Know Thy Impact

John Hattie

Teachers give a lot of feedback, and not all of it is good. Here's how to ensure you're giving students powerful feedback they can use.

Many years ago, I made a claim about the importance of giving students "dollops of feedback" (1999). This endorsement of giving great amounts of feedback was based on the finding that feedback is among the most powerful influences on how people learn.

The evidence comes from many sources. My synthesis of more than 900 meta-analyses (2009, 2012) shows that feedback has one of the highest effects on student learning. These meta-analyses focused on many different influences on learning—home, school, teacher, and curriculum—and were based on more than 50,000 individual studies, comprising more than 200 million students, from 4- to 20-year-olds, across all subjects. As an education researcher, I was seeking the underlying story about what separated those influences that had a greater effect on student learning from those that had a below-average effect. Feedback was a common denominator in many of the top influences. Moreover, Dylan Wiliam (2011) has argued that feedback can double the rate of learning, and an increasing number of scholars are researching this important notion (see Sutton, Hornsey, & Douglas, 2012).

I've come to regret my "dollops" claim because it ignores an important associated finding: The effects of feedback, although positive overall, are remarkably variable. There is as much ineffective as effective feedback. My work over the past years has concentrated on better understanding this variability and on clarifying what makes feedback effective—or not.

Some Questions to Start With

When we ask teachers and students what feedback looks and sounds like, we need to consider three important questions. The first question is, *Where is the student going?* Feedback that answers this question describes what success would look like in the area in which the student is working and what it would look like when he or she masters the current objective. Such feedback also tells us what the student would need to improve to get from here to there. For example, in a science class, the answer to, *Where am I going?* might be to "understand that light and sound are types of energy that are detected by ears and eyes"; students know they're there when they can discuss how light and sound enable people to communicate.

The second question is, *How is the student going?* Feedback that answers this question tells where the student is on the voyage of learning. What are the student's gaps, strengths, and current achievement? During the unit on light and sound, the teacher might give pop quizzes and encourage student questions and class discussion to show both students and teacher how they're going.

The third question—*Where to next?*—is particularly important. When we ask teachers to describe feedback, they typically reply that it's about constructive comments, criticisms, corrections, content, and elaboration. Students, however, value feedback that helps them know where they're supposed to go. The science teacher might point out, "Now that you understand types of energy, you can start to see how each affects our listening skills." If this *Where to next* part is missing, students are likely to ignore, misinterpret, or fail to act on the feedback they hear. They need to know where to put their effort and attention.

Of course, we want students to actively seek this feedback, but often a teacher's role is to provide resources, help, and direction when students don't know what to do. Simply put, students welcome feedback that is just in time, just for them, just for where they are in their learning process, and just what they need to move forward.

How to Make Feedback More Effective

For feedback to be effective, teachers need to clarify the goal of the lesson or activity, ensure that students understand the feedback, and seek feedback from students about the effectiveness of their instruction.

Clarify the Goal

The aim of feedback is to reduce the gap between where students are and where they should be. The teacher, therefore, needs to know what students bring to each lesson at the start and to articulate what success looks like. The teacher might demonstrate success with a worked example, scoring rubrics, demonstrations of steps toward a successful product, or progress charts. With a clear goal in mind, students are more likely to actively seek and listen to feedback.

A good comparison is to video games. The game keeps tabs on the player's prior learning (past performance); sets a challenge sufficiently above this prior learning to encourage the user to work out how to achieve the challenge; and provides many forms of feedback (positive and negative) to help the learner get to the target. The learner typically finds this process attractive enough to continue moving through increasingly challenging levels of the game.

In the same manner, effective teaching requires having a clear understanding of what each student brings to the lesson (his or her prior understanding, strategies for engaging in the lesson, and expectations of success); setting appropriate challenges that exceed this prior knowledge; and providing much feedback to assist the learner in moving from the prior to the desired set of understandings.

Ensure That Students Understand the Feedback

Teachers and leaders often *give* a lot of feedback, but much of this feedback isn't *received*. For example, when a teacher gives feedback to the whole class, many students think it's not meant for them but for someone else. Or sometimes we ask students to react a day later to feedback that a teacher has provided on an assignment. Students typically miss the teacher messages, don't understand them, or can't recall the salient points.

