The Role of Assessment and Feedback in Learning

Most new teachers realize that assessing student learning is an important part of teaching a course, but they don't always know the best ways to help students learn from assessment and feedback. Let's listen in as two new teachers share their experiences and plan their courses.

Georg and Maria just finished teaching Pre-Calculus for the first time. They are both scheduled to teach the same course again next semester, and they have decided to work together to try and make some improvements. While they had both expected that many of their students would find the course challenging, they had not anticipated just how many students would struggle to even pass the three exams they are required to administer. They want to make some changes that will improve students' chances for success next time around. When they meet to discuss their plans, they discover that they are thinking very differently about what approach will be most helpful for their students.

Georg says, "I gave a lot of quizzes last semester, and I think it triggered math anxiety for many of my students. This time I'm only going to give a couple of quizzes and really focus my attention on preparing students for the three exams. I'm going to do more problem solving with students in class and hold review sessions before each exam so they know what to expect and how to study. I'm also going to hold additional office hours during the week before each exam and really encourage students to come to me for help if they're struggling."

Maria says, "I gave just a few quizzes last time, but I think they were really helpful for students because they included the same kinds of problems that appeared on the exams. I'm going to increase the quizzes to once a week and require students to make corrections and solve additional problems like the ones they got wrong. They'll have to submit this work as part of their quiz grade each time, and they can come to my office hours if they get stuck."

Take a moment to write down some ideas about what you just read. What is the difference between these two approaches to assessing learning and giving feedback to students? Which instructor's feedback strategy do you think is most likely to help their students?

When we consider Georg and Maria's disagreement, we see big differences not only in their plans, but also in the thinking behind them. Georg is focusing mostly on ensuring that students have been exposed to all the skills and knowledge they need before they take the exams. He plans to reduce the number of quizzes because he believes that less frequent assessments will decrease student anxiety. Maria is focused on requiring more quizzes because she believes that practice and feedback will help them develop the skills and knowledge they need for the exams.

What kind of assessment leads to learning?

While Georg clearly has good intentions for helping his students, Maria's plan is much more likely to help her students be successful in the course. Why is Maria's plan the better one? To answer that, let's start with an important distinction between types of assessment. One type of assessment, and the one that teachers are often referring to when they use the term "assessment," is *summative assessment*. Summative assessments are the assignments, tests, or projects that "sum up" student learning, meaning they tell you how well students have made progress toward

the course goals at a few key moments in the course. These are the "major" assessments in a course that together make up a substantial portion of students' grades. The other type of assessment is *formative assessment*. Formative assessments are the lower-stakes work like quizzes, homework, or in-class activities that are designed to help students develop the skills and knowledge they will need to succeed on summative assessments. The goal of formative assessment is to give students opportunities to practice the skills that summative assessments will require so they can receive feedback on their developing thinking. The most effective courses provide a combination of summative and formative assessment, with formative assessments making up the largest portion of the work that students do and summative assessments happening a few times during the semester.

Teaching plans that emphasize formative assessment, like the one Maria has developed, are more likely to help students' learning because these plans provide frequent and regular opportunities for students to practice and receive feedback on the skills and knowledge that are required for success on summative assessments. This means that students will find out early on if they don't understand the concepts or processes they will need to use to do the work of summative assessments: the result is that they have the opportunity to improve when the stakes are low. They will also go into summative assessments with greater confidence because they will have a clearer sense of what they are able to do and have had the opportunity to improve on areas of concern.

On the other hand, teaching plans that emphasize summative assessment without sufficient formative assessment, like the one Georg has developed, are not likely to help students' learning. These plans tend to require the teacher to do a lot of work to prepare students, but they give students very few opportunities to practice and receive feedback on the skills and knowledge that are required for success on summative assessments. In addition, when students have few opportunities for low-stakes practice and feedback, their anxiety about summative assessments is likely to increase because they don't really know whether they are prepared for those assessments or not. Students in this course are also unlikely to reach out for help because they won't realize that they are struggling until they see the results of the exam—and by then, it will be even more difficult for them to get themselves back on the path to success.

How do we ensure that assessment and feedback lead to learning?

When students regularly receive small amounts of feedback on low-stakes work, they start to see that feedback as useful information about their learning. This is especially true when they know they will be required to act on feedback immediately and have the opportunity to improve before higher-stakes summative assessments take place. In classes with frequent formative assessments, students will come to see the value of those assessments and are more likely to pay careful attention to the feedback they receive. In contrast, when students receive only occasional feedback on high-stakes work that has already been graded and can't be revised, that feedback is evaluative rather than informative. This means that students are not likely to use the feedback they receive in any meaningful way because they see it as the teacher's justification for a grade rather than as information to help their learning. Teachers who focus on only a few high-stakes

assessments with little formative feedback will find that their students dread assessments and either ignore or pay only nominal attention to the feedback they receive.

