Marshall Memo 241

A Weekly Round-up of Important Ideas and Research in K-12 Education
June 30, 2008

In This Issue:

Quotes of the Week

"You can't talk your way out of something you've behaved your way into. You have to behave your way out of it."

Doug Conant, CEO of Campbell Soup, in "The Uncompromising Leader" by Russell Eisenstat et al., *Harvard Business Review*, July/August 2008, p. 54

"When managers empower, rather than control; when they ask the right questions, rather than provide the right answers; and when they focus on flexibility, rather than insist on adherence, they move to a higher form of execution."

Amy Edmondson (see item #2)

"Reflection promotes both teachers' and students' ownership of the learning process and provides the key to unlocking their best efforts to learn."

Ron Sofo (see item #4)

"In science education, the next generation of science workers is expected to rise like cream to the top, and the system is unapologetically competitive, selective, and intimidating, designed to winnow out all but the top tier."

Sheila Tobias, quoted in item #1)

"[I]t is often expected that what is taught is learned. Unfortunately more often than not this is not the case."

Eric Mazur (see item #1)

1. In-the-Moment Assessments in Physics Instruction – An Oldie but Goodie

In this 42-page segment of his book, *Peer Instruction*, Harvard physics professor Eric Mazur (pronounced mah-ZOOR) describes how he learned to use in-the-moment assessments to get students teaching each other, bringing about major improvements in the way he taught and in students' achievement. Mazur's methods have been used successfully in a number of high schools and are applicable with younger students as well.

In his early years as a professor in the 1980s, Mazur believed that "what is taught is learned" and spent most classroom time lecturing and doing demonstrations. Things seemed to be going fine, and students did well on challenging physics problems.

Then in 1990, Mazur read several articles by Ibrahim Abou Halloun and David Hestenes. The authors noted that students enter school with strong commonsense beliefs and intuitions about the way the physical world works (for example, that in a collision between a large truck and a small car, the truck exerts a larger force; according to Newton's third law, the forces are equal), and that instruction does very little to change those beliefs.

Mazur was sure this wasn't true in *his* classroom, but just to be sure, he gave his students some brief conceptual questions that Halloun and Hestenes had compiled. At the beginning of the test, one student looked up and asked, "Professor Mazur, how should I answer these questions? According to what you taught us, or by the way I *think* about these things?" The question was a harbinger of bad news. When Mazur graded the tests, he was shocked. Although his students were terrific at memorizing formulas and could solve complex physics problems by plugging in numbers and chugging through the computations, they flopped when faced with simple questions that asked them to apply a deep understanding of physics to everyday situations.

Mazur had been teaching conceptual material – but a lot of it wasn't sinking in. What was wrong? He could have walked down the well-trodden path of blaming his students: *They're lazy. Their minds are on other things. They just aren't cut out to be physicists.* This would have been common in his field, where, as Sheila Tobias once said, "the next generation of science workers is expected to rise like cream to the top, and the system is unapologetically competitive, selective, and intimidating, designed to winnow out all but the top tier." (1990)

But instead, Mazur took responsibility for his students' learning deficits and decided to radically change the way he taught. He realized that the assessment results shone a spotlight on two common difficulties with science education. First, students can do conventional problem-solving by memorizing algorithms, and not understand the underlying concepts. Second,

students' problem-solving acumen can fool teachers into thinking they understand physics when they really don't. Mazur began to recognize the significance of several things he had noticed in his classes over the years:

- Students had been asking him to lecture less and give them more problems. This was because his tests and grades were based on problem-solving skills.
- Students, even high-achievers, kept making inexplicable blunders when confronted with a different type of problem; they couldn't apply their strategies to novel situations.
- Many students were frustrated and bored with physics, which seemed like an endless procession of mechanical recipes that didn't even work all the time. All too many of his students didn't continue in the hard sciences.

Mazur could now see a vicious cycle of boring lectures, turned-off students, poor performance on any question with novelty or deep understanding, and a continual attrition of talented students from the field.

