# Interim Assessments: Keys to Successful Implementation

by Kim Marshall Interim Assessment Project New Leaders for New Schools Revised April 14, 2006

#### CONTENTS:

I. Quotes About Interim Assessments – Page 2 II. Introduction: It Seems Like a Simple Idea, But... – Page 3 III. Twenty-three Conditions for Successful Interim Assessments – Page 5 IV. Prioritizing the Criteria and Creating a Scoring Sheet – Page 16 V. The Potential Ripple Effect of Interim Assessments – Page 18 VI. Sources – Page 20

© Copyright 2006 New Leaders for New Schools

### I. Quotes About Interim Assessments

Drawn from a variety of sources, these quotes capture some of the main issues on assessment of student learning.

- "Why rely on an out-of-focus snapshot taken by a total stranger?" Dylan Wiliam on low-quality commercial tests (2000)
- "You can't manage what you can't see." Greg Gutkowski, Just5Clicks Company (2005)

"Assess, determine a grade, and move on is the norm... Grading is, in fact, the primary purpose of assessment among all levels of teachers." Kathleen Topolka Jorissen (2005)

"Without continuous assessment, student learning is limited to a one-shot, hit-or-miss event – maybe they get it, maybe they don't." Jay McTighe and Marcella Emberger (2005)

- "It's not a matter of what the teacher taught; it's a matter of what the students learned." Evelyn Chidsey, California consultant
- "What do you do when a child doesn't learn?" Sandra Husk, Montgomery County, Tennessee superintendent (2005)
- "It's not about giving the assessments; it's about doing something about the results." Doug Reeves (2005)

"Like successful athletic coaches, the best teachers recognize the importance of ongoing assessments and continual adjustments on the part of both teacher and student as the means to achieve maximum performance."

Jay McTighe and Ken O'Connor (2005)

"Feedback is the breakfast of champions." Grant Wiggins (2004)

"Effective data use requires a culture that is driven by inquiry, not fear." Mary Ann Lachat and Stephen Smith (2005)

"It's all about the culture." Doug Lemov, former Boston charter-school principal (2006)

- "This stuff lives and dies in the principal's office." Jeff Wayman, Johns Hopkins (2005)
- "This is great information. I've got a lot of work to do." A Chicago teacher looking at the data from his first interim assessment (2005)

### II. Introduction – It Seems Like a Simple Idea But...

How can educators raise student achievement to high levels and close the racial/economic gap? What is the "secret sauce" in the much-admired 90/90/90 schools – those with 90 percent students of color, 90 percent qualifying for free and reduced-price meals, and 90 percent meeting rigorous state standards? One of the key ingredients, the research tells us, is the effective use of interim assessments. Virtually all low-SES schools with impressive student achievement – as well as higher-SES schools with a shrinking achievement gap – systematically analyze assessments during the school year and put the data to work in classrooms.

No surprise, then, that interim assessments are being introduced in many U.S. schools and districts. In fact, interims are one of the hottest ideas in American education today. The problem is that these assessments don't always produce significant gains in achievement. How can this be? Disappointing results result from one or more of the following implementation glitches:

- Interim assessments are not aligned with standards, state tests, or pacing calendars.
- Assessments are not given frequently enough to have much impact on instruction.
- Interim tests are short and don't give teachers detailed data on student progress.
- Assessments are scored externally and teachers aren't invested in the results.
- Scoring takes 1-3 weeks, reducing the value of assessment data for teachers.
- Teachers balk because they fear tests will be used to blame them for student failure.
- The results of assessments are presented in an overly-elaborate, confusing manner.
- Same-grade/same-subject teachers can't or don't meet to discuss interim data.
- If data meetings do take place, teachers fall victim to the "culture of nice."
- Re-teaching time is not built in for meaningful follow-up with struggling students.
- Interim data are used for educational triage, focusing only on "bubble" students.

These implementation problems are quite common, and they can totally undercut the potential for interim assessments to improve student achievement. But there is a deeper reason why school leaders who try to implement interims often run into difficulty – or never get started.

Every teacher has a natural tendency (Grant Wiggins calls it the "educator's egocentric fallacy") to assume that when something has been taught, students learn it – and if they don't, well, I've done my job. This assumption becomes so embedded in the culture of many schools ("teach, test, and hope for the best" is the resulting attitude) that teachers are startled – and sometimes offended – when their principal (or district) asks to check systematically on student learning and follow up to make sure that all students succeed.

From time immemorial, exceptional teachers have overcome the I-taught-ittherefore-they-learned-it tendency and taken responsibility for ensuring that all their students learn. What do these teachers do differently? They check for understanding on a minute-by-minute, day-by-day basis and tenaciously work with students who are confused or unsuccessful. This sounds simple and obvious, and yet it's relatively rare.

The challenge faced by school leaders is finding ways to foster this quality of relentless follow-up in every classroom, every grade-level team, and every department. Few leadership tasks are more important, and fostering this ethos is absolutely critical to getting high achievement. But making it happen is not a trivial matter. School leaders need to be very well-informed about best practices and think through their strategy with great care. This paper aims to deconstruct the conditions under which interim assessments can be most productive and guide school leaders past the plethora of potential problems.

It's important to clarify terminology at the outset, since the words "interim," "formative," "benchmark," "early warning," "dipstick," and "periodic" are used in a variety of ways. Looking at the big picture, there are basically three kinds of assessment:

- Summative tests given when instruction is finished, often for report card grades; these include unit tests, performance tasks, final exams, and, of course, high-stakes state tests;
- Interim assessments given every 5 to 9 weeks to monitor student proficiency and provide teachers with information for re-teaching, improving instruction, and following up with students;
- Informal checks for student understanding used by individual teachers to continuously fine-tune instruction and follow up with students who are confused (these are often called formative assessments and were the focus of the classic 1998 *Kappan* article, "Inside the Black Box," by Paul Black and Dylan Wiliam).

Data from all three kinds of assessment can be used to improve teaching and learning, but an argument can be made that the second presents the most powerful entry-point for principals who are determined to improve instruction and boost student achievement. In this paper, we will focus only on the second kind of assessment, using the term "interim assessments" throughout.

