Teacher Strategies for Developing Assessment Capable Learners

Where Am I Going?

1. Provide students with clear and understandable vision of learning target.

2. Use examples and models of strong and weak work.

Where Am I Now?

3. Offer regular descriptive feedback.

4. Teach students to self-assess and set goals.

How Can I Close the Gap?

5. Use evidence of student learning needs to determine next steps in teaching.

6. Design focused instruction, followed by practice with feedback.

7. Provide students opportunities to track, reflect on, and share their learning progress.

Chappuis, J. (2015). Seven strategies of assessment for learning, 2e. Upper Saddle River, NJ: Pearson Education.

Where Am I Now?
Jan Chappuis

Strategy 3: Offer regular descriptive feedback.
Effective feedback can be defined as information provided to students that results in an improvement in learning. In our current system, most of the work students do is graded, and marks or grades may be the only formal feedback they receive. Unfortunately, marks and grades deliver a coded summary evaluation without specific information about what students did well or what their next steps in learning might be.

Effective feedback identifies student strengths and weaknesses with respect to the specific learning target(s) they are trying to achieve in a given assignment. It helps students answer the question, "Where am I now?" with respect to "Where do I need to be?" And it points the way to "How can I close the gap?" With those answers in mind, offer feedback instead of grades on work that is for practice and offer students opportunities to act on it before holding them accountable for mastery. Giving students time to act allows them to grow with guidance. Also, providing this kind of feedback models the kind of thinking you want students to engage in when they self-assess and identify next steps.

Involve students as peer feedback-givers. Research literature includes promising learning gains attributable to peer feedback (c.f., White & Frederiksen, 1998). To offer each other useful feedback, students must understand the intended learning targets, objectives, or goals (Strategy 1); be clear about how to distinguish levels of quality (Strategy 2); and have practiced with protocols for offering feedback in a controlled situation (Strategy 3).

Strategy 4: Teach students to self-assess and set goals.
With this strategy, we transfer the ownership of learning to the student. In essence, when we teach students to self-assess and set goals, we teach them to provide their own feedback. To be accurate self-assessors, students need a clear vision of the intended learning (Strategy 1), practice with identifying strengths and weaknesses in a variety of examples (Strategy 2), and exposure to feedback that models "self-assessment" thinking: "What have I done well? Where do I need to continue working?" (Strategy 3).

This strategy is a proven contributor to increased learning and a necessary part of becoming a self-regulated learner. It is *not* what we do if we have the time or if we have the "right" students—those who can already do it. Monitoring and regulating their own learning can be taught to all kinds of students, including those with mild to moderate learning disabilities (Andrade, 2010). Struggling students *especially* are the right students, and they have the most to gain from learning how to do this kind of thinking.

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Assessing Your Own Feedback Practices

	Teacher (I)…	Yes	Partially	No	If partially or no, explain.
1	Provide rubrics and work examples as success criteria for students				
2	Question the student's background knowledge first to be able to move the student from the known to the unknown				
3	Provide clear, descriptive, specific, and brief comments concerning a skill or task				
4	Tell the student how they perform in relation to an established set of knowledge or skills				
5	Prompt for the next step to further learning				
6	Provide opportunity to correct errors				
	Total				

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 "Feedback vs. Advice" above and "Feedback vs. Evaluation and Grades" on p. 15.)

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, & 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."

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. And, of course, send me some feedback on this article at gwiggins@authenticeducation.org.

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.

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.

Feedback
Descriptive or Evaluative?

Feedback	Descriptive	Evaluative
1. Try harder next time.		
2. You maintained eye contact throughout your entire speech; now you might work on your enunciation.		
3. You solved the equation; however, you need to include a written or visual explanation.		
4. Your grades on this midterm assessment were much higher than last year's class.		
5. You made some simple mistakes on your timeline. Make sure that your time intervals are all the same length.		
6. Your writing has definitely improved.		
7. You made some errors on your graph. Go back and check the names of your title, x-axis, and y-axis.		
8. 89%! B+ Good work! I am proud of you. You should be thrilled with your progress.		
9. You are so close to proficiency. With a little more work, you should be at a level 3.		
10. Your topic sentence is clear; your next step might be to add concrete details to support it.		

