Formative Assessment: Overview, Tips, & Resources

Pottruck Technology Resource Center, Simmons College

The term assessment usually conjures up images of tests, red ink, and of burdensome evaluation that happens *after* learning to demonstrate mastery. Why do most teachers dread this type of assessment? Perhaps because it is an end point that appears to serve little purpose (other than as a last step prior to assigning student grades). This kind of assessment is often referred to as "summative" assessment or evaluation. But the summative approach is only one strategy for assessment – and unfortunately it tends to eclipse other forms of assessment.

"Formative" assessment is a generative process designed to support learning. It doesn't have to be cumbersome and technology can be used to facilitate the process. Formative assessment provides teachers and students with information that can be used to identify next steps for learning. This type of assessment is ongoing and can take place in the moment – observing a student discussion group, analyzing the products of student work, asking a follow-up question to learn more about students' understanding.

You may read this and think, "But that's no different from what I do already – that's just good teaching!" In some respects this is true, but for formative assessment to be useful, the process needs to be explicit, intentional, interpretive, and generative. Formative assessment involves:

- *Sharing Goals:* Being explicit about what you want students to learn and understand;
- *Collecting Evidence:* Developing systematic strategies for gathering evidence of student learning in relationship to course understanding goals;
- *Interpreting Evidence:* Interpreting student work to identify areas of progress and need (grounding teaching decisions in evidence); and
- *Communicating and Deciding Next Steps:* Working with students to reflect on their progress, generate ideas for next steps, and take action.

This process doesn't have to be all on the professor's shoulders. Students can (and should) be expected to participate actively in gathering evidence of their own learning, assessing areas of progress/need, and determining steps to strengthen their skills and deepen their understanding of course concepts. This form of metacognition is called "deutero" learning or "learning to learn." Engaging students in the assessment process is a win-win situation – faculty workload is mitigated and students are encouraged to develop lifelong learning skills.

Sharing Goals for Learning with Students:

We may "know it when we see it," but what constitutes "good" work isn't always clear for students – especially when teaching methods depart from students' prior school experience. For example, if a student was never expected to think critically in grade school or high school, she will need college professors to be explicit about their expectations for reflection, questioning, and self-assessment. What are the goals for student learning in the course, the session, or the assignment? What kind of participation is expected? To whom are they accountable – to just the professor, or to their peers as well? What factors make a submission an example of "quality" work? Time spent articulating this information is time well spent.

Collecting Evidence of Learning:

Evidence of learning doesn't have to be tangible – it can be gathered by observation (watching and listening as students perform a task or respond to a question). However, memory fades quickly, so it is a good idea to jot down observations in a journal for future reference.

Face-to-face interactions are ephemeral and difficult to document in the moment – online discussions are an excellent place to look for evidence of learning because student posts persist even after the discussion is over. If you and your students review the posts with learning goals in hand, it is easier to spot areas where more clarification or work is needed. You can have students review their own posts and, in consultation with a discussion rubric, assess their participation – backing up their assertions with quotes from the posts as evidence.

Other artifacts of student work (e.g., drawings, experimental data, etc.) can be used to provide insight into students' learning needs. Online portfolios can be a useful method for engaging students in assessment of their work. If possible, structure the portfolio so that it corresponds with course learning goals – this will make it easier for faculty (and even peers) to review and provide feedback. Identify several times in the course for students to review their work and select several examples that demonstrate progress toward course learning goals. In addition to demonstrating mastery, ask the students to also identify areas in which they believe they need to do more work – and articulate their plans for improvement.

In addition, online course management systems (e.g., WebCT) can be used to generate and collate student surveys. A formative assessment survey doesn't need to be complex or quantitative – it can consist of one or two open-ended questions designed to prompt reflection. For example, "Considering the objectives for this module, what do you think is the most important thing you learned? What questions remain for you?" These types of surveys can also give you ideas for course improvements.

Interpreting Evidence:

How can you and your students interpret progress toward course learning goals? What's the appropriate "measuring stick"? According to assessment expert Wynne Harlen, there are three approaches:

- Looking at student work in relationship to a certain standard of work to be achieved (based on prior experience with this age/type of student)
- Looking for progress within the individual (for example, through pre/post assessments)?
- Looking for progress in relationship to the group

Each of these interpretive frameworks has value – but it's helpful to be explicit with yourself about the lens you are using.

In any event, print out a copy of your course objectives and always refer to them in reviewing student work. Assessing work in relationship to course goals for understanding and skill development helps you keep focused on the things that are most important. If this seems overwhelming, select one or two objectives to focus on in any given cycle of assessment – iterative substantive analysis in several domains will ultimately be more productive than superficial analysis across the board.

