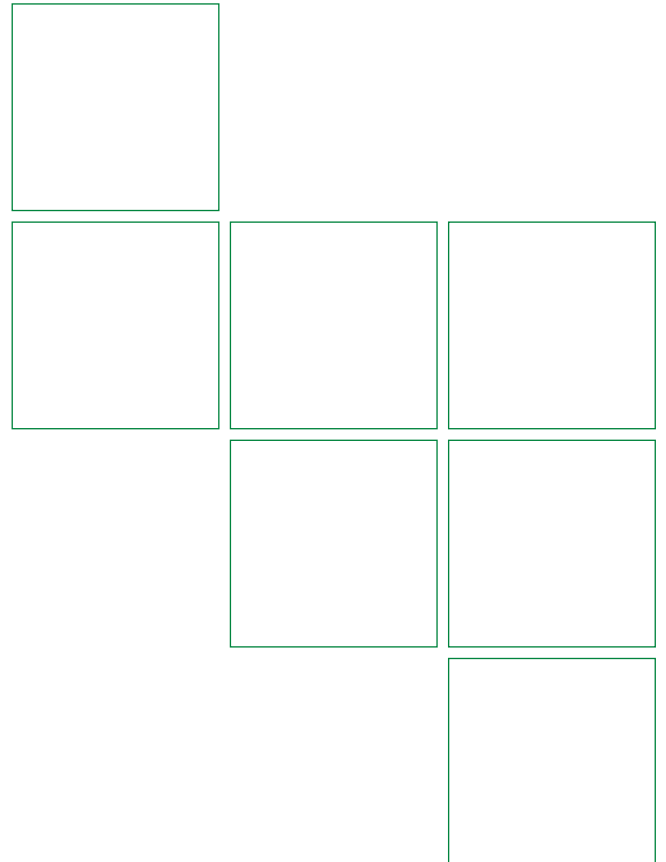


CHAPTER 1

# Formative Assessment and Assessment *for* Learning

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Innovations that include strengthening the practice of formative assessment produce significant and often substantial learning gains.

—Black & Wiliam, 1998b, p. 140

**T**his conclusion, from Paul Black and Dylan Wiliam’s comprehensive review of research on formative assessment practices, has changed the face of assessment today. It is in large part responsible for the widespread focus in education on the particular kind of assessment known as “formative.”

Their research review (1998a) examined studies that collectively encompassed kindergarteners to college students; represented a range of subject areas including reading, writing, social studies, mathematics, and science; and were conducted in numerous countries throughout the world, including the United States. The gains reported in the studies they describe are among the largest found for any educational intervention.

Typical effect sizes were between 0.4 and 0.7. In other words, the achievement gains realized by students whose teachers rely on formative assessment can range from 15 to 25 percentile points, or two to four grade equivalents, on commonly used standardized achievement test score scales. In broader terms, this kind of score gain, if applied to performance on recent international assessments, would move the United States’s rank from the middle of the pack of 42 nations tested to the top five (Black & Wiliam, 1998b).

An additional outcome common among the studies they analyzed is that certain formative assessment practices greatly increased the achievement of low-performing students, in some cases to the point of approaching that of high-achieving students. Not surprisingly, a plethora of formative assessment

programs and products has surfaced, due in part to the achievement gains and gap-closing powers reported by Black and Wiliam and other researchers. The adjective *formative* now appears frequently in titles of commercially prepared tests and item banks, interim and benchmark tests, short-cycle assessments, and classroom assessments.

Does calling a product or practice “formative” make it so? Are all of the tests and practices labeled as “formative” truly formative? And most importantly, what is it about *formative* that gives it its power? What led to the gains these researchers uncovered?

## What Is Formative Assessment?

First let’s look at what is and what isn’t formative. For Black and Wiliam, and for many other experts in the field, formative assessment is not an *instrument* or an *event*, but a collection of practices with a common feature: *they all lead to some action that improves learning*. Well-known educational researchers emphasize this point when they describe what is at the heart of formative assessment:

“Formative assessment, therefore, is essentially feedback (Ramaprasad, 1983) both to the teachers and to the pupil about present understanding and skill development in order to determine the way forward” (Harlen & James, 1997, p. 369).