Descriptive Feedback Exemplars

- "The point of this writing task is for you to make readers laugh. So, when rereading your draft or getting feedback from peers, how will you know you were successful?"

- "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. Knowing the science fair judges will use the rubric, what does your self-assessment tell you?"

- "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, what did you do differently?"

- "When you listened to your performance, you noticed most of the time you were on pitch, but some of your notes were flat. What did you do differently when you were on key? What could you do to fix the flat notes?"

- "On this math test, you solved all of the equations correctly. You had difficulty with the word problems. When you compare how you tried to solve the word problems with how we solved them in class, what will you next time to solve the problems?"

Durham Research Online

Formative assessment and feedback to learners

Feedback to students is at the heart of successful teaching, but research suggests that *how* this is given is key to whether it is effective. **Steve Higgins** explains

I work closely with teachers and am passionate about supporting them with research evidence that is helpful and practical for their teaching. Recently I have been undertaking a review of the evidence about what works for learners for the Sutton Trust, a UK charity which aims to improve educational opportunities for children and adolescents from non-privileged backgrounds and to increase social mobility. One of the questions that teachers have frequently asked me, is about what works in terms of formative assessment and feedback to students.

Assessment and learning

Feedback is an essential part of the learning process, but both students and teachers are often disappointed or even frustrated at the feedback process. Students complain they don't know what to do when they get the results of assessments, or even say getting feedback is demoralizing. More critically they often say that feedback comes too late to be of any use to them at all.

One of the aims of assessment and testing of students in the classroom is that it should help teachers teach more effectively, by understanding what their students already know or can do. It should also help students understand what they have to do next to improve their own learning. Thought of in this way feedback is not one-sided, it is a transaction between teacher and learner.

Formative assessment and 'assessment for learning'

In recent years there has been increasing interest in formative assessment where information is used by the teacher or by the learner as information to change what they do next in a teaching or learning activity. Assessment for Learning is an assessment task in which the main purpose is to promote or improve students' learning. This is different from assessments that aim to hold schools or teachers accountable or to identify the competence or ranking of students. An assessment activity can help learning in this way only if it provides information that teachers and their students can use as feedback in assessing themselves and one another, and then in modifying the teaching and learning activity. Assessment for learning only becomes "formative assessment" when it leads to this change.

We know that frequent summative tests and assessments have a negative impact on students' views of themselves as learners. This is especially true with "high-stakes" testing, when teachers may narrow the curriculum that they teach to match the test. This suggests that such assessments are more important for school or teacher accountability than for learning.
We know too that simply practicing assessments will improve students' performance, at least in the short term, but this does not help them with their learning. It's rather like squeezing a child's balloon, the bulge you make when you squeeze it makes the balloon look like it is

getting bigger, but there is really no more air in there. Once you let go, it goes back to the size it was before. Test practice is a bit like this in that the students aren't learning anything new. You are just squeezing the balloon. The way you get more air in the balloon is through more effective teaching. A key component of this is feedback which keeps teaching and learning on track to achieve its goals.

This suggests a closer examination of feedback is needed. The analysis that follows focuses on what teachers can do in terms of *how* they give feedback to learners and *what* they get students to think about, rather than other parts of the feedback cycle (such as how they might alter their instruction, or how learners can give feedback to each other). It is based on a number of reviews, but in particular John Hattie's analysis. His work indicates that there are different kinds of feedback to consider. These are about the task itself, about the process of the task or activity, about students' management of their own learning or their self-regulation, and about them as individuals and who they are. Research suggests that feedback is best directed at the first three levels. In addition, evidence shows that:
- It should be about *challenging* tasks or goals (rather than easy ones);
- It is even more important for teachers to give *feedback about what is right* rather than what is wrong;
- Feedback should be as *specific* as possible and, ideally, compare what students are doing *right* now with what they have done *wrong* before; and
- It should *encourage* students, and not threaten their self-esteem.

