

Section I

What Is INFORMative Assessment?



1

Beginning an Assessment Journey

What we believe affects how we teach, and how we teach affects what and how our students learn. In this chapter you will examine your own beliefs and actions as an introduction to INFORMative assessment. The chapter tackles the question “What is INFORMative assessment?” and gives you a road map for starting to think about formative assessment in your classroom. The chapter concludes with an overview of the rest of the resource.

Overview

Are My Beliefs and Actions Congruent?

What Is INFORMative Assessment?

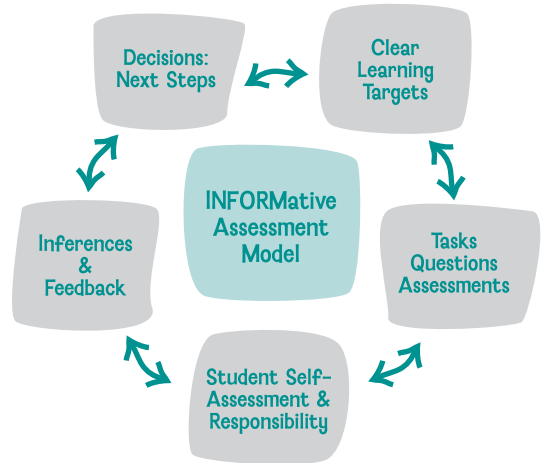
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The Chapters

The Reflections

INFORMing My Practice



In the day-to-day pressures of making lesson plans, reviewing student work, and completing the myriad of paperwork associated with teaching, we rarely have time to stop and reflect on *why* we are doing *what* we are doing. Take a moment to think about where you are right now in your beliefs related to assessment.

“Although assessment is done for a variety of reasons, its main goal is to advance students’ learning and inform teachers as they make instructional decisions.”

—*Assessment Standards for School Mathematics* (NCTM 1995, 13)

Are My Beliefs and Actions Congruent?

What each of us believes should determine how we do things in our classrooms; after all, what we say and do will always impact our students. Identify three or four things that you feel strongly about related to teaching and learning and complete the chart in “Reflection 1–1: INFORMing My Practice: My Beliefs” (see page 11). First, record your beliefs. What do you feel strongly about related to assessment? Next, write down how your actions “play out” in your classroom. Describe your assessment practices that reflect your beliefs. Do your actions match what you believe? And finally, reflect on how these actions impact your students. Do this before continuing to read; below is an example to get you started:

Reflection 1-1

INFORMing
My Practice:
My Beliefs

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My beliefs . . .	are reflected in my classroom actions . . .	and impact my students in this way . . .
<i>Students should be tested on what I have taught.</i>	<i>I plan lessons to prepare students for my tests.</i>	<i>My students do well on my tests.</i>

Look at your reflection chart as a whole. Is there a match between what you believe and what is happening in your classroom? When we say we believe something but our day-to-day actions model something different, no matter how good our intentions, our actions are what most often shape our classrooms.

Our Beliefs vs. Our Actions

Have you ever heard anyone say something like . . .

“I believe in having students share their ideas. We just don’t have time for extended conversations because we have so much content to cover.”

Or

“I believe in hands-on activities to help students make sense of mathematics, but there is not time for exploratory lessons. I model the manipulatives rather than have students use them.”

Or

“Open-ended questions do give more information about what students know, but the benchmark and end-of-grade tests are multiple choice. I need to use those kinds of assessments so students are comfortable with that assessment format.”

All teachers want what is best for their students; no teacher wants to make decisions that impede student learning. In an ideal world, teachers collaborate with each other to plan lessons and assessments, discuss student work, and have strong support from parents and school leaders. Learning goals are clear and resources are plentiful. Students and teachers have a vision of the mathematics that students are learning and what accomplishment looks like. In these situations, we feel empowered and students are likely to flourish.

In reality, however, many teachers work more in isolation, with little time for planning and collaboration with colleagues. We may feel alone in articulating specific learning targets and establishing what student performance will look like when the goals are accomplished. Because we feel the pressures of district initiatives and state tests, we may believe we must use similar measures throughout the year to “prepare” students for the high-stakes assessments. In these situations teachers often make instructional decisions without a clear understanding of the logic or the misunderstandings behind student answers. The results of such a system are instructional decisions that may not support student learning.



What Is INFORMative Assessment?

