It’s a handful of fundamental understandings about the testing concepts and procedures that influence educational decisions. And it just might be the most cost-effective means of real school improvement.

With characteristic humor and aplomb, assessment expert W. James Popham strips away the psychometrician-speak and condenses the complexities of educational testing to six practical and action-oriented understandings about validity, reliability, fairness, score reporting, formative assessment, and affective assessment.

This book is for busy educators at the classroom and leadership levels who want

• Tests that are worth the valuable time they take to administer.
• Tests that accurately measure what students have learned.
• Tests that fairly reflect teacher and school effectiveness.
• Tests that provide the instructionally useful data that will help students learn faster and better.

Assessment Literacy for Educators in a Hurry is the fastest route to acquiring the measurement moxie necessary to understand and advocate for better assessment practices and build a case for stopping the ineffective and harmful ones. In just a few hours’ time, you can pick up the knowledge you need to do a whole lot of good—for your students, yourself, and our schools.
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My dictionary says that a *preface* is an introduction to a book, “typically stating its subject, scope, or aims.” That sounds about right. Accordingly, in this preface, I’ll identify the subject, scope, and aims of the book that you are about to read.

I have written a good number of prefaces during my career, and their length varies substantially. This one will be terser than most, because this book addresses significant stuff, vitally important to the teachers and administrators who are our nation’s educational professionals, and I want you and every other reader to get to the substance of it without delay.

Let’s get the three dictionary-defined tasks for prefaces out of the way. The *subject* of the book is a set of high-priority understandings about educational assessment, understandings that will typically reduce the number and the magnitude of measurement-based mistakes within the world of education. Putting it differently, grasping the six high-priority assessment truths that are the focus of this book will diminish—or eliminate altogether—most of the educational errors triggered by the misuse of educational tests.

Although this book’s *scope* is modest, preoccupied with just six understandings, its impact is potentially vast. That’s because these understandings are educational assessment’s most basic and truly fundamental concepts and procedures. They have direct bearing on the day-in and day-out decisions educators make. These decisions, if made well, will improve the quality of education that our students receive.

Finally, this book’s *aim* is easy to isolate: to help readers who are educators become “assessment literate” as rapidly as possible. To be fair, I gave the aim away in the title. The oft-uttered adage “You can’t judge a book by its cover” is intended to dissuade folks from reliance on surface factors rather than substance. But whether a not-yet-read book is
an espionage novel or a guide to gluten-free dining, the title usually gives a prospective reader a clue or two about the content therein. Such is the case with the book you are currently clutching.

In 2017, Neil deGrasse Tyson published *Astrophysics for People in a Hurry*, a book deftly focused on a set of basic questions about our universe. Because Tyson is a well-known authority who writes with grace and clarity about a fascinating topic, naturally the book scaled the heights of many a best-seller list. And because his identified audience—“people in a hurry”—happens to describe almost every teacher and administrator I know, I thought I might as well pinch that portion of his title. With apologies to Professor Tyson, I believe educational assessment is a whole lot more interesting and relevant to humankind than any stuffy old astrophysics book.

These references to “you” presume I know who you are. I don’t, of course, but when I decided to tackle this sort of book, the folks for whom I imagined I’d be writing were already on-the-job educators—teachers as well as school-district or school-site administrators. I was convinced that today’s educators, most of whom never received formal instruction on testing, needed a short, easy-to-read book covering the fundamentals of educational assessment. The other audience I had in mind was up-and-coming teachers lucky enough to be enrolled in a formal course focused on teaching or testing. If the latter describes you, I’m confident that you’ll enter the teaching force positively luminescent with assessment literacy, and the students you’ll go on to teach will be all the better for it.

The approach I’ve taken in this book reflects my own experiences as an educator. After earning a bachelor’s and master’s degree from a small college, I put in a two-year stint as a high school teacher in rural Oregon. Yet, I’ve spent most of my life being a college professor. Accordingly, when writing about any topic that seems to call for explanations, my natural inclination is to become annoyingly professorial and dish out a flock of explanations as though I were lecturing to a classful of occasionally attentive college students. I have deliberately discarded such a professorial persona for this book. I’ve tried to frame all explanations as though I were simply chatting with a colleague in a faculty lounge and keep my professorial proclivities—blather-laden habits spawned by decades of professing—in check.
Although not required to do so by my dictionary’s terse definition of what a preface is supposed to do, I am herewith seizing the opportunity to thank my ASCD editor, Katie Martin, for her consistently fabulous work in making my words behave properly in all six of the books I have written for ASCD. As always, I owe her my applause and my appreciation.

W.J.P.
July 2018
This is a book about educational testing, written specifically for the classroom teachers and school and district administrators who keep our schools running. In this very first chapter, I’ll tell you what the book is about—and why the topics it treats are so important to me, to you, to your colleagues, and to the entire nation.

As many teachers and administrators did, I chose a career in education because I wanted to help young people learn—individual children, of course, but also children collectively. Although a high-quality education for the individual child is the ultimate goal of schooling, folks who are ambitiously minded think in more macro terms. What we want is a high-quality education for every child. If we are practical as well as ambitious, we try to figure out how to make that a reality. Now, after a lengthy career, I am convinced that the single most cost-effective way to improve our nation’s schools is to increase educators’ assessment literacy.

I suspect that my “most cost-effective” improvement claim might strike you as overstated, but I really think it is stone-cold accurate. To illustrate, if we were somehow able to double the salaries of those in the teaching profession, we would soon find flocks of talented young men and women signing up to become teachers; in time, those talented new teachers would have a positive impact on students’ learning. Yet, doubling teachers’ salaries would cost a nontrivial chunk of change.
Similarly, if we could reduce by half the number of students that each teacher must instruct, the resultant smaller class sizes would likely lead to learning improvements. But, as was true with my salary-doubling fantasy, any meaningfully reduced class-size strategy would be expensive—probably prohibitively so.

