

# DESIGN in 5

*Essential Phases to Create Engaging Assessment Practice*

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Reproducible pages are in italics.

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(and build this type of analysis into their instruction). And when students do learn from those mistakes and see growth, both in terms of their score and their learning, the seeds of motivation and engagement through high-quality assessment practice are planted.

## About This Book

This book is about intentionally designing engaging, rigorous, and meaningful assessments and using information we derive from them to empower students to invest and fully engage in their learning. It is about empowering teachers to create and use assessments that reflect meaningful work—work that sets students up for success in their future coursework and helps them make productive choices, learn from failure, and

*Engaging assessment practices happen in a culture focused on learning and trust, where students and teachers are working to build strong relationships through meaningful and rigorous work.*

persevere to achieve their goals. Engaging assessment practices happen in a culture focused on learning and trust, where students and teachers are working to build strong relationships through meaningful and rigorous work.

Depending on where you are in the journey, some of the ideas in this book will affirm the practices you are already doing, while others will hopefully take your work a step further. Each teacher, team, school, district, state, and province must consider its situation and begin a conversation about quality assessment. My hope is that this book will contribute to those conversations.

This introduction is followed by six chapters and an appendix.

The remainder of the introduction discusses assessment design qualities, and the phases of an assessment design process that I have named Design in Five. Chapters 1 through 5 are devoted to the five phases of Design in Five.

- **Phase one:** Choosing standards and planning engagement
- **Phase two:** Analyzing the standards and sketching out learning goals
- **Phase three:** Crafting an assessment plan
- **Phase four:** Creating the assessment and gathering the materials
- **Phase five:** Determining student investment and the reporting method

Chapter 6 discusses how to work with the Design in Five process in collaboration, whether you are in a professional learning community or some other team-based form of organization in your school. At the end of each chapter, a Pause and Ponder section offers some guiding questions for reflecting on the ideas put forward in that chapter. These may be used as study guides to generate dialogue and action for either individuals or groups.

An appendix contains reproducible forms of many of the tables, charts, and other resources in this book. You may also visit [go.hbe.com.au](http://go.hbe.com.au), where you can download numerous other resources, including examples gathered from around the globe that will prompt your own ideas about how to revise and deepen assessment work. See page 129 for a list of additional resources and page 131 for a list of examples of assessment work found online to prompt your own ideas.

## Assessment Design Qualities

My synthesis of assessment design qualities—standards that provide the foundation for effective and engaging assessment design and use—is based on the work of many amazing educators, including Jan Chappuis, Anne Davies, Cassandra Erkens, John Hattie, Tammy Heflebower, Robert J. Marzano, Milbrey McLaughlin, Ken O’Connor, James W. Popham, Thomas R. Guskey, Douglas Reeves, Phil Schlechty, Rick Stiggins, Joan Talbert, and Dylan Wiliam. Following are the three primary design characteristics that I have derived from their work and my own.

1. Designing with precision
2. Employing effective action
3. Fostering student investment

### Designing With Precision

Designing with precision begins with selecting and describing what we intend students to learn and then determining a method, or type of student work that will give students and teachers information about the extent to which they have done so.

#### *Selecting and Describing Learning*

Many schools, districts, and jurisdictions have approached the process of defining learning goals by unpacking (Ainsworth, 2003) and deconstructing standards (Stiggins, Arter, Chappuis, & Chappuis, 2004). In essence, teachers identify the knowledge and skills needed to achieve the standard. In this analysis of the standard, teachers consider the cognitive level (the thinking students need to do, such as recall, apply, synthesize, and create) required to achieve the standard and beyond. Phase two in Design in Five addresses how to choose learning goals for assessments. There are various documents and resources that help teachers define and interpret the standards, but no matter what documents we have at our fingertips, teachers must still work with colleagues to make meaning of the learning goals and determine the kind of student work that will best reflect achievement. That leads to the second part of designing with precision, determining the method.

#### *Determining the Method*

A method is the work students produce that provides information about a student’s thinking and learning. We may ask students to produce a video, write a weblog, conduct an interview, create a Prezi presentation, take a multiple-choice test, or write a paper. Each type of method has strengths and limitations regarding the effectiveness and efficiency of getting high-quality information about student learning. Let’s take, for example, this literacy standard in the National Governors Association Center for Best Practices and Council of Chief State School Officers’ ([NGA & CCSSO] 2010a) Common Core State Standards.

**RST.11–12.7:** Integrate and evaluate multiple sources of information presented in diverse formats and media (e.g., quantitative data, video, multimedia) in order to address a question or solve a problem. (p. 62)

Suppose a physics teacher asks students to (1) read an account of the meteor that hit Russia in February 2013, (2) read a follow-up research report on the event, and (3) watch a video of a scientist explaining the phenomenon. If the assessment method is multiple-choice or short-answer questions asking students to identify the main points made in each of the two texts and the video, the assessment will help the teacher

understand if students got the gist of what the texts were saying. However, it will be difficult to tell if students have, as the standard describes, integrated and evaluated multiple sources of information because the test questions only allow students to show their literal understanding. The standard asks student to *integrate* and *evaluate* when addressing a question or solving a problem. In order for the method to address this standard, the assessment would need to ask students to decide what information from the articles was most useful to address a problem. For example, a task that asked students to consider what information from these articles could best be used to predict future meteorites, and then write a letter to scientists describing their thinking, would require students to integrate what they understood from the article and evaluate evidence that could contribute to solving the problem of predicting future meteorites. That type of student work would be most effective in understanding the extent to which students achieved the targeted standard.

