ON

Formative Assessment

Readings from
Educational Leadership

Edited by
Marge Scherer

ASCD®

EL ESSENTIALS

—⁄⁄ ON ⁄⁄—

Formative Assessment

Introduction
Seeing into the Minds of Students

In a way, editors are in the assessment game, scrutinizing authors' work with an eye to selecting the best manuscripts and improving on them, if possible. Sometimes writers tell us that we "read their minds" because we helped them polish their final manuscript. But an editor's kind of assessment is a far cry from the way teachers examine students' work.

Teachers have something else in mind when they use what they call "formative assessment." Their primary aim is to read students, not articles. They assess their students' work to learn what their students know and can do, with the main purpose being to help students to learn on their own.

The practice of assessment has always been part of a teacher's repertoire, but formative assessment has come into its own in the past decade. That's one of the reasons we gathered this assortment of essential articles on formative assessment and feedback, which pulls together some of the best—and most clicked on—articles on these topics that *Educational Leadership* has published.

The articles provide insights into the purpose of formative assessment (Guskey; Tomlinson); the principles to follow for giving the most effective feedback (Wiggins; Hattie; Brookhart; Dweck); and multiple strategies for using effective formative assessment in daily lessons (Wiliam, Duckor, Chappuis, Fisher and Frey, Dueck, and Grdina).

These authors tell fellow educators about how to use formative assessment to shape the next phase of instruction and how to look for patterns in students' assessments and assignments—the mistakes students frequently make, the signals that tell what individuals need, what groups of kids need, what the whole class needs. And they present excellent advice about how to make your feedback more apt to be heard and acted upon by your students.

Whether you are a new or experienced teacher, a school leader, a teacher educator, or a member of a professional learning community, we hope this collection of articles will help you reflect on ways to use assessment to more powerfully boost learning. And be sure to look for new articles in *Educational Leadership* each month as we present the best thinkers in education about topics of most interest to educators. If you have time, we welcome your feedback, too!

—Marge Scherer
Editor in Chief, *Educational Leadership*

Seven Keys to Effective Feedback

Grant Wiggins

Advice, evaluation, grades—none of these provide the descriptive
information that students need to reach their goals. What
is true feedback—and how can it improve learning?

Who would dispute the idea that feedback is a good thing? Both common sense and research make it clear: Formative assessment, consisting of lots of feedback and opportunities to use that feedback, enhances performance and achievement.

Yet even John Hattie (2008), whose decades of research revealed that feedback was among the most powerful influences on achievement, acknowledges that he has "struggled to understand the concept" (p. 173). And many writings on the subject don't even attempt to define the term. To improve formative assessment practices among both teachers and assessment designers, we need to look more closely at just what feedback is—and isn't.

What Is Feedback, Anyway?

The term *feedback* is often used to describe all kinds of comments made after the fact, including advice, praise, and evaluation. But none of these are feedback, strictly speaking.

Basically, feedback is information about how we are doing in our efforts to reach a goal. I hit a tennis ball with the goal of keeping it in the court, and I see where it lands—in or out. I tell a joke with the goal of making people laugh, and I observe the audience's reaction—they laugh loudly or barely snicker. I teach a lesson with the goal of engaging students, and I see that some students have their eyes riveted on me while others are nodding off.

Here are some other examples of feedback:

- A friend tells me, "You know, when you put it that way and speak in that softer tone of voice, it makes me feel better."
- A reader comments on my short story, "The first few paragraphs kept my full attention. The scene painted was vivid and interesting. But then the dialogue became hard to follow; as a reader, I was confused about who was talking, and the sequence of actions was puzzling, so I became less engaged."
- A baseball coach tells me, "Each time you swung and missed, you raised your head as you swung so you didn't really have your eye on the ball. On the one you hit hard, you kept your head down and saw the ball."

Note the difference between these three examples and the first three I cited—the tennis stroke, the joke, and the student responses to teaching. In the first group, I only had to take note of the tangible effect of my actions, keeping my goals in mind. No one volunteered feedback, but there was still plenty of feedback to get and use. The second group of examples all involved the deliberate, explicit giving of feedback by other people.

Whether the feedback was in the observable effects or from other people, in every case the information received was not advice, nor was the performance evaluated. No one told me as a performer what to do differently or how "good" or "bad" my results were. (You might think that the reader of my writing was judging my work, but look at the words used again: She simply played back the effect my writing had

on her as a reader.) Nor did any of the three people tell me what to do (which is what many people erroneously think feedback is—advice). Guidance would be premature; I first need to receive feedback on what I did or didn't do that would warrant such advice.

In all six cases, information was conveyed about the effects of my actions as related to a goal. The information did not include value judgments or recommendations on how to improve. (For examples of information that is often falsely viewed as feedback, see Figure 3.1 below and Figure 3.2 on p. 30.)

