



THEORY INTO
PRACTICE

THEORY: FEEDBACK ON LEARNING

TRACI FREEMAN, PH.D., DIRECTOR OF THE COLKET CENTER FOR ACADEMIC EXCELLENCE

Feedback is among the most powerful influences on student learning and achievement (Hattie & Timperley, 2007, Hattie, 2009). Unlike evaluation or grades, feedback is essentially descriptive, providing students with information about their current knowledge and performance, as well as guidance for achieving specific learning goals (Ambrose 137). Feedback can come from a variety of sources. Faculty, peers, texts, exams, experiences, and self-assessments can provide learners with meaningful information about their learning. While research indicates that feedback is important for learning, it also suggests that not all forms of feedback are equally effective (Hattie & Timperley, 2007, Hattie, 2009).

CHARACTERISTICS OF EFFECTIVE FEEDBACK

TIMELY. Timely feedback need not be immediate. In fact, some research suggests that offering students delayed feedback on learning affords students time to self-assess and self-correct; however, students do need feedback on their learning before they are asked to apply their learning to similar or novel contexts. Without feedback, students risk internalizing misconceptions.

SPECIFIC. Specific feedback identifies students' gaps in their knowledge or performance and explains what students must do in order to fill these gaps and achieve their learning goals. Specific feedback focuses on the artifacts of learning and not on the person doing the work.

CONSTRUCTIVE. Feedback that is constructive focuses on what students demonstrate that they know and understand, as well as content and skills that students have not yet mastered. Constructive feedback addresses students' specific gaps in knowledge and performance and might also focus on students' processes for arriving at conclusions or actions.

PROCESS ORIENTED. Feedback that focuses on the process of learning, whether students are learning vocabulary, solving a problem, analyzing a text, or writing a paper, can be especially helpful, since it can provide students with strategic insights into their learning, which are transferable to new contexts.

MEASURED. Feedback that addresses too many issues at once can be demoralizing and demotivating for students. It is best to prioritize feedback for students, focusing on the issues that are most pressing, like consistent patterns of error or core misconceptions, or on knowledge and skills that students seem most motivated to learn.

PRACTICE

STRATEGIES FOR OFFERING FEEDBACK

Formal opportunities to provide students with feedback on their learning include traditional exams, quizzes, papers, projects, and presentations, but providing feedback on these assessments often takes a significant amount of a faculty member's time. Fortunately, there are many feedback strategies that you can employ in your classes that are less time-intensive. You can also design opportunities for students to self-assess and provide each other with feedback.

SELF-GRADED QUIZZES. Let students grade their own quizzes or use the automated grading function in Canvas.

PEER REVIEW OF PAPERS AND ASSIGNMENTS. Build time inside or outside of class for students to read and respond to each other's drafts.

THREE-MINUTE CONFERENCES. After you hand back a test or paper, set aside time to offer students verbal feedback.

CLICKER QUESTIONS. Embed clicker questions in your lectures.

GROUP PROBLEM SOLVING. Ask students to work in groups to solve a problem and provide each other with feedback on their reasoning and problem-solving strategies, as well as their answers.

MINUTE PAPERS. At the end of class or before a break, take a few minutes and ask students to write what they believe was the most important point during class and what questions they still have.

ONE SENTENCE SUMMARIES OF CLASS DISCUSSIONS.

Ask students during a break or at the end of every class to summarize class discussion in one sentence.

TEST/PAPER ANALYSES. After students have received a paper or test back, ask them to identify the errors they have made or weaknesses in their responses and note any trends that they observe.

FLASH CARDS. Make flash cards with key terms and concepts and have students spend time each day quizzing one another.

CONCEPT MAPS. Ask students develop concept maps throughout the course and periodically offer feedback.

EXAMPLE OF TARGET PERFORMANCE. Provide students with exemplary models of papers and projects and ask them to consider how their work compares.

ORAL QUIZZES OR EXAMS. Oral quizzes and exams give you an opportunity to provide students with immediate feedback on their learning.

OUTCOMES OF FEEDBACK

When students know they will receive feedback, they are more deliberate and strategic in their work. Students who receive consistent and constructive feedback experience significant cognitive gains and develop skills as self-regulated learners (Hattie & Timperley, 2007, Hattie, 2009).

BIBLIOGRAPHY

Ambrose, S. A., Bridges, M. W., DiPietro, M., Lovett, M. C., & Norman, M. K. (2010). *How learning works: Seven research-based principles for smart teaching*. John Wiley & Sons.

Angelo, T. A., & Cross, K. P. (1993). *Classroom assessment techniques: A handbook for faculty*. Ann Arbor, MI: National Center for Research to Improve Postsecondary Teaching and Learning.

Arnold, I. (2011). John Hattie: Visible learning: A synthesis of over 800 meta-analyses relating to achievement.

Hattie, J., & Timperley, H. (2007). The power of feedback. *Review of educational research*, 77(1), 81-112.

Wiggins, G. (2012). Seven keys to effective feedback. *Feedback*, 70(1), 10-16.