# Marshall Memo 47

A Weekly Round-up of Important Ideas and Research in K-12 Education
July 19, 2004

## In This Issue:



## Quotes of the Week

"There are a lot of children who are suffering, and we should not have to wait another generation before we get things right."

Rev. Michael Pfleger of Chicago, quoted in *Education Week* (July 14, 2004, p. 21) on the city's latest effort at school reform

"We know what works… [W]e must begin spreading the technical know-how and building the political will necessary to ensure that all students, no matter where they live or who their parents are, have the knowledgeable, skilled, and supported teachers they need."

Barnett Berry, Southeast Center for Teaching Quality, Chapel Hill, NC in a letter to *Education Week* (July 14, 2004, p. 42) on a story on Teach for America

"If you don't know the problem, you can't fix it.

Ed Moscovitch (see item #1)

"[T]eachers and principals don't know what they don't know."

Ed Moscovitch (*ibid*.)

"As in medicine, the key to effective school change is to use rigorous assessment to determine the problem and research-based interventions to address it."

Ed Moscovitch (*ibid*.)

## 1. A "Virtuous Cycle" of School Change Is Better Than a Vicious Cycle

This important article by Massachusetts researcher Ed Moscovitch starts with the state's ongoing court battle on "adequate" school funding, noting a judge's preliminary finding that more money doesn't necessarily mean better education and won't by itself close the achievement gap. "Paradoxically," Moscovitch writes, "what the debate has lacked so far is a discussion of how schools improve." He argues that we must develop a theory of action for improving schools and only then turn to the question of how much it will cost.

Moscovitch draws an analogy to medicine: "Until recently, the standard treatment for severely clogged arteries was bypass surgery, which is invasive, painful, expensive, and risky. In the last few years, medical researchers have discovered that stents – particularly medicated stents – are more cost-effective ways to keep arteries open. They produce similar or better results, involve less risk to the patient, allow a speedier recovery – and cost less.

"As in medicine," Moscovitch says, "the key to effective school change is to use rigorous assessment to determine the problem and research-based interventions to address it."

In his evaluation of the Alabama Reading Initiative, one of the largest school improvement efforts in the country, Moscovitch found that the key component to the program's success is what he calls a "virtuous cycle" of data-driven instruction:

- Frequent, during-the-year assessments of individual students' progress and the particular deficiencies that were holding each student back;
- Teachers working with small groups of students one at a time while other students were constructively engaged in independent or small-group activities (this often required training teachers in classroom management techniques);
- Teachers using research-based interventions with small groups of students to address the deficiencies revealed by assessments;

• Frequent monitoring of students' progress (weekly with those who were furthest behind), which told teachers if their teaching was effective. If it wasn't producing results, they looked for new strategies (helped by coaches knowledgeable in the subject) and tried something different.

Moscovitch says this program depends on four additional elements to be successful:

- Support and inspiration from the principal;
- Leadership roles for teachers in monitoring student progress, devising new curricula, and helping each other implement change (in other words, the teachers "own" the data);
- Consistently high expectations from teachers and principals as to what students can accomplish;
- Support from outside coaches who lay out a vision of change and insist that the school stick to it.

Moscovitch describes breakthroughs in four schools that bought into this process:

• After getting in-depth training last fall, teachers in a Coosada, Alabama grade 4-6 school had a series of discussions on what was working in their school and what wasn't. They decided to revamp their reading program, adopted a new school schedule, and doubled the time for interventions with struggling readers. They also began a shared teaching program – two teachers from different grades and/or subjects teaching a class together – which helped teachers break out of their accustomed isolation.

• In an all-African-American, all-poor school in rural Pine Apple, Alabama, Moscovitch toured the school with the principal, who was able to point out every struggling reader. The principal told about how he met twice a month with each teacher to discuss the strategies each was using, and couldn't wait to share the progress-monitoring results that showed the gains the students were making.

• In a school south of Boston, teachers knew their students were struggling, but had not identified the reasons and were stuck instructionally. Their literacy coach used an interim assessment to show them that 75 percent of their students couldn't decode – they were not able to automatically and fluently translate the symbols on the page into sounds, words, sentences, and paragraphs. "If you don't know the problem," writes Moscovitch, "you can't fix it. Particularly in literacy, there's extensive research on the kinds of interventions to use for most of the difficulties teachers encounter. The coach helped the school pick out and purchase intervention materials specifically

designed for decoding problems and helped the teachers learn to use them. As they begin to see their progress-monitoring results improve, teachers are buying into the whole notion of data-driven, research-based instruction… [T]eachers and principals don't know what they don't know. If they didn't know their students couldn't decode, and didn't know the research on decoding interventions, and didn't know about assessments and small-group instruction, they couldn't improve reading results – even with more money."