Decades of education research support the idea that by teaching *less* and providing *more* feedback, we can produce greater learning (see Bransford, Brown, & Cocking, 2000; Hattie, 2008; Marzano, Pickering,

---

Figure 3.1: Feedback vs. Advice

▸ **You need more examples in your report.**
▸ **You might want to use a lighter baseball bat.**
▸ **You should have included some Essential Questions in your unit plan.**

These three statements are not feedback; they're advice. Such advice out of the blue seems at best tangential and at worst unhelpful and annoying. Unless it is preceded by descriptive feedback, the natural response of the performer is to wonder, "Why are you suggesting this?"

As coaches, teachers, and parents, we too often jump right to advice without first ensuring that the learner has sought, grasped, and tentatively accepted the feedback on which the advice is based. By doing so, we often unwittingly end up unnerving learners. Students become increasingly insecure about their own judgment and dependent on the advice of experts—and therefore in a panic about what to do when varied advice comes from different people or no advice is available at all.

If your ratio of advice to feedback is too high, try asking the learner, "Given the feedback, do you have some ideas about how to improve?" This approach will build greater autonomy and confidence over the long haul. Once they are no longer rank novices, performers can often self-advise if asked to.

& Pollock, 2001). Compare the typical lecture-driven course, which often produces less-than-optimal learning, with the peer instruction model developed by Eric Mazur (2009) at Harvard. He hardly lectures at all to his 200 introductory physics students; instead, he gives them problems to think about individually and then discuss in small groups. This system, he writes, "provides frequent and continuous feedback (to both the students and the instructor) about the level of understanding of the subject being discussed" (p. 51), producing gains in both conceptual understanding of the subject and problem-solving skills. Less "teaching," more feedback equals better results.

Feedback Essentials

Whether feedback is just there to be grasped or is provided by another person, helpful feedback is goal-referenced; tangible and transparent; actionable; user-friendly (specific and personalized); timely; ongoing; and consistent.

Goal-Referenced

Effective feedback requires that a person has a goal, takes action to achieve the goal, and receives goal-related information about his or her actions. I told a joke—why? To make people laugh. I wrote a story to engage the reader with vivid language and believable dialogue that captures the characters' feelings. I went up to bat to get a hit. If I am not clear on my goals or if I fail to pay attention to them, I cannot get helpful feedback (nor am I likely to achieve my goals).

Information becomes feedback if, and only if, I am trying to cause something and the information tells me whether I am on track or need to change course. If some joke or aspect of my writing *isn't working*—a revealing, nonjudgmental phrase—I need to know.

Note that in everyday situations, goals are often implicit, although fairly obvious to everyone. I don't need to announce when telling the joke that my aim is to make you laugh. But in school, learners are often

unclear about the specific goal of a task or lesson, so it is crucial to remind them about the goal and the criteria by which they should self-assess. For example, a teacher might say,

> The point of this writing task is for you to make readers laugh. So, when rereading your draft or getting feedback from peers, ask, How funny is this? Where might it be funnier?

> As you prepare a table poster to display the findings of your science project, remember that the aim is to interest people in your work as well as to describe the facts you discovered through your experiment. Self-assess your work against those two criteria using these rubrics. The science fair judges will do likewise.

Tangible and Transparent

Any useful feedback system involves not only a clear goal, but also tangible results related to the goal. People laugh, chuckle, or don't laugh at each joke; students are highly attentive, somewhat attentive, or inattentive to my teaching.

Even as little children, we learn from such tangible feedback. That's how we learn to walk; to hold a spoon; and to understand that certain words magically yield food, drink, or a change of clothes from big people. The best feedback is so tangible that anyone who has a goal can learn from it.

Alas, far too much instructional feedback is opaque, as revealed in a true story a teacher told me years ago. A student came up to her at year's end and said, "Miss Jones, you kept writing this same word on my English papers all year, and I still don't know what it means." "What's the word?" she asked. "Vag-oo," he said. (The word was *vague*!)

Sometimes, even when the information is tangible and transparent, the performers don't obtain it—either because they don't look for it or because they are too busy performing to focus on the effects. In sports, novice tennis players or batters often don't realize that they're taking their eyes off the ball; they often protest, in fact, when that feedback is given. (Constantly yelling "Keep your eye on the ball!" rarely

works.) And we have all seen how new teachers are sometimes so busy concentrating on "teaching" that they fail to notice that few students are listening or learning.

That's why, in addition to feedback from coaches or other able observers, video or audio recordings can help us perceive things that we may not perceive as we perform; and by extension, such recordings help us learn to look for difficult-to-perceive but vital information. I recommend that all teachers videotape their own classes at least once a month. It was a transformative experience for me when I did it as a beginning teacher. Concepts that had been crystal clear to me when I was teaching seemed opaque and downright confusing on tape—captured also in the many quizzical looks of my students, which I had missed in the moment.