FEEDBACK ABOUT:	EXAMPLES	KEY POINTS
The task	Feedback about how well the task is being achieved or performed, such as: ● Indicating where correct responses are different from incorrect. ● Getting more or different information relevant to the task. ● Building more task knowledge. ● Prompts and direct cues.	Feedback that focuses even more on correct than incorrect behaviors, and which encourages the learner. Being positive about errors as learning opportunities.
The process	Feedback specific to the processes of learning, the *how* rather than the what, or relating and extending tasks such as identifying: ● Connections between ideas. ● Strategies for spotting mistakes. ● Explicitly learning from mistakes. ● Cues to the learner about different strategies and errors.	Identifying where in the process to focus attention to improve, relative to previous attempts.
Self-regulation	How students monitor, manage, and regulate their actions towards the learning goal, such as their: ● Capability to identify feedback themselves and to self-assess. ● Willingness to put effort into	Needs to emphasize success at challenging activities through effort, focusing on specific strategies for self-regulation which led to their success. Successfully corrected errors are a key part of this.

FEEDBACK ABOUT:	EXAMPLES	KEY POINTS
	seeking and dealing with feedback. ● Having confidence they are correct. ● Positive attributions about success AND failure. ● How good they are at help-seeking.	
The individual	Praise directed to the effort, self-regulation, engagement, or processes relating to task/performance: ● eg, "You're really great because you have worked hard to complete this task by applying this concept" NOT "good girl".	The most common, but most dangerous kind of feedback. Tends to be too general and too personal. Feedback should rather emphasize what the individual has done (or could do), not who they are.

Conclusion

Successful feedback is that which leads to action on the part of the teacher or learner and closes the formative assessment loop. Teachers should be very specific about their feedback and what to do in response, and should encourage students to see mistakes as opportunities to improve.

What we know

- Feedback is central to the teaching and learning process and keeps it on track.
- It closes the loop between Assessment for Learning and formative assessment by enabling action by the teacher and/ or learner.
- Letting students know when they get things right, and why they are correct is even more important than pointing out mistakes or errors.
- Specific feedback is more useful than general, particularly where this relates to previous work students have done.
- Praise should be specific to what the student has done.
- Feedback should encourage and not demoralize learners.

About the author

Steve Higgins is Professor of Education at Durham University in the UK. He has an interest in classroom interaction and the role of the teacher in supporting learning particularly by developing meta-cognition and self-regulation, particularly where digital technologies are involved. (s.e.higgins@durham.ac.uk)

Further reading

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The Education Endowment Foundation (EEF) in the UK promotes research-informed practice through its Teaching and Learning Toolkit which has entries on a number of different approaches to support effective teaching:
http://educationendowmentfoundation.org.uk/toolkit/

Research used in this article

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My Feedback Practices

As a Teacher…	Yes	Partially	No
1	my feedback includes three components: what was done well, what needs improvement, and specific suggestions for how to improve.			
2	the timing of my feedback (oral or written) provides students opportunities to use the information while they are still learning and practicing the requisite knowledge and skills.			
3	my feedback relates to the learning goals(s) which I shared and clarified with students at the outset of the learning cycle.			
4	my feedback is prioritized to focus on the aspects of student learning that need the greatest attention.			
5	my feedback is focused on the product or task, the processes used, or student's self-regulation, not on the student as a person.			
6	my next steps are incremental and specific enough so that students know what to do, but without doing the improvements for them.			
7	the amount of feedback at any one time is manageable for the students' readiness, (e.g., limited to 2 or 3 specific items).			
8	my feedback is expressed in a respectful, positive tone and in language meaningful to the student.			
9	my feedback is descriptive, (i.e., it provides information that students can use to improve), rather than evaluative (a mark or grade).			

Self-assessment

Self-assessment requires students to reflect on their own work and judge how well they have performed in relation to the assessment criteria. The focus is not necessarily on having students generate their own grades, but rather providing opportunities for them to be able to identify what constitutes a good (or poor!) piece of work. Some degree of student involvement in the development and comprehension of assessment criteria is therefore an important component of self-assessment.

Reflection is the key to self-assessment

Developing reflective skills provides students with the ability to consider their own performance and to identify their strengths, weaknesses, and areas that require improvement. Students can then to use this knowledge to influence their future work, whether on a program of study or in employment, by playing to their strengths and/or directing their efforts in areas they have already recognized as needing further improvement. You could consider self-assessment as a teaching and learning exercise, as much as an assessment method and its inclusion within a course provides your students with the opportunity to develop a core lifelong learning skill.

