Assessing Student Learning

Assessment within a course measures knowledge acquisition, performances, products, or skills developed in order to determine students' level of mastery or attainment of learning objectives. Measurements may come from sources such as quizzes, journals, homework, presentations, projects, and tests. Ideally, you would use a mix of approaches that suits your subject, course, students, and teaching style.

Two common terms used in describing assessment refer to when the assessments are performed and the purpose they serve.

- Formative Assessment – Conducted at intermediate points to give students feedback on their performance and to give instructors information on how students are learning.
- Summative Assessment – Conducted at the end of a unit or course for the purpose of assigning a grade.

This handout will focus primarily on formative assessments.

"Educative" Assessments

Wiggins' (1998) term educative assessment is similar to formative assessment, and includes a goal that educative assessment is intended to inform and improve student learning. Qualities of educative assessment include performance through authentic tasks, and frequent feedback that can help students improve.

Four-step Approach to Educative Assessment Design

To help instructors provide solid educative assessment, Fink (2013) created the following four-step approach.

Step 1: Identify a good forward-looking assessment [tool]

Fink's definition of 'forward-looking' assessment involves looking ahead to what you want or expect students to be able to do as a result of having learned and being able to apply knowledge and skills from your course topic(s). Referring to Wiggins (1998, pp. 22, 24), the recommendation is that questions, problems, tests, and assignments that have the following qualities:

- **Are realistic** – The task or tasks replicate real-world applications of a person's knowledge and abilities.
- **Require judgment and innovation** – Problems may be loosely structured, requiring the student to use knowledge and skills to develop a plan and a potential solution.
- **Ask the student to do the subject** – Not just restating or demonstrating what they've learned, the student carries out their exploration and work using the processes of the discipline.
- **Are contextual** – Students do tasks in real-life contexts, which tend to be messy and murky and require good judgment.
- **Assess Use of Knowledge** – Assess the student's ability to integrate and use their repertoire of knowledge and skills in a complex task.
- **Facilitate Practice** – Students have opportunities to practice the tasks, get feedback, and refine and improve their performance.

Step Two – Identify appropriate criteria and standards

Rubrics

One common way of providing criteria and standards is to create a rubric. Walvoord and Anderson (2010) list steps for creating an individual assignment rubric:

- Be clear about your objectives for the assignment, and what you want the students to learn and do.
- Identify the criteria or traits of the product or student performance that you will assess.
- For each criteria/trait, construct a two- to five-point scale describing statements of good to poor versions of the trait.
- Try out the scale with a sample of student work or review with colleagues. Revise as necessary.

Step Three – Provide multiple opportunities for self-assessment

Learning and applying self-assessment can help students develop critical thinking and self-direction in their learning. Some activities that support self-assessment include:

- **Identify relevant criteria** – These are similar to the criteria and performance levels in a rubric, with criteria communicated to the students. An option may be to provide samples, drawing attention to the qualities that distinguish higher and lower quality work. Another option is to involve students in the creation of the performance criteria and standards.
- **Practice using the criteria on others' work** – Students can practice applying the criteria through giving feedback to other students on their work.
- **Practice using the criteria on one's own work** – Students can use criteria to assess and improve their own performance on a challenging task.

Step Four – "Provide FIDeLity [Frequent, Immediate, Discriminating, and done Lovingly] feedback."
The acronym FIDeLity represents four traits of high-quality feedback:

- Frequent
- Immediate
- Discriminating (based on criteria and standards)
- Lovingly (or supportively) delivered

Frequent– Ideally, students receive some form of feedback from the instructor or other students in every class or at least once a week.
Immediate – Immediate feedback occurs very close in time to the learning experience.
Discriminating – Discriminating feedback is based on criteria and standards and clearly distinguishes between good and poor performance.
Done Lovingly (or supportively) – Feedback can be delivered in a context of empathy, support, and caring about the students' learning. This may help students internalize and apply the feedback messages for their learning improvement, rather than ignoring or using the message solely for grade improvement.

Low-Stakes Assessments: Classroom Assessment Techniques

Classroom Assessment Techniques (CATs) are very short classroom activities that provide direct, formative, and informal assessment to help both students and instructors determine how well learning is occurring. With this knowledge, students know what materials need to be reviewed, and instructors are able to address misunderstandings before summative assessment occurs.
The following are characteristics of CATs.

- Are done and collected in a single class period so that the instructor can analyze the responses and respond quickly.
- Are ungraded because the purpose is to provide information about student learning.
- Are routine to assure effective communication and timely feedback.
- Are brief to limit student time-on-task and instructor time on analysis and feedback.
- Constitute both a learning activity and an assessment.
- Stimulate metacognitive thinking – students reflecting on their own learning process.

Perhaps the most common example of a CAT is the "Minute Paper." To use this technique, stop class two or three minutes early. Ask students to respond to a question such as, "What was the most important thing you learned during class?" or "What important question remains unanswered?" Students respond on index cards or half-sheets of paper. This activity provides instructors a check on what students have learned, and may help inform choices to review material or make course changes. Benefits for students include recalling and articulating what they learned, assessing their understanding, and raising questions.

Exams as Formative Assessment

While exams are a traditional part of almost all classes, the feedback provided by exams generally comes at a point when there is nothing a student can do to correct misunderstandings that have occurred along the way. There are ways, however, to turn exams into a formative tool.

- Use auto-graded multiple choice quizzes in a course management tool prior to class.
- Make these quizzes required, but assign them few points.
- Provide solid feedback to incorrect answers.
- Have students provide muddiest issue feedback to you at the beginning of class to seed discussion.
- Use quiz feedback to feed classroom check-in sessions.

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