

Rick Stiggins
Jan Chappuis

Using Student-Involved Classroom Assessment to Close Achievement Gaps

The authors argue that the failure of 60 years of total reliance on assessment via standardized tests to help reduce achievement score gaps must compel us to rethink the role of assessment in this endeavor. They advocate rebalancing assessment priorities to bring classroom assessment into the equation. Evidence gathered over decades from around the world reveals strong achievement gains and reduced achievement score gaps when teachers implement student-involved classroom assessment practices in support of student learning in their classrooms. Five standards of sound classroom assessment practice are described that, if put in place, would permit teachers and schools to draw upon a heretofore untapped reservoir of motivation in ways that benefit students, especially low performers.

Rick Stiggins and Jan Chappuis work at Assessment Training Institute.

Requests for reprints can be sent to Rick Stiggins, Assessment Training Institute, 317 SW Alder Street, Suite 1200, Portland OR 97204. E-mail: ati@assessmentinst.com

FROM THEIR VERY earliest school experiences, our students draw life-shaping conclusions about themselves as learners on the basis of the information we provide to them as a result of their teachers' classroom assessments. As that evidence accumulates over time, they decide if they are capable of succeeding or not. They decide whether the learning is worth the commitment it will take to attain it. They decide if they should have confidence in themselves as learners and in their teachers—that is, whether to risk investing in the schooling experience. These decisions are crucial to their academic well-being. Depending on how they decide, their teachers may or may not be able to influence their learning lives.

Because of individual academic difficulties, some students can land on the wrong side of these decisions. If we are to help them—if we are to close achievement gaps—we must help them believe they are capable of succeeding and that success is worth the investment.

The results of a decade of research and development (cited later) help us understand how to use the classroom assessment process and its results to help students become confident learners. Strong

achievement gains are within reach for all students, especially those who have experienced little success before. To gain access to these results, we must (a) fundamentally redefine the relationships among assessment, student motivation, and effective schools, and (b) provide teachers with a set of classroom assessment competencies that historically has been denied them. This article describes such a new vision and the conditions that must be in place to attain it.

The Challenge

In motivating low-performing students to want to learn, our collective challenge comes in two parts. First, we must prevent students from giving up in hopelessness at the outset, by engendering confidence from their earliest experiences. Second, we must rekindle hope among those students who have lost faith in themselves as learners already.

It's tempting to conceive of the latter challenge as an issue of self-concept, that is, as a personal-emotional concern. If we can raise these students' self-concept, they will become capable learners. But this approach puts the cart before the horse. Rather, we conceptualize the problem far more productively if we conceive of the first challenge in light of effective classroom assessment.

If these students are to believe in themselves as productive learners, then they must first experience credible forms of academic success as reflected in the results of what they understand to be rigorous assessment. A small success can spark confidence, which, in turn, encourages more effort. If each attempt brings more success, their academic self-concept will begin to shift in a more positive direction. Our goal then is to perpetuate this cycle.

The direction of this effect is critical. First comes achievement and then comes confidence. With increased confidence comes the belief that learning is possible. Success must be framed in terms of academic attainments that represent a significant personal stretch. Focused effort with an expectation of success is essential. Students must come honestly to believe that what counts here—

indeed the only thing that counts here—is learning that results from the effort expended.

Such evidence kindles students' faith in themselves as learners. Feedback delivered once a year from standardized district, state, national, or international assessments is far too infrequent and broadly focused to be helpful. The evidence must come to students moment to moment through on-going classroom assessment. This places the classroom teacher at the heart of the relation between assessment and school effectiveness.

Thus, the essential school improvement question from an assessment point of view is this: *Are we skilled enough to use classroom assessment to either (1) keep all learners from losing hope to begin with, or (2) rebuild that hope once it has been destroyed?*

Successful students enjoy the rewards of their own success at learning. These keep them striving (typically on the upper side of achievement score gaps), and teachers can continue to rely on those motivators. But what of those students who have not experienced success? What do we do when the traditional reward- and punishment-driven behavior-management system has lost its motivational power in the eyes of the student?

The Insufficiency of Accountability Testing

Over the decades, we have attempted to motivate by holding schools accountable for scores on standardized tests and by intensifying the stakes associated with low test scores. This began in the 1940s with college admissions tests. Next came district-wide standardized tests in the 1950s and 1960s. The 1970s was the decade of the state assessment. In the 1980s and 1990s, we added national and international assessments. During these latter decades, we have seen fit to attach truly dire consequences to low test scores. For individual students these can include promotion/retention, as well as graduation decisions. Surely, policy-makers believe, this will compel everyone involved to strive for academic excellence.