Self-assessment takes many forms

You could use self-assessment in the form of reflective exercises, such as logs or diaries, or by encouraging your students to assess how well they've met the assessment criteria in more traditional tasks such as essays and presentations. Audits or essay feedback questionnaires that students complete on submitting a piece of coursework are particularly helpful as you can compare your perception of their work with your students' views on how well they have performed. You could use self-assessment in a stand-alone context, or in conjunction with peer assessment.

Making self-assessment a success

In order to self-assess effectively, students must have an understanding of the criteria that they gauge their performance against in order to be able to evaluate what makes a piece of work good or poor. Internalizing these criteria encourages deep rather than surface learning, greater autonomy and helps them to better engage with feedback from you and your colleagues. In order for this to take place the assessment criteria must be transparent and comprehensible to students so that they can effectively judge how well they have met them. Where possible, student involvement in the formation of these criteria is desirable to enhance student's understanding of academic standards and the expectations you have of them.

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Self-Assessment Tools

Item #	Learning Target	Right?	Wrong?	Reason?	More Study?

(Chappuis, 2005)

Student Self-Assessment

NAME: _____   DATE: _____

Throughout the next month we will be studying the literary genre of **memoir**. Memoirs are self-written stories about experiences in a person's life. Unlike autobiographies, memoirs do not span a person's *entire* life, instead, they focus on specific events.

Listed below are the specific goals we will be working toward during the **memoir** unit and the products you will be turning in to show me that you are learning. On the left side of the chart, rate how well you think you *currently* can do or know the goal by checking the appropriate box.

1 = "I have no clue what this is or how to do it"
2 = "I know what this is and how to do it"
3 = "I'm an expert at this and can show others how to do it"

At the beginning…   **At the end….**

1	2	3	Specific Goals	1	2	3
			I can…Make specific references to passages and events from a text to prove what the text says directly as well as the meaning I can infer indirectly. **Products:** Reading journals, Critical Thinking Questions (Online)			
			I can…determine a central idea and explain its development throughout the text using specific details. **Products:** Reading journals, Critical Thinking Questions (Online)			
			I can…objectively summarize a text. **Products:** Reading journals,			
			I can…tell a story about a real or imagined experience using good technique, choosing appropriate details, and structuring the sequences of events. **Products:** My own memoir writing			
			I can…engage and orient the reader by setting out a problem, situation, or observation, establishing one or multiple point(s) of view, and introducing a narrator and/or characters; create a smooth progression of experiences or events. **Products:** My own memoir writing			
			I can…use narrative techniques, such as dialogue, pacing, description, reflection, and multiple plot lines, to develop experiences, events, and/or characters. **Products:** My own memoir writing			

Collins, C. (2011, August 30). Student self-assessment [document linked in blogpost]. Retrieved from https://turnonyourbrain.files.wordpress.com/2011/08/student-self-assessment.docx.

			I can…use a variety of techniques to sequence events so that they build on one another to create a coherent whole. **Products:** My own memoir writing		
			I can…use precise words and phrases, telling details, and sensory language to convey a vivid picture of the experiences, events, setting, and/or characters. **Products:** My own memoir writing		
			I can…provide a conclusion that follows from and reflects on what is experienced, observed, or resolved over the course of the narrative. **Products:** My own memoir writing		
			I can…initiate and participate in discussions with individuals and/or groups of people on topics at my grade level while expressing my ideas clearly and persuasively and building on the ideas of others. **Products:** Discussion notes, Group participation feedback		

Student Goal Setting Tools

To Improve

_____I could:

- _____
- _____
- _____

One thing I can start doing is:

_____

_____

One way I'll know that I am improving is: _____

_____

(Chappuis, 2005)

Student Goal Setting Tools

Goals	Steps	Evidence
What do I need to improve?	How do I plan to do this?	What evidence will show I achieved my goal?
Time Frame:	Begin _____	End: _____
Date: _____	Signed: _____	

(Chappuis, 2005)

What Do You Already Do?
Strategies 3 and 4

Make a list of practices you already implement or plan to implement for each strategy.