Mazur realized that if he were teaching Shakespeare, he wouldn't spend classes reading the plays and poems aloud to students; he would have students read Shakespeare *before* coming to class and then lecture and discuss in ways that deepened students' understanding and appreciation of the Bard. And yet here he was, lecturing every day about the same material that was in the textbooks! Something had to change.

As Mazur tried to figure out how to improve his teaching, he had a clear goal: doing a better job teaching the conceptual underpinnings of physics without sacrificing students' ability to solve conventional problems. The method he hit upon, which he calls Peer Instruction, was highly successful. An added bonus, says Mazur, is that it also made his teaching easier and more rewarding.

The first change he made was giving new functions to homework, lectures, and the textbook. Pre-class reading assignments from the textbook introduced students to the material. Lectures elaborated on the reading, addressed potential difficulties, deepened understanding, built confidence, and added more problems. Finally, the textbook served as a reference and a study guide.

But the biggest change in Mazur's classroom was his use of ConcepTests and peer instruction. He developed the following instructional pattern, which he is still using today:

• At the beginning of each class, Mazur gives a brief quiz on the assigned reading. Since much of the non-conceptual material is crammed into the readings, he feels it's vital to make sure students are keeping up with the reading. The quiz grades count.

• As the class begins, Mazur lectures for 7-10 minutes on a topic, for example, Archimedes's principle, explaining and demonstrating the concept.

• Mazur then projects a brief, multiple-choice ConcepTest that assesses students' understanding of the principle he's just taught. Mazur reads the question aloud to make sure there are no misunderstandings. A sample question: *Imagine holding two identical bricks under water. Brick A is just beneath the surface of the water, while Brick B is at a greater depth. The force needed to hold Brick B in place is: (a) larger than, (b) the same as, (c) smaller than the*

force required to hold Brick A in place? Mazur has these criteria for ConcepTests: they must focus on a single concept, not be solvable by relying on equations, have adequate multiple-choice answers, be unambiguously worded, and be neither too easy or too difficult. (The website at the end of this summary contains 243 physics ConcepTests.)

• Mazur then gives students a minute in silence to reflect on the question, decide on the best answer, and write it down. He also asks them to indicate how confident they are in their answer: *Pretty sure, Not quite sure, and Just guessing*.

• He then uses an all-class response system to get a sense of the number of students who chose each answer. There are several ways of doing this: "clickers", a show of hands, or having students hold up pre-printed flashcards with the letter on them. Although Mazur uses clickers himself, he believes that other all-class response systems can work equally well.

• If between 20 and 80 percent of students didn't pick the right answer, Mazur tells students, "Convince your neighbor." As students discuss and argue, Mazur circulates and listens, gaining invaluable insights into their thinking, their ways of convincing their classmates, and their misconceptions – basically the reasons he was unsuccessful at teaching so many students. "In effect," he says, "they are teaching me how to teach. What is also important is that by listening to students who have reasoned their way to the wrong answer, I get a feel for what goes on in their minds. This involvement helps me to focus better on the problems they are facing and allows me to address these problems directly in my explanations. Finally, the personal interactions during the discussion help me keep in touch with the class." Mazur has found that students ask many more questions in this format than in conventional lectures.

• Mazur then re-polls the question. He always finds that the convince-your-neighbor discussions significantly increase the number of right answers. The debates also increase students' level of confidence in their answers. This whole dynamic works best, he says, when around 50 percent of students had the question right before the discussions, and he tries to write and select ConcepTests that produce this range of correct responses.

• If fewer than 90 percent of students pick the right answer after the convince-your-neighbor segment, Mazur slows down and explains the concept in more detail. "This repeat-when-necessary approach prevents a gulf from developing between the teacher's expectations and the students' understanding," says Mazur, "a gulf that, once formed, only increases with time until the entire class is lost."

• Finally, if more than 90 percent of students have the correct answer, he moves on to the next topic. The ConcepTest segment usually takes 5-8 minutes. Thus, each topic (lecture plus ConcepTest) takes about 15 minutes, meaning he can usually cover four topics in a one-hour class.

