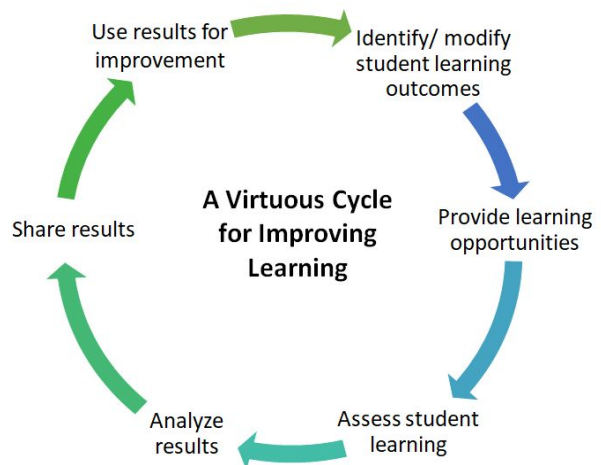


Best Practices for Assessing Impact of Instructional Changes on Student Learning

Many instructors follow a practice of [seeking continuous improvement in their courses](#). This can create a virtuous cycle for their teaching practices. In a virtuous cycle, one desirable occurrence leads to another, which further promotes the first occurrence and so on, leading to a continuous process of improvement. In the context of course-level assessment, this may look like the cycle pictured (*figure, right*) where instructors can use assessment data to track whether their teaching changes have positively impacted student learning.

For some instructors, making instructional changes in their courses can feel daunting or overwhelming. Where do you start? How do you manage the work of trying something new? How do you know if you've had a positive impact?

The following steps outline best practices for how to design and implement a plan to improve student learning in a course by modifying course instruction. Using this guide can help you map out a course of action that will allow you to make strategic decisions about how to change your course in a meaningful and manageable way, and more importantly, how to tell if the changes you've made have had an impact on student learning.



Step 1: Get clarity on where student learning could be improved. First things first: Identify the problem. Where should you target your efforts to improve student learning in your course? To get started on a plan to improve student learning in your course, you first have to decide what issue you want to focus on first. To help you decide, think about both your goals for student learning and where students seem to run into issues in your course.

- **Clearly define [student learning outcomes \(SLO\)](#)**, focusing on what students should be able to demonstrate to show they have achieved an outcome. Outcomes can be defined at the course level, as well as at the module or unit level. These outcomes serve as your essential goals for what students should be able to demonstrate in your course. Focus first and foremost on students' achievement of these central goals.
- **Get clear on where most students are struggling.** Are the points where students are struggling tied to a single SLO or to multiple SLOs? A particular assignment or unit? Or,

are student issues broader in nature? For example, perhaps they struggle to apply material learned early in the course to later assessments. Or, perhaps students have voiced an opinion that the course doesn't feel cohesive or that they don't understand how aspects of the course connect together. If the area is specific, smaller changes to instructional content or activities or to an assignment may be all that's needed to help students address this area for improvement. If students' struggles are broader in nature, broader pedagogical changes are warranted.

Step 2: Prioritize and think systematically how to tackle identified issues. You may have identified multiple issues. Consider prioritizing the issues in a way that makes sense to you, and then devise a plan to systematically tackle the issues.

Progress matters more than perfection. You care deeply about your course and your students' learning. Nevertheless, it can be impractical to plan & implement lots of changes at one time. Beyond helping you manage the work, making course revisions slowly & systematically will allow you to get clear insight on what works to improve student learning and what doesn't. If you think your course has several smaller issues to address, you can devise a plan to make course changes one at a time, semester by semester.

Sometimes a big change - on par with a [course redesign](#) - is truly needed. For instance, moving the dial on students' final course grades will likely take sustained and continuously reinforced changes. It's unlikely adding a single new instructional activity would have a measurable impact, but a series of new activities throughout the semester could be helpful. Consider reaching out to the instructional designers in the [Center for Teaching & Learning](#) or the experts in the [Office of Assessment & Accreditation](#) for guidance & resources.