Strategy	My Practice/Activity
3. Offer regular and descriptive feedback	
4. Teach students to self-assess and set goals	
➔ Set Goals	

Seven Strategies of Assessment for Learning (Chappuis, 2015)

Student Self-Assessment:
The Key to Stronger Student Motivation and Higher Achievement

by James H. McMillan and Jessica Hearn

In the current era of standards-based education, student self-assessment stands alone in its promise of improved student motivation and engagement, and learning. Correctly implemented, student self-assessment can promote intrinsic motivation, internally controlled effort, a mastery goal orientation, and more meaningful learning. Its powerful impact on student performance—in both classroom assessments and large-scale accountability assessments—empowers students to guide their own learning and internalize the criteria for judging success. In this article we will define student self-assessment and its importance in influencing student motivation and learning. We begin with a detailed definition of self-assessment, then review pertinent theoretical and research literature that supports the positive impact of student self-assessment in the classroom. Our intent is to show that, based on both theoretical and applied research and theory, self-assessment works, and that by applying a set of practical steps teachers can facilitate this kind of assessment and reap the benefits.

What Is Student Self-Assessment?

Self-assessment could mean that students simply check off answers on a multiple-choice test and grade themselves, but it involves much more than that. Self-assessment is more accurately defined as a process by which students 1) monitor and evaluate the quality of their thinking and behavior when learning and 2) identify strategies that improve their understanding and skills. That is, self-assessment occurs when students judge their own work to improve performance as they identify discrepancies between current and desired performance. This aspect of self-assessment aligns closely with standards-based education, which provides clear targets and criteria that can facilitate student self-assessment. The

pervasiveness of standards-based instruction provides an ideal context in which these clear-cut benchmarks for performance and criteria for evaluating student products, when internalized by students, provide the knowledge needed for self-assessment. Finally, self-assessment identifies further learning targets and instructional strategies (correctives) students can apply to improve achievement.

Thus, self-assessment is conceptualized here as the combination of three components related in a cyclical, ongoing process: self-monitoring, self-evaluation, and identification and implementation of instructional correctives as needed (see Figure 1). Essentially, students identify their learning and performance strategies, provide feedback to themselves based on well-understood standards and criteria, and determine the next steps or plans to enhance their performance.
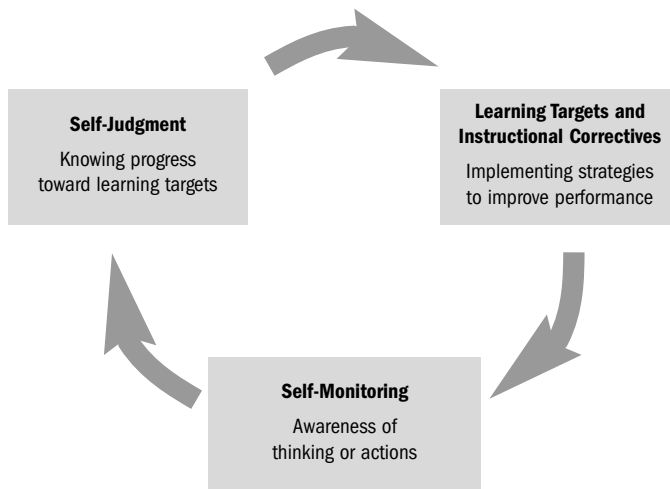
Figure 1. Student Self-Assessment Cycle

The Self-Assessment Process

Self-monitoring, a skill necessary for effective self-assessment, involves focused attention to some aspect of behavior or thinking (Schunk 2004). Self-monitoring students pay deliberate attention to what they are doing, often in relation to external standards. Thus, self-monitoring concerns awareness of thinking and progress as it occurs, and as such, it identifies part of what students do when they self-assess.

A second component of self-assessment, self-judgment, involves identifying progress toward targeted performance. Made in relation to established standards and criteria, these judgments give students a meaningful idea of what they know and what they still need to learn (Bruce 2001). The standards are benchmarks and the criteria are guidelines for

interpreting the level of performance students have demonstrated. The development and application of criteria in evaluating current performance enable meaningful evaluations, as long as the criteria are appropriately challenging (Rolheiser and Ross 2001). According to Rolheiser and Ross, "Students who are taught self-evaluation skills are more likely to persist on difficult tasks, be more confident about their ability, and take greater responsibility for their work" (Section 5A).