Communicating and Deciding Next Steps:

In many ways, the process of formative assessment is also a process of relationship building with your students. If they experience you as an interested, sensitive, insightful, and constructive teacher, they will be more responsive to feedback. Here are some tips for communication and discussion about next steps:

- Connect what you have to say with course learning goals (the purpose), modeling the process of analyzing their work in relationship to larger goals.
- Look to the future – what can the student do in to strengthen her work or enhance her participation?
- Consider your message and tone – Avoid being judgmental. Don't underestimate the impact your words can have. Students can remember negative glib comments well into adulthood. Likewise, avoid unsubstantiated praise. For example, instead of writing "great work" (which provides little insight and doesn't spur the student to dig deeper), share your intellectual enthusiasm by writing, "I'm intrigued by the point you make about X – this makes me wonder about Y."

Strategies for Time Management:

Time is in short supply for most faculty members – and this makes the process of formative assessment seem all the more daunting. However, studies show that this approach improves student motivation, encourages students to take responsibility for their own learning, and increases student achievement (Harlen, 2000). In light of the tremendous payoff of formative assessment, it was well worth the thought and time you put into it. If you feel swamped, take the following suggestions into consideration:

- *Think integration, not add-on* – this approach works best if it is integral to the course interactions – past of the system of operation. If you don't know where to begin, you may want to request a consultation with one of Simmons College's PTRC instructional designers.

- *Ease into it* – pick one of the course learning goals, then design a formative assessment sequence for that goal. The first time around, take notes on what worked and what you'd do differently next time. Each time you offer the course, integrate one more formative assessment sequence until you feel that the optimal amount has been achieved. Remember, you don't have to take a formative approach to every single task you assign.

- *Pick and choose* – We assume that what is done for one student must also be done for the others, but that's not necessarily the case. You can focus your attention on a different sampling of students during each round of formative assessment – or, if students are working in groups, on a few of the groups. Explain to the students why you are taking this approach – that you believe that substantive feedback is paramount. If you're worried about those who aren't scheduled for feedback, you can ask students to take responsibility for analyzing and commenting on the work of those who aren't on deck that round. In fact, by comparing their feedback with yours, students can work on improving the feedback they provide their peers.

A Case Study Example

Richard Gurney (Simmons College, Chemistry) used technology to facilitate assessment and dialogue among students taking "green" Chemistry. The challenge was that he had a great deal of material to cover, but only a few of the students were chemistry majors. Participants came to the course with varying levels of experience. To address these diverse learning needs, he offered the class a hybrid course (part face-to-face, part online).

He divided the students into groups. Each week, one group was responsible for presenting the week's readings along with questions to prompt discussion. The ensuing discussion took place online. At the end of the session, each person in the "presenter" group was responsible for submitting a summary of the

classes' work and what was learned. Gurney's use of technology for this course was "formative" in the respect that he created a context in which

1. Students took responsibility for generating questions, pursuing/addressing those questions, and summarizing what they learned; and,
2. (Since some of the course discussion was online and captured in writing), both the teacher and the students were in a good position to observe group interactions, analyze discourse to determine strengths and gaps in understanding, and then use these insights to do things that furthered everyone's learning.

The first two weeks of the course were the most challenging – helping students figure out what was going on and what was expected of them. This kind of teaching involves intense, up front investment. But by the 3rd-4th week, the entire group "got it." In checking the time stamps on message posts, Gurney noticed that at least 50% of the posts were made after midnight. So lots of the back-and-forth discussion took place at 1-2 a.m., when students had the time and inclination to think about the course.
The beauty of this approach was that basic questions and requests for clarification were addressed online. This meant that face-to-face sessions could be dedicated to grappling with higher-level concepts and ideas. In addition, students who usually talked less were emboldened by their online participation, so they began to speak up – whereas students who typically dominated face-to-face discussions learned how to hang back and trust that others would participate. By the end of the semester, students were challenging each other, critically evaluating sources, and even going out on their own to find additional relevant materials online.

Where Can I Go to Learn More?

Assessment Reform Group
2002. *Testing, Motivation and Learning*, Booklet published by the ARG, University of Cambridge Faculty of Education. http://www.assessment-reform-group.org.uk (downloaded 1/04)

Black, Paul and Dylan William
1998. "Inside the Black Box: Raising Standards Through Classroom Assessment." Bloomington, IN: Phi Delta Kappa. http://www.pdkintl.org/kappan/kbla9810.htm (downloaded 4/04)

Black, Paul, Christine Harrison, Clare Lee, Bethan Marshall, and Dylan Wiliam
2002. *Working Inside the Black Box: Assessment for learning in the classroom*. London: King's College.

Dubinsky, James
2003. "Building and Sharing Electronic Portfolios: Teaching Professional Writing," *Proceedings of the 2003 Association for Business Communication Annual Convention.* https://eportfolio.vt.edu/Dubinsky_article.pdf (downloaded 4/04)

Harlen, Wynne
2000. *Teaching, Learning and Assessing Science 5 - 12*. 3rd Edition. London: Paul Chapman Publishing.

Stiggins, Richard J.
2001. *Student-Involved Classroom Assessment*. New Jersey: Merrill Prentice Hall.

Virginia Tech ePortfolio Pilot Initiative
2004. https://eportfolio.vt.edu (downloaded 4/04)