What have been the results of Mazur's innovations? Before and after implementing the new approach, Mazur gave two rigorous physics tests (the *Force Concept Inventory* and the *Mechanics Baseline Test*), and his students showed dramatic improvement, with only 4 percent falling below the threshold of proficiency once he started using ConcepTests and convince-your-neighbor. These gains have been maintained in subsequent years. In addition, students'

enhanced conceptual understanding improved their performance on conventional problem-solving. And surveys showed that student satisfaction with the course improved significantly.

Despite this impressive track record, Mazur finds that he has to convince each new crop of students of the merits of his instructional approach. He uses the following arguments:

- It's an insult to students' intelligence to lecture on material that they've already read or can read in the textbook.
- People don't learn from listening passively to lectures; instructors can't just pour knowledge into their heads.
- To learn, students have to do the work.
- To really understand physics, students need to do more than plugging numbers into equations and chugging the calculations; they have to able to grapple successfully with an unfamiliar situation.
- Students are graded on an absolute scale and no student's grade will go down because another student's grade has gone up. This prevents competition from getting in the way of peer collaboration.

Here are Mazur's answers to several questions that he's frequently asked about his teaching:

• *Why bother?* Because conventional teaching tends to produce students who can solve problems but not understand the deeper principles of physics and apply them to everyday situations. Conventional teaching also turns off many students and deprives the hard sciences of many fine minds.

• *Won't the convince-your-neighbor segments take up too much time and cut down on the amount of material covered?* It's true that less material is covered during class time, but Mazur compensates for that by making sure that students cover the missing material – and really pay attention to it – as they do the reading for each class. He gets better compliance than other teachers by giving a quiz at the beginning of each class and counting the grades.

• *Won't this approach widen the achievement gap between honors students and regular students?* Quite the contrary; Mazur has found that not only does his method produce much higher overall achievement, but it also narrows the gap between the bottom and top end of the distribution.

• *What if students don't do the reading?* "If you don't expect your students to read, they certainly won't, at Harvard or anywhere else," says Mazur. "The big problem – one that can be remedied – is that neither instructors nor students currently expect reading assignments in a science class." This mindset can be changed, he says, by the simple device of a reading quiz that counts at the beginning of each class.

• *But aren't Harvard students super-articulate, making peer instruction more productive?* Nonsense, says Mazur. Scores of other instructors have tried this method in high schools, community colleges, large and small state colleges – and all have reported improvements in student performance and understanding.

• *Might this method be a bad fit for some teachers' personalities?* Mazur says that those who have started to use ConcepTests and convince-your-neighbor find it impossible to go back to conventional teaching. It's much more flexible, and the discussions are "extremely stimulating, independent of the personality of the instructor."

• *But is this really teaching?* "In a number of languages," says Mazur, "the verb for 'teaching' and 'learning' is the same. Indeed, it is often expected that what is taught is learned. Unfortunately more often than not this is not the case. The goal of education should be to produce an environment where students can learn. Peer Instruction achieves this effectively with relative ease."

• *How much work is involved in adopting this approach?* The initial challenge is writing (or borrowing) ConcepTests, reading quizzes, and conceptual exam questions. Once those are in place (and Mazur has provided a bountiful supply in his book, CD-ROM, and website), this kind of teaching requires *less* preparation and effort than traditional teaching because part of each class is taken up with student discussions.

Mazur concludes with some practical advice on the steps needed to launch this kind of teaching:

- Convince yourself by giving your students a challenging conceptual test before you begin, then giving a similar exam after a year of implementation. The gains will make the case to any reasonable person.
- Motivate students by explaining the power of this approach.
- Prepare final examinations that include about 50% conceptual questions.
- Take the plunge and fully implement the ConcepTest and convince-your-neighbor approach in each class. A half-way approach is likely to leave students confused and produce more complaints.
- Stick to the reading quizzes. "If you make them read," says Mazur, "they will."
- Maintain an adequate emphasis on conventional physics problem-solving. Students still need to know how to do this.