The third essential step is that students choose subsequent learning goals and activities to improve partially correct answers, to correct misunderstandings, and to extend learning. Because students at this stage need skills in determining learning targets and further instruction that will enhance their learning, they should be aware of options for further goals and instruction. Once the appropriate "instructional correctives," as they are referred to, are complete, students resume self-monitoring.

The growing literature on formative assessment has implications for self-assessment. Formative assessment can be defined as employing appropriate activities to provide feedback to enhance student motivation and achievement during instruction—as students learn. Providing helpful information *as learning occurs* contrasts with providing feedback solely after instruction. There is substantial evidence that appropriate formative assessment activities relate positively to student motivation and achievement (Black and Wiliam 1998). In addition, self-assessment is a valuable skill in effective formative assessment. Both Sadler (1989) and Black and Wiliam (1998) contend that self-assessment is essential to using feedback appropriately. Indeed, according to Black and Wiliam it is "a *sine qua non* for effective learning" (p. 26).

A Theoretical Rationale for Enhancing Self-Assessment

Theories from at least three areas of study provide convincing rationales for nurturing and enhancing student self-assessment. These areas include 1) cognitive and constructivist theories of learning and motivation, 2) metacognition theory, and 3) self-efficacy theory.

Cognitive and Constructivist Learning and Motivation Theories

Self-assessment is an essential component of cognitive and constructivist theories of learning and motivation. Shepard (2001) points out that student self-monitoring of learning and thinking is important in the knowledge construction that lies at the heart of such theory. That is, students construct meaning, in part, by self-assessing prior to and during learning. Students organize, evaluate, and internalize when learning, and self-assessment is part of that process. They must connect new knowledge, understandings, and skills with what they have already stored and used. Self-assessment fosters students' ability to make these connections

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themselves; provides a mechanism to enhance learning in a meaningful, rather than rote, manner; and results in greater student motivation and confidence.

The goal-theory perspective on motivation represents a cognitive theory about how students internalize different types of ability goals and the effects of those goals on self-assessment, persistence, and achievement. The research has focused on two types of goals: *mastery goals* and *performance goals* (Dweck 1996).

- A mastery goal is one in which the student focuses on the task at hand and what needs to be done to improve knowledge, understanding, and skill. With this orientation, students reach mastery through such cognitive processes as thinking, self-monitoring, and generating solutions. Additionally, students will tend to immerse themselves in the task and continually check their progress.
- In contrast, performance goals focus on the outcome and whatever can be done to ensure the outcome; the final score or grade receives more attention than attaining improved understanding. This orientation promotes negative self-concepts about ability to perform and reinforces conformity to what will best ensure a positive outcome, which becomes more important than process or actual improvements in understanding and skills. Obtaining the required score and being judged "proficient" are more important than learning.

A performance goal makes the monitoring and evaluation of learning external; mastery goals make the process of monitoring and evaluating, to some extent, internal. Self-assessment is integral to a mastery goal orientation, for it is a skill that enables students to know how well they are progressing in their knowledge and skills. Conversely, a performance orientation relies on the teacher and others to schedule learning tasks, to determine success or failure, and to evaluate the final product. Improving self-assessment skills promotes a mastery orientation, with all the positives of that process.

Metacognition

Metacognition, which has been widely investigated and reported in both educational and psychological literature, involves the capacity to monitor, evaluate, and know what to do to improve performance. This includes conscious control of specific cognitive skills such as checking understanding, predicting outcomes, planning activities, managing time, and switching to different learning activities. It is a set of skills that relate positively to increased achievement, and such skills can be taught to students (Schunk 2004). The metacognitive literature provides theory and

empirical evidence that supports both self-monitoring and self-evalua-tion as two of many possible metacognitive skills.