“[Formative assessment] refers to assessment that is specifically intended to provide feedback on performance to improve and accelerate learning” (Sadler, 1998, p. 77).

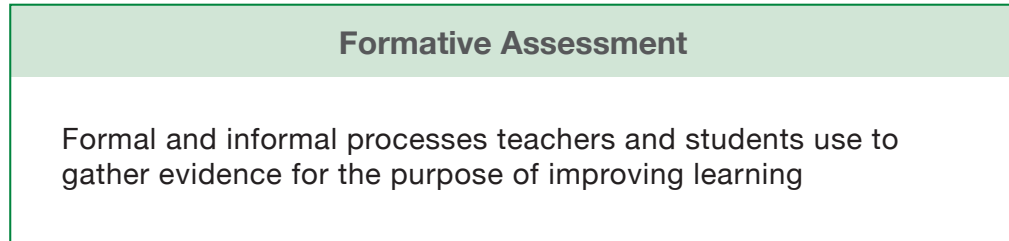
“An assessment is formative to the extent that information from the assessment is fed back within the system and actually used to improve the performance of the system in some way” (Wiliam & Leahy, 2007, p. 31).

“Formative assessment is defined as assessment carried out during the instructional process for the purpose of improving teaching or learning. . . . What makes formative assessment formative is that it is immediately used to make adjustments so as to form new learning” (Shepard, 2008, p. 281).

The common thread woven throughout formative assessment research, articles, and books bears repeating: it is *not the instrument* that is formative; it is the

*use of the information gathered, by whatever means, to adjust teaching and learning, that merits the “formative” label (Figure 1.1).*

*Figure 1.1*

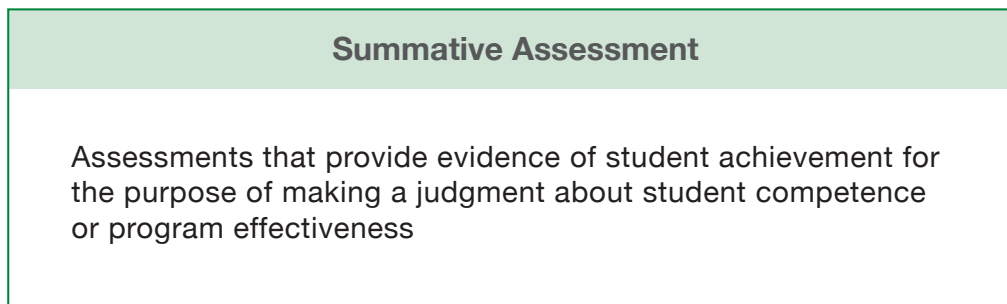


In the classroom we assess formally through assignments, tests, quizzes, performances, projects, and surveys; or informally through questioning and dialogue, observing, and anecdotal note taking. In any of these instances, we may or may not be engaged in formative assessment: the determining factor is not the type of assessment we use, but rather how we and our students use the information.

### **Summative Assessment**

When the information from an assessment is used solely to make a judgment about level of competence or achievement, it is a *summative assessment* (Figure 1.2). At the classroom level, an assessment is summative when it is given to determine how much students have learned at a particular point in time, for the purpose of communicating achievement status to others. The communication

*Figure 1.2*



usually takes the form of a symbol, a letter grade or number, or a comparison to a standard such as “Meets the Standard” or “Proficient,” that is reported to students and eventually to parents. Sometimes an assessment intended to be used formatively can be used summatively, such as when the evidence indicates that students have attained mastery. And sometimes an assessment intended to be used summatively can be used formatively, such as when a test reveals significant problems with learning that we address through reteaching.

At the program level, an assessment is summative when results are used to make judgments such as determining how many students are and are not meeting standards in a certain subject for purposes of accountability. The data may be reported to educators within the system, the school board, and the community.

Summative assessments aren’t bad or wrong. They’re just not formative; they have a different purpose—to report out level of achievement. Mislabeling them as *formative* will not cause them to generate the achievement gains noted in research studies.