• At the Bow School in Chicopee, Massachusetts, interim assessment results are instantly available to teachers, so they can immediately see progress and begin to use the data to measure whether their classroom interventions are working – and change them if necessary. Moscovitch writes, "It's impossible to overstate how far behind children from non-literate homes are when they come to school. By one account, the typical kindergartener from suburbia knows four times as many words as her inner-city counterpart. So minority and low-income students will need extra time to work on vocabulary, language structure, and grammar if they are to have any hope of reading with comprehension – or of mastering science, math, or history. But the Chicopee principal has the right idea – assess progress, identify student deficiencies, and offer appropriate interventions."

Moscovitch contradicts skeptics who say that unions are an obstacle to turning around struggling high-poverty schools. He says that in his experience, local union leaders are the strongest proponents of this kind of systematic change – as long as teachers are compensated for extra time.

Moscovitch feels so strongly about the power of the "virtuous cycle" of frequent assessment and data-driven improvement that he thinks the Massachusetts Department of Education should require it in struggling schools. "To accomplish turnaround on a wide scale, we need to practice prescriptive intervention – that is, the department has to have a well conceived model of school change, and has to insist that participating schools follow that model." This will cost money – to pay for interim assessments, teacher training, common planning time, structured intervention materials and instructional programs, and school-based coaches. But success can become the most powerful driver of increased funding. Moscovitch says that in Alabama, a state that is practically broke, the overwhelming support of teachers, who are "thrilled" with the improvements they are seeing, has been an important factor in producing a major increase in the funding for the program.

Moscovitch advises starting small – focusing on reading in the first year or two – so as not to overwhelm teachers and principals. But progress in reading may have a multiplier effect: he notes that by fifth grade, Alabama students in schools participating in a reading-focused initiative outperformed non-participating schools in math and had fewer discipline problems. "When schools are successful at teaching all students to read, fewer students are referred to special education and many difficult behaviors disappear (older students who can't read often act out to hide the fact that they can't follow the lesson).

"Passing Judgment: What It Will Take to Make Schools Constitutionally Adequate" by Edward Moscovitch in *Commonwealth*, Summer 2004 (Vol. 9, #4, p. 9-16), http://www.massinc.org/handler.cfm?type=1&target=2004-3/perspective.htm .

## 2. Why Stories Are Such Valuable Teaching Tools

Cognitive science has confirmed an ancient truth: stories are powerful teaching tools. Stories always teach better than simple expository prose. If teachers understand what makes stories effective, they can harness that power to enhance their impact on students.

Professional storytellers (playwrights, screenwriters, and novelists) agree on several key components that make a good story. They are sometimes called "The Four C's:"

- *Causality* – The elements of the story are linked by cause and effect. This "narrativity" is why we read stories more quickly than expository text and remember about 50 percent more: we are familiar with the format and know what to expect.
- *Character* – Good stories have strong, interesting characters, and we learn about what makes them interesting by observing them in action ("Action is character," wrote F. Scott Fitzgerald).
- *Conflict* – In all stories, obstacles prevent a central character from reaching a goal, piquing our interest.
- *Complications* – The lead character's efforts to remove or overcome obstacles to reach the goal create new problems that must be solved, furthering our interest in the outcome.

Another research insight about stories is that interest is heightened when we need to make "medium-level inferences" as we read or listen. For example, a 1999 study by Sung-il Kim found that readers thought that the following passage was more interesting when the penultimate sentence (in parentheses) was omitted:

A newlywed bride had made clam chowder soup for dinner and was waiting for her husband to come home. Although she was not an experienced cook she had put everything into making the soup. Finally, her husband came home, sat down to dinner, and tried some of the soup. (He was totally unappreciative of her efforts and even lost his temper about how bad it tasted.) The poor woman swore she would never cook for her husband again.

Readers remember better when they have to make an inference to connect parts of the story than when everything is spelled out. Our minds seek causal connections, and this enhances understanding and memory.

There are several classroom implications of these findings:

• *Teachers should tell more stories in class*. Because stories are interesting, easy to remember, and easy to understand, they make ideal introductions to new units, and are good vehicles for after-lunch tidbits of teaching content, re-caps at the end of a complex discussion, and "closers" at the end of a school day.

• *Students should read more stories*. Good books convey complicated content in a narrative format, for example, biographies of famous people in science, math, history, and the arts (e.g., *Anne Frank: The Diary of a Young Girl*, *Flatland*, and *The Man Who Counted*).

• *Older students should hear more stories*. If the stories are well chosen, students will not think they are babyish.

• *The story format is a powerful vehicle when "story" is intrinsic to the subject matter*. History lends itself to storytelling, yet many history textbooks don't make use of this. Historical novels and trade books can bring the content and characters alive.

• *The four C's to are a great way to structure lessons*. Dramatize strong characters, conflict, complications, and causal links to draw students into history, science, literature, and math.

• *The most important C, conflict, should not be revealed at the outset*. Movies seldom present the central conflict right away; it typically unfolds about 20 minutes into the action. Screenwriters use the first 20 minutes to pique our interest in the characters and the situation. Teachers should consider using 10 or 15 minutes of a lesson to generate interest in the central problem that needs to be solved.