Excerpts from *Peer Instruction: A User's Manual* by Eric Mazur (Prentice Hall, 1997); Mazur maintains a website – http://galileo.harvard.edu - with continuously updated resource materials, hundreds of ConcepTests in physics, and a forum for collaborating with other educators who are using Mazur's approach.

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2. Building Learning Into an Organization

In this *Harvard Business Review* article with cross-over appeal to educators, Harvard B-School professor Amy Edmondson contrasts two approaches to leadership: *execution-as-efficiency* and *execution-as-learning*. Organizations in the first category, says Edmondson, are so focused on getting things done (and done right) that critical information and ideas often fail to rise to the top, people don't have enough time to learn, there's unhealthy internal competition, and there's a tendency for the organization to become arrogant and think it can do

no wrong. Here's a point-by-point comparison of the advantages of execution-as-learning over execution-as efficiency organizations:

- In efficiency-oriented organizations, leaders provide answers.
- In learning-oriented organizations, leaders set direction and articulate the mission.
- In efficiency-oriented organizations, employees follow directions.
- In learning-oriented organizations, employees (usually in teams) discover answers.
- In efficiency-oriented organizations, leaders design optimal work processes.
- In learning-oriented organizations, tentative work processes are starting points.
- In efficiency-oriented organizations, new work processes aren't developed very often and implementing change is a major undertaking.
- In learning-oriented organizations, small experiments and improvements are a way of life.
- In efficiency-oriented organizations, boss-to-subordinate feedback is usually corrective and one-way (*You're not doing it right*).
- In learning-oriented organizations, feedback is usually two-way: the boss coaches and gives advice, and team members give feedback about what they're learning from doing ever-changing work.
- In efficiency-oriented organizations, problem-solving is rarely required, judgment is not expected, and employees ask managers when they're not sure.
- In learning-oriented organizations, problem-solving happens at all levels and valuable information is provided to guide employees' judgment.
- In efficiency-oriented organizations, fear of the boss is part of the work environment, inhibiting experimentation, lowering awareness of options, and discouraging people from sharing and analyzing insights, questions, and problems.
- In learning-oriented organizations, the boss is a respected part of the on-going exploration of effective practices in service of measurable outcomes.

The trick, says Edmondson, is to create a climate in which colleagues are pushed to meet demanding goals – and yet feel psychologically safe. She suggests four steps to building a this type of highly productive organization:

• *Provide process guidelines*. Leaders should share best practices from experts, publications, and other organizations – with the clear understanding that they won't work in every situation and that today's best practices may not be tomorrow's.

• *Make it possible for employees to continuously collaborate*. No matter how carefully things are planned, employee teams will always need to make decisions in response to unforeseen, novel, and complex challenges. It's essential for each team to have structured time to meet and training and support to make meetings as productive as possible.

• *Collect real-time data*. To work effectively, teams need current information on the impact of their work, and also need to provide insights to their colleagues so everyone is constantly updating their understanding and skill-sets.

• *Institutionalize disciplined reflection*. The point of real-time data collection is seeing what's going right and what's going wrong and preventing failures from recurring. For example, Cleveland Clinic hospitals set up seven teams to look at real-time data and identify areas for improvement. One team found that stroke patients were not always receiving a blood thinner within the recommended three-hour window. This insight led the hospitals to double their use of blood thinner, which reduced complications from strokes by 50 percent.

Edmondson concludes that when "managers empower, rather than control; when they ask the right questions, rather than provide the right answers; and when they focus on flexibility, rather than insist on adherence, they move to a higher form of execution." When employees grasp the big-picture goals and know that their ideas are welcome, they're much more likely to think up better practices and flag things that aren't working. Organizations that work this way are much more productive than those mired in a top-down, efficiency orientation.

"The Competitive Imperative of Learning" by Amy Edmondson in *Harvard Business Review*, July/August 2008 (Vol. 86, #7/8, p. 60-67), no e-link available; the author can be reached at aedmondson@hs.edu.