Actionable

Effective feedback is concrete, specific, and useful; it provides *actionable* information. Thus, "Good job!" and "You did that wrong" and *B+* are not feedback at all. We can easily imagine the learners asking themselves in response to these comments, What *specifically* should I do more or less of next time, based on this information? No idea. They don't know what was "good" or "wrong" about what they did.

Actionable feedback must also be accepted by the performer. Many so-called feedback situations lead to arguments because the givers are not sufficiently descriptive; they jump to an inference from the data instead of simply presenting the data. For example, a supervisor may make the unfortunate but common mistake of stating that "many students were bored in class." That's a judgment, not an observation. It would have been far more useful and less debatable had the supervisor said something like, "I counted ongoing inattentive behaviors in 12 of the 25 students once the lecture was underway. The behaviors included texting under desks, passing notes, and making eye contact with other students. However, after the small-group exercise began, I saw such behavior in only one student."

Figure 3.2: Feedback vs. Evaluation and Grades

▸ **Good work!**
▸ **This is a weak paper.**
▸ **You got a C on your presentation.**
▸ **I'm so pleased by your poster!**

These comments make a value judgment. They rate, evaluate, praise, or criticize what was done. There is little or no feedback here—no actionable information about what occurred. As performers, we only know that someone else placed a high or low value on what we did.

How might we recast these comments to be useful feedback? Tip: Always add a mental colon after each statement of value. For example,

- "Good work: Your use of words was more precise in this paper than in the last one, and I saw the scenes clearly in my mind's eye."

- "This is a weak paper: Almost from the first sentence, I was confused as to your initial thesis and the evidence you provide for it. In the second paragraph you propose a different thesis, and in the third paragraph you don't offer evidence, just beliefs."

You'll soon find that you can drop the evaluative language; it serves no useful function.

The most ubiquitous form of evaluation, grading, is so much a part of the school landscape that we easily overlook its utter uselessness as actionable feedback. Grades are here to stay, no doubt—but that doesn't mean we should rely on them as a major source of feedback.

Such care in offering neutral, goal-related facts is the whole point of the clinical supervision of teaching and of good coaching more generally. Effective supervisors and coaches work hard to carefully observe and comment on what they observed, based on a clear statement of goals. That's why I always ask when visiting a class, "What would you like me to look for and perhaps count?" In my experience as a teacher of teachers, I have always found such pure feedback to be accepted and

welcomed. Effective coaches also know that in complex performance situations, actionable feedback about what went right is as important as feedback about what didn't work.

User-Friendly

Even if feedback is specific and accurate in the eyes of experts or bystanders, it is not of much value if the user cannot understand it or is overwhelmed by it. Highly technical feedback will seem odd and confusing to a novice. Describing a baseball swing to a 6-year-old in terms of torque and other physics concepts will not likely yield a better hitter. Too much feedback is also counterproductive; better to help the performer concentrate on only one or two key elements of performance than to create a buzz of information coming in from all sides.

Expert coaches uniformly avoid overloading performers with too much or too technical information. They tell the performers one important thing they noticed that, if changed, will likely yield immediate and noticeable improvement ("I was confused about who was talking in the dialogue you wrote in this paragraph"). They don't offer advice until they make sure the performer understands the importance of what they saw.

Timely

In most cases, the sooner I get feedback, the better. I don't want to wait for hours or days to find out whether my students were attentive and whether they learned, or which part of my written story works and which part doesn't. I say "in most cases" to allow for situations like playing a piano piece in a recital. I don't want my teacher or the audience barking out feedback as I perform. That's why it is more precise to say that good feedback is "timely" rather than "immediate."

A great problem in education, however, is untimely feedback. Vital feedback on key performances often comes days, weeks, or even months after the performance—think of writing and handing in papers

or getting back results on standardized tests. As educators, we should work overtime to figure out ways to ensure that students get more timely feedback and opportunities to use it while the attempt and effects are still fresh in their minds.

Before you say that this is impossible, remember that feedback does not need to come only from the teacher, or even from people at all. Technology is one powerful tool—part of the power of computer-assisted learning is unlimited, timely feedback and opportunities to use it. Peer review is another strategy for managing the load to ensure lots of timely feedback; it's essential, however, to train students to do small-group peer review to high standards, without immature criticisms or unhelpful praise.

Ongoing

Adjusting our performance depends on not only receiving feedback but also having opportunities to use it. What makes any assessment in education *formative* is not merely that it precedes summative assessments, but that the performer has opportunities, if results are less than optimal, to reshape the performance to better achieve the goal. In summative assessment, the feedback comes too late; the performance is over.

Thus, the more feedback I can receive in real time, the better my ultimate performance will be. This is how all highly successful computer games work. If you play Angry Birds, Halo, Guitar Hero, or Tetris, you know that the key to substantial improvement is that the feedback is both timely and ongoing. When you fail, you can immediately start over—sometimes even right where you left off—to get another opportunity to receive and learn from the feedback. (This powerful *feedback loop* is also user-friendly. Games are built to reflect and adapt to our changing need, pace, and ability to process information.)