While giving formative feedback is important, it is only a first step: if students don't have explicit guidance to help them put that feedback into action, they are unlikely to improve. Moreover, if working with or using feedback to inform their next steps is merely a suggestion, many students will opt out because the value of that work isn't immediately clear to them. That's why the best teaching plans require students to analyze their own work, reflect on the feedback they receive, and use that feedback to change their approach. Once we open this kind of dialogue with students about their learning, they can begin to recognize the benefits of acting on the feedback we give them because they will see their work improve over time. This approach to feedback not only helps students be more successful in our courses, it lays a foundation for helping them become more mature, more self-regulated learners.

Strategies for Assessment and Feedback that Lead to Learning

Now that we've considered how assessment and feedback are related to student learning, let's look at some practices you can implement in your courses to help you act on these principles.

Analyze the summative assessments in the course and articulate what they require students to do.
An effective course will have a set of carefully-designed summative assessments that are coherent and aligned with the learning goals of the course. Once these assessments are designed, it's important to take some time to make explicit to yourself (and to your students) what skills and knowledge they will need to use in order to be successful. For example, if students are taking a test that requires them to solve complex problems using course concepts, you need to be very clear not only about what those concepts are, but also about how students need to use those concepts to solve problems.

Make a plan for regular formative assessment.
When you understand what the summative assessments require of students, you can begin to create a formative assessment plan that will provide students with the necessary practice. Remember that students will need opportunities to make multiple attempts at complex skills, so your formative assessment plan should require students to do the same kinds of work more than once. Formative assessments like quizzes, writing practice, homework, or in-class tasks should make up a small portion of students' overall grade. Because these kinds of assessments are happening very frequently (ideally, every day), students' grades shouldn't be significantly affected if they are struggling early on: the work they do on formative assessments should prepare them to perform better on the higher-stakes summative assessments. Keep in mind that you don't have to grade everything: consider having a mix of graded and ungraded formative assessments, or you might grade some tasks for completion only. Maria's plan for frequent quizzes where students will practice the skills they need for the course exams, regularly revisit and correct their mistakes, and use what they learn to plan their next steps is a good example of a formative assessment plan.

Require students to plan for how they will use the feedback they receive to improve.
We need to make sure that feedback isn't just about us giving students information about their learning; instead, we need to help students make sense of what that information tells them about how they should make changes or adjustments. Sometimes teachers assume that students will do the work of analyzing their performance and reviewing feedback carefully to make key changes in their thinking. While some of the most mature learners in our class will do this work, most students haven't yet developed this skill yet. We can scaffold this development by giving them structure to help them act on the feedback they receive. Below are some examples of reflection prompts that can help students plan for using your feedback to improve their work.

Questions to help assess student understanding of the feedback they received

- Based on the feedback you received, what were the strongest aspects of your [draft/paper/exam/project, etc.]?

- Based on the feedback you received, what were the weakest aspects of your [draft/paper/exam/project, etc.]?

- Where did your assessment of your work align with or differ from the feedback you received on your [draft/paper/exam/project, etc.]?

- Did you receive any feedback on this work that you found confusing or frustrating? Are there places where you need clarification or greater specificity to help you use the feedback you received?

Questions to help students plan to use feedback

- Based on the feedback you received, where do you plan to focus your attention as you [study for the next exam/write the next paper/prepare your next project/etc.]? What are three things you will do to act on this feedback as you prepare for your next steps?

- Consider the list of strategies below. You may have begun using some of these already in your preparation for this [draft/paper/exam/project, etc.], but some of them may be new to you. Explain two new strategies (from this list or others) that you will use to help guide your work as you prepare the next [draft/paper/exam/project, etc.]. *Note: The examples below are from a writing course. Your list will be based on the strategies that will be most effective to help students do the work of your assignment or assessment.*

  o Spend some time freewriting to discover and clarify your thinking about the subject or problem addressed in your paper.

  o Create and continually revise an outline to guide your work and help track revisions.

  o Read your work aloud to someone else so that you can hear yourself verbalize your thinking.

  o Write in small chunks of time (15-20 minutes a day) to stay engaged in the thinking the paper requires and gain distance from your work so you can revise more effectively.

Resources on Assessment and Feedback

Hudesman, J., Crosby, S., Ziehmke, N., Everson, H., Isaac, S., Flugman, B., Zimmerman, B., & Moylan, A. (2014). Using formative assessment and self-regulated learning to help developmental math students achieve: A multi-campus program. *Journal on Excellence in College Teaching, 25*(2), 107-130.

Nilson, L. B. (2016). *Teaching at its best: A research-based resource for college instructors* (4th ed.). Jossey-Bass.

Walvoord, B. E., & Anderson, V. J. (2010). *Effective grading: A tool for learning and assessment* (2nd ed.). Jossey-Bass.

If you'd like to learn more about making the most of assessment and feedback in your course, please feel free to **request a consultation** with ITLAL.