It is because cost constraints often deter us from taking powerful actions to improve education that I believe a book touting a truly cost-effective strategy to improve our schools deserves attention. Increasing assessment literacy is just such a strategy. It requires no state budget-busting revision of school funding formulas; it only requires educators to learn something new. When assessment-literate educators make educational decisions based on appropriate assessment-elicted evidence, the resultant decisions will almost always be more defensible—meaning, more likely to improve students’ learning.

That’s why the content of this book matters to me, and why I think it should matter to you and to all of us.

Before we dig in deeper, I want to pause for questions. Specifically, here at the outset I want to explore four questions in a way that will provide a framework for the entire book:

1. What is assessment literacy?
2. Why aren’t educators already assessment literate?
3. Why should educators become assessment literate?
4. How can an educator become assessment literate?

By the close of this chapter, I hope that you’ll have arrived at your own answers to these four questions. Oh, to be sure, I hope your answers will resemble mine, but modest differences are certainly tolerable.

**What Is Assessment Literacy?**

Here is the definition of assessment literacy that I’ve been ladling out in my writing for the past two decades:

> Assessment literacy consists of an individual’s understanding of the fundamental assessment concepts and procedures deemed likely to influence educational decisions.

Because this whole book revolves around the concept of assessment literacy, let’s make sure we agree on what the key components of this definition mean.
Which Fundamental Assessment Concepts?

First off, you’ll note that the definition centers on an individual’s “understandings of fundamental assessment concepts and procedures.” What are these fundamentals, anyway?

Well, for openers, we can look at a pivotal term in that phrase: *assessment*. In this book, I’ll be following the lead of most educators today who use the terms *assessment*, *test*, *exam*, and *measurement* interchangeably. Yes, a few writers attempt to squeeze some subtle distinctions from certain of those labels, but I typically don’t. For many adults, of course, the term *test* evokes an image of the paper-and-pencil exams that they were obliged to complete when they were students themselves. Then, too, the label “measurement” often conjures up images of determining distances (from short ones to interstellar ones) or calculating weight (from slight to substantial). Perhaps the avoidance of such preconceptions is why the label “assessment” currently sits atop today’s testing-synonyms usage rankings. It is seen to be the most generally applicable descriptor, and it is accompanied by less extraneous or contaminating baggage.
Educational assessment, then, can be used to describe the full range of procedures that we employ to determine a student’s status—for instance, how well students can wander in the world of algebra or how skillfully a student can slug it out with science concepts. In the pages to come, if you occasionally find me using the terms measurement, exam, or test rather than assessment, please know that I am not trying to nudge you toward some sort of cleverly nuanced assessment truth. It’s more likely that I simply became tired of using the A-word.

But what about the L-word? Assessment literacy is less akin to “literacy” in general—the ability to read and write—than it is to competence and knowledge in a specific arena, such as “wine literacy” or “automotive literacy” or “media literacy.” As stated in the definition presented just a few paragraphs ago, the basics of assessment literacy are fundamental assessment concepts and procedures—those that are truly foundational. In this setting, concepts refer to such measurement notions as validity, reliability, and fairness. Procedures refer to the techniques or methods commonly used to build or evaluate tests—for instance, the techniques employed to identify test items that are biased against certain subgroups of test-takers.

Decision-Influencers Only

As you can see, assessment literacy is not centered on just any old run-of-the-mill collection of fundamental concepts and procedures; it deals exclusively with the handful of fundamental concepts and procedures likely to have an actual impact on educational decisions that can change children’s lives.

Although the stakes are high, an encouraging feature of assessment literacy is that it focuses on just the decision-influencing basics of educational measurement. Grasping these is an eminently manageable task.

Why Aren’t Educators Already Assessment Literate?

After this little bit of delving into the nature of assessment literacy, you might be wondering about the degree to which today’s educators are familiar with the concepts and procedures of educational assessment you’ll be reading about in the pages to come.

It is a good wonder, and it’s a suitably timed wonder for this first chapter. Sadly, an enormous number of today’s educators are not
assessment literate. They simply do not understand the fundamental concepts and procedures of educational testing.

**Assessment Literacy Initiatives**

I’m not the first person to point this out. Governmental groups such as state departments of education and nongovernmental organizations including the National PTA and the National Association of Elementary School Principals (NAESP) have launched numerous initiatives directed toward enhancing the assessment literacy of educators, educational policymakers, students’ parents, and even students themselves. But most of those efforts have only been undertaken in recent years, so we are unlikely to see a substantial boost in assessment literacy among these targeted groups any time soon.

At present, many observers conclude that the target audiences most in need of enhanced assessment literacy are the nation’s teachers and educational administrators. The more knowledgeable that these pivotal people are about educational testing’s basics, the more readily they can share their assessment-related insights with other individuals, such as the school board members who govern our schools or the parents of the students our schools serve.

It has often been said that “a little knowledge is a dangerous thing.” As with most such maxims, at least a wisp of wisdom resides therein. When people know a little bit about something, they frequently believe they know more about it than they actually do. Thinking they’ve acquired all they need to know, they’re disinclined to pursue the topic further and, thus, are all too ready to proffer advice well beyond what they should be proffering.

Far too many of our nation’s educators are caught in this trap of knowing too little about assessment yet believing it’s enough. These are professionals, and many have been so for years. They write tests, formal and informal. They administer tests regularly, both tests of their own design and tests provided by external, expert sources. They look at test results and make decisions about what these results mean. It’s all going fine. What could they be missing? What more is there to know?

