Practice and Feedback

Practice aimed at achieving specific goals and feedback on progress are critical for learning.

Ways to give students goal-directed practice

1. **Explicitly identify and communicate goals for students.** Make your expectations clear – both for student performance in the course overall, and on a given task. These goals can help guide their practice, especially when these goals are stated in terms of what students should be able to do at the end of an assignment or a course. Then, use rubrics to more specifically define performance criteria for a particular assignment.

2. **Support students in productive practice.** Give students multiple opportunities for practice (readings, quizzes, in-class activities, homework, etc.) so that they can develop skills and receive feedback. During these assignments, scaffold students’ development by giving students more support early in learning (e.g., by breaking a task into parts for them), and later remove these supports. Create realistic expectations about the amount of practice required by giving guidelines for the amount and type of practice that will be needed. Instead of guessing how long it will take students to do a task, gather data by asking students how long it took them (e.g., the last item on a homework set could be: How long did it take you to do this homework?).

3. **Give students positive and negative examples of performance.** What would ideal performance look like? What types of work would not meet your goals?

4. **Modify your criteria as your students become more proficient.** Early in the course, determine an appropriate level of challenge by conducting an assessment of student knowledge. As students progress through the course, refine your goals to meet their changing proficiency.

Ways to give students targeted feedback

There are a wide variety of strategies for giving students feedback, which are described in more detail in Ambrose et al. For example:

- **Provide feedback to the class** as a whole about common errors (you can look for common errors in homework or tests, listen in on student discussions during in-class activities and problem solving sessions, etc.).

- **Focus your feedback** on key elements of the task, so that students are not overwhelmed.

- **Communicate about strengths as well as weaknesses.** If students have made progress, point that out to them—people are often unaware of the progress they are making.

- **Give frequent feedback,** made possible through use of frequent, smaller tasks.

- **Give real-time feedback.** Collecting group responses through colored cards or clickers lets you give feedback to the whole group.

- **Use student-to-student feedback.** Explicit guidelines can make student comments on each others’ work even more valuable.

- **Have students reflect** on the feedback. Require students to incorporate feedback into later work or have them explain what they did wrong. Example from Carl Wieman’s teaching: each homework set starts with “Q1. Select a problem from the last HW set that you did incorrectly and explain what you did wrong and what should be done differently to obtain correct answer.”

For more information about how to give students opportunities for practice and targeted feedback, see Chapter 5 and Appendices D & H of How Learning Works (Ambrose et al.).