It is telling, too, that performers are often judged on their ability to adjust in light of feedback. The ability to quickly adapt one's performance is a mark of all great achievers and problem solvers in a wide

array of fields. Or, as many little league coaches say, "The problem is not making errors; you will all miss many balls in the field, and that's part of learning. The problem is when you don't learn from the errors."

Consistent

To be useful, feedback must be consistent. Clearly, performers can only adjust their performance successfully if the information fed back to them is stable, accurate, and trustworthy. In education, that means teachers have to be on the same page about what high-quality work is. Teachers need to look at student work together, becoming more consistent over time and formalizing their judgments in highly descriptive rubrics supported by anchor products and performances. By extension, if we want student-to-student feedback to be more helpful, students have to be trained to be consistent the same way we train teachers, using the same exemplars and rubrics.

Progress Toward a Goal

In light of these key characteristics of helpful feedback, how can schools most effectively use feedback as part of a system of formative assessment? The key is to gear feedback to long-term goals.

Let's look at how this works in sports. My daughter runs the mile in track. At the end of each lap in races and practice races, the coaches yell out *split times* (the times for each lap) and bits of feedback ("You're not swinging your arms!" "You're on pace for 5:15"), followed by advice ("Pick it up—you need to take two seconds off this next lap to get in under 5:10!").

My daughter and her teammates are getting feedback (and advice) about how they are performing now compared with their final desired time. My daughter's goal is to run a 5:00 mile. She has already run 5:09. Her coach is telling her that at the pace she just ran in the first lap, she is unlikely even to meet her best time so far this season, never mind

her long-term goal. Then, he tells her something descriptive about her current performance (she's not swinging her arms) and gives her a brief piece of concrete advice (take two seconds off the next lap) to make achievement of the goal more likely.

The ability to improve one's result depends on the ability to adjust one's pace in light of ongoing feedback that measures performance against a concrete, long-term goal. But this isn't what most school district "pacing guides" and grades on "formative" tests tell you. They yield a grade against recent objectives taught, not useful feedback against the *final* performance standards. Instead of informing teachers and students at an interim date whether they are on track to achieve a desired level of student performance by the end of the school year, the guide and the test grade just provide a schedule for the teacher to follow in delivering content and a grade on that content. It's as if at the end of the first lap of the mile race, My daughter's coach simply yelled out, "*B*+ on that lap!"

The advice for how to change this sad situation should be clear: Score student work in the fall and winter against spring standards, use more pre-and post-assessments to measure progress toward these standards, and do the item analysis to note what each student needs to work on for better future performance.

"But There's No Time!"

Although the universal teacher lament that there's no time for such feedback is understandable, remember that "no time to give and use feedback" actually means "no time to cause learning." As we have seen, research shows that *less* teaching plus *more* feedback is the key to achieving greater learning. And there are numerous ways—through technology, peers, and other teachers—that students can get the feedback they need.

So try it out. Less teaching, more feedback. Less feedback that comes only from you, and more tangible feedback designed into the performance itself.

References

Bransford, J. D., Brown, A. L., & Cocking, R. R. (Eds.). (2000). *How people learn: Brain, mind, experience, and school.* Washington, DC: National Academy Press.

Hattie, J. (2008). *Visible learning: A synthesis of over 800 meta-analyses relating to achievement.* New York: Routledge.

Marzano, R., Pickering, D., & Pollock, J. (2001). *Classroom instruction that works: Research-based strategies for increasing student achievement.* Alexandria, VA: ASCD.

Mazur, E. (2009, January 2). Farewell, lecture? *Science, 323,* 50–51.

Grant Wiggins was president of Authentic Education in Hopewell, New Jersey; www.authenticeducation.org. He was the author of *Educative Assessment: Designing Assessments to Inform and Improve Student Performance* (Jossey-Bass, 1998) and coauthor, with Jay McTighe, of many books in ASCD's Understanding by Design series.

9

Feed Up, Back, Forward

Douglas Fisher and Nancy Frey

Teacher response is only one part of an effective feedback system. We must also set clear learning goals and let data influence instruction.

Like the sailors in Samuel Coleridge's poem "The Rime of the Ancient Mariner" who see "water, water everywhere, nor any drop to drink," teachers often feel awash in a resource that is of little help. Teachers have more assessment data about individual students at their fingertips than we could have imagined a decade ago. Unlike saltwater to a thirsty mariner, the data are of course highly usable resources for teachers. Yet many feel unable to "drink" the data around them because they don't have a system for processing it.

We recently saw a teacher collect literacy assessment data on her iPhone and then upload the scores instantly into the school's computer. It was impressive. When we asked how she planned to use this information, however, the teacher replied, "It's just a benchmark test I'm required to give; I don't really use the data." Therein lies the problem: A resource that could significantly enhance teaching and learning is left unused.