Formative assessment is not a one-time event. It is not the product or end result of a set of well-defined steps. Rather, formative assessment is a process that we believe is better identified as INFORMative assessment when it is a collection of strategies that engage teachers and students in becoming partners to support students' learning. INFORMative assessment is used to make instructional decisions that guide improvement rather than summarize performance. As teachers, we continually sharpen our abilities to unpack student thinking and provide feedback that encourages students to take greater responsibility for their own learning.

The word assessment comes from Medieval Latin *assessus*, “to sit beside.” Webster gives one definition of formative as “capable of alteration by growth and development.” Putting these two ideas together, it is easy to create a mental image of a teacher moving throughout the classroom, stopping by individuals' desks, and talking with students about the mathematics they are doing. Rather than the teacher spending the majority of the time telling, the teacher is spending more time listening. Students tell about how they solved a problem and talk about what they are not sure of. Their written work and their conversations become assessments that INFORM us of their learning. Together, teacher and students evaluate the students' progress toward a particular learning target. We use information from conversations and student work to give feedback to students and decide about the next activity that will help students move away from a misconception or “not knowing” to becoming competent and confident in the mathematics.

Assessment comes from a root word meaning “to sit beside.”

At first glance it is easy to understand why many educators feel that classroom assessment is “low stakes.” After all, classroom tasks are not “secure,” and the scoring is not necessarily uniform. The results of classroom assessments are used—or not used—in many different ways. As teachers we have different levels of expertise in asking questions and choosing tasks. Our decisions are always influenced by our content knowledge and the disposition of the class. Classroom assessments are usually viewed as “low stakes” in comparison with “high-stakes” assessments such as tests that are used as factors in awarding scholarships or end-of-grade tests used for decisions about promotion or retention. However, it is a serious error in judgment not to recognize the

Assessment Tip

INFORMative assessment is not the end of a lesson but the beginning of better instruction.

What are most likely to improve the quality of mathematics education for all students are the thoughtful shifts that teachers make during daily lessons to understand students' thinking, and using that knowledge to make decisions.

power and potential of formative assessment. What is most likely to improve the quality of mathematics education for all students are the thoughtful shifts that we make during daily lessons as we become better at understanding our students' thinking, and using that knowledge to make decisions. INFORMative assessment at work is the interaction between teacher and students. We are “informed” about what students understand and thus are able to better plan opportunities for further learning.

Throughout this book we emphasize the links between teaching and learning, investigating the “what” of formative assessment and describing “how to.” Sometimes formative

INFORMative Assessment: Six Key Questions

- Whom are we assessing?
Our students.
- What are we assessing?
Our students' knowledge and skills, their thinking and reasoning, their dispositions; the processes they use and their abilities to apply what they are learning.
- Why are we assessing?
To better plan instruction and to monitor our students' progress.
- When do we assess?
Daily—along with instruction as well as during specific, planned assessments.
- Where do we assess?
Wherever we are interacting with and observing students.
- How are we assessing?
In traditional and alternative ways such as through conversations and observations, along with samples of students' work.



assessment is referred to as ongoing classroom assessment. We refer to all assessment that guides instructional decisions and helps us monitor student progress as INFORMative assessment. On the previous page is a list of key questions to help clarify formative assessment as an INFORMative process. We will be revisiting and exploring these questions throughout the book.

Changing classroom practices so that teaching and learning become seamless can be thought of as a journey toward creating an environment in which INFORMative assessment is a routine and powerful tool for promoting student success. For each of us that journey—toward the goal of better understanding student thinking—can take many paths. Just as students in the same classroom learning a new mathematics concept bring different backgrounds to their tasks, we come to ideas of INFORMative assessment with different experiences, levels of expertise, and administrative support.

Part of that journey is doing what we just did—examining our beliefs and actions. The next step is deciding to implement strategies and practices that better support student learning.

The power of well-implemented INFORMative assessment is that it gives *all* teachers tools to help students learn more mathematics than they have in the past and to achieve at higher levels.

Formative assessment gives *all* teachers tools for helping *all* students learn more mathematics.

How Do I Use This Resource?

This book is a collaborative reading journey. Together we will investigate ways to gather information about students' thinking, reasoning, and understanding in order to provide feedback to students, to help them take greater responsibility for their own learning, and to guide our instructional decisions. Along the way we will explore numerous assessment ideas and discuss how to implement them. By the end of this book we hope you will have a foundational understanding of formative assessment as an INFORMative process.