### **III.** Twenty-Three Conditions for Successful Interim Assessments

As we saw above, there are many potential problems when implementing interim assessments. School leaders who decide to launch them must do so with great sensitivity and skill – otherwise student achievement won't improve. The pages below identify the conditions associated with successful implementation. The criteria are organized under four A's: Antecedents, Assessments, Analysis, and Action:

#### A. Antecedents – Laying the Foundations for Success

- 1. Teacher understanding and trust
- 2. Clear grade-by-grade learning expectations in every teacher's hands
- 3. Exemplars of proficient student work
- 4. Assessments common across each grade and course
- 5. Assessments given at least quarterly
- 6. Assessments given at all grade levels

#### **B.** Assessments – Creating Highly Informative Tests

- 7. Alignment with state tests and college-ready expectations
- 8. Alignment with the curriculum sequence
- 9. Thorough but not overwhelming
- 10. High-quality test items
- 11. Diagnostic
- 12. Cumulative/year-end metric
- 13. Solving the reading dilemma

#### C. Analysis – Scoring and Making Meaning of the Tests

- 14. User-friendly data display
- 15. Teacher scoring and analysis
- 16. Rapid turnaround
- 17. Team data meetings
- 18. Support and direction for teacher teams
- 19. SMART goals

#### D. Action – Putting Interim Assessment Data to Work

- 20. Follow-up with students
- 21. Enlisting students in their own improvement
- 22. Information for parents and other helpers
- 23. Monitoring and follow-up by the principal

### A. Antecedents: Laying the Foundations for Success

1. Teacher understanding and trust – Teachers are generally reluctant to spend additional time assessing their students. "We already give plenty of quizzes and tests and projects," is a common sentiment. "We know how our kids are doing." In addition, teachers have mixed feelings about tests written by outsiders, are skeptical of research claims that a shiny new initiative will bring about dramatic gains in student achievement, and fear that assessment results will be used to evaluate and blame them. Especially in large, troubled schools, the power of a few resistant teachers to throw sand in the gears is formidable. A top-down strategy for implementing interim assessments is therefore likely to fail. "If you build it, they won't come," said John Avis, an assistant superintendent in Memphis, during his district's first year launching interim assessments.

Does this mean that the only way to get teacher buy-in is to involve staff in writing interim tests from scratch? If so, it will be years before interim assessments have any impact on teaching and learning, and the quality of assessments will be uneven. Given the urgency of raising student achievement, this strategy seems unacceptably cautious.

But there is an alternative. By addressing teachers' concerns (rational and irrational) up front, principals can neutralize opposition and create enough understanding and trust so that interim assessments are given a fair chance. Here are some of the steps that skillful principals take:

- Teachers are presented with the overall rationale for using interim assessments, backed up by evidence of results in similar schools. When principals make a sincere effort to intellectually persuade teachers of the merits of a new initiative, they show respect for their staff, and that means a lot.
- The basic argument for interim assessments is actually quite compelling: let's fix our students' learning problems *during* the year, rather than waiting for high-stakes state tests to make summative judgments on us all at the *end* of the year.
- Teachers are encouraged to visit, read about, or talk to teachers from schools with similar demographics that have boosted student achievement by using interim assessments.
- Teachers can make suggestions for tweaking the sequence of skills of draft interim assessments (for example, moving an item from the first to the second test). If assessments are in electronic form, this can be done quite easily.
- Interim assessments are piloted at one grade level or subject area before being implemented schoolwide, making converts and creating "buzz." Math is often a good subject to launch first.
- Teachers are given copies of interim assessments well before testing time a clear statement of trust in their professionalism.
- Teachers are assured that assessment results will not be part of staff evaluation and will not be shared with people inside or outside the school who might pounce on them with ill intent. Teachers need to feel safe reporting the brutal facts ("It's October and only 5% of my students are proficient in writing") and admitting when a teaching approach isn't working ("I taught borrowing for two weeks and the kids still bombed on the test! Help me figure out what went wrong").

These seven steps reduce teachers' anxiety and help create the kind of low-stakes, no-blame climate in which interim assessments are most likely to improve teaching and learning. Deeper buy-in will follow as teachers see improvements in collegial dialogue and student achievement.

2. *Clear grade-by-grade learning expectations* – It's astonishing how many teachers do not have detailed statements of what their students need to know and be able to do by the

end of the school year. For interim assessments to work, every teacher needs manageable and authoritative end-of-grade learning expectations and clear criteria for student proficiency that are seamlessly aligned with interim and state assessments. These documents should focus on the *what* of instruction (not the *how to*) so that teachers can plan with the end in sight.

3. *Exemplars of proficient student work* – Learning expectations for student writing and problem-solving are much more powerful when they are accompanied by actual samples of student work at each level of proficiency. These make it clear to teachers, students, and parents exactly what quality of work is expected.

4. Common across each grade or course – This may seem like an obvious point, but most American teachers write their own tests and rarely talk about the results with colleagues across the hall. Having common interim assessments at each grade level and in each course is crucial to opening classroom doors and providing the basis for detailed conversations and professional development about what's working – and what's not working. When third-grade teachers can compare their students' performance on the same writing prompt, and algebra teachers can share ideas on the same quarterly test, real student learning gains are much more likely to happen.

5. At least quarterly – Interim assessments should be given often enough so teachers get timely feedback on student learning, but spaced widely enough so there is time for instruction to take hold and produce measurable progress before the next assessment. There is a growing consensus (Robert Marzano, Richard DuFour, Grant Wiggins and Jay McTighe, Douglas Reeves, Jeffrey Howard, and others) that assessments should be given at least every nine weeks, including a baseline assessment in August or September, which adds up to about five assessments a year. (Some schools, such as Village Academies in New York City, test every five weeks.) To ensure that interim assessments take priority over other events as the year progresses, successful schools get the testing schedule settled and into everyone's calendars before the school year begins.

6. At all grade levels – Schools and districts that implement interim assessments often give them only in grades 3-8 since those are the grades in which students take NCLB-required assessments. Ideally, there should also be appropriate interim assessments in grades K-2 and 9-12. At the elementary level, it makes sense to test only reading, writing, and math so as not to overwhelm teachers of self-contained classes with too many assessments; at the secondary level, assessments should also cover science and social studies, since at the middle and high-school level these subjects are usually taught by specialists.

### **B.** Assessments – Creating Highly Informative Tests

7. Alignment with state tests and college-ready expectations – State standards are sometimes vague, almost always too numerous to be implemented in a regular school year, and often contain goals for which students will not be held accountable. It's therefore wise to align interim assessments with state *tests*, which embody high-level decisions about what's most important, the ways in which it will be assessed, and what level of student proficiency is expected. Examining actual state tests will answer questions like: How much writing will students be asked to do? How will the writing be scored? How long will the test be and what degree of stamina will be required to complete it?

The only problem is that some states have watered down their tests to make it easier for schools to meet NCLB "proficiency" targets. In these states, gearing interim assessments

to state tests will not ensure that all students are on track for college admission by the end of high school. In states with anemic tests, interim assessments need to aim higher so that students will succeed not only on local tests but also on college-track assessments.

*8. Alignment with the curriculum sequence* – Interim assessments also need to be tightly linked to the school's learning expectations and instructional pacing guide (which should, in turn, be aligned with state standards and tests and college-ready objectives). It's vital that interim assessments cover what's been taught; otherwise, teachers will rightly feel that the tests are a "gotcha."

*9. Thorough but not overwhelming* – Districts and schools implementing interim assessments are usually quite sensitive about teachers' resistance to "over-testing" and loss of instructional time, and they tend to bend over backwards to keep assessments short. For example, each of the Princeton Review interim assessments in New York City has only 20-25 items and is designed to be given in a single 45-minute class period. The problem with this approach is that it leaves significant parts of the curriculum untouched and does not prepare students for the demands – content-wise and stamina-wise – of college-ready work and high-stakes state tests.