The solution is twofold. First, educators have to understand the three components of any powerful feedback system. Second, we have to align the multiple measures we use to create a coherent system of data collection, analysis, and instruction that responds to data in a way that lifts student achievement.

What Makes a Strong Feedback System?

Feedback is a powerful way to affect student achievement (Hattie & Timperley, 2007). Research consistently ranks feedback as among the strongest interventions at teachers' disposal (Kluger & DeNisi, 1996). But feedback is a complex construct with at least three distinct components, which we call *feed up*, *feed back*, and *feed forward*. To fully implement a feedback system, teachers must use all three.

Feed Up: Clarify the Goal

The first component of an effective feedback system involves establishing a clear purpose. When students understand the ultimate goal, they are more likely to focus on the learning tasks at hand. Establishing a purpose is also crucial to a feedback system because when teachers have a clear overall purpose, they can align their various assessments. For example, when it's clear that the purpose of a unit is to compare insects and arthropods, students know what to expect and the teacher can plan readings, collaborative projects, investigations, and assessments to ensure that students focus on content related to this goal.

Feed Back: Respond to Student Work

The individual responses teachers give students about their work are the second component of a good feedback system, and the one that is most commonly recognized. These responses should directly relate to the learning goal. The best feedback provides students with information about their progress—or lack of it—toward that goal and

suggests actions they can take to come closer to the expected standard (Brookhart, 2008). Ideally, teachers give feedback as students complete discrete tasks that are part of a larger project so that students can use teachers' suggestions to better master content and improve their performance on the larger project.

For example, in a unit on writing high-quality introductions, a teacher gave students multiple opportunities to introduce topics using such techniques as beginning with a question or startling statistic, leading off with an anecdote, and so on. The teacher provided students feedback on each introduction they wrote so students could revise that introduction and use the suggestions to improve their next attempt. Rather than simply noting mechanical errors, the teacher acknowledged areas of success and highlighted things students might focus on sharpening.

Feed Forward: Modify Instruction

This formative aspect of a feedback system is often left out. In an effective feedback system, teachers use assessment data to plan future instruction; hence the term *feed forward*. As teachers look at student work, whether from a checking-for-understanding task or a common formative assessment, they use what they learn to modify their teaching. This demands greater flexibility in lesson planning because it means that teachers can't simply implement a set series of lessons.

For example, student groups in one 3rd grade class we observed each completed a collaborative poster in response to a word problem. Students had to answer the questions in each problem using words, numbers, and pictures. A typical problem read, "Six students are sitting at each table in the lunchroom. There are 23 tables. How many students are in the lunchroom?" Nearly every group got the wrong answer to its problem. Given this information, the teacher knew she needed to provide more modeling to the entire class on how to solve word problems.

Another teacher noted that six of his students regularly capitalized random words in sentences. Mauricio, for example, incorrectly capitalized *fun*, *very*, and *challenge*. Considering that the other students were not making this error, the teacher knew that a whole-class intervention was unnecessary. Instead, he provided additional instruction for the six students who consistently capitalized at random.

Moving Toward Alignment

For a feedback system to be informative, all measures must align with one another to present a rich portrait of how students are progressing toward a common goal. For example, daily checking-for-understanding practices should contribute to a teacher's understanding of how students will perform with similar material in a unit, in a course, and on state assessments. The following practices form a system of assessment experiences that allow for feeding up, feeding back, and feeding forward.

Check for Understanding

At the core of daily teaching is the ability to check for understanding in such a way that teachers learn how to help students. Fostering oral language and using questioning techniques aid this kind of informed check-in (Fisher & Frey, 2007). The evidence on using student talk as a mechanism for learning is compelling; in classrooms with higher rates and levels of student talk, more students excel academically (Stichter, Stormont, & Lewis, 2009).

Language frames help stimulate academic talk in the classroom and also help gauge students' understanding of concepts. Language frames are cloze statements that provide students with the academic language necessary to explain, justify, clarify, and ask for evidence.

In a mathematics lesson, Ms. Kelly introduced her 1st grade English language learners to the language frame "The _____ is _____-er than

the _____" to help them contrast the relative size of two objects, a math standard in Ms. Kelly's district. Using a feedup strategy, she explained that the students' purpose was to approximate the size of two objects. She then had the students, in pairs, practice making sentences using this language frame in several different contexts.

On the day we observed Ms. Kelly's class, student pairs were using this frame to compare the sizes of different animals on laminated cards. When Joseph, one of the students, said, "The snake is wider than the duck," his partner Mario asked, "Is the snake wider or narrower than the duck?" to cue Joseph to rethink his answer.

Ms. Kelly let the boys know they needed to approximate more accurately and asked each boy to show the width of each animal with two hands spread apart. Joseph could gesture correctly but could not accurately convert his knowledge to spoken language. Ms. Kelly understood that the barrier was language and not the measurement concept, so she concentrated on reteaching the language frame until Joseph could use it correctly (the feed-forward element).