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3. How to Fulfill the Drives That Motivate Employees

"Getting people to do their best work, even in trying circumstances, is one of managers' most enduring and slippery challenges," write Nitin Nohria, Boris Groysberg, and Linda-Eling Lee in this *Harvard Business Review* article. Great thinkers like Aristotle, Sigmund Freud, and Abraham Maslow wrote about human motivation but were only able to observe behavior and couldn't see the inner workings of the human brain. "Imagine trying to infer how a car works by examining its movements (starting, stopping, accelerating, turning) without being able to take apart the engine," say the authors. "Fortunately, new cross-disciplinary research in fields like neuroscience, biology and evolutionary psychology has allowed us to peek under the hood, so to speak."

Nohria, Groysberg, and Lee report on their studies of employees in hundreds of businesses, comparing four basic drives than underlie human motivation – the drive: (a) to acquire, (b) to bond, (c) to understand, and (d) to defend oneself and one's loved ones – with four commonly-used indexes of workplace satisfaction:

- Engagement – the energy, effort, and initiative people bring to their jobs;
- Satisfaction – the degree to which the job fulfills its implicit and explicit commitments;
- Commitment – the degree to which the employee is a "citizen" in the organization;
- Intention to quit – a good proxy for employee turnover.

The authors found that organizations that did the best job of satisfying the four basic drives had the highest levels of employee satisfaction and got the most out of their workers. Satisfying each individual drive affected a particular area – for example, helping employees bond built employee commitment and helping employees understand built engagement – but the highest

levels of overall satisfaction came in organizations that focused on all four drives in concert; the whole was more than the sum of the parts.

Here are the authors' thoughts on ways organizations can use conventional management tools to meet the four drives and maximize engagement, satisfaction, commitment, and longevity in the organization:

• *The reward system* – A key motivational tool is how effectively the organization discriminates between good and poor performers, rewards good performance, and gives high performers a change to advance.

• *Culture* – The best way to satisfy the urge to bond is to actively promote teamwork, collaboration, openness, and friendship.

• *Job design* – Employees understand their jobs if they are designed to be meaningful, interesting and challenging.

• *Clear processes* – The best way to meet people's drive to defend is "fair, trustworthy, and transparent processes for performance management and resource allocation," say the authors.

Just as important as these institutional practices, conclude Nohria, Groysberg, and Lee, is employees' perception of their immediate boss. They don't expect their supervisors to wave a magic wand and change the whole organization, but they expect their managers to exercise the discretion they almost always have. Some bosses hide behind imperfect policies and say they are powerless, but others use the informal power to meet their employees' needs. For example, managers can reward good performance with praise, recognition, and choice assignments and they can promote teamwork by bringing people together and making their tasks meaningful and rewarding. "Many supervisors are regarded well by their employees precisely because they foster a highly motivating local environment, even if the organization as a whole falls short," say Nohria, Groysberg, and Lee. "On the other hand, some managers create a toxic local climate within a highly motivated organization."

"Employee Motivation: A Powerful New Model" by Nitin Nohria, Boris Groysberg, and Linda-Eling Lee in *Harvard Business Review*, July/August 2008 (Vol. 86, #7/8, p. 78-84), no e-link available; the authors can be reached at nnohria@hbs.edu, bgroysberg@hbs.edu, and llee@hbs.edu.

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4. A Pennsylvania District Targets Failing Middle-School Students

In this *Harvard Educational Review* article, Ron Sofo, the superintendent of the economically diverse district in Pennsylvania, describes how he and his colleagues launched a reform initiative to help middle-school students who were failing in math, and then expanded it to other subject areas. From the International Center for Leadership in Education (ICLE), Soto got the idea of the "New 4 Rs" – Rigor, Relevance, Relationships, and Reflection – which the district decided would guide its approach to instruction, student achievement, professional development, teacher hiring, and school infrastructure. Here's a quick run-down of how the district interprets the four Rs:

- *Rigor* – Pushing students from just memorizing, identifying, and describing toward the higher-level skills of comparing, contrasting, analyzing, evaluating, synthesizing, and creating.
- *Relevance* – Challenging students to apply and demonstrate mastery of what they learn across subject areas and in real-world, unpredictable situations. "The performance is the understanding," Sofo's troops like to say, echoing athletic coaches and drama teachers.
- *Relationships* – Personalizing instruction so that all students get the message, "We care about your success", and building staff members' skills through ongoing professional development.
- *Reflection* – Teachers planning collaboratively, sharing lessons, and tuning in to students' difficulties, successes, and desires for further learning. "Reflection promotes both teachers' and students' ownership of the learning process," says Sofo, "and provides the key to unlocking their best efforts to learn."