### **Formative or Summative?**

An important reason to distinguish between formative and summative assessment is that achievement gains credited to formative assessment practices will not materialize unless certain conditions are met, and at least some of these conditions are often *not* met by assessments whose primary purpose is summative. The conditions are as follows:

1. The assessment instrument or event is designed so that it aligns directly with the content standards to be learned.
2. All of the instrument or event’s items or tasks match what has been or will be taught.
3. The instrument or event provides information of sufficient detail to pinpoint specific problems, such as misunderstandings, so that teachers can make good decisions about what actions to take, and with whom.
4. The results are available in time to take action with the students who generated them.
5. Teachers and students do indeed take action based on the results.

If one or more of these conditions is not fulfilled, it is at best an incomplete attempt, and at worst harmful to learning. If the intent is formative, but the use is summative, it is a wasted opportunity. Assessment does not accomplish a formative purpose when “the information is simply recorded, passed on to a third party who lacks either the knowledge or the power to change the outcome, or is too deeply coded (for example, as a summary grade given by the teacher) to lead to appropriate action” (Sadler, 1989, p. 121).

It is a good idea to review the assessments considered formative in your context against the requirements for effective formative use. You may also want to refer to the table in Figure 1.3, which lists types of assessments present in many current school systems, identifies their purposes, and classifies their intended uses.

## What Gives Formative Assessment Its Power?

The collection of hundreds of studies Black & Wiliam (1998a, 1998b) examined represents a diverse array of interventions, all of which featured some formative use of assessment data or processes. Practices yielding the largest achievement gains displayed the following characteristics:

- Use of classroom discussions, classroom tasks, and homework to determine the current state of student learning/understanding, with action taken to improve learning/correct misunderstandings
- Provision of descriptive feedback, with guidance on how to improve, during the learning
- Development of student self- and peer-assessment skills

Drawing from their analysis of these studies, Black & Wiliam (1998b) make the following recommendations about key components of formative assessment:

- “Opportunities for students to express their understandings should be designed into any piece of teaching, for this will initiate the interaction through which formative assessment aids learning” (p. 143).

Figure 1.3

**Formative or Summative?**

Type of assessment	What is the purpose?	Who will use the information?	How will it be used?	Is the use formative or summative?
<b>State test</b>	Measure level of achievement on state content standards	State	Determine AYP	Summative
		District, Teacher Teams	Determine program effectiveness	Summative
	Identify percentage of students meeting performance standards on state content standards	State	Comparison of schools/districts	Summative
		District, Teacher Teams	Develop programs/interventions for groups or individuals	Formative
<b>District benchmark, interim, or common assessment</b>	Measure level of achievement toward state content standards	District, Teacher Teams	Determine program effectiveness	Summative
		District, Teacher Teams	Identify program needs	Formative
	Identify students needing additional help	District, Teacher Teams, Teachers	Plan interventions for groups or individuals	Formative
<b>Classroom assessment</b>	Measure level of achievement on learning targets taught	Teachers	Determine report card grade	Summative
	Diagnose student strengths and areas needing reteaching	Teacher Teams, Teachers	Revise teaching plans for next year/semester	Formative
			Plan further instruction/differentiate instruction for these students	Formative
		Teachers, Students	Provide feedback to students	Formative
Understand strengths and areas needing work	Students	Self-assess, set goals for further study/work	Formative	

**Program** = curriculum, texts/resources, and pedagogy

**Identifying program needs:**

Are we teaching to the right content standards/learning targets?

Do we have sufficient texts and other resources?

Are our teaching strategies effective?



- “The dialogue between pupils and teachers should be thoughtful, reflective, focused to evoke and explore understanding, and conducted so that all pupils have an opportunity to think and to express their ideas” (p. 144).
- “Feedback to any pupil should be about the particular qualities of his or her work, with advice on what he or she can do to improve, and should avoid comparison with other pupils” (p. 143).
- “Feedback on tests, seatwork, and homework should give each pupil guidance on how to improve, and each pupil must be given help and an opportunity to work on the improvement” (p.144).
- “If formative assessment is to be productive, pupils should be trained in self-assessment so that they can understand the main purposes of their learning and thereby grasp what they need to do to achieve” (p. 143).