Questioning is vital to checking for understanding, especially as it pertains to giving feedback on incorrect responses. When faced with a student error, we should remind ourselves that the answer usually makes sense to the student and reflects what he or she knows and does not know at the moment. We can rapidly form a hypothesis about what the student might *not* know to provide a prompt that will help that student achieve the needed understanding. Walsh and Sattes (2005) suggest these follow-up prompts:

- Words or phrases that foster recall ("Think about the role of hydrogen").
- Overt reminders to trigger memory ("The word begins with *d*").
- Probes that elicit the reasoning behind the answer to identify knowledge gaps ("What led you to think the character would do that?")

- A reworded question that reduces language demands. For example, instead of asking a student to "identify the role of tectonic plates in earth geophysical systems," the teacher might say, "Earthquakes and volcanoes have something in common; let's talk about that."

Use Common Assessments

In addition to providing a way to check daily for understanding, an aligned system includes common formative assessments that enable teachers to coordinate with other teachers in their grade level or department. These assessments are usually based on units of instruction and become part of the pacing guide for each course. Such benchmark assessments gauge increments of student performance and provide teachers with data that spur conversation about instructional and curricular design.

We recommend that teachers meet in advance of teaching a unit to develop common formative assessments. The assessment items teachers select should be geared to diagnose specific kinds of learning so that teachers can discuss any misconceptions students still hold after instruction and recognize patterns among students (Fisher, Grant, Frey, & Johnson, 2007). Teachers should meet as soon as possible after they score each assessment to discuss the relationship between the results and teachers' instruction and to plan next steps (the feedforward component).

Partial conceptual understanding is a common cause of incorrect responses. For example, Ms. Goldstein's English as a second language class was studying affixes in preparation for a benchmark assessment. Ms. Goldstein explained that the lesson's purpose was to analyze new vocabulary words (feed up). Omar incorrectly identified *in-* as the prefix for *interlude*. Rather than simply supply Omar with the correct answer and move on, Ms. Goldstein asked him what the prefixes *in-* and

inter- meant and received a correct reply. "Could the root be '-*lude*,' or is it '-*terlude*'?" Ms. Goldstein questioned. Omar stayed with his initial incorrect answer, so she tried again, asking Omar's small group, "Is the prefix *in-* or *inter-*? I'll let you figure it out" (providing feedback that something needed to be figured out).

Omar's group talked about the two meanings and how they would affect the overall word. Ms. Goldstein checked a few minutes later on whether Omar and his group had arrived at the correct answer.

After the English as a second language department administered its common formative assessment on affixes, Ms. Goldstein remarked, "I noticed some students in my class getting similar prefixes like *in-* and *inter-* confused. This was a pattern in all our classes. How can we teach look-alike prefixes more effectively?" The teachers decided to develop a Jeopardy-style game that included easily confounded affixes to give students practice.

Identify Competencies

Although unit-based formative assessments are valuable benchmarks to inform teachers' instruction, they offer students only snapshots of their progress. Learners need a system to measure their own attainment of course goals. Goals should be a balance of short-term ("I'm going to ask good questions today") and long-term ("I'll pass biology"); however, the gap between short-term and long-term goals can be overwhelming. Creating a system of specific competencies that students should achieve in a course and a series of assessments that measure those competencies and provide clear feedback enable students to measure their progress through any course.

Grade-level teams or departments usually specify course competencies and corresponding assignments. Competencies should reflect the state standards while offering students an array of ways to demonstrate mastery, not just paper-and-pencil tasks. The competency assessments should be numerous enough that students can adequately

gauge their own progress at attaining competencies; generally 7 to 10 per academic year is best.

Ninth and 10th grade English teachers at one high school devised a series of 10 competency assessments for their common courses. These included four essays based on schoolwide essential questions, two literary response essays, an oral language assessment that included retelling a story and delivering a dramatic monologue, a poetry portfolio, and tests on persuasive writing techniques and summarizing.

These teachers designed a two-week unit on plagiarizing that, as they explained to students in a "feed-up" message, would help them write their formal essays. The teachers developed a common formative assessment that measured how well students could cite information from a newspaper article, a Web site, a book with two or more authors, and an interview. The results indicated that even after studying plagiarism, many students still couldn't correctly cite online sources. Knowing that students would need this competency to write their first essay, teachers analyzed students' incorrect answers and retaught the specifics of this type of online citation accordingly.

Build Toward State Assessments

An aligned system of assessments should build toward helping students do well on state tests that measure the progress of students and schools. Although we do not believe a few weeks crammed with test-prep worksheets are useful, we do believe that students should understand that tests are a genre, one they are capable of mastering. And we advocate assessment practices that build test wiseness by giving students encounters with test formats in the context of meaningful instruction.

For example, a math teacher might model thinking aloud as she eliminates distractors on multiple-choice questions. When faced with the problem 1/7 + 3/7 and three answer choices of 4/7, 3/7, and 4/14, the teacher might say, "I see one of the choices has 14 as a denominator.