But there are problems with making interim assessments *too* comprehensive. A desire to cover every single state objective and meet psychometrians' standards of test validity can produce tests that are burdensome to teachers and students and provide more information than teachers can possibly digest.

This is a classic Goldilocks issue. How can schools craft interim assessments that are not too long and not too short? Here are some guidelines from schools that have found the happy medium:

- Interim assessments cover all curriculum material that is assessed on state tests (and additional college-ready material in states with watered-down tests).
- Interim assessments prepare students for the format and types of questions they will see on state tests, for example, open-response and essay writing; this is also an argument for not putting interim assessments on computers but sticking with the same paper-and-pencil format as state tests.
- Interim assessments gradually increase in length through the grades and during each state testing year so that students are ready for the stamina demands of high-stakes tests when they take them; this applies to the length of each reading, writing, and math test and to the way in which the different tests are scheduled during the day and week in which interim assessments is given.
- Schools don't apply the same rigorous psychometric standards to interim assessments that they apply to high-stakes state tests; since interims are used for low-stakes, in-school purposes, they don't need five or six test items to measure for each standard.
- Principals instruct teachers to stop giving classroom tests that overlap with interim assessments; as interim tests are introduced, there is no net increase in the time spent on testing.

10. *High-quality test items* – If assessments aren't well-written and carefully thoughtout, they won't pinpoint students' strengths and weaknesses or help improve instruction. Producing quality tests takes time and multiple drafts. Assessments should mix openresponse questions, which give the best insights into students' thinking, and multiplechoice items with distracters that reveal common misconceptions and errors.

*11. Diagnostic* – The best interim assessments identify the gap between actual and desired performance and suggest actions that will successfully close the gap. They yield an item analysis of students' strengths and weaknesses and enough information for teachers to map out an improvement strategy, including differentiating instruction.

This requires that assessments tap into a range of skills representing the stateassessed curriculum and ask questions in ways most likely to give teachers detailed information on their students' strengths and areas for development. Open-response questions do this best; multiple-choice questions are vulnerable to student guessing, although if they are cleverly constructed and include common misconceptions as distracters, they can be informative.

But a test's diagnostic potential can be compromised in two ways; first, if it focuses on a narrow subset of skills (for example, Boston's FAST-R assessments measure only two reading skills); and second, if the test measures skills that are so global that teachers will have difficulty putting the results to work in their classrooms (for example, Chicago's Stanford Learning First reading assessments report on these five skills:

- 1A: Apply word analysis and vocabulary skills to comprehension selections;
- 1B: Apply reading strategies to improving understanding and fluency;
- 1C: Comprehend a broad range of reading materials;
- 2A: Understand how literary elements and techniques are used to convey meaning;
- 2B: Read and interpret a variety of literary works).

The most effective interim assessments also generate data showing which items each student got right and wrong (or, for open-response and essay questions, their degree of proficiency on a scoring rubric) and which items gave the whole class (and subgroups within the class) the most trouble. If the error analysis can also show patterns of incorrect responses (for example, 45% of students chose incorrect response d), so much the better.

To keep track of students' progress toward proficiency, more educators are now using a 4-3-2-1 scale, with 3 representing proficiency or mastery (80-85%). Using this scale, a single number (the percent of students at Level 3 + 4) can convey the level of student proficiency and can be graphed as the year progresses. To get baseline information at the beginning of the year, some schools give the last interim assessment from the year before.

12. *Cumulative/year-end metric* – Interim assessments are not unit tests. Teachers need to continue giving unit tests, but interims serve a different purpose. They measure increasing student proficiency against end-of-the-year goals, keeping everyone's eyes on the learning standards that should be mastered by May or June. This allows students to see and celebrate progress toward a goal, continuously refresh their memory of all aspects of the cumulative curriculum so key skills don't atrophy, and focus on specific areas that need work. This principle applies a little differently in each subject area:

- <u>Writing</u> – Most schools score each interim writing prompt using a multi-trait rubric geared to end-of-year proficiency. So, for example, a November writing assessment might show that 35% of eighth graders were proficient and above – and mechanics and usage was the major area needing improvement.

- <u>Math</u> – There are two ways of structuring math interim tests: (a) gradually unveiling the cumulative curriculum by adding each quarter's new material, so that each successive assessment gets longer and longer (North Star Academy uses this approach); or (b) giving a different version of the year-end test each quarter and instructing students to ignore the items they haven't covered yet (Edison schools use this approach). Either way, teachers can figure out a student's status with respect to year-end proficiency by dividing his or her score by the number of problems on the final test. For example, a March assessment might show that 75% of students were proficient or above at that point in the year.

- <u>Reading</u> – There are a number of widely-used scales of text difficulty (e.g., Fountas-Pinnell, Lexile, Reading Recovery, DRA) that allow teachers to place students on a continuum of increasing proficiency. The most useful information that an interim reading assessment can give is each student's reading level, as well as an analysis of the skills that need improvement. Thus, a January interim assessment might tell a teacher that 50 percent of her first graders had reached the year-end goal of reading at Level I on the Fountas-Pinnell scale and which specific reading strategies each student needed help with.

- <u>Science and social studies</u> – These subjects would seem to lend themselves only to unit tests (on magnetism or the Civil War, for example) rather than cumulative or wholeyear tests. But the Maya Angelou School in Washington, D.C. has piloted an interesting approach to making unit tests do double duty: each quarterly test covers new content, but the questions cover the same generic skills (e.g., inference, cause and effect, documentbased analysis) in the same sequence, so that it can be scored against a single end-of-year standard – and yield diagnostic information on students' progress on year-long skills.

13. Solving the reading dilemma – One of the most difficult interim assessment challenges is getting frequent data during the year on students' reading levels and skill needs. In the primary grades, there are no viable alternative to assessing students individually. Fortunately, there are several good individual reading inventories (including Running Records) that teachers can administer quite quickly; an efficient strategy used by a number of schools is for the teacher to assess one or two students a day and complete the whole class every two or three weeks.

But in the grades above the primary level, this individualized approach, as well as the other most commonly-used approach, both have problems:

- Individual reading inventories (such as the DRA or QRI) are time-consuming (20-40 minutes per student) and therefore tend to be given only once or twice a year;
- Group tests, where all students read the same grade-level passages and answer multiple-choice questions, produce flawed data because the passages are above the reading levels of many students, leading them to guess or give up.

Every school faces the challenge of finding reading assessments that can solve this dilemma – otherwise they will assess too infrequently or be forced to deal with questionable data. Village Academies Charter Schools in New York City may have found a way out of this dilemma by constructing a large bank of leveled reading assessments measuring ten generic skills. These assessments can be given quickly and efficiently to a whole class and yet yield individual data on each student's level and skill needs.

