Formative Assessment & Standards-Based Grading

Robert J. Marzano

CLASSROOM STRATEGIES **THAT** WORK

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INTRODUCTION

Formative Assessment and Standards-Based Grading is the second in a series of books collectively referred to as the *Classroom Strategies That Work* library. The purpose of this series is to provide teachers as well as building and district administrators with an in-depth treatment of research-based instructional strategies that can be used in the classroom to enhance student achievement. Many of the strategies addressed in this series have been covered in other works such as *The Art and Science of Teaching: A Comprehensive Framework for Effective Instruction* (Marzano, 2007), *Classroom Assessment and Grading That Work* (Marzano, 2006), and *Classroom Instruction That Works* (Marzano, Pickering, & Pollock, 2001). Although those works devoted a chapter or a part of a chapter to particular strategies, the *Classroom Strategies That Work* library devotes an entire book to an instructional strategy or set of related strategies.

Designing effective assessments is critical for any teacher. In order to make judgments about the status of a student or an entire class at any given point in time, teachers need as much accurate data as possible about an individual student's progress, or the progress of the class as a whole, to determine their next instructional steps. As straightforward as this might sound, designing assessments, using them purposefully, and incorporating them into a system of overall grading take insight and practice. *Formative Assessment and Standards-Based Grading* addresses the misconceptions about formative assessment and how it can be used in an overall grading scheme.

We begin with a brief but inclusive chapter that reviews the research and theory on formative assessment, instructional feedback, and grading. Although you might skip this chapter and move right into those that provide recommendations for classroom practice, you are strongly encouraged to examine the research and theory, as it is the foundation for the entire book. Indeed, a basic purpose of *Formative Assessment and Standards-Based Grading* and other books in the *Classroom Strategies That Work* library is to present the most useful instructional strategies that are based on the strongest research and theory available.

Because research and theory can provide only a general direction for classroom practice, *Formative Assessment and Standards-Based Grading* (and each book in the series) goes one step further to translate that research into applications for the classroom. Specifically, it addresses misconceptions about formative assessment, provides formatively based classroom assessment strategies, and discusses in depth how those strategies can effect change in overall grading systems on both small and large scales. It is important to note, however, that individual teachers, schools, and districts must make necessary adaptations to meet the unique needs of their students.

Table 2.2 Formative and Summative Scores Versus Instructional Feedback

Formative and Summative Scores	Instructional Feedback
Formative and summative scores can be derived from a variety of types of assessments that include obtrusive assessments, unobtrusive assessments, and student-generated assessments.	Instructional feedback can be derived from a variety of types of assessments that include obtrusive assessments, unobtrusive assessments, and student-generated assessments.
Assessments are scored.	Assessments may or may not be scored.
Scores are recorded and used to track student progress.	Because assessments are not recorded, they are not part of the formative tracking of students over time, but they do serve to inform the teacher about how both the class and specific students are progressing.
Formative scores are used to generate a summative score.	Instructional feedback is not a formal part of the design of summative scores, but it may help teachers determine the most appropriate summative score for specific students.

To illustrate how instructional feedback might manifest in the classroom, consider the following examples:

- In response to questions the teacher asks, students hold their thumbs up to signal they know the answer, hold their thumbs down to signal they do not know the answer, and hold their thumbs to the side to signal they are not sure if they know the answer.
- A teacher gives a practice quiz that is scored on the spot by students as the teacher goes through the answers. Each student scores his or her own answers. As the teacher goes over each question, he or she asks students to raise their hands if they feel they need more help with the content. At the end of the activity, each student knows how he or she scored on the practice test, and the teacher has a sense of how well the class did.
- After students have practiced strategies for the overhand throw of a softball, a teacher observes them at recess playing a game of softball. He mentally makes a note of how well each student is executing the throw and uses this feedback to help redesign the next lesson with students. In class, he provides feedback to specific students based on what he saw at recess.

Note that each of the activities qualifies as an assessment in that it provides information about students' level of knowledge or skill regarding a specific topic. In the first example, the assessment involves questions posed by the teacher orally. All students respond to the questions using hand signals. This is a form of obtrusive assessment. Because it is oral and because the whole class responds to every question, student responses are not scored.

In the second example, the form of assessment is more formal—the teacher gives a quiz. Additionally, the quiz is scored. Right after the quiz, the teacher goes over each item as students score their own papers. As before, this is an obtrusive assessment, but this time individual student scores are generated. However, because the assessment is designed for instructional feedback, students' scores are not recorded.

The third example is an unobtrusive form of assessment. The teacher observes students executing a physical skill and makes mental notes. The teacher does not assign scores. Instead, he uses the observations to redesign the next lesson and identify the feedback he wants to provide to specific students.

Fill In the Blank

Fill-in-the-blank items require students to provide a response that fits into a specific phrase or sentence. Since these items do not require students to select a response, they are technically not selected-response items. They are better classified as "completion items," but they do require only one correct response. Consequently, they are similar to the other items in this section. Table 4.6 contains sample fill-in-the-blank items for mathematics, language arts, science, and social studies.

Table 4.6 Sample Fill-In-the-Blank Items for Mathematics, Language Arts, Science, and Social Studies

Subject	Fill-In-the-Blank Item
Mathematics	A fraction in which the numerator is greater than the denominator is a(n) _____ fraction.
Language arts	A poetic form employing three quatrains and a couplet (abab cdcd efef gg) is called a(n) _____.
Science	Animals that only eat vegetation are called _____, animals that only eat meat are called _____, and animals that eat both vegetation and meat are called _____.
Social studies	_____ was the first African American to hold an elected position.