But I know you don't add the denominator when adding fractions so that can't be correct." When teachers embed test-format practice within daily checking for understanding, formative assessments, and course competency exams, students acquire the stamina and skills they need to score well on state assessments.

What the Mariner Teaches Us

"The Rime of the Ancient Mariner" is a cautionary tale about failing to learn from one's mistakes. The mariner was doomed to walk the earth telling strangers that he had killed an albatross that had saved his ship from disaster. If educators view data as a liability simply because we don't know what to do with that data, we risk ignoring something that may help us. By viewing assessment as a system that gives us the power to feed up, feed back, and feed forward, we can avoid mistaking help for hindrance.

Editor's note: All names are pseudonyms.

References

Brookhart, S. M. (2008). *How to give effective feedback to your students*. Alexandria, VA: ASCD.

Fisher, D., & Frey, N. (2007). *Checking for understanding: Formative assessment techniques for your classroom*. Alexandria, VA: ASCD.

Fisher, D., Grant, M., Frey, N., & Johnson, C. (2007). Taking formative assessments schoolwide. *Educational Leadership, 65*(4), 64–68.

Hattie, J., & Timperley, H. (2007). The power of feedback. *Review of Educational Research, 77*, 81–112.

Kluger, A. N., & DeNisi, A. (1996). The effects of feedback interventions on performance: A historical review, a meta-analysis, and a preliminary feedback intervention theory. *Psychological Bulletin, 119*(2), 254–284.

Stichter, J. P., Stormont, M., & Lewis, T. J. (2009). Instructional practices and behavior during reading: A descriptive summary and comparison of practices in Title 1 and non-title elementary schools. *Psychology in the Schools, 46*(2), 172–183.

Walsh, J. A., & Sattes, B. D. (2005). *Quality questioning: Research-based practices to engage every learner.* Thousand Oaks, CA: Corwin.

Douglas Fisher (dfisher@mail.sdsu.edu) is Professor of Literacy and **Nancy Frey** (nfrey@mail.sdsu.edu) is Associate Professor of Literacy at San Diego State University in California.

Study Guide for
On Formative Assessment:
Readings from Educational Leadership

Naomi Thiers and Teresa Preston

Ideas to try out individually or in a study group.

If teachers are to guide students to learn, they need to know where students are and what they need to do to improve. Likewise, if students are going to learn, they need teacher feedback on their work. *EL* authors offer lots of ideas for assessing students and giving feedback so they can move forward in their learning.

Using Data

Thomas R. Guskey ("How Classroom Assessments Improve Learning") suggests that teachers use the results of assessments to reteach what students got wrong. "This second chance helps determine the effectiveness of the corrective instruction and offers students another opportunity to experience success in learning," he writes. Do you and your colleagues use assessments for this purpose? What are the short- and long-term drawbacks and benefits of using classroom assessments?

The Purpose of Assessment

The title of Carol Ann Tomlinson's article, "The Bridge Between Today's Lesson and Tomorrow's," expresses what formative assessment should be. Such assessment must be aligned with each day's lessons; therefore, it's unlikely to be available as part of a packaged set of assessments given monthly or quarterly. Formative assessment is a day-by-day endeavor.

- Describe your experiences with formative assessment. How well have these assessments fit Tomlinson's definition?
- Read through Tomlinson's 10 principles for formative assessment. Think of a time when you've seen one of the principles applied particularly effectively—either in your classroom or the classroom of a colleague. What effect did following this principle have on teaching and learning?
- Choose one of the principles that you'd like to focus on in the coming weeks. Make a plan for applying it to your own teaching—or for encouraging its application among teachers you lead.
- Tomlinson says that effective teachers are habitual students of their students. How are you a student of your students? How do you routinely gather information about your students, and how do you use that information to plan instruction?

The Keys to Feedback

In his article, "Seven Keys to Effective Feedback," Grant Wiggins writes that feedback is not a value judgment, nor is it advice. Rather, feedback is information about the progress a person is making toward a goal. It might include direct observations of the direct results of one's actions, as when a tennis player observes whether she has kept the ball on the

court. Or it may include observations from an outsider, as when a reader tells a writer how an essay made him feel.

Read the following statements. Which ones fit Wiggins' definition of feedback?

- Your picture is so beautiful!
- You need to redo these three problems.
- I had trouble understanding what you were saying at the start of your speech.
- Next time, remember to run a spell-check before turning in your paper.
- Why did you choose those examples to prove your point?
- You'll need to run faster on the next lap to beat your best time.

Wiggins says that effective feedback is goal-referenced, tangible and transparent, actionable, user-friendly, timely, ongoing, and consistent.

- How well do you incorporate these seven keys to effective feedback in your teaching? What are some strategies you use to make sure your feedback includes these qualities?
- Which of these seven keys do you find most difficult to incorporate into your feedback? Choose one or two of these qualities and develop a plan for incorporating that quality into your feedback.