### C. Analysis – Scoring and Making Meaning of the Tests

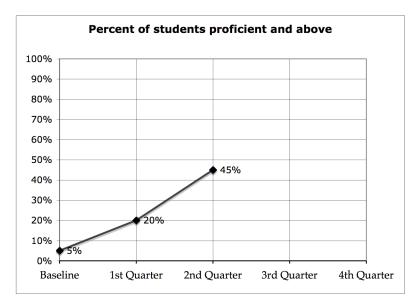
14. User-friendly data display – An important insight from successful schools is that it's not essential to use elaborate charts and graphs to analyze and display data from interim assessments – in fact, if teachers aren't proficient with computer spreadsheets, feeling compelled to come up with fancy displays can slow down the process and keep them from quickly putting assessment results to work in their classrooms. The four most important things that teachers should learn from each interim assessment are not that difficult to

compute and can be displayed using nothing fancier than a pencil and a calculator:

- How many students are scoring at Level 4, 3, 2, and 1?
- What percent of students are scoring proficient and above (Level 3 + 4)?
- In which skill or knowledge areas are students having the most difficulty?
- What are the names of students who need intensive follow-up?

Jeff Wayson of the University of Texas at Austin has a rule of thumb about making sense of data: "If you can't do it without technology, you probably can't do it with technology" (2005). But technology does have the virtue of "doing boring stuff very quickly and easily," as Greg Gutkowski of Just5Clicks puts it (2005). Once teachers know how to get the four basic items from their assessments, they can move on to fancier stuff – and save valuable time.

One simple but highly motivational way to track increasing proficiency as the year proceeds is a simple graph of the percent of students proficient and above on each successive interim assessment. This could be done by hand, but in Excel, it's easy to make a graph. Here's a sample:



15. Teacher scoring and analysis – If teachers do not personally grade and analyze interim assessments, they are much less likely to make meaning of the results and put their insights to work with students. Scoring by an outside test company or the central office is a "big mistake," says Tom Fowler-Finn, superintendent of schools in Cambridge, Mass., which has implemented quarterly assessments.

For teachers to correct and analyze their own assessments, three things are important:

- A smooth, teacher-friendly scoring and data entry system that takes full advantage of available technology (North Star Academy in Newark and Achievement First schools in New Haven and New York City have worked with their teachers to develop systems and analysis templates that save time and rapidly produce useful data displays). Teacher scoring of multiple-choice items can be speeded up by using scanning machines (Achievement First is moving in this direction after starting off with hand-scoring of all items), but machines can cause bottlenecks that actually slow down turnaround time.
- Freed-up time for scoring and then a separate block of time (ideally 90 minutes or more) to analyze the results and plan improvements and follow-up;
- A structured format that helps teachers think through the data (North Star Academy's three-page *Assessment Analysis Sheet* helps teachers identify what the whole class mastered, what needs to be re-taught to the whole class (along with an analysis of why they didn't get it and new techniques for getting it across), small groups of students who need help with specific standards, students "of major concern" and the areas in which they need help, and a calendar for ongoing review of mastered standards in homework, "do now" work at the beginning of class, and mini-lessons). Achievement First schools have a similar template for teachers to fill in after each interim assessment; they call it the *Whatever It Takes Instructional Battle Plan*.

16. Rapid turnaround – For students working below grade level, every minute counts, and if the scoring and analysis process drags on for a week or more, precious time is lost. Ideally teachers should have each interim assessment scored within 24 hours and immediately start analyzing the data and deciding on follow-up. Principals of effective schools block out scoring and analysis time and (as Doug Reeves puts it) "take something off the table" so that scoring and data do not impose extra burdens on busy teachers and trigger teacher resistance and resentment.

Resourceful principals have found a number of ways to free up teachers: excusing them from routine duties right after assessments are given; taking large groups of students to a movie or on field trip; scheduling special early-dismissal days; hiring substitutes; and paying teachers for after-school time. Greater Newark Academy Charter School gives its interim assessments every 6-7 weeks on a Wednesday and Thursday; that Friday, students are dismissed at 11:30 a.m. and teachers are able to finish scoring and analysis by 4:00 p.m.

17. Team data meetings – Teachers can work alone analyzing their students' interim assessment data, but the process is much more powerful when teachers discuss the results with one or more colleagues who just gave the same assessment to students at the same level. There is strong research evidence that good data meetings are the "engine of improvement" – they can produce a synergy in which teachers get better insights into what's confusing their kids, what's preventing higher achievement, and what's working – and not working – in their classrooms.

Between data meetings, successful teams continue to meet, at least weekly, and keep exchanging ideas and monitoring their students' progress. Effective principals require teachers to attend meetings like these and make it a priority to schedule and protect them. In small schools that have only one teacher per grade level or course, principals meet oneon-one with teachers to discuss interim assessment results (and/or encourage teachers to reach out to same-grade colleagues in other schools, either in person or electronically).

18. Support and direction for teacher teams – Data meetings are a waste of time if the "culture of nice" prevails – that is, if teachers are so considerate of each others' feelings that they don't "confront the brutal facts," don't push each other to do better, and shy away from sharing their failures (out of embarrassment or shame) or their successes (out of fear of appearing boastful). Principals can minimize these tendencies and maximize the productivity of teacher data meetings if they:

- Explicitly set norms of open and honest communication;
- Reassure teachers that they will not be evaluated on their students' interim results;
- Make it clear that *not* working with colleagues on interim data is unacceptable;
- Assign instructional coaches or other support staff to facilitate data meetings, or attend the meetings themselves;
- Make it clear that data meetings "count" as professional development time in fact, are one of the best forms of professional development;
- Ask that teachers come to meetings with their students' assessments already scored, along with a tabulation of which items caused the biggest problems and some ideas on follow-up teaching strategies;
- Ask that teachers bring along copies of the actual tests students took so they can refer to them as they analyze results. Abstract discussions about student learning problems, for example, "They're having trouble with number sense," tend to be unproductive, whereas looking at question 5 on identifying hundreds place and figuring out why students chose a particular wrong answer can lead to better insights on how teaching can be improved and more focused remediation;
- Drop in on team meetings to provide encouragement and support;
- Ask teams to report after each data meeting on these three questions (suggested by Mike Schmoker):
  - What percent of students are proficient and above?
  - Based on the latest assessment, which two or three areas need the most work?
  - What's our plan for improving achievement and pulling up struggling students?
- Link team discussions to follow-up professional development;

19. SMART goals – When teacher teams set <u>specific</u>, <u>measurable</u>, <u>a</u>ttainable, <u>r</u>esultsoriented, and <u>t</u>ime-bound learning goals for the year (e.g., 85% of our third graders will be reading at Level P or above by June), interim assessment results become way-stations to a goal and teachers become that much more ingenious about finding solutions to learning problems. Some high-performing teams graph and display increasing student proficiency as the year progresses (see the graph in item #14 above), and rejoice when they hit SMART goals at the end of the year. Note that SMART goals are usually not shared with students, who could see an 85% target as a public statement that five students in a class of 30 (look to your left, look to your right) are not going to make it to proficiency.