To take another example, a third-grade team's assessment involves identifying the adjectives in various sentences. Let's take a look at the third-grade standard in the Common Core regarding adjectives.

**L.3.1g:** Form and use comparative and superlative adjectives and adverbs, and choose between them depending on what is to be modified. (NGA & CCSSO, 2010a, p. 28)

The standard calls for students to form and use adjectives, which means that students need to do more than identify. Multiple-choice items cannot provide the opportunity to demonstrate this learning goal, because students are simply selecting a word. Asking students to underline the adjectives in a sentence or to choose the adjective from a list of options requires identifying, but not forming or using. A more effective method, which captures the essence of the standard, would ask students to use comparative and superlative adjectives in context or to communicate or describe a situation effectively in which they were comparing two or more things or situations. The method might involve showing students two pictures and asking them to write about how the pictures are similar and different using comparative and superlative adjectives (for example, *tall, taller, tallest; happy, happier, happiest*). This points to one of the most essential aspects of assessment design—matching the verb in the learning goals (in this case, *form* and *use*) to the method of assessment in order to get accurate evidence of student understanding (Stiggins et al., 2004).

Some might ask, “Shouldn't we be getting our students used to standardized test formats?” It is unnecessary and counterproductive to shape the form of every assessment to reflect that of a standardized test. While students need some practice in taking these types of tests, too much practice can lead to bored students who are disengaged and who fail to see how their schooling is preparing them for future success (Allensworth, Correa, & Ponisciak, 2008). In fact, research suggests that using the method of the standardized test frequently does not equate to higher levels of achievement (Wiliam, 2013). When a student asks that classic question, “Why do we have to do this?” the answer has to be more than “Because it will be on the test.” In a balanced assessment system, some time is devoted to practicing the standardized assessment method. The Purpose and Types of Assessment chart (table I.1, page 3) describes benchmark assessments administered two to three times a year that can aid with this preparation. Most classroom assessment is designed to gather high-quality information about students' understanding of the standards for the purpose of communicating achievement at a moment in time (grades or marks) or to inform instructional planning and inspire student growth. The form the assessment takes creates engagement and meaning for students. Using multiple methods over time, intentionally placed, is a hallmark of high-quality assessment practice. Using different types of methods signals to students the relevance, as well as the meaning, of their learning. Chapter 3 describes how to choose methods, along with the strengths and limitations of many different types of student work.

### ***Accounting for Error***

Error in assessment design and use occurs when student performance on an assessment can be attributed to something other than understanding of the learning the assessment was intended to address. The first potential error when designing with precision involves identifying potential for bias—that is, recognizing any assumed cultural and background knowledge students need to succeed. Every assessment makes inferences about a student’s understanding. Making the wrong inferences due to unintentional bias or assumed background knowledge can lead to the wrong conclusions. A collaborative team I worked with examined results from a reading comprehension assessment for an article about geckos. All but one student did quite poorly. When the team asked this student what he thought contributed to his strong performance, he told them he used to live in Guam, where there were geckos crawling all over their walls. The goal of this assessment was to get a sense of students’ reading comprehension, but in reality the assessment was gauging students’ understanding and experience with geckos!

This assessment was intended to be formative. Teachers looked at the student responses and planned instruction for the next day. Given that the student who did well had background information, the team realized that the instruction needed in this situation was more about understanding of geckos. They focused the next day’s classroom instruction around how to engage in a text that addresses a topic with which you do not have much experience. Students re-read the text and worked in pairs to revise their responses on the reading assessment. If the assessment had been summative, meaning teachers were intending to score it and use it as a grade or a mark to show the extent to which students could comprehend text, they would have needed to do another assessment once they had realized that background knowledge was the reason students did poorly. This assessment would not have described student’s reading comprehension. Sometimes we don’t realize the influence of factors like these on achievement until after the assessment; but once we do, we can revise the scoring or use the example as an instructional tool.

Vocabulary is the second type of error to consider, as it can also contribute to misleading assessment information if not intentionally taught and purposefully considered in the assessment design. For example, in science, independent and dependent variables are sometimes called *manipulating* and *responding* variables, respectively. If *manipulating* and *responding* are used in instruction and *independent* and *dependent* are used on the test, students may score poorly not because they do not understand the concept but because of the switched terminology. By being aware of terminology and vocabulary, you can sometimes avoid questions about the validity of the assessment results.

### **Employing Effective Action**

The second of the three design qualities is employing effective action to use and communicate the information derived from assessment information. When a tight alignment exists between formative and summative assessments, there is enough time for students to practice and revise (using formative assessment) before being evaluated on the content, as well as sufficient evidence to communicate achievement (using summative assessment).