**Problems in the Midst of Progress**

We are now beginning to see a meaningful uptick in the number of states that require teachers to complete a formal course in educational
measurement during their teacher-education days. Yet, and this is a yet well deserving of its italicization, many of these teacher-preparation courses are taught by professors who are measurement specialists. The courses they design are filled with debatably relevant, sometimes-obscure assessment content. Where they ought to be serving up only the most decision-influencing content, they swamp prospective teachers with impractical measurement esoterica. Putting it candidly, at present we can’t automatically conclude that a newly minted teacher, even one with an educational measurement course under his or her belt, is actually assessment literate.

Nor are educational administrators immune from the adverse consequences of assessment illiteracy. In many locales, most of the individuals who have completed training to become certificated educational administrators were not required to take even a single course in educational assessment. And if they were, there’s a high likelihood that the course they completed was more in line with the technical interests of the measurement maven who taught the course than with the practicalities of how real-world educators should measure the progress of real-world students.

What I am contending here, then, is that it is a profound mistake to assume that the teachers or administrators with whom you interact are, themselves, assessment literate. They may indeed, through no fault of their own, be ill-prepared to make many of the most important instructional decisions they face. They think they know “enough” about assessment, but most of them don’t.

An Author’s Confession

And just so you don’t think I’m using this printed-page platform to belittle my colleagues, I am putting myself right up there near the head of the “He Thought He Knew” queue. You see, when I was preparing to become a high school teacher, I never received any meaningful instruction regarding the fundamentals of educational measurement. Exactly three class-sessions of a required educational psychology course I took were devoted to the care and feeding of multiple-choice test items, but this was all that I and my fellow teachers-to-be got.

Thus, when I began teaching my first students, what I drew on to devise my own classroom tests was my recollection of the tests that I
had personally taken as a student. Some of those tests were solid; some were shabby. For fully the first half of my career as an educator, I really had nothing to do with educational testing, preferring instead to focus on the instructional side of teaching. Like most, I assumed that I knew “enough” about testing, and that loftier levels of understanding were the provenance of measurement specialists, *psychometricians* specifically trained to successfully wrestle assessment problems into submission.

It was only when test scores began being used to make high-stakes decisions about students and schools—often important and sometimes-irreversible decisions—that I belatedly recognized the significance of testing’s impact on teachers’ day-to-day instruction. In short, for much of my own career, I was every bit as indifferent to what went on inside the testing tent as are many of today’s teachers and administrators. I realize all too well what it is like to be assessment illiterate.

Quickly, about that label—“assessment *illiterate.*” It’s rare for productive educational conversations to ensue when someone who is less than expert about a topic is described in terms that could be perceived as derogatory or offensive. I have reservations about employing this term and discourage its use. It won’t appear in the book beyond this introductory chapter.

**Dispensation and a Promise**

Because it is likely that you are an educator, I want to take a moment to disabuse you of what might be characterized as “entry guilt.” If you are feeling remorse because you are not *already* assessment literate, I’d like to dispel that right now. It’s not your fault, and you have plenty of company. Besides, by reading this book, you’re putting yourself on the path to where you need to be.

**Why Should Educators Become Assessment Literate?**

The overriding purpose of this book is to help educators understand a handful of measurement concepts and procedures so that they can apply them properly to make sound instructional decisions and improve the quality of education that their students receive.

Moreover, becoming assessment literate will pay off personally for educators. The more they understand about the basic notions and processes that play a prominent role in educational decision making, the
more likely it is that they will opt for the best choice among those decision options they face. These more defensible decisions will benefit the students under their care. They will make educators better educators—and this is something others will notice. Put candidly, if you are assessment literate, the odds increase that you will be regarded as a successful educator because—in fact—you will be a successful educator.

Making good decisions means avoiding mistakes, and the kinds of mistakes that assessment-illiterate teachers and administrators make fall into three categories: (1) using the wrong tests, (2) misusing results of the right tests, and (3) failing to employ instructionally useful tests. Let’s dip into brief explanations and a few examples of these three mistakes right now.

Using the Wrong Tests

One of the most serious mistakes made by educators—particularly influential educators such as district or state superintendents—is to evaluate other educators’ instructional success by leaning heavily on the scores students have earned on standardized tests. What you will learn later on in this book is that most of today’s standardized tests are accompanied by no evidence that those tests are suitable for such an important evaluative mission. Many standardized educational tests provide technical evidence of one sort or another—for instance, how consistent students’ scores are when a test is completed at different times during the school year. But those very same standardized tests being used to evaluate our schools supply no evidence whatsoever that students’ scores can be used to accurately identify teachers’ instructional effectiveness. Consequently, the determination of whether particular schools are effective or not, and the resultant decisions on follow-up actions to take or not take, are almost certain to be incorrect.

Thus, we see strong schools, having been incorrectly judged to be weak according to the wrong tests, directed by higher-ups to modify their “unsuccessful” instructional approaches. Or we see truly effective schools forced to abandon methods that are working well for their students because the wrong tests are incapable of detecting the progress students are making. Conversely, we sometimes see weak schools being regarded as strong simply because their students, who come from families sporting a higher socioeconomic status, learned in the home
what they are not learning in school. If *appropriate* evaluative tests had been used, such weak schools would be accurately identified, and their instructional shortcomings could be sensibly addressed.

The evaluation of schools and teachers according to students’ scores on a test that is flagrantly wrong for the task is a particularly vexing mistake because it is such a readily correctable one. To evaluate the effectiveness of schools or teachers accurately, we simply need to use tests that evidence indicates are appropriate for this evaluative function.