When Sofo began as superintendent, many of the district's teachers felt that students were performing as well as could be expected given their demographics and the district's limited budget. Test scores were at or a little above the state average, although somewhat lower in high school. Schools were making AYP, although by a slim margin, and almost nobody had a sense of urgency about doing better.

But William Renko, the middle-school principal, was not satisfied with 25-47 percent of students performing at the Basic and Below Basic levels. He believed that "the only way to improve student learning and test scores was to improve the quality of instruction provided by their caring teachers." With the superintendent's support, Renko decided to start with sixth-grade math and targeted 23 students who had scored Basic or Below Basic on the Pennsylvania state test in fifth grade, had received nothing but Fs in math over the last five years, and did not have IEPs. Here are the eight components of Target Math, the program that emerged, each drawing on the district's mantra, rigor, relevance, relationships, and reflection:

• *A, B, Not Yet grades* – Any time Target Math students didn't earn an A or B, they got a *Not Yet* and were required to keep revising their work until they reached the proficient level. During the first year, some students got *Not Yet* grades, but they were willing to keep working and every one of them pulled up to As or Bs by the end of the first semester and the end of the year. The lowest student grade in the last nine weeks of the year was a B-.

• *Co-teaching* – Two teachers were assigned to the Target Math group. This helped differentiate instruction for students and led to greater collaboration and reflection between the two teachers.

• *Looping* – The school planned to keep this target group with the same teachers for two years to promote closer relationships, use time more efficiently, and increase rigor. Unfortunately, one of the teachers left after the first year when her husband had to relocate, so the looping wasn't as pure as it might have been. And Sofo has found looping is slow to gain acceptance at the middle and high-school levels.

• *Listening to students* – Every 6-9 weeks, Target Math students filled out a 29-item questionnaire, the Diagnostic Instrument of Supervision (DIOS), to tap their perceptions of their teachers' warmth, the level of cooperation between teachers and students, and teacher fairness. Teachers studied the data and found that during the year, their scores improved considerably (.9 on a 3-point scale). Students said the biggest gains were on these two items: "There is never any undue fooling around" and "Learning in this class is not impossible."

• *Guided practice* – All the Target Math students had a history of not attempting or not finishing homework. Teachers decided to assign smaller amounts of homework than usual and set aside classroom time to work on building students' confidence and skill at successfully completing homework in school. When Target Math students were working independently, teachers monitored them closely.

• *Computer-assisted instruction and assessment* – Target Math students used a computer program that gave a baseline assessment of skills and provided interim feedback on how students were doing during the year. According to the program's assessment system, seventeen students made gains of more than a year.

• *Less is more* – Target Math teachers found that if they dialed back a little on the number of practice problems in class, the number of items on each test, and the amount of homework, students tried harder and did better. This meant that Target Math students covered less of the curriculum, but teachers made sure that the units they missed were less essential (e.g., Roman numerals).

• *A homogeneous group* – All 23 Target Math students took math at the same time, which allowed the school to focus all the program's components on students at once.

During the first year of implementation, Target Math students made impressive gains, but their improved attitudes and work ethic didn't carry over to other subjects. What's more, despite regular reports by the Target Math teachers to the rest of the staff, some were less than thrilled by the program. In particular, the *A, B, Not Yet* grading system came in for criticism, with some teachers claiming that it "poisoned" students outside the Target Math program.