### D. Action – Putting Interim Assessment Data to Work

20. Follow-up with students – Rick DuFour poses three great questions to teachers and principals: (a) What do we want our students to learn? (b) How will we know when they've learned it? and (c) What will we do when some of them don't learn it? Interim assessments provide the information to answer the third question – but they don't guarantee that follow-up will happen. In fact, the deeply ingrained habit in many schools is to treat all assessments as summative, record students' grades, and move on. The pressure teachers feel to cover a too-broad curriculum constantly reinforces this habit.

But if teachers move on to the next unit when substantial numbers of students are still below mastery, struggling students are likely to fall further and further behind. This is the moment of truth in classrooms. Since students who struggle after initial instruction are often those who enter school with disadvantages, this is where the achievement gap can get wider. Without follow-up, much of the potential of interim assessments is squandered, and the gap between the have and have-nots will become a chasm.

There are two ways that effective principals address this challenge. First, they are passionate about putting interim assessment data to work to help struggling students (the mantra at Village Academies is "We're not going to lose these kids!"). Second, they build in *time* and give teachers "permission" not to rush on to the next curriculum unit, making it clear that correcting errors and misconceptions now will save time later. Some principals build in a one-week pause in the curriculum pacing calendar right after each interim assessment so that teachers can put the data to work.

What's the best kind of follow-up? Right after each assessment, students should receive honest, specific feedback on how their work measured up to standards and what they still need to learn. Feedback should reflect teachers' strong conviction that students can and will improve and encourage them to work hard and work smart. Follow-up can take a number of forms, including:

- Walking students back a few steps in the curriculum and teaching them foundational skills they missed along the way.
- Differentiating instruction to reach students with special needs or language difficulties.
- Rethinking the way a concept was taught and approaching it in an entirely different way.

Ideally, students are getting this kind of high-quality instruction and feedback in their classrooms on a daily basis, but interim assessments provide a more structured and systematic look at overall achievement and are likely to identify areas of need that can slip by busy teachers in everyday classroom interactions.

High-achieving schools give follow-up help to *all* students. They do not use the morally questionable strategy of focusing only on the "bubble" kids – those who are close to proficiency or in danger of slipping out of proficiency on state tests. This kind of educational triage does a disservice to other students and undercuts the best use of interim

data, which is to improve the overall quality of instruction so that a rising tide of achievement lifts *all* students to proficiency.

21. Enlisting students in their own improvement – Implementation of interim assessments is enhanced when students understand that scores on these tests are not final grades; their purpose is to see how much students have learned and give them constructive feedback so they can improve. At the same time, interim assessment results "count" so that students (and parents) take them seriously and see them as evidence of increasing success.

At its best, this process generates the "Nintendo effect," paralleling what kids experience when they play computer games: they master a level and then *move up*, constantly honing their skills and improving their scores. But this will not happen by itself. Rick Stiggins and Stephen Chappuis spell out the necessary conditions: "For students to respond to assessment results in ways that keep them trying, they need to know that they are important assessment users, what the learning target is, how the assessment relates to those expectations, what the results mean, and how they can use those results to their own advantage" (2005).

When these conditions can be created in classrooms – when students monitor their own performance on interim assessments, analyze what needs improvement, set personal goals ("I'm going to be reading at Level U by the end of this year!"), and take responsibility for their own learning, motivation increases and achievement soars. Village Academies schools in New York City share reading assessment data with students after interim assessments (their Fountas-Pinnell levels and which of ten skills they need to master), and teachers report that students actively look forward to each new test so they can move up to the next level and show their improved mastery of skills.

22. Information for parents and other helpers – Putting the results of interim assessments into the hands of everyone who is in a position to help students improve – family members, tutors, mentors, after-school programs, community groups, churches, summer programs, etc. – can greatly improve the quality of assistance they give struggling students. This practice is at the heart of the Efficacy Institute's Campaigns for Proficiency in Springfield, Massachusetts and other cities. (Efficacy is careful to secure parent permission before sharing assessment information with non-family members.)

23. Monitoring and follow-up by the principal – One of the most important things a principal can do is put in place the moving parts of the "engine of improvement" described above. Especially important: persuading teachers of the efficacy of interim assessments; ensuring that teachers are using high-quality tests; scheduling time for rapid scoring, analysis, and follow-up; and giving teacher teams the guidance and support they need to use interim data to continuously improve teaching and learning.

But in addition to this foundational work, the most effective principals constantly monitor the whole process and actively intervene when it's not running well. This includes talking privately to individual teachers about their results and how they are using data; making frequent visits to classrooms and giving teachers feedback on how well they are following up on interim assessments; dropping in on team meetings and intervening when teachers aren't using data and sharing best practices; and constantly advocating for struggling students to make sure they are getting the support they need. The best principals are successful in *shifting the conversation in their schools to results*. They lead a relentless quest for daily teaching that brings all students to high levels of achievement.

### IV. Prioritizing the Criteria and Creating a Scoring Sheet

The 23 conditions described above are all important – but some are more important than others. Applying research and the experience of successful schools, the criteria can be sorted into three tiers according to their estimated impact on student achievement, each differentiated by a distinct type face. The original numbering has been maintained to allow easy access to the detailed descriptions in Section I.

**Essential to student achievement:** 

- **1.** Teacher understanding and trust
- 7. Alignment with state tests and college-ready expectations
- 11. Diagnostic
- 15. Teacher scoring and analysis
- 17. Team data meetings
- 20. Follow-up with students
- 23. Monitoring and follow-up by the principal

Very important to student achievement:

- 2. Clear grade-by-grade learning expectations
- 4. Assessments common across each grade or course
- 5. At least quarterly
- 8. Alignment with the curriculum sequence
- 10. High-quality test items
- 16. Rapid turnaround
- 18. Support and direction for teacher teams

Important to student achievement:

- *3. Exemplars of proficient student work*
- 6. Given at all grade levels
- 9. Thorough but not overwhelming
- 12. Cumulative/year-end metric
- 13. Solving the reading dilemma
- 14. User-friendly data display
- 19. SMART goals
- 21. Enlisting students in their own improvement
- 22. Information for parents and other helpers

Using this prioritization, we can create a highly simplified scoring system to estimate the potential of a school's or district's interim assessment program:

- First tier a maximum of 3 points;
- Second tier a maximum of 2 points;
- Third tier a maximum of 1 point.

The highest possible score on this arbitrary scale is 44.

This scoring system is embedded in a one-page scoring sheet on the next page. Readers are invited to score their school or district, based on the best information available on the status of each of the 23 success conditions. The sheet has space for comments on each condition and overall comments and a total score at the bottom. Scoring an interim assessment program might affirm effective practices – or lead to a productive discussion about what might be improved to get the highest possible student achievement.

### **Interim Assessment Scoring Sheet**

New Leaders for New Schools Interim Assessment Project, 2006

The 23 conditions below are in three tiers according to their importance to student achievement: **Essential (3 points)**, *Very important (2 points)*, and Important (1 point). The highest possible score is 44.