When we monitor how much academic feedback students actually receive in a typical class, it's a small amount indeed. Students hear the social, management, and behavior feedback, but they hear little feedback about tasks and strategies. Teachers would be far more effective if they could confirm whether students received and understood the feedback. This may mean listening to students outline how they interpret teachers' written comments on their work and what they intend to do next.

Seek Feedback from Students

When teachers enter their classrooms intending to seek and receive feedback from students about the effect of their teaching—both about their instruction, messages, and demands and about whether students need specific assistance, different strategies, or more or repetitions of particular information—the students are the major beneficiaries. These forms of feedback enable the teacher to adapt the flow of the lesson; to give needed directions or information to maximize students' chances of success; and to know whether it's necessary to reteach or offer different tasks, content, or strategies.

The Three Levels of Feedback

It's important to realize that feedback will look somewhat different at three separate levels:

Task Feedback

Feedback at this level describes how well the student performs a given task—such as distinguishing correct from incorrect answers, acquiring specific information, or building surface knowledge. The feedback clarifies what the student needs to do to improve his or her performance of that task.

For example, let's suppose a teacher is teaching students how to narrate events in a story in chronological order. The feedback to one student might be as follows:

> *Your learning goal was to structure your account in a way that the first action you described was the first thing you did. Then you were to write about the other things you did in the same order in which they happened.*

> *You did write the first thing first—but after that it becomes muddled. You need to go through what you've written and number the order in which events happened and then rewrite them in that order.*

Process Feedback

Feedback at this level describes the processes underlying or related to tasks, such as strategies students might use to detect or learn from errors, cues for seeking information, or ways to establish relationships among ideas.

For example, a teacher might suggest the following to a reader who stumbles on an unfamiliar word:

> *You're stuck on this word, and you've looked at me instead of trying to work it out. Can you see why you may*

have gotten it wrong? Perhaps you could sound out the word, look it up on your tablet, or infer its meaning from the other words in the paragraph.

Alternatively, a teacher might guide a student who is having difficulty relating ideas in a text by saying, "I've asked you to compare these ideas—for example, you could start out by listing ways they're similar or different. This would give you information about how they relate to one another."

Self-Regulation Feedback

This level of feedback describes how learners can monitor, direct, and regulate their own actions as they work toward the learning goal. Feedback at this level fosters the willingness and capability to seek and effectively deal with feedback, to self-assess and self-correct, to attribute success to effort more than to ability, and to develop effective help-seeking skills.

For example, when giving feedback to a proficient reader who is stumped by a vocabulary word, the teacher might say,

I'm impressed you went back to the beginning of the sentence when you became stuck on this word. But in this case, this strategy didn't help. What else could you do? When you decide on what the word means, tell me how and why you know.

A teacher might promote a student's help-seeking and error-detection skills by saying the following:

You checked your answer with the resource book and found you got it wrong. Any idea why you got it wrong? What strategy did you use? Can you think of a different strategy to try? How will you know if your answer is correct?

The power of feedback involves invoking the right level of feedback relative to whether the learner is a novice, somewhat proficient, or competent. Novices mostly need task feedback; those who are somewhat proficient mostly need process feedback; and competent students mostly need regulation or conceptual feedback.

In addition to maximizing feedback at the appropriate level, teachers also need to be attentive to moving the student forward from mastery of content to mastery of strategies to mastery of conceptual understandings. For this to occur, teachers need to give students feedback that is *at and just above* their current level of learning.

Some Tips About What Works …

Disconfirmation

Students may come to class with incorrect or poorly developed understandings of the topic being taught, and such misconceptions can become a major barrier to learning. One of the more powerful forms of feedback is listening to these notions and providing disconfirming feedback. A teacher might say, "Let's assume what you said is correct for the moment" and then work through an implication of the error. Often such feedback is necessary to enable the student to go beyond simply attaining factual knowledge to developing a deeper conceptual understanding of the topic.

Formative Assessment

Because students often know how they'll do on a test, tests provide students with little feedback information. However, if teachers create and give assessments that aim to provide feedback about how they taught, what they taught, and whom they taught well or poorly, that information is powerful.

