Marshall Memo 56

A Weekly Round-up of Important Ideas and Research in K-12 Education
October 4, 2004

In This Issue:

Quotes of the Week

"When teachers recognize that knowledge for improvement is something they can generate, rather than something that must be handed to them by so-called experts, they are on a new professional trajectory. They are on the way to building a true profession of teaching, a profession in which members take responsibility for steady and lasting improvement."

James Hiebert and James Stigler (see item #1)

"In truth, most schools play a form of educational lottery with children."

Rick DuFour (see item #2)

"Schools must be redesigned around principles adapted from the organization of professional work in the 21st century. Professionals do not work alone; they work in teams… In medical, legal, and architectural settings, the services are provided by experienced and novice professionals working together to accomplish the goal – to heal the patient, win the lawsuit, plan the building.

Arthur Wise (see item #4)

"Yours is not to question why, just invert and multiply!"

Marilyn Burns, quoting an old saw (see item #3)

"The main problem besetting textbooks, we know, is their quality. They are sanitized to avoid offending anyone who might complain at adoption hearings in big states, they are poorly written, they are burdened with irrelevant and unedifying content, and they reach for the lowest common denominator. As a result, they undermine learning instead of building and encouraging it."

Diane Ravitch (see item #9a)

1. How Teaching Improves

In this thought-provoking article, James Hiebert and James Stigler describe what they learned from hundreds of videotapes of 8th-grade math teachers in the U.S. and other countries: *American teachers do too much for students*. In the U.S., teachers present challenging conceptual problems and then almost always step in and do the work for students, ignoring the conceptual aspects when they discuss the problems. As a result, American students spend virtually all their time practicing skills; no wonder our kids do much worse than students in a number of other countries on higher-level math problems. Teachers in higher-performing countries require their students to wrestle with conceptual problems and explore and discuss mathematical relationships.

Stigler and Hiebert believe this is not a curriculum problem: students in all countries they studied are assigned a mix of conceptual and skill problems. Rather, it's a problem with American teaching (at least 8th-grade math teaching). The question is, how can teachers change their deeply-ingrained habit of stepping in and doing too much for students?

As they did in their 1999 book, *The Teaching Gap*, Hiebert and Stigler argue that teaching is a cultural activity: the way we teach comes from the way we were taught as children, which tends to be remarkably consistent within each country. "Changing teaching means changing the culture of teaching," they say, "not distributing more recommendations or holding more workshops. Teaching can only change the way cultures change: gradually, steadily, over time as small changes are made in the daily and weekly routines of teaching.

Deconstructing the week-in, week-out process of teaching, the researchers list four stages:

- A lesson is planned;
- The lesson is taught to students;
- Students are assessed;
- The teacher reflects on the lesson's impact on students.

In most American schools, these steps takes place *in a big rush*. To change (and thereby improve student performance), teachers need to *slow down* each step and examine what they are doing much more carefully. Stigler and Hiebert have several suggestions for making this happen in schools:

• *Team time* – We need to create blocks of time each day or week when teachers can work together to plan lessons and assess whether students are learning. This is a far better use of grade-level or department team meetings than what typically occurs.

• *Exemplars* – Teachers need to see vivid examples of alternative ways of teaching. Viewing classroom videotapes and watching closely for the ways different teachers get their students to solve problems can pay enormous dividends. The videos don't have to show award-winning teaching; a lot can be learned from watching the missed opportunities and teaching errors in flawed lessons. Eventually teachers may feel confident enough to watch videotapes of their own classes, which is a powerful way to improve practice.

• *Looking at student learning results* – If teachers are trying to improve their effectiveness at conveying specific knowledge and skills, the most important information is whether students actually learned what was being taught! When teachers analyze how students solved a problem, how they explain their thinking, and what errors they made, powerful insights emerge.

The process recommended by Stigler and Hiebert has the same ingredients that recent research has identified in effective professional development: (a) it is located right in the school; (b) it deals directly with the curriculum; (c) it focuses on clear student learning goals and how students perform; and (d) it continues over time. Most important, this process is a constant experiment in which teachers become action researchers: "Planning to learn from teaching means setting clear learning goals (for the students and for the teacher), planning instructional activities hypothesized to achieve the learning goals for students, collecting data from students about how well the goals were achieved, and interpreting the data to revise the hypotheses and improve the lesson next time."

Stigler and Hiebert believe this is the only way that teaching changes: a little bit at a time, slowly, over time: "When teachers recognize that knowledge for improvement is something they can generate, rather than something that must be handed to them by so-called experts, they are on a new professional trajectory. They are on the way to building a true profession of teaching, a profession in which members take responsibility for steady and lasting improvement. They are building a new culture of teaching."