Conditions for Success:	Comments	Score
1. Teacher understanding and trust		/3
7. Alignment with state tests, college expectations		/3
11. Diagnostic		/3
15. Teacher scoring and analysis		/3
17. Team data meetings		/3
20. Follow-up with students		/3
23. Monitoring and follow-up by the principal		/3
2. Clear grade-by-grade learning expectations		/2
4. Common across each grade and course		/2
5. At least quarterly		/2
8. Alignment with the curriculum sequence		/2
10. High-quality test items		/2
16. Rapid turnaround		/2
18. Support and direction for teacher teams		/2
3. Exemplars of proficient student work		/1
6. Given at all grade levels		/1
9. Thorough but not overwhelming		/1
12. Cumulative/year-end metric		/1
13. Solving the reading dilemma		/1
14. User-friendly data display		/1
19. SMART goals		/1
21. Enlisting students in their own improvement		/1
22. Information to parents and other helpers		/1
General observations:	TOTAL SCORE	/44

### V. The Potential Ripple Effect of Interim Assessments

The graphic on the next page puts interim assessments in the context of an instructional continuum from planning to summative assessment. The diagram suggests that, of all the ways that a principal or district can intervene to improve student achievement, interim assessments are the most powerful. This is because of the affect they can have on all the other components of teaching and learning. If interims are handled well (see the 23 criteria spelled out in this paper for the keys to successful implementation), they can:

• Give teachers timely insights on the kinds of minute-by-minute classroom assessments that might nip student misconceptions and misunderstandings in the bud and prevent them from continuing week after week.

• Give teachers periodic feedback on whether their students are actually learning what's being taught – on what's working and what isn't working in the way they are orchestrating learning experiences.

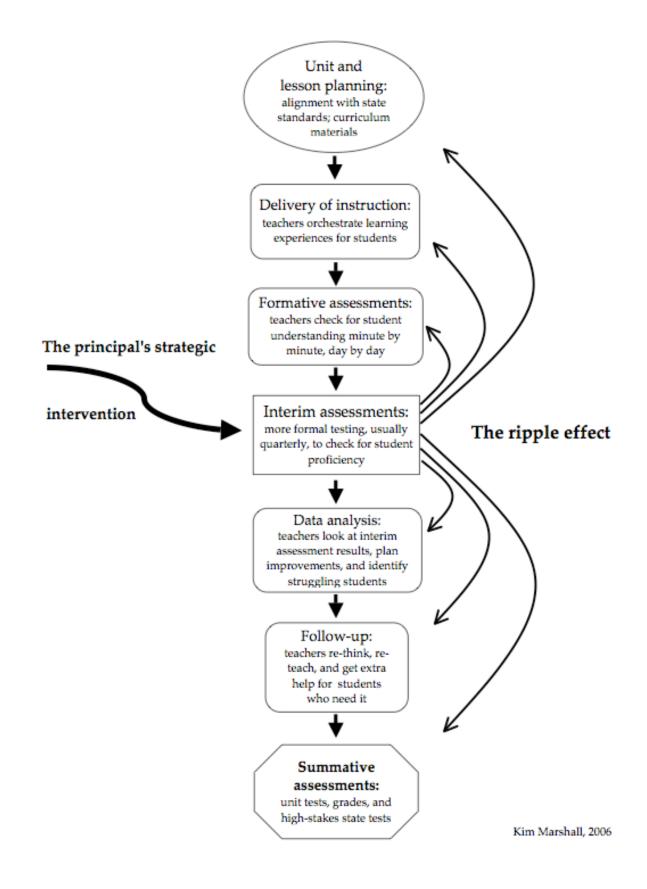
• Give teachers feedback on ways to improve their unit and lesson planning for better student understanding and retention.

• Provide fine-grained data for teacher teams to analyze student learning results and plan improvements. These meetings are critical to improving teaching and learning and accelerating student achievement during the year.

• Identify students who need follow-up and the areas in which they need extra help; this could include skills and concepts that need to be re-taught to the whole class, to small groups, or to individual students and information for tutors and after-school programs.

• Contribute to far better results on summative assessments without resorting to the "junk food" of test prep.

In short, effective use of interim assessments helps principals see the *results* of what teachers do in classrooms rather than looking only at the *process* of instruction. "It's like putting on 3-D glasses," says Paul Bambrick-Santoyo, Co-Director of North Star Academy, a 5-12 charter school in Newark that has used quarterly assessments to bring about extraordinary student achievement. Interim assessments shift the conversation to student learning, and, if they are handled well, get teacher teams working collaboratively to examine practice and find the very best ways to bring all students to high achievement.



### VI. Sources

This report is based on extensive outreach and research from August 2005 to January 2006 and also a search of articles dating back to August 2003 (with some earlier). These sources are listed below:

# Interviews and/or e-mail correspondence with New Leaders for New Schools national and city offices staff:

- Jon Schnur
- Jann Coles
- Cami Anderson
- Stephanie Fitzgerald
- Todd Kern
- Kerri Kerr
- All Post-Resident Leadership Coaches (who conducted a detailed survey of their principals on the curriculum and assessment status in each school)' Special thanks to Bettye King)
- All Executive Directors (special thanks to Billy Kearney)

### Visits to New Leaders schools, interviews with principals, teachers:

- Charles Adams, Satellite West Middle School, New York
- Claudia Aguirre, Dual Language Middle School, New York
- Drema Brown, C.E.S. 230, New York
- Melinda Dore, ACCION Academy, New York
- Tatiana Epanchin, Monarch Academy, Oakland
- Karla Faschner, University Public School (Aspire), California
- Kate Gerson (Cohort I, not currently a principal)
- Tiffany Hardrick, Lanier Middle School, Memphis
- Khalek Kirkland, Ronald Edmonds Learning Center, New York
- Nick Marinacci, Bronx Writing Academy, New York
- Jennie Niles, E.L. Haynes School, Washington, D.C.
- Ernest Peterson, River Oaks School (Aspire), California
- Nataki Reynolds, Maya Angelou School, Washington, D.C.
- Jarvis Sanford and staff members, Dodge Renaissance Academy, Chicago
- Paul Bambrick-Santoyo (plus numerous interviews and comments on drafts)
- Katie Severn, SEED Academy in Washington, D.C.
- Brian Sims, Chicago Academy High School, Chicago
- Kobie Sweeten (and principal Catherine Battle), Snowden K-8 School, Memphis
- Orpheus Williams, Achievement First Crown Heights Charter School, New York

### Interviews and e-mails with these New Leaders Residents in Baltimore:

- Sean Conley, Ivor Mitchell, Loren McCaskills, Cassandra Millette

# Interviews with district, charter school, and state department of education officials and test company leaders:

- John Avis, Deputy Superintendent, Memphis Schools

- Fred Balfour, Align to Achieve

- Mary Bourque, Assistant Superintendent for Curriculum and Instruction, Chelsea, MA

- Maria Carstarphen, Deputy Superintendent, Washington, D.C. Schools

- Joan Dabrowski, Grade 3-5 Literacy Coordinator, Cambridge, MA Schools

- Mary Lou Fischer, Assessment and Accountability, Philadelphia Schools

- Tony Flach, Center for Performance Assessment, formerly with Norfolk, VA Schools