Feedback That Makes Students Think

In "How Am I Doing?" Jan Chappuis offers three examples of feedback that a teacher might give on a 10th grade social studies paper (see Figure 6.3). The first is an example of feedback that does all the thinking for the students; the second and third offer some guidance but require students to identify and correct their own errors. How do you respond to grammatical errors in student writing? How do you

think your students would respond to the types of feedback Chappuis recommends?

Praiseworthy Praise

In "The Perils and Promises of Praise," Carol S. Dweck warns that praising students for their intelligence can have long-lasting negative effects, leading students to believe that academic success should come easily. Praise for effort, on the other hand, can encourage students to work hard and remain resilient when the work becomes difficult.

- Read Dweck's definition of the fixed mind-set and the growth mind-set (pp. 67–69). Which understanding of intelligence have you encountered most often in yourself, your colleagues, and your students? What effects of this mind-set have you seen in your students?
- Some students coast through school for years, successfully getting by with little effort. Others consistently work hard, but they continue to struggle. How can you help both types of students persevere when they reach academic roadblocks?

Assessments with Value

Teachers assess students each day, whether formally or informally. One of the most common means of informal assessment is asking questions during class. But in "The Right Questions, The Right Way," Dylan Wiliam notes that this time-honored classroom routine does not necessarily give teachers the information they need to plan upcoming lessons. When a teacher calls on a single volunteer to answer a question, all the teacher learns is what one willing student knows. How then can teachers make their in-class questioning routines more useful ways to assess learning of all their students?

- How do you usually question students? What do you learn from student responses to your questions? How might you make in-class questioning routines even more effective?
- In his article, Dylan Wiliam offers three strategies—no hands up, all-student response systems, and planning questions. Brent Duckor offers additional strategies in "Formative Assessment in Seven Good Moves." Have you used any of these strategies in your classroom? What was the result? If you haven't tried any of these strategies, which ones are you most interested in trying?

When at First They Don't Succeed…

If educators' goal is for students to learn, does it matter if it takes some students a little longer than others? Allowing students to redo assessments is one way to give students another chance if they haven't demonstrated mastery of the material on their first attempt. Myron Dueck explains how he got over his reluctance to allow retakes in "How I Broke My Rule and Learned to Give Retests."

- What's your current policy on offering redos and retakes? How did you arrive at this policy? Reflecting on the ideas Dueck presents, how might you change your policy? If you don't offer retakes, what steps might you take to introduce them in your classes? If you do, what new ideas do you have for making the practice more effective?
- Discuss some of the common objections to allowing redos and retakes. How might Dueck counter these objections? Which arguments—for and against—do you find most compelling?

Naomi Thiers is Associate Editor, *Educational Leadership*. **Teresa Preston** is a former Associate Editor of *Educational Leadership*.

Related ASCD Resources

At the time of publication, the following ASCD resources were available (ASCD stock numbers appear in parentheses). For up-to-date information about ASCD resources, go to www.ascd.org. You can search the complete archives of *Educational Leadership* at http://www.ascd.org/el.

ASCD EDge®

Exchange ideas and connect with other educators interested in math on the social networking site ASCD EDge at http://ascdedge.ascd.org.

Print Products

Assessment and Student Success in a Differentiated Classroom
    by Carol Ann Tomlinson & Tonya R. Moon (#108028)

Checking for Understanding: Formative Assessment Techniques for Your Classroom, 2nd edition (#115011) by Douglas Fisher and Nancy Frey

Formative Classroom Walkthroughs: How Principals and Teachers Collaborate to Raise Student Achievement by Connie M. Moss & Susan M. Brookhart (#115003)

How to Design Questions and Tasks to Assess Student Thinking
    by Susan M. Brookhart (#114014)

How to Make Decisions with Different Kinds of Student Assessment Data
    by Susan M. Brookhart (#116003)

The Data-Driven Classroom: How Do I Use Student Data to Improve My Instruction? (ASCD Arias) by Craig A. Mertler (#SF114082)

Transformative Assessment in Action: An Inside Look at Applying the Process
    by W. James Popham (#111008)

What Teachers Really Need to Know About Formative Assessment
    by Laura Greenstein (#110017)

Educational Leadership, November 2015: Doing Data Right (#116030)
Educational Leadership, September 2012: Feedback for Learning (#113032)

PD Online® Courses

Assessment and Student Success in a Differentiated Classroom (#PD14OC019M)
Assessment: Designing performance Assessments, 2nd Edition (#PD11OC108M)
Formative Assessment: Deepening Understanding (#PD11OC101M)

For more information: send e-mail to member@ascd.org; call 1-800-933-2723 or 703-578-9600, press 2; send a fax to 703-575-5400; or write to Information Services, ASCD, 1703 N. Beauregard St., Alexandria, VA 22311-1714 USA.