**Misusing Results of the Right Tests**

A second commonly encountered measurement-related mistake is misapplication—when tests that are appropriate for one purpose are inappropriately used for another purpose. This is a more complicated issue, because there is nothing fundamentally flawed about finding a new use for a test that was developed to serve a different specific purpose. However, we can’t automatically assume every educational test is all-purpose. It is *always* necessary to collect convincing evidence that a
test built specifically for one measurement mission is suitable for satisfying a different one.

Here is a common illustration of this second kind of measurement mistake. At three different points over the school year, Ms. Miller’s 5th grade students complete a 40-minute mathematics test that samples the content to appear on the year-ending standardized mathematics test. Ms. Miller is using an interim test, an assessment administered several times during the academic year in slightly different forms (versions) to the same students—usually in the same classroom or, possibly, in all classrooms at the same grade level in a school. Interim tests can be developed by local educators, but these days, such tests are often created and marketed by commercial testing firms.

The specific intention of this test, according to the test’s publisher, is to help teachers make “more accurate predictions about students’ future academic performances.” Specifically, students’ scores are intended to help teachers like Ms. Miller identify which of her students are likely to pass (or fail) the state’s one-hour, end-of-school-year standardized accountability exam in mathematics. To create an interim test that will support accurate predictions of end-of-year test performance, the assessment firm carefully samples the full range of 25 math skills measured by the annual accountability test. However, a consequence of this comprehensive content coverage is that the many of the skills appearing on the end-of-school-year accountability test can be assessed by only one or, at most, two items on each form of the interim test. Given that the test must be completed by 5th graders within a single class period, there’s no room to include more.

Fast-forward to Ms. Miller classroom, where the test creators’ careful alignment and expert sampling has paid off. For the past few years, each of the three equivalent forms of the interim test have done an accurate job of predicting how well her students will perform on the spring accountability test. Now, in September, with the first set of interim test scores in front of her, Ms. Miller is planning an intervention. She intends to focus her remedial instruction on each student’s distinctive weaknesses, so she makes a list of which test items each student answered incorrectly and which skills those items sample. In other words, she is making judgments about each student’s skill mastery based on that student’s performance on the one or two items that correspond to that skill.
She is using a *predictor* test as an instructionally *diagnostic* test—something it was not intended to be.

As we’ll explore further in Chapter 3, arriving at a sufficiently accurate inference about a given student’s *per-skill* mastery based on that student’s performance on *only one or two items* is patently indefensible. It’s an example of when an educational assessment that is marvelous for one purpose can easily lead to erroneous educational decisions when it is used for a different purpose.

**Failing to Employ Instructionally Useful Tests**

During the past two decades, educational researchers have assembled a boatload of convincing evidence leading to an essentially uncontested conclusion: when classroom assessments are employed to monitor students’ learning—so that teachers and students can determine whether any adjustments are needed in what’s going on—students learn far better than they would otherwise.

Usually referred to as “formative assessment” or “assessment *for* learning,” this *instructional* use of educational assessments will be addressed in Chapter 6. Yet, before we get there, I want you to consider a straightforward, double-if-then proposition: *If* there is evidence that classroom assessments, when used as part of the formative assessment process, can emphatically contribute to greater learning by students, and *if* such assessments are *not* being used for such a praiseworthy purpose, *then* we have arrived at our third category of mistaken uses of educational tests.

Assessment-literate educators know the value and use of formative assessment. They tend to make more appropriate decisions about which tests to use to gain insight into students’ learning progress and how to employ the results of such tests. Educators who are *not* assessment literate tend to make inappropriate decisions about which tests to use and how to employ test results to improve instruction and learning. Assessment literacy, in short, improves the likelihood that the students we serve will receive a better education. And this, of course, is an aspiration well worthy of our pursuit.

Figure 1.1 illustrates the sequence of events that typically take place when educational decisions are made by assessment *literate* versus assessment *illiterate* educators. As the graphic indicates, the targeted
dividend from educators who make more appropriate decisions is the improved education of students. If you ask me, this is the only reason for educators to muck around with measurement in the first place.

**FIGURE 1.1 | Consequences of Assessment Literacy and Illiteracy**

![Diagram showing the consequences of assessment literacy and illiteracy]

**How Can an Educator Become Assessment Literate?**

The fourth and final question to be addressed in this opening chapter deals with how to cope with the current reality in which many more teachers and administrators need to become assessment literate. Perhaps, if you wish to personalize this question just a smidge, you might think of it as how can you become assessment literate—and quickly?

I believe you can do it simply by engaging in a one-night, two-night, or one-weekend reading of this book. Let me briefly lay out my game plan for the chapters to come. It represents my best sense of how to move from assessment illiteracy to assessment literacy in a heck of a hurry.

I’ve already asserted that assessment literacy hinges on an individual’s understanding of the basic assessment concepts and procedures.
likely to have an impact on educational decisions. What I have not
delved into is who decides which concepts and procedures ought to go
into assessment literacy’s “must be understood” backpack? The answer
to this question hinges on human judgment.

It might surprise you to hear that the field of educational assessment,
often assumed to be a tightly tied-down technical arena constrained by
quantitative considerations and dependent on decimal points, is awash
with human judgment. But it is. Indeed, the more one learns about edu-
cational assessment, the more one sees that judgment-based decisions
surround us when we test students and use their responses to arrive at
next-step educational actions.

