Graduate student projects for Advanced GIS (GEO585) and student learning outcomes analysis.
Download File (berlin.cynt/promotion/GEO585-Graduate-Projects-1.pdf)