All this led Sofo to implement the concepts behind Target Math more widely. The next year (2004-05), he added a Target Reading program, and the following year the high school began some of the initiatives. There was push-back, and Sofo had to address concerns among teachers about the *A, B, Not Yet* grading policy and the DIOS student survey (which some teachers thought might be used to evaluate and compare them). A new principal took over at the middle school and decided to put DIOS on hold and implement a compromise grading policy: A, *B, C, Not Yet*. Concerns about the Target Math group seeing itself as the "dumb" group led the school to return to heterogeneous grouping.

What were the achievement results? After three years of Target Math, 17 of the 23 original students were still in the program and ten of them (59%) scored proficient or advanced on the 8th-grade Pennsylvania math test. Teachers who knew these students as fifth graders said that if they had been in regular math classes, no more than two of them would have scored that well. Sofo says that the seven students who scored below proficient faced extraordinary family and life challenges outside school.

Schoolwide, the middle-school gains were even more impressive. In 2003, before the initiatives began, 53 percent of fifth graders scored proficient or above on the state math test. By 2006, the cohort had risen to 79 percent proficient and above – a 26-point gain compared to a 6-point gain statewide – and it occurred in all student subgroups.

Sofo closes with a reflection on the *A, B, Not Yet* grading controversy, which continues to generate strong feelings in the district. "Most of our teachers, while supporting the concept of student success, find it difficult to adopt a grading system that does not have failing grades as part of the rating system," he writes. Here are the questions that middle-school teachers say need to be answered before they can embrace the policy:

- What do we do for the students who are still performing at the *Not Yet* level at the end of the school year?
- How would this affect their transcripts?
- Is it fair that these students receive a higher Quality Point Average than students who are succeeding and working hard in classes where their teachers do not use this grading approach?
- Is it fair that some students make honor roll with the *A, B, Not Yet* grading system and other students do not because they receive a *C* grade in math class?

Sofo has the final word: "I continue to wonder," he writes, "whether our current system of grading has more to do with control and power within the student-teacher relationship than with maximizing each student's potential for learning and academic growth." Sofo proposes a pyramid of interventions starting in the first week of the school year, discarding strategies that don't work in favor of more effective ones. For students who are still *Not Yet* at the end of the school year, he proposes tailoring curriculum standards to meet their needs and providing a focused summer school or after-school program to help them meet the standards.

"Beyond NCLB and AYP: One Superintendent's Experience of School District Reform" by Ron Sofo in *Harvard Educational Review*, Summer 2008 (Vol. 78, #2, p. 391-409), no e-link

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Do you have feedback? Is anything missing?

If you have comments or suggestions, if you saw an article or web item in the last week that you think should have been summarized, or if you would like to suggest additional publications that should be covered by the Marshall Memo, please e-mail: kim.marshall8@verizon.net

About the Marshall Memo

Mission and focus:

This weekly memo is designed to keep principals, teachers, superintendents, and others very well-informed on current research and effective practices in K-12 education. Kim Marshall, drawing on 37 years' experience as a teacher, principal, central office administrator, and writer, lightens the load of busy educators by serving as their "designated reader."

To produce the Marshall Memo, Kim subscribes to 44 carefully-chosen publications (see list to the right), sifts through more than a hundred articles each week, and selects 5-10 that have the greatest potential to improve teaching, leadership, and learning. He then writes a brief summary of each article, pulls out several striking quotes, provides e-links to full articles when available, and e-mails the Memo to subscribers every Monday evening (with occasional breaks; there are about 50 issues a year).

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Publications covered

Those read this week are underlined.

American Educator
American School Board Journal
ASCD, CEC SmartBriefs, Daily EdNews
Atlantic Monthly
Catalyst Chicago
CommonWealth Magazine
Ed. Magazine
EDge
Education Digest
Education Gadfly
Education Next
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Harvard Education Letter
Harvard Educational Review
JESPAR
Journal of Staff Development
Language Learner (NABE)
Middle Ground
Middle School Journal
NASSP Bulletin
New York Times
New Yorker
Newsweek
PEN Weekly NewsBlast
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