In this book, the judgment you’re relying on is mine. Over the 65
years I’ve been professionally engaged in education, my most serious
career muck-ups have arisen from my asking educators to tackle too
much at one time. Because of my frequent brushes with the adverse
consequences of such excessive aspirations, I have become a staunch
adherent of a less-is-more credo. So, even though the concepts and pro-
cedures related to educational assessment are myriad—potentially num-
bered in the hundreds—my less-is-more approach inclines me to select a
small, readily internalizable set of educational assessment understand-
ings to constitute the essence of assessment literacy. I have chosen six
assessment-related concepts and procedures for you to understand and
act upon.

These six anointed understandings were born from an even more
authoritative source: the assessment-related guidelines in the most
recent (2014) edition of the Standards for Educational and Psychological
Testing, a joint publication of the three U.S. professional associations
most concerned with educational assessment: the American Educa-
tional Research Association (AERA), the American Psychological Asso-
ciation (APA), and the National Council on Measurement in Education
(NCME). The book is widely regarded as representing the best current
thinking of leaders in the nation’s educational measurement commu-
nity. In fact, this volume (often called the Joint Standards because of its
three collaborating sponsors) is usually referred to—and, more impor-
tantly, deferred to—in courtroom litigation involving educational tests.
It also plays an influential role in the way tests are developed and eval-
uated. What’s recommended in the Joint Standards is generally seen to
represent “best educational assessment practices,” and if commercial test firms do not follow its guidelines, those firms might find themselves in court defending their tests.

The *Joint Standards* is an enormously useful collection of assessment standards—“should do” and “shouldn’t do” directives—for the promotion of assessment literacy. But it’s also an *enormous collection*, period. Because the *Joint Standards* was developed by a prestigious committee of assessment luminaries who took over five years to complete their work, it is not surprising that the most recent revision of this document includes not only high-import aspects of educational assessment but also content that’s of interest chiefly to assessment specialists.

The six assessment-related understandings you’ll be encountering in this book represent my personal judgment about the most practical, action-influential concepts and procedures addressed in the *Joint Standards*. When you have internalized these six high-priority understandings, you will be *assessment literate* and well equipped to make the assessment-based educational decisions that you are likely to confront in your district, your school, or your classroom. That’s not bad for a one-night, two-night, or one-weekend read!

**A Final Introductory Heads-Up**

Each of the next six chapters is organized around a single assessment-related understanding. Each begins with clarification of why the particular concept or procedure treated therein warrants an educator’s thorough understanding. A colleague-to-colleague explanation, called “Understanding the Understanding,” follows. In it, I’ll delve into each understanding’s component complexities.

Next, these chapters move on to a section called “The Understanding’s Application,” which presents a realistic scenario of a decision that would be best made by invoking the specific assessment-related understanding just featured. You’ll have an opportunity to reach a personal decision regarding your own response to this exercise; then I’ll provide my take on that same problem (“Jim’s Decision”). Your decision in dealing with the exercise, of course, need not agree with mine; indeed, any differences between our judgments should be considered territory for further exploration. The goal here is to let you practice applying the
assessment understanding. Again, the promotion of your *actionable* comprehension of these six understandings is this book’s chief aim.

Chapters 2 through 7 all conclude with a section called “For the Truly Time-Pressed,” which provides a bare-bones summary of the chapter’s featured understanding. It’s a ruthless compression of the content to its minimum essentials—a good set of reminders that’s easy to refer to, discuss, and even share with colleagues, should you complete this book with an inclination to take part evangelistically in the promotion of assessment literacy.

The book’s final chapter is a mite atypical for such wind-down chapters. It first provides you with a skinny synthesis of what went on in the preceding seven chapters. That, of course, is not so unusual. But it also presents you with a collection of four brief essays—a short stack of verbal kindling that you might employ to light an assessment-literacy bonfire under some of your coworkers. Accordingly, then, Chapter 8 is entitled “Wrapping Up, Reaching Out,” because it is intended to supply you with a squished overview of the earlier seven chapters as well as one tangible way of personally spreading the word regarding educational assessment.

When you have finished reading the book, putting it aside with both reverence and sadness because there are no more chapters to read, you can employ two different sorts of “mental checks” to determine if your own level of comprehension is truly satisfactory:

- **Do you know when to use each of the book’s assessment principles?** First, you’ll need to estimate whether you are sufficiently comfortable in your mastery of every chapter’s assessment-related understanding so that, if you were to be confronted with an educational decision, you’d know right away if it would help you make the impending decision. I call this check *influence judgment*. It’s about using an understanding to influence an educational decision.

- **Can you explain these principles?** Second, you’ll want to ask yourself if you understand each chapter’s assessment-related understanding well enough to explain it to others. Do you grasp it well enough to supply a colleague with a reasonably clear explanation of the understanding, aloud, in writing, or via whatever mode of explanation—from PowerPoint presentation to puppet show—suits your audience? This check is about expanding the influence of your assessment
understanding and building assessment literacy where it is needed. It is needed everywhere.
Let’s get started.
OP-ED ESSAY NO. 1

USING THE WRONG TOOLS TO APPRAISE EDUCATIONAL QUALITY

W. James Popham
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Everyone wants children to be well educated. Accordingly, for more than a half-century, U.S. federal and state policymakers have been carefully trying to evaluate the quality of our nation’s schools. Regrettably, the bulk of those evaluative efforts have failed miserably. That’s because—with few exceptions—we have been using inappropriate tests to measure how well our students have learned.

Whether the focus of an evaluation is a state’s entire school system or a particular school’s effectiveness, the chief evidence that’s employed to determine educational quality are students’ scores on achievement tests, such as the annual state accountability tests required by federal law. Clearly, the quality and quantity of what students have learned in a school should be a dominant determiner of that school’s success. Yet, almost all the tests we have currently chosen to evaluate our schools are flat-out wrong for this mission.