Step 3: Decide what type of instructional strategy may address the gap in student learning you identified. What type of change is needed to address the problem you landed on in Step 1? What type of changes might be warranted or helpful to address this issue?

There are research-based [best practices](#) for instructional strategies.

Example ideas to consider:

- **Instructional alignment.** Do I have [strong alignment](#) between my SLOs, course activities and content, and assessments? Most instructors find it easy to ensure topical alignment. Misalignments of the skills needed to complete an assignment and the skills specified in the SLOs are much more common. [If a course doesn't feel cohesive for students, tightening the course's alignment and being explicit about these connections to students can be very helpful.](#)
- **Sufficient practice opportunities.** You can also consider if you are providing sufficient practice opportunities for students in your instructional activities to directly prepare them for the assessments they will take.
- **Adding frequent [low-stakes assessments](#).** [Students learn best from frequent low-stakes assignments.](#) This may look like a weekly quiz to encourage students to keep up with their studying and course reading. Or, it might look like reflection posts for

students to spend time thinking about their own learning, graded course discussions, or other activities that are graded but low-weighted in final grades.

- **Scaffolding a high-stakes assessment.** When you [scaffold an assignment](#), you create intentional preparation opportunities for students. Often scaffolded assignments are structured to allow students to focus on one skill or piece of a bigger project (e.g., creating an annotated bibliography in preparation for a major research paper) or to guide students from simpler to more complex tasks (e.g., ensure students have a solid understanding of concepts before asking them to apply their knowledge). Low-stakes assignments can be used to help scaffold a high-stakes assignment; for instance, students could submit pieces of a major project to receive early feedback before a final deadline.
- **Giving early feedback - while keeping your workload manageable.** [Feedback](#) is essential for learning. It can also be time-intensive for instructors. Do you have assignments due within the first 4 weeks of your course? Early assignments allow students to adjust their expectations and approach to your course, setting them up for better success. For scaffolded assessments, you can consider giving individual, more detailed feedback on earlier pieces and less detailed feedback on the final product.

[Time-saving tips:](#)

- 1) Use [rubrics](#) for grading and feedback, and provide students with the rubric up-front.
 - 2) Utilize [peer feedback](#). With some instructor guidance peer feedback can be effective and a time-saver.
 - 3) Give feedback on the most critical points students need. Too much feedback can overwhelm and obfuscate what matters most.
- **Student-centered teaching methods.** If you believe your course is in need of a big change, consider adopting a new teaching methodology. [Active learning](#) techniques are great for getting students to engage with course material. [Flipped courses](#) and [team-based learning](#) methods can work for even large courses. Adaptive learning software can help provide ways to shore up gaps in students' background knowledge and can ensure students truly master the material.

Step 4: Create an implementation plan for how you'll change your instruction. Keeping in mind your priorities and scope of the issues you seek to address, formulate an implementation plan for the change(s) you will make. Writing out your plan, or visualizing in a course map, might help you see how your modifications fit into the 'big picture' of your course.

Step 5: Determine how you will measure changes in students' learning. How will you know if your instructional change benefited student learning? This is where [assessment data](#) comes into play once more. Decide what [evidence of student learning](#) you will collect as performance measures. There is a [spectrum of rigor to evaluation methods](#). You may be able to compare students' performance on an assessment between sections or between past semesters and the current/ future semesters. As a minimum bar, consider what evidence might convince a colleague in your department that student learning was positively impacted by the teaching

change(s) you made. You can also consult with an assessment and evaluation expert to help you formulate your data collection plan.

Step 6: Implement your change, measure students' learning post-change, and reflect on the results. Once you've implemented your plan and collected your assessment data, carve out some time to reflect on what happened, what went well, and what further execution improvements might be made. Examining your assessment data will give you insights as to whether you are headed in the right direction. Many instructors find it takes at least a couple of iterations to get a teaching plan on really good ground and to iron out any kinks that may arise when you try out something new. You can modify your plan as you learn new information while staying the course on your overall goal of systematically, thoughtfully working towards continuous improvement in student learning. Creating a virtuous cycle will yield benefits for your students, and will help you keep your teaching practices fresh and rewarding.