### ***Using Assessment Formatively***

Although research suggests that formative assessment has great potential to positively influence student learning (Black & Wiliam, 1998; Dunn & Mulvenon, 2009; Shepard, 2000; Wiliam, Lee, Harrison, & Black,



2004; Wininger, 2005), there is no universal agreement on an exact definition of formative assessment, which leads to a fuzzy picture of how to use assessment to inspire growth (Dunn & Mulvenon, 2009). Significant evidence, however, shows that specific aspects of formative assessment—using descriptive feedback, goal setting, involving students, and essentially, acting on information about student understanding—do support and improve student learning (Hattie, 2009; Hattie & Timperley, 2007; Marzano, 2006). As Wiliam (2011) describes, “Assessment functions formatively when it improves the instructional decisions that are made by teachers, learners, and peers. These decisions can be immediate, on-the-fly decisions or longer term” (p. 45). A key element of this definition is that action must be taken by teachers *and* learners for the purpose of improvement. Teachers use this information to plan instruction, turning the assessment into something that is forming next steps and lesson plans, but it is not just the adults in the situation who are informed and act on assessment information.

In formative assessment practices, when students receive detailed feedback that describes their strengths and next steps, they are required to act on that feedback or analyze their mistakes. It is this action of using the information to improve that makes the assessment formative. Descriptive feedback should lead to students being more independent and better able to assess and comment on their own work, thus sharing with teachers the responsibility of improving their work. Revision, mistake analysis, self-assessment, and goal setting—all are important components of formative assessment that employs effective action.

### ***Using Assessment Summatively***

Using assessment summatively means gathering information about the level of success or proficiency obtained at a moment when you *expect* students to have some level of proficiency on a standard or benchmark (often at the end of an instructional unit but sometimes along the way). Summative assessments can provide strong inferences about a student’s performance at a particular moment in time and are most often reported by points, percentages, a rubric, or a standards-based score. But before summative evidence is collected and used to communicate proficiency, students must have opportunities to practice and improve.

To be effective, the reporting and grading practices associated with summative assessment must clearly communicate academic achievement separately from the evaluation of a student’s behavior and work habits. Grades and standards-based reporting should be seen as a *system* (Guskey & Bailey, 2001, 2010), one in which student progress is communicated to families in a way that leaves ample time for students to improve before the end of the unit or before the quarterly, semester, or trimester report card. Chapter 5 describes effective grading practices that lead to communicating learning more effectively.

Employing effective action is about effectively communicating what the assessment means in terms of student learning and then structuring action based on that information. This is an essential aspect of using assessment to engage students in their learning. When students have more information about what they understand (their strengths) and what they need to do to get better (next steps, revision, mistakes), it gives them hope and power in being able to achieve more. This hope and power is the foundation for motivation and engagement.

## Fostering Student Investment

The third design quality, fostering student investment, intentionally brings students in as partners in their learning. This means they clearly see and understand the connections among learning, homework, tests, instruction, grades, and improvement. With this information, students plan how to move their own learning forward. Students who are invested recognize when they feel confident as well as when they feel unsure. Their mistakes lead them to areas they need to study more, and teachers provide the structure and lessons to ensure that they do so.

Student investment is also built through seeking feedback from students. John Hattie (2009) discusses the power of teachers gathering feedback from students and using it to inform their instruction and assessment practices. In this practice, teachers may informally ask students the extent to which an instructional activity, feedback, or homework assignment influenced their learning or success. Teachers may more formally ask students to reflect on teaching or grading practices. Chapter 5 discusses at more length the type of student feedback teachers might use to inform their assessment practices.

I am intentionally using the word *investment* instead of *involvement* to signal a reciprocal relationship between student and teacher, one that leads to the student taking the reins and beginning to own and value his or her own learning. When students are invested, they:

- Have language to describe their learning
- Have a clear idea of quality and not-so-quality work
- Take action on descriptive feedback
- Revise their work
- Self-reflect on what the assessment means in terms of their learning
- Set goals based on assessment information
- Make an action plan in partnership with teachers to achieve their goals and improve
- Share their work and plans to improve
- Share their thoughts on what helps them learn and what gets in the way of their learning
- Experience the ways in which the learning is relevant and challenging through assessments, instructional activities, and homework that teachers design

Student investment happens in a culture focused on learning. To achieve a classroom where students are invested in their learning, all three design qualities must be intentionally at play. In order for students to invest, the learning must be described and students must see connections between their work and achievement (designing with precision). To invest, students must also experience times when they are practicing, getting feedback, and improving their work (employing action formatively), and then after this growth and improvement, when they see their grade or mark reflect that achievement (employing action summatively), investment begins to grow. As students experience this action, they begin to invest and are able to set meaningful goals and produce relevant work that engages them and creates a desire to want to succeed.

A useful, reproducible checklist, “Review Your Current Assessment With the Three Design Qualities,” can be found on page 134.