"How We Learn: Ask the Cognitive Scientist: The Privileged Status of Story" by Daniel T. Willingham in *American Educator*, Summer 2004 (Vol. 28, #2 p. 43-45, 51-53), http://www.aft.org/pubs-reports/american_educator/issues/summer04/cogsci.htm

### 3. Short Items:

***a. A promising home visit program for preschool children*** – Although pre-school programs are outside the orbit of the Marshall Memo, you may want to take a look at this article about an exceptionally promising program to help close the achievement gap between poor and advantaged children before they enter school.

"Bridging the Gap Between Poor and Privileged: How the Parent-Child Home Program Uses Books and Toys to Help Poor Toddlers Succeed in Kindergarten and Beyond" by LaRue Allen and Anita Sethi in *American Educator*, Summer 2004 (Vol. 28, #2, p. 34-42, 54-55)
http://www.aft.org/pubs-reports/american_educator/issues/summer04/gap.htm

***b. Changing the sequence of high-school science courses*** – This article explores the decision by many school districts to put physics first in the high-school sequence, followed by chemistry and biology. This shift from the traditional biology-chemistry-physics sequence (which dates to 1893) has been stimulated by new developments in the field, and has necessitated drastic changes in physics courses, which were formerly seen as advanced courses reserved only for the top 25 percent of high-school students with a grasp of abstract math. New freshman physics courses use hands-on and inquiry approaches to teach concepts like energy, force, and motion. The new sequence has also changed the subsequent courses: students who take chemistry after physics have a stronger understanding of atoms and how they combine to form molecules. What students learn in chemistry can help them get a more advanced understanding of DNA and other concepts covered in modern biology classes.

"Shaking Up Science: Putting Physics First Changes More Than Sequence" by Rick Allen in *Curriculum Update* (ASCD), Summer 2004 (p. 1, 2, 6-8), no e-link available.

***c. The "What Works" website*** – A new federally-funded website has just been launched to provide information on programs deemed effective by the U.S. Department of Education. You can check it out at http://www.whatworks.ed.gov .

"'What Works' Research Site Unveiled" by Debra Viadero in *Education Week*, July 14, 2004 (Vol. XXIII, #42, p. 1, 33)
http://www.edweek.org/ew/ewstory.cfm?slug=42Whatworks.h23

***d. Children's books that stand the test of time*** – In this lovely piece in the new *American Educator* magaine, Massachusetts children's book store owner Terri Schmitz reviews a number of classic children's books that have been reissued and definitely stand the test of time. Titles include *Chitty Chitty Bang Bang*, *Frog Goes to Dinner*, *Bruno Munari's ABC*, *The Little Bookroom*, *The Borrowers*, *The Alley*, *To Spoil the Sun*, *Terry Pratchett*, *Miracles of Maple Hill*, *South Town*, *The Adventures of Pinocchio*, *Poinsettia and the Firefighters*, and others.

"Magic Casements: Books for Kids That Stand the Test of Time" by Terri Schmitz in *American Educator*, Summer 2004 (Vol. 28, #2, p.46-50), http://www.aft.org/pubs-reports/american_educator/issues/summer04/casements.htm



***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, a former Boston teacher and administrator, is your "designated reader," searching through 37 publications the week they come out, choosing the articles that are most relevant and useful to improving teaching and learning, and summarizing them in a brief e-mail. Some ideas will be familiar, reinforcing what readers already know, but others will be new and genuinely thought-provoking. Target topics include:

• *School leadership* – Building a professional learning community; effective teamwork; effective schools practices; supervision and evaluation of teachers; time management.

• *Effective teaching* – Key variables associated with high student achievement; professional development of teachers; teacher leadership and career ladders; multiple intelligences and brain research.

• *Curriculum* – Alignment and planning with the end in sight; teaching for understanding; new ideas in reading, writing, and math.

• *Assessment* – Aligned formative and summative assessments; using data and student work for continuous improvement; graphic display of student achievement data; standardized testing and the debate on standards.

• *Closing the gap* – Effective strategies to close the racial/economic achievement gap; the innate-ability/intelligence/effective effort debate; safety-net programs.

• *Positive school culture* – Student discipline; social-emotional learning; moral development; parent involvement; and community partnerships.

• *And…* – New areas of research; upcoming television and radio programs on education.

## *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
Education Next
Education Week
Educational Leadership
Educational Researcher
Elementary School Journal
Harpers
Harvard Business Review
Harvard Education Letter
Harvard Education Review
Journal of Staff Development
Middle School Journal
NASSP Bulletin
New York Times
New Yorker
Newsweek
PEN Weekly NewsBlast
Phi Delta Kappan
Principal Magazine
Principal Leadership
Psychology Today
Reading Research Quarterly
Reading Today
Review of Educational Research
Teachers College Record
Teacher Magazine

E-links will be provided whenever possible.

## *Subscriptions:*

The Marshall Memo is sent every Monday (with occasional breaks). Subscriptions are $50 a year. Reduced rates for institutional subscriptions can be negotiated. Contact Kim at kim.marshall8@verizon.net or 222 Clark Road, Brookline, MA 02445 (617-566-4353).