

Foundational Principles: Assessment of Student Learning

Alignment: "The lack of **congruence** between course methods and assessment may actually undermine standards where students pay more attention to perceived assessment demands than to learning tasks. For example, students may bail out of their project team in order to revise (study) for an exam, thus completely undermining their learning." Gibbs, 1995. *Assessing Student Centred Courses*, p. 2.

"The characteristics which then interest them (employers) are ones not well described by existing summative accounts: characteristics such as flexibility, the ability to work in a team, the potential to lead a team, initiative, reliability, motivation, interpersonal skills and so on."

Brown & Knight, 1994. *Assessing Learners in Higher Education*, p. 37.

Assessment drives learning: "The examination system distorted the efforts of the students to achieve personal understanding and some types of examination questions actually tapped limited conceptual understanding. Students were, to varying degrees, developing an understanding of the course which was structured to what they thought the exam would test, rather than to those elements of the discipline or profession in which they were registered". Entwistle, 1992, p. 599.

"The design of assignments and, in particular, the criteria used in allocating marks, can have a dramatic effect on the way students approach both assessed assignments and other learning activities. Many conventional assessment methods, including essays, unseen exams and laboratory reports, allow students to take a surface approach or even implicitly encourage and reward such an approach."

Gibbs, 1992. *Improving the Quality of Student Learning*, p. 17.

Formative and summative evaluation (There's a short exercise to complete.)

In this activity we have grouped examples of the two types of evaluation. Note the characteristics common to each group. Compare and contrast this to the attributes of the other group. When you have a good idea of the defining elements of each type, proceed to the exercise on the next page where you will be trying to identify the formative and summative elements of those evaluation situations.

Formative:

- ❖ Checking to make sure that the report was done correctly and reviewing it with the student.
- ❖ Asking each student to answer a question at the end of your lecture. Reading the student answers and reviewing the material next day with them in class.
- ❖ Observing and coaching a simulated pastoral counseling session.
- ❖ Students write a short quiz at the end of a set of two instructional sessions for feedback (not marks).

Summative:

- ❖ Final examination. No student review permitted.
- ❖ Major Board examination for license to practice.
- ❖ Qualifying oral examination.

Try the following. We'll discuss them at the workshop.

For these situations identify to what extent they have elements of formative and/or summative assessment.

- ❖ A mid-term exam; the students receive the marks but never see it again.

- ❖ Short quiz worth 3% of the final; students receive the results next day.
- ❖ Short answer question at the end of class; the answers are discussed next class.
- ❖ Using direct observations of performance for a final letter of recommendation, not seen by the student.
- ❖ Pop quiz on a lecture not assigned marks; the results are returned two weeks later.
- ❖ Giving marks at the end of the year for group participation in discussions.

True (T), False (F), or Undecided (?) We'll review these at the workshop.

1.	Essay exams are easier to construct than objective items.	T	F	?
2.	Essay exams require more thorough student preparation and study time than objective items.	T	F	?
3.	Essay exams require writing skills whereas objective exams do not.	T	F	?
4.	Essay exams teach a person how to write.	T	F	?
5.	Objective exams encourage more guessing than essay exams.	T	F	?
6.	Essay exams limit the extent of content covered.	T	F	?
7.	Essay and objective exams can be used to measure the same content & abilities.	T	F	?

Ory, John C and Ryan, Katherine E. (1993). *Tips for Improving Testing and Grading*. Newbury Park, CA: SAGE Publications, Inc.

Research Findings on Testing and Grading. We'll review these at the workshop too

1.	Although faculty members desire students to develop higher-order cognitive skills, the tests that are used rarely measure these competencies.	T	F	?
2.	When essays are used, faculty members tend to emphasize problem-solving, and students write essays to meet this expectation.	T	F	?
3.	A small proportion of faculty (less than 20 percent) report using "problem-solving" items on essay tests.	T	F	?
4.	Grades are used primarily for external reporting (not for feedback to students).	T	F	?
5.	The low level of classroom assessment and the lack of attention to validity and reliability call into question the results of most tests and the grades.	T	F	?
6.	Publisher-provided test items tend to focus primarily on recall items.	T	F	?
7.	Less than 35 % of students report that they have never or rarely had to write an essay examination or test at one time or another at university.	T	F	?
8.	Most tests now in use ask for factual recognition or recall.	T	F	?

Gardiner LF. *Redesigning Higher Education: Producing Dramatic Gains in Student Learning*. Report 7. Washington, D.C.: Graduate School of Education and Human Resource Development, George Washington University, 1996, pp. 66-68.

Comparison of Advantages & Disadvantages Of Different Types of Tests

Oral Examinations

Disadvantages

1. Lacks standardization
2. Lacks objectivity and reproducibility or results
3. Suffers from possible abuse of the personal contact
4. Suffers from undue influence or irrelevant factors
5. Lacks an adequate cadre of trained examiners to administer the examination
6. Is excessively costly in terms of professional time in relation to the limited value of the information it yields

Advantages

1. Provides direct personal contact with candidates
2. Provides opportunity to take into account mitigating circumstances
3. Provides flexibility in moving from strong to weak areas
4. Requires the candidate to supply his own formulation without cues
5. Provides opportunity to question the candidate about how he arrived at an answer
6. Provides opportunity for simultaneous assessment by two examiners. (Unfortunately in practice all those advantages are rarely used.)

Practical Examinations

Disadvantages

1. Lacks standardized conditions either in laboratory experiments using animals or in bedside examinations with patients of varying degrees of cooperativeness
2. Lacks objectivity and suffers from intrusion of irrelevant factors
3. Is of limited feasibility for large groups
4. Entails difficulties in arranging for examiners to observe candidates demonstrating the skills to be tested

Advantages

1. Provides opportunity to test in a realistic setting skills involving all the senses while the examiner observes and checks performance
2. Provides opportunity to confront the candidate with problems he has not met before both in the laboratory and at the bedside to test his investigative ability as distinguished from his ability to carry out “cook-book” exercises
3. Provides opportunity to observe and test attitudes and responsiveness to the total situation
4. Provides opportunity to test the ability to communicate under pressure, to discriminate between important and trivial issues, to arrange and display the data in a final form.

Essay Examinations

Disadvantages

1. Limits severely the area of the student's total work that can be sampled
2. Lacks objectivity
3. Presents difficulties in obtaining consistent judgments of performance
4. Provides negligible feedback
5. Requires excessive time to score

Advantages

1. Provides opportunity to candidate to indicate his knowledge of and his ability to organize ideas and explain them effectively in his language.
3. Students prepare with 'deep learning' studying practices

Multiple Choice Questions

Disadvantage

1. Requires extended time to construct in order to avoid arbitrary and ambiguous questions
2. Requires adjustment for positive scores that may be achieved by chance or by guessing
3. Provides cues that are unavailable in practice
4. Students use a surface approach when studying and believe that simple memory will help them succeed.

Advantage

1. Provides objectivity, reliability and validity
2. Increases significantly the range of variety of facts that can be sampled in a given time.
3. Provides opportunity to obtain detailed feedback for both students and faculty.

Guilbert, JJ. 1977. Educational Handbook for Health Personnel. Geneva: World Health Organization.

Ory J & Ryan K. 1993. Tips for Improving Testing and Grading. Sage Publications.

Biggs J. 1999. Teaching for quality learning at university. Buckingham, UK: Society for Research into Higher Education and Open University Press.