Notice where these recommended practices fall on the chart in Figure 1.3. Formative assessment *is* a powerful tool in the hands of both teachers and students and the closer to everyday instruction, the stronger it is. Classroom assessment, sensitive to what teachers and students are doing daily, is most capable of providing the basis for understandable and accurate feedback about the learning, while there is still time to act on it. And it has the greatest capacity to develop students’ ability to monitor and adjust their own learning.

### **Formative Assessment in Teachers’ Hands**

Many formative assessment strategies address the teacher’s information needs, helping to answer questions critical to good instruction:

- Who is and is not understanding the lesson?
- What are this student’s strengths and needs?
- What misconceptions do I need to address?
- What feedback should I give students?
- What adjustments should I make to instruction?
- How should I group students?
- What differentiation do I need to prepare?

There is no doubt that, acting on good information during the course of instruction, teachers can increase what and how well students learn. Indeed, some of the significant achievement gains attributable to formative assessment are due to enhanced questioning and dialogue techniques.

Many strong programs and practices help teachers obtain, interpret, and act on student achievement information. Data-driven decision making, developing interim assessments, Response to Intervention, differentiated instruction, minute-by-minute assessment, and questioning strategies are among the more well known of those focusing on teacher decision making. If you are already familiar with the term *formative assessment*, you probably have encountered its use in one or more of these contexts.

However, if teacher use of assessment information is our total picture of formative assessment, one very important player is sitting on the sidelines, and it's not the principal or the superintendent. We have benched the student.

### Formative Assessment in Students' Hands

Black and Wiliam's (1998a) research review showcases the student as decision maker. Many other prominent education experts, such as Rick Stiggins, Lorrie

“Whatever the procedures by which the assessment message is generated, it would be a mistake to regard the student as the passive recipient of a call to action.”

*Black & Wiliam, 1998a, p. 21*

Shepard, Grant Wiggins, Jay McTighe, and Sue Brookhart, have also described the benefits of student involvement in the assessment process. In an often-cited article describing how formative assessment improves achievement, Sadler (1989) concludes that it hinges on developing students' capacity to monitor the quality of their own work during production:

The indispensable conditions for improvement are that the *student* comes to hold a concept of quality roughly similar to that held by the teacher, is able to monitor continuously the quality of what is being produced *during the act of production itself*, and has a repertoire of alternative moves or strategies from which to draw at any given point. (p. 121, emphasis in original)

Writing about formative assessment in the science classroom, Atkin, Black, & Coffey (2001) translate the conditions Sadler describes into three questions:

1. Where are you trying to go? (identify and communicate the learning and performance goals);
2. Where are you now? (assess, or help the student to self-assess, current levels of understanding);
3. How can you get there? (help the student with strategies and skills to reach the goal). (p. 14)

Sadler's conditions as represented in these three questions frame what is called "Assessment *for* Learning"—formative assessment practices designed to meet students' information needs to maximize both motivation and achievement, by involving students from the start in their own learning (Stiggins, Arter, Chappuis, & Chappuis, 2004).

My colleagues and I at the ETS Assessment Training Institute have been developing classroom applications of assessment *for* learning over the past decade and have created a framework of seven strategies to organize assessment *for* learning practices focused on the needs of the learner.

## Seven Strategies of Assessment *for* Learning

The seven strategies fulfill Sadler's three conditions, phrased as questions from the student's point of view: *Where am I going?*; *Where am I now?*; and *How can I close the gap?* As you read through these strategies, note that many are not new—they reflect practices that have been around for years (Figure 1.4). What may be new is their *intentional* use, focusing on the student as the most influential decision maker in your classroom.

### Where Am I Going?

**Strategy 1: Provide students with a clear and understandable vision of the learning target.**

Motivation and achievement both increase when instruction is guided by clearly defined targets. Activities that help students answer the question, "What's the learning?" set the stage for all further formative assessment actions.