- Irene Fountas, Lesley University

- Tom Fowler-Finn, Superintendent of Schools, Cambridge, MA

- Rebecca Glick, Literacy Coordinator, Village Academies Charter Schools, New York

- Alfred Hall, Assessment and Accountability, Memphis Schools
- Patrick Haugh, Assessment and Accountability, Chicago Schools
- Jeff Howard, Efficacy Institute

- Stuart Kahl and colleagues, Measured Progress, New Hampshire

- Deborah Kenny, Director, Village Academies Charter Schools, New York
- John King, former Co-Director, Roxbury Preparatory Charter School, Boston, MA

- Doug Lemov, School Performance

- Lisa Lineweaver, Boston Plan for Excellence, FAST-R assessments

- Jay McTighe, consultant and author

- Lori Mei, Assessment and Accountability, New York City Schools

- Ed Moscovitch, Bay State Reading Institute, MA

- Patty Mostue, Assessment and Accountability, Worcester Schools, MA

- Jeff Nellhaus, Deputy Commissioner, Massachusetts Department of Education

- Mary Grassa O'Neill, Harvard Principals' Center

- Jim Peyser, New Schools Venture Fund
- Gay Su Pinnell, Lesley University
- Jon Potts, Assessment and Accountability, Memphis Schools
- Doug Reeves, consultant and author
- Dan Restuccia, University Park School, Worcester, MA
- Rob Riman, Princeton Review, National Office
- Donna Rodriguez, Jobs for the Future
- Kate Roth, Harvard Graduate School of Education
- Jon Saphier, consultant and author, Research for Better Teaching
- Mike Schmoker, consultant and author
- Derek Smith, Princeton Review, New York City Office
- Mary Sterling, Research for Better Teaching, Lowell Public Schools
- Dacia Toll, Achievement First
- Pete Turnamian, Greater Newark Academy Charter School
- Jeff Wayman, Johns Hopkins University
- Linda Weber, Align to Achieve
- Mike White, The Learning Connection

### A conference:

"Data Systems and Instructional Improvement: There Is Much More to Do!" convened by Learning Points Associates, Austin, Texas, Dec. 1, 2, 2005

### **Books and reports:**

*After the Test: How Schools Are Using Data to Close the Achievement Gap* by Kiley Walsh Symonds, Bay Area Reform Collaborative (2003)

*Beyond the Numbers: Making Data Work for Teachers and School Leaders* by Stephen White (Advanced Learning Press, 2004)

*Challenged Schools, Remarkable Results* by Ida Oberman, Springboard Schools (2005)

*Data Wise: A Step-by-Step Guide to Using Assessment Results to Improve Teaching and Learning* edited by Kathryn Parker Boudett, Elizabeth City, and Richard Murnane (Harvard Education Press, 2005)

Drowning in Data? by Mary Shea et al. (Heinemann, 2005)

Educative Assessment by Grant Wiggins (Jossey Bass, 1998)

*Show Me the Proof* by Stephen White (Advanced Learning Press, 2005)

*Results: The Key to Continuous School Improvement* by Mike Schmoker (ASCD, 1999)

*The Results Fieldbook* by Mike Schmoker (ASCD, 2001)

Using Data/Getting Results by Nancy Love (Christopher Gordon, 2002)

*Using Data to Close the Achievement Gap* by Ruth Johnson (Corwin, 2002)

What Works in Schools: Translating Research Into Action by Robert Marzano (ASCD, 2003)

### Articles (listed by title):

"A Blueprint for Increasing Student Achievement" by Michael Rettig, Laurie McCullough, Karen Santos, and Chuck Watson, *Educational Leadership*, Nov. 2003

"A Constructive Alternative in a Destructive Debate" by Douglas Reeves, *Principal Leadership*, Mar. 2005

"Achievement-Gap Study Emphasizes Better Use of Data" by Debra Viadero, *Education Week*, Jan. 21, 2004

"A Historical Perspective on Closing Achievement Gaps" by Thomas Guskey, *NASSP Bulletin*, Sept. 2005

"Aligning Schools to State Standards" by Ronald Thomas, *Principal Magazine*, May/June 2004

"All About Accountability: Why Assessment Illiteracy is Professional Suicide" by James Popham, *Educational Leadership*, September 2004

"Alternatives to Grade Retention" by Shane Jimerson, Sarah Pletcher, and Mariellen Kerr, *Principal Leadership*, Feb. 2005

"Anatomy of School System Improvement: Performance-Driven Practices in Urban School Districts" by Lisa Petrides and Thad Nodine, *Education Gadfly*, June 2, 2005

"Are Your State's NCLB Tests Instructionally Insensitive? Here's How to Tell!" by James Popham, *National School Boards Association*, Feb. 2003

"Assessment's 'Fab Four': They Work Together, Not Solo" by Stephanie Bravmann, *Education Week*, Mar. 17. 2004

"Benchmark Assessments Offer Regular Checkups on Student Achievement" by Lynn Olson, *Education Week*, Nov. 30, 2005

"Beyond Testing: The 7 Disciplines for Strengthening Instruction" by Tony Wagner, *Education Week*, Nov. 12, 2003

"Beyond the Rock and the Hard Place" by Craig Jerald, Educational Leadership, Nov. 2003

"Building a Better Assignment" by Ruth Mitchell, *Journal of Staff Development*, Winter 2005

"Classroom Assessment Minute by Minute, Day by Day" by Siobhan Leahy, Christine Lyon, Marnie Thompson, and Dylan Wiliam, *Educational Leadership*, Nov. 2005

"Classroom Assessments Stir Growing Global Interest" by Lynn Olson, *Education Week*, Oct. 5, 2005

"Data Analysis: Searching for Clues" by George Hademenos, *Principal Magazine*, May/June 2004

"Different Starting Points: Initial Efforts to Understand Student Abilities, Interests Essential" by Rick Allen, *Education Update (ASCD)*, Sept. 2003

"Districts' Two Options for 'Assessment Literacy'" by Peter Campbell, *Education Week*, June 15, 2005

"Does '24th Out of 29' Really Matter?" by Dudley Barlow, Education Digest, Oct. 2005

"ETS Imports 'Formative Assessment' Analyst" by Lynn Olson, *Education Week*, Feb. 25, 2004

"From Formative Assessment to Assessment FOR Learning: A Path to Success in Standards-Based Schools" by Rick Stiggins, *Phi Delta Kappan*, Dec. 2005

"Give Me That Real-Time Information" by Ken McGee, *Harvard Business Review*, April 2004

"Giving 'Data' Its Own Assessment" by Suzanne Tacheny and Linda Plattner, *Education Week*, May 11, 2005

"Helping Students Understand Assessment" by Jan Chappuis, *Educational Leadership*, Nov. 2005

"How Schools Sustain Success" by Valerie Chrisman, Educational Leadership, Feb. 2005

"Inside the Black Box: Raising Standards Through Classroom Assessment" by Paul Black and Dylan Wiliam, *Phi Delta Kappan*, October 1998