To do an accurate job of evaluating the quality of instruction within schools, a test must be “instructionally sensitive.” In other words, it must be able to distinguish between well taught and badly taught students. However, if you were to review the technical documentation accompanying the standardized achievement tests we now employ to evaluate our schools, you would find there is no evidence—none at
all—that these tests are up to that important assignment. Chiefly, this is because they are not measuring what we assume they are measuring.

This mismatch has historical roots. During World War I, U.S. Army officials commissioned the American Psychological Association to construct a written exam for recruits—an intelligence test to help identify potential lieutenants to lead the troops in France. They wanted an aptitude test to identify “the best of the best.” The resultant test was called the “Army Alpha,” and it was administered to about 1,750,000 Army recruits. It presented them with a set of verbal and numerical multiple-choice tasks, then sorted test-takers by comparing their total test scores; those who scored the highest were sent to officer training programs.

The Army Alpha was a hands-down winner, and much of its success stemmed from its design. The difficulty levels of items were expertly varied in a way that spread out the resulting scores so that fine-grained distinctions could be made among test-takers.

After the war, large-scale testing was introduced to U.S. education in the form of standardized achievement tests intended to measure students’ mathematical, language, and social studies knowledge. These tests were built using the same score-spreading procedures pioneered during the Army Alpha’s development. One crucial element of those procedures was the inclusion of numerous items that many test-takers would answer differently.

One of the very best ways to ensure that a test item produces varied responses is by linking the options in multiple-choice items to students’ levels of affluence. If some answer-choices contain content that’s likely to be familiar to children whose families’ wealth provides more diverse experiences, those affluent students will get more correct answers than will their less affluent classmates. The Army Alpha included these kinds of items, and such items continue to be featured in the tests used to evaluate schools today. Although such affluence-slanted tests may do a crackerjack job of spreading out scores so that students can be compared, those tests tend to measure where a school’s students are socioeconomically. In short, the tests used to evaluate schools often assess what students bring to school, not what they are taught once they arrive.

The work of America’s educational test development firms is guided by the Standards for Educational and Psychological Testing, a joint publication of the three U.S. professional associations most concerned with educational assessment: the American Educational Research Association, the American Psychological Association, and the National Council on Measurement in Education. These standards carry great weight both in the field and in courtroom contests involving educational tests. The most recent edition of these standards, published in 2014, makes it unambiguously clear that when a test will be used for an important purpose—such as evaluating schools—there must be convincing evidence indicating that
the test’s score-based interpretations will be accurate, that is, valid. There must also be convincing evidence that the test has been designed to perform the job that we intend it to perform.

Because a test that’s not instructionally sensitive can make weak schools look wonderful and stellar schools look shoddy, we dare not use instructionally insensitive tests to evaluate the quality of our schools. They are the wrong tools for the job. Better tests can be built for this crucial measurement mission. They must be.

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OP-ED ESSAY NO. 2
PHONY ADVERTISING: INSTRUCTIONALLY BENEFICIAL STANDARDIZED TESTS

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It is a commonly held view, not only by educators, but also by the public, that standardized educational tests are a useful way to determine students’ achievement levels and evaluate educators’ effectiveness. Most people also believe standardized tests can also supply data that make a meaningful contribution to teachers’ instruction—showing them where, for example, student knowledge is lacking and where additional teaching is required. Sadly, there is much more belief in the instructional virtues of standardized tests than there is evidence to support their use for instructional purposes.

To understand why the instructional promises of standardized educational tests outstrip their actual instructional contributions, we must first recognize an important reality about standardized tests. Whether it’s an achievement test intended to measure students’ current knowledge and skills, or an aptitude test employed to predict students’ future academic performances, every standardized test is designed to spread out students’ scores so that meaningful comparisons can be made among all who take it. It is this quest for comparative test scores that has led most standardized educational tests to be essentially useless for instruction. Let’s see why.

What a teacher wants from a test is actionable information. In other words, when a teacher looks at a student’s score on a test—or the collective test scores of many students—what that teacher wants to see are results that provide information about what to do next. For example, if certain students in an elementary teacher’s class are struggling with subject-verb agreement, the teacher needs to know which students are having this trouble. Once those students are identified,
the teacher can provide the strugglers with some targeted instruction about subject-verb agreement.

The instructional payoff of an educational test, whether it is a nationally standardized exam or a teacher-made classroom test, is that the test’s results help teachers decide their best next steps. Yet, the inherently comparative mission of standardized educational tests meaningfully mucks up such tests’ instructional contributions. A test focused chiefly on coming up with comparative scores is a test unable to make optimal contributions to a teacher’s instructional decision making.

For any test to really help teachers make suitable “what-next” instructional decisions, that test’s results need be reported at an appropriate “grain size.” If the report’s grain size is too broad, such as a test score indicating whether the student “can read with comprehension and understanding,” the teacher can’t discern where to aim next-step instruction. If the report’s grain-size is too narrow, such as indicating whether a student answered each item correctly or incorrectly, the teacher becomes overwhelmed with too much undigested item-by-item information. Selecting an instructionally appropriate grain-size for a test clearly requires a Cinderella, “just right” decision.

Although it is possible to build standardized tests so that they describe students’ performances at a suitable grain-size, this is incredibly difficult to accomplish. After all, these tests aim to measure students’ mastery of a meaningful expanse of content while also attempting spread out students’ scores to permit comparisons. The comparative thrust of standardized tests—whether they are aimed at achievement or aptitude—simply beclouds the instructional utility of those tests.