The Model

Although different assessment models and diagrams appear in resources such as the *Assessment Standards for School Mathematics* (NCTM 1995), we prefer the INFORMative Assessment Model for Teaching and Learning

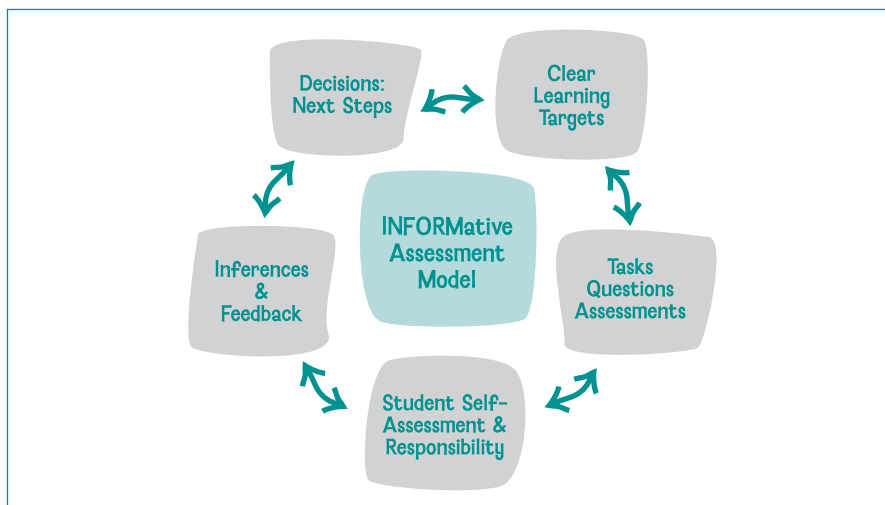


FIGURE 1–1. INFORMative Assessment Model for Teaching and Learning

(see Figure 1–1) because it not only demonstrates important aspects of formative assessment, it also includes “student self-assessment and responsibility” as a critical component. While the arrows in the model indicate important relationships, notice that arrows could connect each of the cells in the model with every other cell. Chapters 2 through 9 provide more information about the components of the model.

The Chapters

Following is a brief overview of each chapter.

Chapter 2: This chapter is about the tough decisions teachers make in planning instruction and monitoring students’ progress. These decisions about “what’s next” impact what students learn.

Chapter 3: Quality instruction begins when teachers clarify the learning targets and identify criteria for successful accomplishment of the mathematics. This chapter identifies four major categories of learning targets.

Chapter 4: This chapter identifies critical strategies for using oral assessments to elicit evidence of learning—interviews, class discussions, and observations. Documentation strategies highlight ways to create anecdotal records.

Chapter 5: Identifying evidence of learning in written work is the focus of this chapter. We explore ways to gather information through forced-choice and constructed response assessments.

Chapter 6: In Chapter 6 there are five questions to consider when choosing mathematically rich tasks for teaching and learning. We identify important ways to use tasks to support learning.

Chapter 7: Creating an environment to support student responsibility and self-assessment is a critical component of INFORMative assessment. This chapter suggests strategies for motivating students and identifies structures that promote student responsibility.

Chapter 8: Teachers use questions for many purposes. This chapter provides guidance for framing classroom conversations and creating good questions.

Chapter 9: This chapter highlights the importance of our inferences about students' understandings. We discuss ways to provide feedback and develop interventions and differentiate instruction.

Chapter 10: Continuing the implementation of INFORMative assessment means focusing our energies for long-term success. This chapter provides opportunities for personal reflections and setting goals.

The Reflections

Throughout the book we have included many opportunities for you to reflect on your own teaching and learning. At the end of each chapter there is also an “INFORMing My Practice” section with a reflection about the chapter and a place for you to record your use of INFORMative assessment—the changes in your thinking, your questions, your frustrations. And, most importantly, your successes!

INFORMing My Practice

Earlier in this chapter (see page 4) you completed the chart in “Reflection 1–1: INFORMing My Practice: My Beliefs.” Before beginning Chapter 2, take a moment to look once more at the chart. Is there anything else you want to include?

Reflection 1-1: INFORMing My Practice: My Beliefs

My beliefs . . .	are reflected in my classroom actions . . .	and impact my students in this way . . .

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