But alas, not only is there little evidence that these multiple layers of externally imposed tests

have improved school quality or reduced achievement score gaps, but some contend that they have exacerbated the problem by forcing increases in dropout rates and declines in graduation rates, especially among minorities (Amrein & Berliner, 2002). These high-stakes tests have caused as many chronic low achievers to give up in the face of what they believe to be unattainable achievement standards as they have spurred high achievers to try even harder. So test score averages flatline, with gaps between different subgroups of our student population apparently cast in stone.

The Case for Student-Involved Classroom Assessment

Ongoing classroom assessments can be used in far more productive ways to encourage student confidence. Three categories of powerful tools, taken together, permit us to tap a wellspring of motivation that resides within each learner. These tools include student involvement in the assessment process, student-involved record keeping, and student-involved communication. Together, they redefine how we use assessment to excite students about their learning potential. Here's why:

The teacher's *instructional task* is to take students to the edge of their capabilities, to encourage growth. From the point of view of some students, stepping off that edge can be frightening. "When I have stepped off the edge in the past, I have disappeared into the chasm below, crashing in a cloud of dust. Thanks much, but not again." In such instances, the teacher's *instructional challenge* is to help students face their personal edge with confidence, trusting that their teacher will help them learn from their initial mistakes. Students must understand that, when they try to grow academically, at first, they may not be very proficient, and that is all right. The trick is to help them know that failures hold the seeds of later success, but only if we keep going.

In other words, we must stop delivering the message to students that low-level performance is always and necessarily a bad thing. Sometimes

low performance is inevitable, such as when they are trying something new. Everyone makes halting progress as a writer at first. Wise teachers use the classroom assessment process as an instructional intervention to teach the lesson that small increments of progress are normal. Success is defined as continual improvement over the long haul. We can use student involvement in the assessment, record keeping, and communication processes to teach these lessons.

Student-involved classroom assessment opens the assessment process and invites students in as partners, monitoring their own levels of achievement. Under the careful management of their teachers (who begin with a clear and appropriate vision of what they want their students to achieve), students are invited to play a role in defining the criteria by which their work will be judged. They learn to apply these criteria, identifying the strengths and weaknesses in their own practice work. In short, student-involved assessment helps learners see and understand our vision of their academic success. The result will be classrooms in which there are no surprises and no excuses. This builds trust and confidence.

Student-involved record keeping encourages learners to monitor improvements in their performance over time through repeated self-assessment. For example, as students build growth portfolios of evidence of their success over time, they can reflect on the changes they see. In effect, we use such repeated formative classroom assessments as a mirror permitting students to watch themselves grow. As they chart progress, they gain a sense of control over their own learning. This can be a powerful confidence builder.

Student-involved communication invites learners to share their self-assessments with others. Student-involved parent/teacher conferences—a significant breakthrough in communicating about student achievement—illustrate this concept in action. When students are prepared well over an extended period to tell the story of their own success (or lack thereof), they experience a fundamental shift in their internal sense of responsibility for that success. The pride that students feel when they have a positive story to tell, and then tell it convincingly, engenders commit-

ment to further learning. And, students feel an immense sense of personal responsibility when they know that they might have to face the music of telling their parents about the specifics of their nonachievement. They will work very hard to avoid that eventuality; that prospect can drive them to productive work.

In these three ways, we can use student involvement to help them see, understand, contribute to, and appreciate their own journey of achievement success. This is exactly what teachers must do to help their students understand the achievement expectations, find and follow the path of success, and feel in charge of, rather than victimized by, the assessment process.

Research Evidence of Reduced Achievement Gaps

In 1984, Bloom published a summary of his research on the impact of mastery learning models on student learning, comparing standard whole-class instruction (the control condition) with two experimental interventions, a mastery learning environment and one-on-one tutoring of individual students. One hallmark of both experimental conditions was the extensive use of classroom assessment in support of, and not merely to check for, learning as a key part of the instructional process. The analyses revealed significant differences in student achievement favoring the experimental conditions that relied on classroom assessment to support learning (effect sizes ranged from one to two standard deviations).