"Integrating Formative and Summative Functions of Assessment" by Dylan Wiliam (Tokyo speech, 2000)

"Is Formative Assessment Losing Its Meaning?" by Stephen Chappuis, AERA, *Education Week*, Aug. 10, 2005

"Leading Edge: Are You Looking Out the Window or in a Mirror?" by Richard DuFour, *Journal of Staff Development*, Summer 2004

"Linking Data and Learning: The Grow Network Study" by Cornelia Brunner, Chad Fasca, Juliette Heinze, Margaret Honey, Daniel Light, Ellen Mandinach, and Dara Wexler, *Journal of Education for Students Placed At Risk*, Vol. 10, #3, 2005

"Looking at How Students Reason" by Marilyn Burns, Educational Leadership, Nov. 2005

"Looking at Student Work" by Georgea Langer and Amy Colton, *Educational Leadership*, Feb. 2005

"Looking at Student Work for Teacher Learning, Teacher Community, and School Reform" by Judith Warren Little, Maryl Gearhart, Marnie Curry, and Judith Kafka, *Phi Delta Kappan*, Nov. 2003

"Making Benchmark Testing Work" by Joan Herman and Eva Baker, *Educational Leadership*, Nov. 2005

"Making the Most of Standardized Test Data" by Rebecca Wisniewski, *Harvard Education Letter*, July/August 2003

"Mapping Out Solutions" by Gerrita Postlewait and Will Garland, American School Board Journal, July 2004

"National Clout of DIBELS Test Draws Scrutiny" by Kathleen Kennedy Manzo, *Education Week*, Sept. 28, 2005

"New Assessment Beliefs for a New School Mission" by Rick Stiggins, *Phi Delta Kappan*, September 2004

"Not All Teachers Keen on Periodic Tests" by Lynn Olson, *Education Week*, Nov. 30, 2005

"Passing Judgment: What It Will Take to Make Schools Constitutionally Adequate" by Edward Moscovitch, *Commonwealth Magazine*, Summer 2004

"Phila. Testing Program Gets Positive Marks" by Martha Woodall, *Philadelphia Inquirer*, Feb. 8, 2004

"Politics Aside, Complex Reasons for School's Real Success" by Samuel Freedman, *New York Times*, Sept. 29, 2004 "Practices That Support Data Use in Urban High Schools" by Mary Ann Lachat and Stephen Smith, *Journal of Education for Students Placed At Risk*, Vol. 10, #3

"Purpose of Testing Needs to Shift, Experts Say" by Lynn Olson, *Education Week*, Oct. 19, 2005

"Putting Testing in Perspective: It's for Learning" by Rick Stiggins and Stephen Chappuis, *Principal Leadership*, Oct. 2005

"Questions and Answers from the Real World" by Doug Reeves, *Center for Performance Assessment Newsletter*, March 2004

"Questions and Answers from the Real World" by Doug Reeves, *Center for Performance Assessment Newsletter*, Apr. 21, 2004

"Questions and Answers from the Real World" by Douglas Reeves, *Center for Performance Assessment Newsletter*, Feb. 2005

"Research Matters: How Student Progress Monitoring Improves Instruction" by Nancy Safer and Steve Fleischman, *Educational Leadership*, Feb. 2005

"Researchers Sort Out Data-Analysis Software" by Lynn Olson, *Education Week*, Jan. 14, 2004

"Researchers Tackle Assessments Used to Advance Learning" by Lynn Olson, *Education Week*, Sept. 22, 2004

"Seven Practices for Effective Learning" by Jay McTighe and Ken O'Connor, *Educational Leadership*, Nov. 2005

"Show Me the Way" by Matthew Dicks, Educational Leadership, Nov. 2005

"Sleuths Seek Secrets of High-Flying Schools" by Lynn Olson, *Education Week*, May 4, 2005

"Small Learning Communities That Actually Learn: Lessons for School Leaders" by Jonathan Supovitz and Jolley Bruce Christman, *Phi Delta Kappan*, May 2005

"Start Here for Improving Teaching and Learning" by Mike Schmoker, *School Administrator*, Nov. 2004

"Taking a Second Look at Accountability" by Thomas Guskey, *Journal of Staff Development*, Winter 2005

"Teaching Educators How to Use Student Assessment Data to Improve Instruction" by Kathryn Parker Boudett, Richard Murnane, Elizabeth City, and Liane Moody, *Phi Delta Kappan*, May 2005

"Teamwork on Assessments Creates Powerful Professional Development" by Jay McTighe and Marcella Emberger, *Journal of Staff Development*, Winter 2006

"The Mathematics Assessment Collaborative: Performance Testing to Improve Instruction" by David Foster and Pendred Noyce, *Phi Delta Kappan*, Jan. 2004 "The 'No Child' Noose Tightens - But Some States Are Slipping It" by James Popham, *Education Week*, Sept. 24, 2003

"The Possible Dream: A Nation of Proficient Schoolchildren" by Cara Feinberg, *Ed. Magazine (Harvard GSE)*, Spring 2004

"Three Skillful Moves to Assessment for the Busy Principal" by Kathleen Topolka Jorissen, *Journal of Staff Development*, Winter 2006

"User-Friendly Reports On Student Test Scores Help Guide Instruction" by Lynn Olson, *Education Week*, May 26, 2004

"Using Data/Getting Results: A Practical Guide for School Improvement in Mathematics by Nancy Love, *Harvard Education Review*, Spring 2004

"Using Low-Stakes Reading Assessment" by William Brozo and Charles Hargis, *Educational Leadership*, Nov. 2003

"Using Student-Involved Classroom Assessment to Close Achievement Gaps" by Rick Stiggins and Jan Chappuis, *Theory Into Practice*, Winter 2005

"Using Test Score Data to Focus Instruction" by Susan Thimble, Anne Gay, and Jan Matthews, *Middle School Journal*, March 2005

"Using Assessment to Support Reading Instruction" by Elizabeth Shellard, *Principal Magazine*, Nov./Dec. 2003

"Weaving Webs" by Jeff Archer, Education Week, Mar. 17, 2004

"What is a 'Professional Learning Community'?" by Richard DuFour, *Educational Leadership*, May 2004

"When the Smoke Clears", "How Are Professional Learning Communities Created?" and "Learning Communities at the Crossroads" by William Cook, Bruce Joyce, Mike Schmoker, *Phi Delta Kappan*, September 2004

"Where in the World Are Formative Tests? Right Under Your Nose!" by Stuart Kahl, *Education Week*, Oct. 26, 2005

"Working Inside the Black Box: Assessment for Learning in the Classroom" by Paul Black, Christine Harrison, Clare Lee, Bethan Marshall, and Dylan Wiliam *Phi Delta Kappan*, Sept. 2004

"Why Data Skills Matter in School Improvement" by Margaret Heritage and Eva Chen, *Phi Delta Kappan*, May 2005

"Wyoming Signs Innovative Test Contract with Harcourt Assessment" by Lynn Olson, *Education Week*, Oct. 13, 2004