Self-Efficacy

Self-assessment plays a significant role in developing self-percep-tions that lead to greater motivation. It is well established that student engagement depends upon students' self-efficacy beliefs—perceptions of their ability to do well on a specific task, and the value of doing well (Pintrich and Schunk 2002; Schunk 2004). Self-efficacy involves students estimating what they can do and the likelihood of successful perform-ance. Such self-perception develops gradually as students connect their successes and failures to factors they believe have caused the result. It is important to emphasize the influence of situation and context upon self-efficacy. Self-perceptions of competence are part of self-efficacy and refer to beliefs about general ability or knowledge and skills to do well (e.g., "I'm good in math" or "I do well in science classes"). Students with high expectations are more likely to persist; those with low expectations often avoid tasks or give up (Brophy 2004). Positive self-evaluations encourage students to commit more resources to continued study and set higher goals in the future (Schunk 1995).

Students need to self-assess to know when they are learning, how much effort they must expend for success, when they have been suc-cessful, when they are wrong, and which learning strategies work well for them. Accurate self-evaluation enables students to see what they have mastered and identify what needs further work. Students who experience success with moderately difficult and challenging tasks will attribute their success to ability and effort rather than to external attri-butions such as luck or help from other students. Making these internal attributions is, in turn, based on the ability of students to self-assess and self-evaluate. This knowledge helps students develop self-efficacy for future performance in similar tasks.

Implications for Practice

For classroom teachers, student self-assessment develops an aware-ness of which metacognitive strategies to use and when to use them. Teachers and students learn these skills when they establish clear learn-ing goals and articulate evaluative criteria that enable students to assess their own work. Those practices engage students as they actively partic-ipate in the learning process and become more connected and commit-ted to the learning outcomes. Student self-assessment also mandates that teachers learn to pass the evaluative responsibilities to their students by scaffolding and modeling goal setting, evaluation, strategy adjustment, and reflection. (Scaffolding, whose purpose is to shift responsibility to

the students, requires teachers to step back and serve as a coach and consultant as students learn from their own experiences [Joyce, Weil, and Calhoun 2005].) Additionally, students who believe that they can successfully complete a task are more motivated and engaged. Teachers should therefore maintain high expectations of performance as students establish goals and work through their self-evaluations. That way, student self-assessment in the classroom establishes clear learning targets, defines evaluative criteria, provides tools for assessment, and allows time for reflection.

Clear Learning Targets and Criteria

Establishing clear learning targets helps students understand what they should learn and participate in developing evaluation criteria and quality benchmarks (Bruce 2001). According to the research by Schunk (1989) and Zimmerman (1989), students achieved more when they set specific goals for themselves. Those studies show that student performance can be improved simply by having students self-report their learning. Students must also understand the process goals of reaching the established learning objectives, since they are more satisfied with their performance when they can evaluate their work; providing clear steps enables them to reach their goals and results in higher levels of self-efficacy (Kitsantas, Reiser, and Doster 2004). Teachers can allow students to make choices from a predetermined range of activities, which individualizes instruction while allowing students to work at their appropriate levels. Restricting the range of choices ensures that the activities align with the curriculum and balances the cognitive challenge with opportunities for success (Pintrich and Schunk 1996). In addition, providing evaluation criteria through rubrics, models, or anonymous exemplars helps students concretely understand outcomes and expectations. They then begin to understand and internalize the steps necessary to meet the goals. However, not all rubrics are equal: to promote learning they should indicate levels of proficiency, not just scores for grades (Bruce 2001). That information can provide learning benchmarks along the way. Such awareness of the learning process is the first step in training students to gauge their own performance as an informational, rather than a judgmental, matter.

Self-evaluation

Once students understand the goals and criteria, they must have opportunities to evaluate their own performance and make adjustments. Teachers should use this opportunity to convey the concept that mastery is controllable and that the goal is knowledge attainment, not just task completion (Pintrich and Schunk 1996). Using domain-specific

goals and subgoals, combined with positive attributional feedback, will increase students' persistence toward the greater goal (Schunk 1996) as they feel the sense of accomplishment that comes from applying effective learning strategies.

Finally, students must be able to make adjustments to their work *prior to* graded evaluation. At this point students react to feedback and adjust their strategies, typically through rubrics, rating forms, or visual organizers. These concrete self-evaluation methods provide objective feedback and identify specific areas of strength or weakness. The feedback serves as a form of item analysis that can be further used to guide instruction and better meet the students' needs.