In their 1998 research review, Black and Wiliam examined the research literature on assessment worldwide, asking if there is evidence that improving the quality and effectiveness of use of student-involved formative assessments raises student achievement as reflected in summative assessments. They reviewed more than 250 articles that addressed the issue. On pooling the information on the estimated effects of student-involved classroom assessment on summative test scores, they too uncovered positive effects, reporting effect sizes of a half to a full standard deviation. Further, Black and

Wiliam report that “improved [student-involved] formative assessment helps low achievers more than other students and so reduces the range of achievement while raising achievement overall” (p. 141). *This result has direct implications for districts seeking to reduce achievement gaps between and among subgroups of students.*

The work of the Education Trust (Jerald, 2001) revealed that one key to promoting very high levels of achievement in traditionally low-performing schools was the effective use of day-to-day classroom assessment as an integral part of a healthy teaching and learning process.

More recently, Meisels, Atkins-Burnett, Xue, and Bickel (2003) revealed how student involvement with work sample-based performance assessments yields similar gains on standardized test performance when compared with students who did not experience the embedded performance assessment (effect sizes ranged .75 to 1.5 *SD*).

In 2004, Rodriguez reported similar size achievement gains when examining the relationships among student characteristics, teachers’ classroom assessment practices, and student achievement as measured in the Third International Math and Science Study (TIMSS). Specifically, he concluded that “There are areas in which teachers have a potential to affect students: developing self-efficacy regarding their potential of mastering mathematics and discouraging the uncontrollable attributions students make in the classroom” (p. 20). In other words, teachers can help all students, but especially low performers, come to believe that they can control their own success in learning mathematics.

Taken together, the evidence provided in these studies suggests that achievement gains and reductions in score gaps are within reach if classroom assessments (a) focus on clear purposes, (b) provide accurate reflections of achievement, (c) provide students with continuous access to descriptive feedback on improvement in their work (versus infrequent judgmental feedback), and (d) bring students into the classroom assessment processes. These four findings, then, frame the necessary conditions that must be satisfied to gain access to the achievement effects reported.

Classroom Assessment to Reduce Achievement Gaps

These four conditions must be satisfied to ensure the effective use of any assessment in any context (Stiggins, 2005)—but especially to close achievement gaps. Part of the reason our nation has experienced difficulty in improving student achievement overall and in reducing achievement gaps, we contend, is that the vast majority of teachers and administrators practicing in the United States today have never been given the opportunity to understand, let alone learn to satisfy these conditions:

Condition #1: Assessment Development Must Always Be Driven by a Clearly Articulated Purpose

That is, the information needs of the intended user(s) must be considered in designing, developing, and using the assessment. Sometimes those users and uses center on assessment to support learning—to inform teachers about how to help students learn more and to inform students themselves about how to maximize their success. We call these assessments FOR learning (Assessment Reform Group, 1999; Stiggins, 2002). Other times assessments serve to verify that learning has occurred (or not). These may inform school leaders about program effectiveness or provide agents of accountability with evidence to the community. We label these assessments OF learning.

The research evidence cited herein reveals that paying careful attention to the former, assessment FOR learning via sound classroom assessment, will yield significant school improvement and reduced score gaps. Students need more information about their learning destination and progress than they typically get. Assessment FOR learning practices remedy that by helping students answer three questions: *Where am I going? Where am I now? How can I get there from here?* In other words, students need to know what the intended learning or expected standard of quality is. They need to know how to judge and monitor their own progress. And they need to know what to do to get themselves

from where they are to where they need to be (Black & Wiliam, 1998; Sadler, 1989). Assessment FOR learning engages students in thinking about themselves as learners. It is a new idea for many teachers to understand that formative assessment can and should be done *for and by* students, and yet it is crucial to students becoming effective learners.

Condition #1 calls on educators to understand students' information needs and to plan assessments purposefully to meet those needs along with the information needs of adult instructional decision makers.

Condition #2: Assessments Must Arise From and Accurately Reflect Clearly Specified and Appropriate Achievement Expectations

In any assessment context, we must begin assessment development by defining a clear vision of what it means to succeed. In assessment OF learning contexts, we identify state, local, or classroom achievement standards and devise assessments reflective of those. In assessment FOR learning environments, teachers deconstruct standards into the enabling classroom targets students must master on their journey to meeting state standards. To meet any standard, students must master subject matter content, meaning to *know and understand*. Some standards demand that they learn to use knowledge to *reason* and solve problems, whereas others require mastery of specific *performance skills*, where it's the doing that is important, or the ability to create *products* that satisfy certain criteria of quality. Student success hinges on the clarity of these expectations in the minds of teachers and then of their students.