Whether such falsely labeled “instructionally helpful” standardized tests are being peddled by commercial testing companies or by state and district education officials, users must not be swayed by their pro-instruction promises. Yes, if one deliberately sets out to provide educators with instructionally actionable next-step information, it is possible to construct tests that can help teachers teach better. But to do so effectively, a standardized test would need to downplay its traditional mission of providing results that compare test-takers.

In short, standardized tests purporting to help teachers provide improved instruction need to be accompanied by solid evidence that they do indeed serve that promised function. Absent this evidence, we must recognize the claims as what they are: sales pitches.

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OP-ED ESSAY NO. 3
FORMATIVE ASSESSMENT: A MAGIC BULLET WAITING TO BE USED

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Classroom formative assessment is a surefire way for teachers to improve their students’ learning. Yet, despite massive evidence indicating that this test-based instructional approach works, too few teachers are currently using it. How come?

Before digging into the potential reasons that formative assessment is being seriously underused in our nation’s schools, let’s agree on what formative assessment is. Consonant with the findings of an enormous amount of careful research conducted over the past four decades, most proponents of this assessment-illuminated instructional approach have agreed on a definition. Formative assessment is a planned process in which assessment-elicited evidence of students’ status is used by teachers to adjust their ongoing instructional procedures or by students to adjust their current learning tactics. It is not a kind of test but a way of periodically employing tests to determine how well students have learned something and then looking at the test data to decide what classroom-based changes might support better learning.

Recent reviews of related research covering more than 4,000 investigations confirm that formative assessment works—big-time. One reviewer concluded that formative assessment, implemented well, can effectively double the speed of student learning. Certainly, doubling the speed of students’ learning is an aspiration worthy of pursuit.

This is what the formative assessment process typically looks like. First, a teacher identifies an important target curricular aim that students should master. This can be a body of significant knowledge, such as the origin and meaning of the Bill of Rights, or an important cognitive skill, such as essay writing or hypothesis testing. Next, the teacher isolates key building blocks that students must definitely master on their way to achieving the target curricular aim. There might be only a handful of building blocks for a short-term instructional sequence but more such building blocks for extended-duration instruction. The entire sequence of instruction for promoting students’ mastery of a given curricular aim might take just a few weeks, or it might require several months of instruction.

Toward the end of the instruction aimed at each building block, the teacher typically uses a teacher-made test or some other kind of performance evaluation to see if the students have mastered that skill or body of knowledge. If they have, yahoo! Instruction moves on to the next building block. But if they haven’t, the teacher makes an adjustment in the planned instruction and tries a different approach to teach the tough-to-master building block. Based on the test data,
students, too, might alter the ways they are trying to learn what’s embodied in the building block.

Take a step back, and it becomes clear that formative assessment is a classic ends-means strategy—something human beings have been successfully employing since our earliest days on the planet. If a desired end (a target curricular aim) is not being attained by the means chosen to achieve it (a teacher’s instructional approach or a student’s learning approach), another means is selected to do the job. The habit of conducting ongoing checks on students’ progress at key points and making adjustments when progress is stalling leads to more effective instruction and surer learning outcomes.

So why is something that works so wonderfully well, and has been highly touted in education circles for more than a decade, used by so few of today’s teachers? Opinions about this vary, and mine may be miles off the mark. Yet, my suspicion is that many teachers who have tried to employ the formative assessment process simply found it to be too much trouble.

There is no denying the work involved. The process calls for carefully analyzing what a target curricular aim’s enabling building blocks are, sequencing the building blocks in a logical learning progression, developing and administering assessments to determine students’ building-block mastery, and determining from students’ performances whether instructional adjustments are needed. And then, if adjustments are required, the teacher must figure out how to modify the planned instructional approach to better promote building-block mastery. It is easy to see why all this trouble can rapidly extinguish even a well-intentioned teacher’s enthusiasm for formative assessment.

If I am correct about why formative assessment is underused, the potential solution strategy might be boiled down to one word: prioritization. If classroom teachers commit to using the formative assessment process only when pursuing a handful of their most important curricular aims, they can lower their risk of burning out, stick with the process, and reap the research-ratified rewards. When the learning-boosting power of formative assessment is trained on the highest-priority learning outcomes, everyone benefits—students especially.

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OP-ED ESSAY NO. 4

THE MOST COST-EFFECTIVE WAY TO IMPROVE OUR SCHOOLS

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Everyone wants our schools to be winners. What society would not want its schools to be as effective as possible? From an egalitarian perspective, we recognize education as a means of maximizing the inherent potential of our children. Aristotle once opined that the greatest metaphysical evil of all was an unattained potential. And Aristotle was smart.

From a more political perspective, members of a society are well served whenever their schools do a superb job of teaching children. That’s because the cherished values that keep a society running—values like democracy, hard work, and responsibility—are more apt to be transmitted to the next generation when the society’s schools are sailing along successfully. Clearly, it is in a society’s self-interest to make sure its schools are effective.

And this is one reason why the United States has undertaken numerous initiatives over the years to strengthen the quality of public schooling. Some of those initiatives have worked; many have not. But there is currently one school improvement strategy sitting quietly on the shelf, as yet untried. It’s an approach that could be, hands-down, the nation’s most cost-effective way to improve our schools.

This economical school-improvement strategy is to enhance educators’ assessment literacy—that is, to improve educators’ understanding of the handful of fundamental assessment concepts and procedures that will support better instructional decision making. Once equipped with this insight, educators can share it with others who have a stake in the effectiveness of our schools—namely, parents, policymakers, and students themselves. Assessment literacy represents a little knowledge that, if used sensibly, can promote gobs of goodness in our schools. And the reason is simple: better instructional decisions lead to better-educated students.