"A World of Difference: Classrooms abroad provide lessons in teaching math and science" by James Hiebert and James Stigler in *Journal of Staff Development*, Fall 2004 (Vol. 25, #4, p. 10-15) http://www.nsdc.org/library/publications/jsd/hiebert254.cfm

2. Dealing With Staff Resistance to Helping All Struggling Students

What happens when, despite teachers' best efforts, a student is not learning? In many schools, getting extra help is a matter of chance. "In truth," says Rick DuFour in this hard-hitting article, "most schools play a form of educational lottery with children."

In a professional learning community, however, intervention for struggling students does not depend on the ball falling into the lucky slot on the roulette wheel. These schools develop a systematic, mandatory response; they monitor each student's learning through timely, during-the-year, common assessments and guarantee that students who are having difficulty get additional time and support immediately – without having to ask for it.

But what happens when a teacher does not buy into the process of giving common assessments, looking at interim data, and helping students who are not succeeding? Ideally the resistant teacher's team takes care of the matter. DuFour talks about three kinds of team:

- A "great" team will deal with the issue immediately, talking directly to the teacher and applying positive peer pressure.
- A "good" team will refer the matter to the principal.
- An "ineffective" team will ignore the problem, "letting it fester and build until resentment and frustration lead to an explosion of accusations and recrimination."

In schools that are in the process of becoming professional learning communities, not all teams are great, and the principal has to bite the bullet. DuFour feels that the best approach is a private meeting with the teacher: the principal expresses concerns very directly, identifies the specific steps the teacher needs to take to remedy the situation, and asks what kind of help the teacher needs to make the necessary changes. Some teachers do not take kindly to these meetings and become quite emotional and defensive. It's important that the principal not hedge or back down, making it clear, without rancor, but with no doubt at all about expectations, that the teacher's approach to student learning is unacceptable and must change.

This is the way an entire staff comes to act on this belief and the culture of the school – "the way we do things around here" – shifts to support universal learning.

"Leading Edge: Culture Shift Doesn't Occur Overnight – or Without Conflict" by Rick DuFour in *Journal of Staff Development*, Fall 2004 (Vol. 25, #4, p. 63-64)
http://www.nsdc.org/library/publications/jsd/dufour254.cfm

3. What Math Should Students Discover? What Should Just Be Taught?

In this helpful article, math guru Marilyn Burns pokes fun at the way we try to teach students complex math operations by rote ("Yours is not to question why, just invert and multiply!") and then makes a distinction between the kind of math that students need to learn through discovery and hands-on activities and the kind of math that should be memorized. She thinks teachers need to distinguish between these two types of math learning and not feel embarrassed about using quite traditional pedagogy to teach the second:

• *Math logic* – This involves making sense of mathematical ideas and skills for which reasoning is the avenue for building understanding and the source of understanding. For example, borrowing: students can learn it by rote, but if they do, they'll continue to make basic errors until they have learned at a deeper level why you can't take a bigger number from a smaller number and how the zeroes work. "Understanding doesn't occur from being told," says Burns. "We must give children ways to make sense of our place value system of numeration and how we use it."

• *Math conventions* – These are socially agreed-upon terminology and symbols to describe mathematical ideas. For example, the numeral for the quantity six, the plus sign for adding, or the times sign for multiplying. There's no way for kids to figure these out or discover them because there's no logic or meaning in the symbols themselves. Burns's advice: "When a lesson, or part of a lesson, addresses a social convention of mathematics, the source of knowledge is external and it makes sense for teachers to impart the knowledge. In these instances, teaching by telling is appropriate, memorization is often necessary and practice or reinforcement is usually required."

"A Can of Coke Leads to a Piece of Pi" by Marilyn Burns in *Journal of Staff Development*, Fall 2004 (Vol. 25, #4, p. 16-21), no e-link available

4. Rethinking Teamwork in Schools

In this ground-breaking article in *Education Week*, Arthur Wise argues that the "egg-carton" organization of schools (teachers working in isolation) is a major contributor to high teacher turnover (especially in hard-to-staff schools), the uneven distribution of teaching talent (with high-poverty schools getting the short end of the stick), and the racial/economic achievement gap ("Students in hard-to-staff schools are taught by a succession of would-be teachers… the unprepared and under-prepared, who struggle and then quit."). Wise bemoans the fact that in many inner-

city schools, novice teachers flounder while seasoned veterans and university folks in the same building have few opportunities to share their expertise.