At the same time, teaching students how to receive such feedback can help the students see what they know (their strengths) and don't know (their gaps) and engage them more deeply in seeking feedback or additional learning.

Instruction First

Feedback by itself rarely makes a difference because it doesn't occur in a vacuum. It needs to follow instruction. Teachers need to listen to the hum of student learning, welcoming quality student talk, structuring classroom discussions, inviting student questions, and openly discussing errors. If these reveal that students have misunderstood an important concept or failed to grasp the point of the lesson, sometimes the best approach is simply to reteach the material.

And Doesn't Work

Praise

The place of praise is an enigma in the feedback literature. Students welcome praise. Indeed, we all do. The problem is that when a teacher combines praise with other feedback information, the student typically only hears the praise. Evidence shows that praise can get in the way of students receiving feedback about the task and their performance (Skipper & Douglas, 2011). When a student hears "Good girl! But you should have paid attention to underlining the nouns," she certainly hears the first part loud and clear—but this can be the end of the feedback message.

Some claim that praise encourages effort and diligence, but the evidence is not strong (Kamins & Dweck, 1999). The bottom line seems to be this: Give much praise, but do *not* mix it with other feedback because praise dilutes the power of that information.

Peer Feedback

Noted education researcher Graham Nuthall (2007) placed microphones on students during the school day and then listened to their talk. One of his most crucial findings was that most of the feedback that students receive about their classroom work is from other students—and that much of this feedback is incorrect!

There's some evidence of the value of providing students with a rubric of the lesson flow to help them give more appropriate feedback to their peers on an assignment (see Hattie, 2012, p. 133). Such a rubric would show potential pathways a student might take (both correct and incorrect) at the task, process, and self-regulation levels. Through a series of questions—such as, What went wrong and why? or How can the student evaluate the information provided?—the rubric would guide feedback so it's more likely to help the student improve his or her performance.

Feedback for Life

Right now in my own work, I'm examining the mind frames that seem to underpin successful teaching and learning—and the most crucial is "Know thy impact." Gathering and assessing feedback are really the only ways teachers can know the impact of their teaching.

Some cautions here. First, feedback thrives in conditions of error or not knowing—not in environments where we already know and understand. Thus, teachers need to welcome error and misunderstanding in their classrooms. This attitude, of course, invokes trust. Students learn most easily in an environment in which they can get and use feedback about what they don't know without fearing negative reactions from their peers or their teacher.

Second, the simple act of giving feedback won't result in improved student learning—the feedback has to be effective. When teachers listen to their students' learning, they know what worked, what didn't, and what they need to change to foster student growth.

Using feedback isn't confined to a classroom. Consider its role in self-regulation and lifelong learning. We all stand to benefit from knowing when to seek feedback, how to seek it, and what to do with it when we get it.

References

Hattie, J. (1999). *Influences on student learning*. Inaugural professorial address, University of Auckland, New Zealand.

Hattie, J. (2009). *Visible learning: A synthesis of over 800 meta-analyses relating to achievement*. Oxford, UK: Routledge.

Hattie, J. (2012). *Visible learning for teachers: Maximizing impact on learning*. Oxford, UK: Routledge.

Kamins, M. L., & Dweck, C. S. (1999). Person versus process praise and criticism: Implications for contingent self-worth and coping. *Developmental Psychology*, *35*(3), 835–847.

Nuthall, G. (2007). *The hidden lives of learners*. Wellington: New Zealand Council for Educational Research Press.

Skipper, Y., & Douglas, K. (2011). Is no praise good praise? Effects of positive feedback on children's and university students' responses to subsequent failures. *British Journal of Educational Psychology*, *82*(2), 327–339.

Sutton, R., Hornsey, M. J., & Douglas, K. M. (Eds.). (2012). *Feedback: The communication of praise, criticism, and advice*. New York: Peter Lang.

Wiliam, D. (2011). *Embedded formative assessment*. Bloomington, IN: Solution Tree.

John Hattie is professor of education and director of the Melbourne Education Research Institute at the University of Melbourne, Australia. He is the author of *Visible Learning for Teachers: Maximizing Impact on Learning* (Routledge, 2012).