Students need to know where they are headed to participate actively in their own learning; when they don't know the learning destination, they are at best just along for the ride. Teacher and students cannot partner effectively without a shared vision of the enterprise. And the effectiveness of subsequent student involvement in the assessment process depends on their knowing what the achievement expectations are.

Condition #2 requires that teachers become clear themselves about the intended learning, teach intentionally to it, and let students in on the secret up front.

Condition # 3: Assessment Methods Used Must Be Capable of Accurately Reflecting the Intended Targets and Are Used as Teaching Tools Along the Way to Proficiency

Teachers have a variety of assessment alternatives from which to select as they focus on the valued learning targets. Accurate assessment conclusions are dependent on the selection or development of proper assessment tools. The options include *selected response* (multiple choice, true/false, matching, and fill in), *extended written*

response, performance assessments (based on observation and judgment), and direct *personal communication* with the student. The challenge in all contexts is to match an assessment method with an intended achievement target. Bad matches yield inaccurate assessments.

The teaching challenge is to use the assessment, in advance of the graded event, as a vehicle to deepen the learning and to reveal to students their developing proficiencies. Table 1 provides a sampling of strategies using different assessment methods as teaching tools (Stiggins, Arter, Chappuis, & Chappuis, 2004).

In addition, all assessments rely on a relatively small number of exercises to permit the user to draw inferences about a student's mastery of larger domains of achievement. Accurate assessments rely on a representative sample of all those

Table 1
Classroom Assessment in Service of Learning

1. Engage students in reviewing strong and weak samples to determine attributes of a good performance or product.
 2. Before a discussion or conference with the teacher or peer, students identify their own perceptions of strengths and weaknesses on a specific aspect of their work.
 3. Students practice using criteria to evaluate anonymous strong and weak work.
 4. Students work in pairs to revise an anonymous weak work sample they have just evaluated.
 5. Students write a process paper, detailing the process they went through to create a product or performance. In it they reflect on problems they encountered and how they solved them.
 6. Students develop practice test plans based on their understanding of the intended learning targets and essential concepts in material to be learned.
 7. Students generate and answer questions they think might be on the test, based on their understanding of the content/processes/skills/ they were responsible for learning.
 8. A few days before a test, students discuss or write answers to questions such as: "Why am I taking this test? Who will use the results? How?" "What is it testing?" "How do I think I will do?" "What do I need to study?" "With whom might I work?"
 9. Teacher arranges items on a test according to specific learning targets, and prepares a "test analysis" chart for students, with three boxes: "My strengths," "Quick review," and "Further study." After handing back the corrected test, students identify learning targets they have mastered and write them in the "My strengths" box. Next, students categorize their wrong answers as either "simple mistake" or "further study." Then, students list the simple mistakes in the "Quick review" box. Last, students write the rest of the learning targets represented by wrong answers in the "Further study" box.
 10. Students review a collection of their work over time and reflect on their growth: "I have become a better reader this quarter. I used to ..., but now I ..."
 11. Students use a collection of their self-assessments to summarize their learning and set goals for future learning: "Here is what I have learned... Here is what I need to work on ..."
 12. Students select and annotate evidence of achievement for a portfolio.
-

possibilities that is large enough to yield dependable inferences about how the respondent would have done if given all possible exercises.

But even if we devise clear achievement targets, transform them into proper assessment methods, and sample student performance appropriately, there are still factors that can cause a student's score on a test to misrepresent his or her real achievement. Problems can arise from the test, the student, or the environment where the test is administered.

For example, tests can consist of poorly worded questions, place reading or writing demands on respondents that are confounded with mastery of the material being tested, have more than one correct response, be incorrectly scored, or contain racial or ethnic bias. The student can experience extreme evaluation anxiety or interpret test items differently from the author's intent, as well as cheat, guess, or lack motivation. Any of these could give rise to inaccurate test results. Or the assessment environment could be uncomfortable, poorly lighted, noisy, or otherwise distracting. Part of the challenge of assessing well in the classroom is to be aware of the potential sources of bias and to know how to devise assessments, prepare students, and plan assessment environments to deflect these problems before they ever impact results.

Condition #3, then, demands accuracy of assessment results and intentional involvement of students to deepen the learning.