"It's time for a new paradigm," he writes. "Schools cannot continue to operate using the now dysfunctional 19th-century factory model. Schools must be redesigned around principles adapted from the organization of professional work in the 21st century. Professionals do not work alone; they work in teams… In medical, legal, and architectural settings, the services are provided by experienced and novice professionals working together to accomplish the goal – to heal the patient, win the lawsuit, plan the building. The team delivers the services. The experienced professionals are accountable to the client for those services and are responsible for the performance of the novices. The novices do much, often most, of the work, but do so under supervision. Experienced personnel create structure and are prepared to step in when necessary. The novices learn by doing, with feedback and correction by mentors."

How would this concept work in a cluster of six elementary classrooms serving 150 students? Normally, it would cost about $360,000 to staff these classrooms with six teachers (each earning an average of $60,000). Wise proposes a radically different way of spending the same budget, with the twin goals of supporting the development of novice teachers (allowing them to serve while they learn) and being accountable for student learning. He proposes a team composed of 17 members:

- One team leader, an accomplished professional (perhaps with National Board Certification);
- One senior teacher to assist the leader;
- Two novice teachers who are committed to a career in teaching;
- Two under-prepared teachers less committed to teaching as a career;
- Six student teachers working half time while preparing to be teachers;
- Four interns working half time for half pay as they complete their initial preparation to be teachers;
- A university faculty member who oversees the student teachers and interns.

The senior teachers would plan instruction using the full array of possible formats (large-group, small-group, tutorial, and computer-assisted learning). The two team leaders would be responsible for the overall program (and its results), but the whole team would take part in planning in regular team meetings. Most of the actual teaching would be done by the novice teachers, student teachers, and interns, closely supervised by the team leaders and university faculty member.

Professional development, unit planning, and conferences could be built into the school day since all 17 members of the team would not need to be with students all the time. Less experienced team members would gradually take on greater and greater responsibility as they become more proficient. Salaries on the team might range from $90,000 for the team leader to $30,000 for the novice teachers, part-time pay for the interns and university faculty member, and no pay for the student teachers.

Teams could be configured in different ways within a school: a team could take responsibility for a grade level (e.g., six 1st-grade classes), a subject, or multiple subjects (e.g., English language arts and social studies for one team, math and science for another, with teachers going with their strengths; it's unrealistic to think that all elementary teachers will be strong in math and science).

Wise feels that the support, training, and reflection time provided by this team arrangement would eliminate much of the guesswork and anxiety that wears down beginning teachers: "Having to reinvent the wheel – including lesson planning, classroom management, student evaluation – as a first-year teacher, especially an unprepared or under-prepared teacher, has overwhelmed beginners for years and drives many from the classroom."

"Teaching Teams: A 21st-Century Paradigm for Organizing America's Schools" by Arthur Wise in *Education Week*, Sept. 29, 2004 (Vol. 24, #5, p. 43, 32)
http://www.edweek.org/ew/ewstory.cfm?slug=05Wise.h24

5. A Radical Proposal: More Homework for High-School Students

According to a 1994 commission, American high-school students put in less than half as much time on academic subjects as students in Japan, France, and Germany. But lengthening the school day or increasing the number of days in the school year are prohibitively expensive and cutting electives bring howls of protest. Instead, says Jonathan Rauch in this short article in *The Atlantic*, we should do something that costs no money, requires no special approval by political bodies, and could be implemented overnight: increase the amount of homework.

Homework, argues Rauch, is an underutilized tool for increasing student learning time and improving achievement. A 2001 research survey by Harris Cooper concluded: "For high school students the effect of homework can be impressive. Indeed, relative to other instructional techniques and the costs involved in doing it,

homework can produce a substantial, positive effect on adolescents' performance in schools."

But aren't kids already getting too much homework? This is only true of a small percentage of students aiming for elite colleges. A 1999 National Assessment of Educational Progress study found that two-thirds of 17-year-olds did less than an hour of homework a night (about ten minutes per subject) and 40 percent did no homework at all (it was 34 percent in 1984). A 1995 international comparison of homework time in twenty nations found the U.S. tied for the next-to-last place.

Why aren't more people talking about beefing up homework assignments? Maybe because there's no money to be made by increasing homework. Maybe people resent schools' intrusion into home life, TV, Internet, etc. But Rauch thinks the main reason is "reluctance to use or even hint at the L-word in reference to American kids. The country's schools certainly need fixing. But it is also the case that many American students are lazy (there, I said it!)."