Obviously, there are other avenues to school improvement. We could double teachers’ salaries so that tons of more talented young men and women would want to become teachers. We could dramatically reduce class sizes so that teachers could provide more one-on-one attention to individual students. Both approaches would likely boost school success, but both would be prohibitively expensive and difficult to enact in all communities.

In contrast, the promotion of educators’ increased assessment knowledge costs a relative pittance. It can be done everywhere, and it can immediately inform
test-based decisions that affect how our schools are operating, how our teachers are evaluated, and how our students are learning.

Consider that in almost all states and districts throughout the country, there are judgments being made about the instructional caliber of individual schools, and those judgments are based chiefly on students’ performances on standardized achievement tests. But the tests being used for these evaluative purposes were never designed to perform that role, meaning test-based conclusions about which schools are good and which schools are bad are often baseless. Educators who are assessment literate can point out this fallacy and help put an end to such testing malpractice.

Well-designed tests—whether they target aptitude or achievement, are teacher-made and used in the classroom, or are standardized and required throughout an entire district—generate data that educators can use to infer what students know and can do. These insights allow educators to make comparisons among test-takers, improve ongoing instruction and learning, or evaluate instructional quality. But very, very few tests can generate data to support more than one of these missions at a time. Assessment-literate educators understand which kinds of tests to use for which purposes and how to interpret those test scores. Because the test-based conclusions they draw are apt to be accurate, the resulting actions they take to improve learning are more likely to be effective.

As another example, many of the standardized tests employed in schools are developed by commercial testing companies and sold to schools as a means of improving instruction. Yet, when students’ test scores are returned to the schools, those results arrive in such excessively general terms that no one—not teachers, students, or parents—can figure out which instructional actions to take next. At the other extreme, some testing companies deliver score reports that provide a set of individual responses for every student, one item at a time, for teachers tasked with educating dozens if not hundreds of students every day. Making sense of such data is an overwhelming task, often sidelined by teachers’ imperative to attend to student needs that are easier to diagnose. Assessment-literate educators know how to demand standardized tests that provide better, clearer, instructionally useful score reports.

If a sufficient number of assessment-literate educators call on educational officials to immediately halt today’s harmful misuse of educational tests and reliance on unhelpful ones, those tests can be replaced by more suitable ones. But only educators who are themselves assessment literate will know whether the replacement tests are, in fact, suitable.

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REFERENCES


ABOUT THE AUTHOR

W. James Popham is a professor emeritus in the UCLA Graduate School of Education and Information Studies. He has spent the bulk of his educational career as a teacher, first of English and social studies in a small, eastern Oregon high school and later at UCLA, where he spent nearly 30 years teaching instructional methods to prospective teachers and graduate courses in evaluation and measurement.

At UCLA, Dr. Popham won several distinguished teaching awards, and he was recognized in January 2000 by UCLA Today as one of UCLA’s top 20 professors of the 20th century (a full-length century, he notes, unlike the current abbreviated one). In 1992, he took early retirement from UCLA, influenced in no small part by the free parking guaranteed to emeritus professors.

Dr. Popham has published more than 200 journal articles and more than 30 books, many of which have been translated into Spanish, Portuguese, Arabic, French, Farsi, Chinese, Japanese, Korean, and Canadian. His most recent books include Classroom Assessment: What Teachers Need to Know, 8th ed. (2017), The ABCs of Educational Testing: Demystifying the Tools That Shape Our Schools (2017), Evaluating America’s Teachers: Mission Possible? (2013), Mastering Assessment (2011), Everything School Leaders Need to Know About Assessment (2010), Transformative Assessment (2008), and Assessment for Educational Leaders (2006).

Dr. Popham was elected to the presidency of the American Educational Research Association (AERA) in 1978 and was the founding editor of AERA’s quarterly journal, Educational Evaluation and Policy Analysis. A fellow of the Association, he has attended every AERA annual meeting since 1958. He is inordinately compulsive.

In 1968, Dr. Popham established IOX Assessment Associates, a research and development group that created statewide student
achievement tests for a dozen states. He personally passed all those tests, largely because of his unlimited access to the tests’ answer keys.

He received the National Council on Measurement in Education Award for Career Contributions to Educational Measurement in 2002, and from 2009 to 2017 he served as a member of the National Assessment Governing Board. In 2014, he received an honorary doctorate of public service from his alma mater, the University of Portland in Oregon.

Dr. Popham’s complete 50-page, single-spaced vita is available upon request. He warns that it is really dull reading.
Related ASCD Resources: Assessment
At the time of publication, the following resources were available (ASCD stock numbers in parentheses):

PD Online® Courses
Designing Assessments for Higher-Order Thinking (#PD15OC008M)
Formative Assessment: Deepening Understanding (#PD11OC101M)

Print Products
Fast and Effective Assessment: How to Reduce Your Workload and Improve Student Learning by Glenn Pearsall (#118002)
Grading Smarter, Not Harder: Assessment Strategies That Motivate Kids and Help Them Learn by Myron Dueck (#114003)
How to Make Decisions with Different Kinds of Student Assessment Data by Susan M. Brookhart (#116003)
Mastering Formative Assessment Moves: 7 High-Leverage Practices to Advance Student Learning by Brent Duckor and Carrie Holmberg (#116011)
The Perfect Assessment System by Rick Stiggins (#117079)
Transformative Assessment by W. James Popham (#108018)
Using Data to Focus Instructional Improvement by Cheryl James-Ward, Douglas Fisher, Nancy Frey, and Diane Lapp (#113003)

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