Exercise 4.1 provides some practice in designing selected-response assessment items. (See page 77 for a reproducible of this exercise and page 142 for a reproducible answer sheet. Visit **marzanoresearch.com/classroomstrategiesthatwork** to download all the exercises and answers in this book.)

Exercise 4.1
Designing Selected-Response Assessment Items

The following content from various subject areas is presented along with a specific type of assessment item. Your task is to design the specified type of item for the content identified and then compare your answers with those provided on the corresponding answer sheet. To illustrate, assume you were given the following language arts content for the multiple-choice item type:

> **Language arts content**: A student should use one of the following strategies when trying to figure out the meaning of a word encountered while reading a text:
>
> 1. Look at the beginning letters and the ending letters of the word and ask yourself what word that begins and ends the same way would make sense.
> 2. Think of a word that would make sense in the sentence even if you know it is not the word you are trying to figure out.
> 3. Look up the unknown word in a dictionary.

You would then write a multiple-choice item that might look like the following:

> When you come to a word you don't know when reading a text, which of the following is not a good thing to do?
>
> A. Do not read on any further until you figure out the word.
> B. Look up the word in a dictionary.
> C. Try to think of any word that would make sense in the sentence in which the unknown word appears.
> D. Look at the first and last letters of the word and try to think of a familiar word that has those same beginning and ending letters.

Continued on next page →

Student Progress Chart

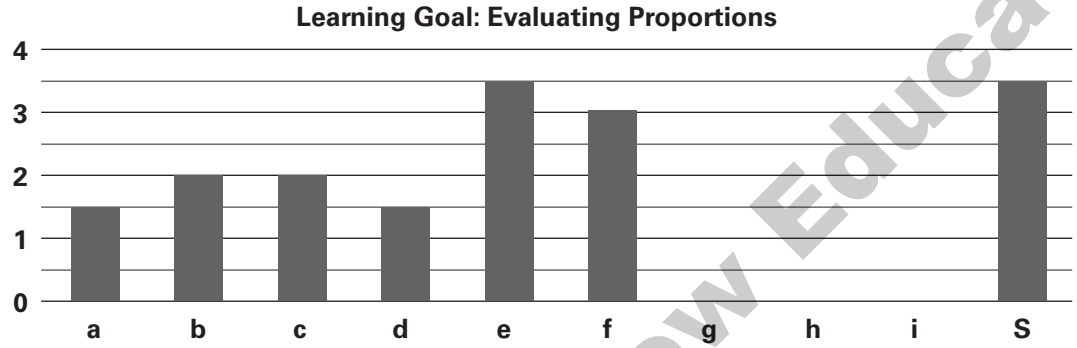
Keeping Track of My Learning

Name: *Dane*

Learning Goal 1: *Evaluating proportions*

My score at the beginning: *1.5*. My goal is to be at score *3.0* by *March 30*.

Specific things I am going to do to improve: *Work 15 min. three times a week*



a. *Feb. 5*
b. *Feb. 12*
c. *Feb. 20*
d. *Feb. 28*
e. *Mar. 12*
f. *Mar. 26 Final Exam*
g. _____
h. _____
i. _____
Summative Score *3.5*

Figure 5.2 Bar graph depicting student progress.

Record Keeping

Record keeping in this system resembles the system in approach 1 with one notable exception. As mentioned previously, a current summative score is recorded for each student on each learning goal throughout the grading period. In the first approach, the teacher waits until the end of the grading period before entering a summative score.

The gradesheet used in this approach is depicted in table 5.3 (page 88; a reproducible form for this approach is presented at the end of this chapter on page 102).

While the gradesheet in table 5.3 is similar to the gradesheet in table 5.1 (page 84) in that each cell depicts scores for a specific student on a single learning goal, there is a column in table 5.3 at the right of each cell that has four boxes labeled 4.0, 3.0, 2.0, and 1.0, respectively. This column does not appear in the previous gradesheet. As formative scores are entered into the gradesheet, the teacher enters a "current" summative score by filling in the appropriate portion of the column on the right of each cell.

Chapter 6

GRADING AND REPORTING

Ultimately, a teacher using the formative approach to assessment described in this book must address the issue of grades. In a later section of this chapter, we consider how a school or district might change its report card to accommodate a formatively based system. We begin, however, from the perspective of a teacher who must turn in an overall grade for each quarter, trimester, or semester in a school or district that utilizes traditional grades.

The Overall Grade

A teacher using any one of the four approaches described in chapter 5 can still translate student achievement into a traditional overall grade. Before addressing the issue of grading, though, it is necessary to revisit the issue of averaging. In chapter 2, a strong case was made that formative scores for a particular learning goal should not be averaged to construct a summative score. This, of course, is perfectly accurate, since averaging scores for a particular learning goal does not take into account that learning has occurred from one assessment to another. However, averaging is a viable option when performance *across* learning goals is being aggregated. For example, assume that a particular student has received the following summative scores for six learning goals addressed during the grading period: 2.5, 3.0, 2.0, 4.0, 3.0, and 3.5. The numeric average of 3.0 would be a good summary score representing typical final status for the student *across* the six learning goals.

Many districts and schools employ traditional A, B, C, D, and F letter grades. To translate the average score on the six learning goals into a grade, a simple guide is needed:

A = 3.00 to 4.00

B = 2.50 to 2.99

C = 2.00 to 2.49

D = 1.00 to 1.99

F = Below 1.00

In this system, the average score of 3.0 would be translated into a letter grade of A. The preceding example uses what is referred to as an "unweighted average." This simply means that all learning goals are considered equal—no goal has more weight than any other goal. Another approach is referred to as the "weighted average" approach. In this approach, some learning goals receive more weight in computing the average across goals (for a detailed discussion of weighted versus unweighted averages, see Marzano, 2006).