Most students are willing to acknowledge that they're not working at full capacity. A 2001 study found that 71 percent of high-school students agreed that most students in their school "[did] the bare minimum to get by," and 56 percent said they "could try a little harder." Rauch contends that if the 40 percent of students who are doing no homework did only 20 minutes a night, it would make a big difference in achievement.

Rauch concludes: "Americans like to view their children as passive recipients of education – as products of the schools. If the product is defective, fix the factory. You will know that Americans are finally serious about education reform when they begin to talk not just about how the schools are failing our children but also about how our children are failing their schools."

"Now, for Tonight's Assignment…" by Jonathan Rauch in *The Atlantic Monthly*, November 2004 (Vol. 294, #4, p. 54), no e-link available

6. Seven Surprises for New Leaders

This *Harvard Business Review* article describes seven surprises that confront many corporate CEOs when they assume their exalted positions. How many of these apply to school leaders?

• *Surprise one: You can't run the organization*. Warning signs: you are in too many meetings and involved in too many tactical discussions; there are too many days when you feel you have lost control of your time.

• *Surprise two: Giving orders is very costly*. Warning signs: You have become the bottleneck; employees are overly inclined to consult you before they act; people start using your name to endorse things, as in "Frank says…"

• *Surprise three: It is hard to know what is really going on*. Warning signs: You keep hearing things that surprise you; you learn about events after the fact; you hear concerns and dissenting views through the grapevine rather than directly.

• *Surprise four: You are always sending a message*. Warning signs: Employees circulate stories about your behavior that magnify or distort reality; people around you act in ways that indicate they're trying to anticipate your likes and dislikes.

• *Surprise five: You are not the boss*. Warning signs: You don't know where you stand with your real boss; your boss wants to hear only about results and decisions.

• *Surprise six: Pleasing your boss is not the goal*. Warning sign: your superiors outside the organization may not be in touch with what really matters.

• *Surprise seven: You are still only human*. Warning signs: You give interviews about you rather than about the organization; you have few if any activities not connected to the organization.

These seven surprises have clear implications. First, leaders must learn to manage organizational context rather than becoming consumed with the details of daily operations. To be effective, leaders need to act in indirect ways: planning and communicating strategy, putting sound processes in place, selecting and mentoring key people, and creating the conditions that will help others make the right choices. At the same time, leaders need to set the tone, culture, and values through words and actions – in other words, demonstrate how employees should behave.

Second, leaders must recognize that an executive position "does not confer the right to lead, nor does it guarantee the organization's loyalty. [Leaders] must perpetually earn and maintain the moral mandate to lead. [They] can easily lose their legitimacy if their vision is unconvincing, if their actions are inconsistent with the values they espouse, or if their self-interest appears to trump the welfare of the organization. They must realize that success ultimately depends on their ability to enlist the voluntary commitment rather than the forced obedience of others."

Finally, leaders must avoid getting totally absorbed in the job. "Failing to recognize this will lead to arrogance, exhaustion, and a shortened tenure." To get long-term results, leaders must maintain a personal balance and stay grounded.

"Seven Surprises for New CEOs" by Michael Porter, Jay Lorsch, and Nitin Nohria in *Harvard Business Review*, Oct. 2004 (p. 62-72), no e-link available.

7. Should Staff Developers Be Personal Trainers or Team Coaches?

Researcher Kate Cress describes two quite different ways of using in-school teacher leaders or staff developers:

• *The personal trainer model* – Working with individual teachers in the following ways:

- Planning with a teacher;
- Doing demonstration or model lessons;
- Co-teaching;
- Debriefing co-taught lessons
- Referring individual teachers to other resources (e.g., outside workshops).

• *The team coach model* – Working with grade-level or subject-area groups of teachers in the following ways:

- Initiating and nurturing study groups;
- Organizing teacher networks within and across schools;
- Encouraging teacher-to-teacher mentoring within and across schools;
- Helping set up grade-level meetings;
- Introducing lesson study sessions among groups of teachers;
- Running workshops or directing groups of teachers to outside workshops.

Cross says that schools and districts should choose the model that best suits what they are trying to accomplish; each can be effective. She then makes four suggestions for getting the most out of teacher leaders and staff developers:

- Set clear goals for teacher leaders and staff developers, including a detailed job description.
- Identify a central focus for their work (e.g., implementing a new curriculum).
- Herald their work and provide tangible support; high-level district support saves staff developers the time of selling their work to schools.
- Protect them from misuse or overuse; if teacher leaders are treated as jacks-of-all-trades, they will not fulfill their real mission.