Reflection

Reflection is a critical part of the self-evaluation process. Reflection helps students think about what they know or have learned while they identify areas of confusion, so they can create new goals. Evaluating what they learned, what they still need to work on, and how they can get there can all support deeper understanding rather than superficial knowledge. Students benefit from explaining their work and their own evaluation of quality through reflective activities such as conferences, written correspondence with parents or peers, and written self-reflections or checklists.

To help teachers implement student self-assessment in the classroom, Rolheiser (1996) identifies four stages of teaching student self-assessment (see Figure 2, next page). At each stage, initiating different levels of teacher and student involvement gradually gives students less structure and specific direction and more responsibility and freedom. In stage 1, teachers involve students in determining criteria. Often students brainstorm ideas and negotiate with teachers to arrive at final criteria that are specific, immediately applicable, and moderately difficult. In this early stage it is important to use students' language in naming and describing criteria.

In stage 2 the teacher shows students how to apply the criteria to evaluate work samples. Providing examples of evaluated work helps students understand, specifically, the meaning of the criteria and how to use them. Students need to practice classifying products using the established criteria. Cooperative learning groups can effectively facilitate this process.

In the third stage teachers provide students feedback concerning their application of the criteria. At this point it is helpful if they show students qualitatively different products to illustrate how criteria are applied. This process requires feedback not about whether an answer or product is correct but rather about how well students understand and

apply the criteria. Discussion allows students to resolve questions and uncertainties about the criteria. Feedback should clearly relate to the criteria and, eventually, students should be able to initiate feedback themselves to justify their ratings and initiate a dialogue with the teacher about self-evaluation.

The last stage involves identifying subsequent learning goals and strategies that can attain the goals. Initially, the teacher determines the goals and strategies; eventually students construct their own goals and strategies with teacher guidance. Thus, teachers fully integrate self-assessment into their teaching in stages 3 and 4, when they can give students feedback about self-assessments as well as future instructional goals and learning strategies.

Stage 1 ➡   Stage 2 ➡   Stage 3 ➡   Stage 4

Level of Implementation	Establishing Criteria	Teaching Students How to Apply Criteria	Providing Feedback to Students on Application of Criteria	Setting Learning Goals and Strategies
Beginning	Criteria given to students for their reaction	Examples of applying criteria given to students	Teacher provides feedback	Goals and strategies determined by teacher
Intermediate	Students select criteria from a menu of possibilities	Teacher describes how to apply criteria	Feedback provided by both teacher and students	A menu of goals and strategies is provided by the teacher
Full	Students generate criteria	Teacher models how criteria apply	Teacher engages students in justifying their feedback	Student constructs goals and strategies

Figure 2. Growth Scheme for Teacher Implementation of Stages
of Student Self-Assessment. Adapted from Rolheiser (1996).

Rolheiser's "growth scheme" is useful to check how often teachers use student self-evaluation and to determine any necessary improvements in the process. Modifications are needed at different grade levels, but even elementary students can understand and apply criteria to evaluate their own and others' work. For example, rather than emphasize direct instruction in helping students understand criteria, teachers can help students identify criteria by examining examples of good and not-so-good products. At lower levels teachers can simply provide a list of additional learning activities; higher-level students generate their own ideas about what they need to do.

Student involvement in determining how to self-assess is particularly valuable. It enhances student motivation by providing a sense of ownership and responsibility. Engagement also increases intrinsic motivation to base performance more on competence and less on rewards for performance.

Summary

We believe that student self-assessment, defined as a dynamic process in which students self-monitor, self-evaluate, and identify correctives to learn, is a critical skill that enhances student motivation and achievement. In the current era of high-stakes accountability there is considerable pressure to focus only on student performance and to minimize the extent to which self-assessment is taught, experienced, and encouraged. Self-assessment represents a process that every teacher can emphasize. As we have indicated, ample research and theory document the importance of self-assessment. When students set goals that aid their improved understanding, and then identify criteria, self-evaluate their progress toward learning, reflect on their learning, and generate strategies for more learning, they will show improved performance with meaningful motivation. Surely, those steps will accomplish two important goals—improved student self-efficacy and confidence to learn—as well as high scores on accountability tests.

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