Figure 1.4

## Seven Strategies of Assessment for Learning

Where Am I Going?
Strategy 1: Provide students with a clear and understandable vision of the learning target. Strategy 2: Use examples and models of strong and weak work.
Where Am I Now?
Strategy 3: Offer regular descriptive feedback. Strategy 4: Teach students to self-assess and set goals.
How Can I Close the Gap?
Strategy 5: Design lessons to focus on one learning target or aspect of quality at a time. Strategy 6: Teach students focused revision. Strategy 7: Engage students in self-reflection, and let them keep track of and share their learning.

Source: Adapted with permission from R. J. Stiggins, J. A. Arter, J. Chappuis, and S. Chappuis, *Classroom Assessment for Student Learning: Doing It Right—Using It Well* (Portland, OR: ETS Assessment Training Institute, 2004), p. 42.

### **Strategy 2: Use examples and models of strong and weak work.**

Carefully chosen examples of the range of quality can create and refine students' understanding of the learning goal by helping students answer the questions, "What defines quality work?" and "What are some problems to avoid?"

### **Where Am I Now?**

#### **Strategy 3: Offer regular descriptive feedback.**

Effective feedback shows students where they are on their path to attaining the intended learning. It answers for students the questions, "What are my strengths?"; "What do I need to work on?"; and "Where did I go wrong and what can I do about it?"

**Strategy 4: Teach students to self-assess and set goals.**

The information provided in effective feedback models the kind of evaluative thinking we want students to be able to do themselves. Strategy 4 teaches students to identify their strengths and weaknesses and to set goals for further learning. It helps them answer the questions, “What am I good at?”; “What do I need to work on?”; and “What should I do next?”

**How Can I Close the Gap?****Strategy 5: Design lessons to focus on one learning target or aspect of quality at a time.**

When assessment information identifies a need, we can adjust instruction to target that need. In this strategy, we scaffold learning by narrowing the focus of a lesson to help students master a specific learning goal or to address specific misconceptions or problems.

**Strategy 6: Teach students focused revision.**

This is a companion to Strategy 5—when a concept, skill, or competence proves difficult for students, we can let them practice it in smaller segments, and give them feedback on just the aspects they are practicing. This strategy allows students to revise their initial work with a focus on a manageable number of learning targets or aspects of quality.

**Strategy 7: Engage students in self-reflection, and let them keep track of and share their learning.**

Long-term retention and motivation increase when students track, reflect on, and communicate about their learning. In this strategy, students look back on their journey, reflecting on their learning and sharing their achievement with others.

The seven strategies are not a recipe to be followed step by step, although they do build on one another. Rather, they are a collection of actions that will strengthen students’ sense of self-efficacy (belief that effort will lead to improvement), their motivation to try, and ultimately, their achievement. They represent a use of assessment information that differs from the traditional practice of associating *assessment* with *test*, and *test* with *grade*. These assessment practices will not result in more grades in the gradebook. Rather, they ask us to think more broadly about what assessment is and what it is capable of accomplishing.

## Conclusion

These activities won't eliminate the achievement gap in your classroom. Too many factors are at work to be completely overcome by one set of strategies. However, they will take you farther in that direction by helping you reclaim assessment as an integral part of teaching and learning. The Seven Strategies of Assessment *for* Learning offer a sequence of effective research-based practices that develop in students the patterns of thought they need to substantially improve their own achievement, and in doing so, they will introduce your students to the motivational power of being in control of the conditions of their success. Assessment can be your friend—it can even be fun. And it can be your students' friend, too.

## The Chapters Ahead

The remaining chapters will explain the strategies in detail, provide a research-based rationale for their use, describe how they work and offer hands-on classroom activities that you can use tomorrow. Each chapter includes instructions for carrying out core procedures and suggestions for adaptations, all selected to make the intent and the execution of the strategy as clear as possible. Examples come from pre-kindergarten to college levels in a range of content areas. The majority can be adapted to work well in most contexts. Even if an example is not from your grade level or subject, try not to ignore it. You will find information about key research recommendations that will help you easily modify the ideas to fit your context without diluting their potential for positive impact.

Appendix A contains three student-friendly rubrics referred to in the text, and Appendix B has reproducible versions of student forms presented in each of the chapters.