"Personal Trainer or Team Coach?" by Kate Cress in *Journal of Staff Development*, Fall 2004 (Vol. 25, #4, p. 54-57), no e-link available

8. Getting the Most Out of Parent Conferences

"Parent-teacher conferences can be daunting," says Marjorie Hancock, Kansas education professor, parent, and former teacher. She offers parents these ten pointers for making conferences more successful:

- Arrive on time. This sends the message that the parents care.
- Bring a written list of questions. "A lot of parents get nervous because the teachers are the professionals and they get back into their car and think 'Why didn't I ask that?'"
- Realize that your child may act differently in school than at home; be open to the teacher's descriptions of your child's behavior in school.
- Don't be defensive. It's all about helping your child do better in school.
- Ask the teacher for examples of your child's work to back up the points the teacher is making.
- Discuss specific strengths of your child as a learner; build on your child's strengths.
- Ask the teacher for specific ways you can help at home.
- Set 2-4 specific goals for your child in the next grading period.
- Share what the teacher reports with your child. Better yet, have your child be part of the conference.
- Remember that, as a parent, you are the most important person in your child's life. Give your child a hug and reassurance after the conference. "The bottom line is 'I love you,'" says Hancock. "It's almost a team approach to success."

"Getting the Most Out of Parent Conferences" in *PEN Weekly NewsBlast*, Sept. 30, 2004. See http://www.click2houston.com/education/3767252/detail.html

9. Short Items:

a. Textbooks trashed – A new report is heavily critical of the quality of textbooks, blaming the adoption process used by 21 states for warping the way textbooks are written and edited. "The main problem besetting textbooks, we know, is their quality," says Diane Ravitch. "They are sanitized to avoid offending anyone who might complain at adoption hearings in big states, they are poorly written, they are burdened with irrelevant and unedifying content, and they reach for the lowest common denominator. As a result, they undermine learning instead of building and encouraging it."

[This report is one more argument for being *highly* selective when choosing textbooks (there are a few good ones out there), always looking at alignment (textbooks usually contain much more than any given state's curriculum), and always seeing textbooks as a resource, not the curriculum.]

C in *PEN Weekly NewsBlast* (Sept. 30, 2004). For the complete report (by Chester Finn and Diane Ravitch), go to:
http://www.edexcellence.net/institute/publication/publication.cfm?id=335

b. Classroom resources for the election – A new web-based resource helps teachers bring the election into their classrooms. "Growing Voters and Election 2004: Complete Materials for Teachers, Grades 1-12" includes free downloadable lesson plans, activities, websites, rubrics, etc. It's at http://www.lesley.edu.election04/ Spotted in *PEN Weekly Newsblast*, Sept. 30, 2004

c. Parent pointers – The Kellogg Foundation's ENLACE initiative has four free resources to help parents get more involves in their children's education. See http://www.parents.ksaplus.com (spotted in *PEN Weekly NewsBlast* Sept. 30, 2004_

d. Open source software – A number of school districts are moving toward open-source operating systems and software, reaping three important advantages: cost-savings, no copyright hassles, and fewer problems with viruses. Open-source software usually runs on the open-source operating system Linux, but can also be designed to run on Windows and Macintosh.

"Software Solution Saves Dollars" by Andrew Trotter in *Education Week*, Sept. 29, 2004 (Vol. 24, #5, p. 1, 15) http://www.edweek.org/ew/ewstory.cfm?slug=05Linux.h24

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 aims to keep busy principals and other educators very well-informed on important research and ideas in K-12 education. Kim Marshall, drawing on 35 years of experience as a teacher, principal, central office administrator, coach of principals, and writer, acts as "designated reader." Kim searches through 39 publications the week they come out, chooses the articles that are most relevant and useful to improving teaching and learning, and summarizes them in a brief e-mail. Some ideas will be familiar, reinforcing what readers already know; others will be new and genuinely thought-provoking.

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Publications covered:

(those read this week are underlined)

American Education Research Journal
American Educator
American School Board Journal
ASCD SmartBrief
Atlantic Monthly
Bay State Banner
Boston Globe
CommonWealth Magazine
Curriculum/Education Update (ASCD)
Ed. Magazine (Harvard School of Education)
Education Digest
Education Gadfly
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Phi Delta Kappan
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Psychology Today
Reading Research Quarterly
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Rethinking Schools
Review of Educational Research
Teachers College Record
Teacher Magazine

E-links will be provided whenever possible.