Condition #4: Communication Systems Must Deliver Assessment Results Into the Hands of Their Intended Users in a Timely, Understandable, and Helpful Manner

The central question of the first condition, "What is the purpose for the assessment?" guides the development of effective communication systems. In assessments OF learning, where the assessment purpose is to report how much students have learned at a particular point in time, our communication systems consist of grade reports, standardized test reports, par-

ent-teacher conferences, and the like. These systems are firmly in place (indeed, they may be the only systems in place), and although ensuring their timeliness and clarity is important, developing communication systems in service of assessment FOR learning is required to close the achievement gap.

In assessments FOR learning, the assessment purpose is to provide teachers and students with information they need along the way, during the learning process, to make decisions that will bring about more learning. In this side of the assessment house, an effective communication system provides regular diagnostic information to the teacher and frequent descriptive feedback to the learner. Grades (numbers and letters) do not provide the detail needed to function effectively as feedback in this setting. Furthermore, evaluative, "high-stakes" grades—those destined for the report card—are often counterproductive while students are in the process of learning, for judgment offered too soon can shut learning down. Bloom, Black, and Wiliam, and other researchers, strongly support the use of criterion-based feedback, instead, to keep the learning process going. Such comments reflect student strengths and areas for improvement relative to established standards, but do not insert a summative judgment. They are most powerful when they identify what students are doing right, or have learned, as well as what they need to work on (Black & Wiliam, 1998; Bloom, 1984).

Students also play an important role in a communication system designed to support learning. When they are involved in collecting evidence of their achievement, charting their growth, and setting goals for future learning, students develop insight into themselves as learners. In addition, both the achievement and their commitment to learning increase (Covington, 1992). Such practices prepare students to become active participants in sharing their achievement with parents and other teachers.

Condition #4, then, requires careful attention to meeting the communication needs of audiences in both assessment OF and FOR learning contexts.

Conclusion

Students' decisions about their academic capabilities are formulated on the basis of classroom assessment evidence. In contexts where wide gaps appear in test score results between and among different subgroups of the student population, the chances are high that low performers have judged themselves to be incapable of succeeding. In this presentation, we propose the use of student-involved classroom assessment to turn their thinking in more positive directions. The evidence reveals that there is no question about what will happen to their achievement and score gaps when we do so.

References

- Amrein, A. L., & Berliner, D. C. (2002). High-stakes testing, uncertainty, and student learning. *Educational Policy Analysis Archives*, 10(8). Retrieved May 2004 from <http://epaa.asu.edu/epaa/v10n18/>.
- Assessment Reform Group. (1999). *Assessment for learning: Beyond the black box*. Cambridge, UK: University of Cambridge Press.
- Black, P., & Wiliam, D. (1998). Assessment and classroom learning. *Educational Assessment: Principles, Policy and Practice*, 5(1), 7–74. Also summarized in an article entitled, Inside the black box: Raising standards through classroom assessment. *Phi Delta Kappan*, 80, 139–148.
- Bloom, B. (1984). The search for methods of group instruction as effective as one-to-one tutoring. *Educational Leadership*, 41(8), 4–17.
- Covington, M. (1992). *Making the grade: A self-worth perspective on motivation and school reform*. New York: Cambridge University Press.
- Jerald, C. D. (2001). *Dispelling the Myth Revisited*. Washington DC: Education Trust.
- Meisels, S., Atkins-Burnett, S., Xue, Y., & Bickel, D. D. (2003). Creating a system of accountability: The impact of instructional assessment on elementary children's achievement scores. *Educational Policy Analysis Archives*, 11(9). Retrieved January 2004 from <http://epaa.asu.edu/eapp/v11n9/>
- Rodriguez, M. C. (2004). The role of classroom assessment in student performance on TIMSS. *Applied Measurement in Education*, 17, 1–24.
- Sadler, R. (1989). Formative assessment and the design of instructional systems. *Instructional Science*, 18, 119–144.
- Stiggins, R. J. (2002). Assessment crisis! The absence of assessment FOR learning. *Phi Delta Kappan*, 83, 758–765.
- Stiggins, R. J. (2005). *Student-involved assessment FOR learning* (4th ed.). Columbus, OH: Merrill Prentice Hall.
- Stiggins, R., Arter, J., Chappuis, J., & Chappuis, S. (2004). *Classroom assessment for student learning: Doing it right—using it well*. Portland, OR: Assessment Training Institute.



Copyright of Theory Into Practice is the property of Lawrence Erlbaum Associates and its content may not be copied or emailed to multiple sites or posted to a listserv without the copyright holder's express written permission. However, users may print, download, or email articles for individual use.