

Marshall Memo 20

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

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Quotes of the Week

"Schools are rich in data but analysis-poor."

William Price, *Education Week* (see item #2)

"Teachers must, together, ask questions: In what areas are students not doing well? Which lessons seem to be most successful for students having difficulty learning? Can these lessons be shared and adapted by other teachers? This kind of collaboration will not happen unless the principal establishes a school climate and culture that supports, values, and rewards this type of professional behavior."

William Price, *ibid.*

"Recognizing misconceptions is crucial if a teacher is to target instruction so that students can clarify their thinking and gain understanding."

David Foster and Pendred Noyce, M.D. in *Kappan* (see item #1)

"As far as sex, it'll happen someday, but just not today. Besides, if I came home pregnant, I'd be lying on the ground, outlined in chalk."

Arielle Wilcott, 17, of Sherman, Texas – "More Teenagers Say No to Sex, and Experts Aren't Sure Why" by Linda Villarosa, *New York Times*, December 23, 2003 (F6)

1. High-Quality Math Tests Boost Student and Teacher Understanding

This fascinating, cutting-edge report describes how thirty California school districts confronted the fact that the information they were getting from the Stanford 9 (the norm-referenced test they were required to give) was not helping them improve teaching and learning. The results from the SAT-9 were summative in nature, gave performance data only in unhelpfully-general categories (“geometry and measurement,” “number sense”, etc.), remained a mysterious “black box” for teachers because of the need to maintain test security, and arrived too late to help teachers with their current students. The thirty districts felt that a narrow, quick-fix, test-prep approach was wrong, and decided to create a parallel set of tests to get useful data. They proceeded to write, administer, score, and analyze a common set of math performance assessments, and found them very helpful in guiding professional development, improving teaching practices, and boosting students’ achievement on the SAT-9.

An early decision was to focus on five core math ideas at each grade level to focus teachers’ efforts and counteract the “mile-wide, inch-deep” nature of the overloaded math curriculum. The districts delegated the job of drafting the performance assessments to a company, concluding that creating and polishing assessments was a full-time job and trying to craft them in-house would distract teachers from focusing on instruction. The districts chose the Mathematics Assessment Resources Service (MARS) to do the job.

Each grade-level exam (for grades 3-10) is made up of five tasks that assess math concepts and skills for that grade level, as well as the generic math processes of problem solving, reasoning, and communication. Each exam is designed to be completed within one class period and has students evaluate, optimize, design, plan, model, transform, generalize, justify, interpret, represent, estimate, and calculate their solutions. Working with the districts, MARS created point-scoring rubrics for the exams that gave students credit for each stage of the thinking process, and set up guidelines for administering the assessments (including an injunction to teachers to give students enough time to complete the exam *without rushing*). The decision was made to administer the exams in early March to avoid bumping into other tests and get the results to teachers early enough to be useful that year.

Teachers were then trained on how to score the assessments, with each district eventually sending one scorer for every 60 student papers. Reliability was impressive after the training, with a mean difference between the original score and audit score of

1/100 of a point. This training and the actual scoring of student exams were powerful professional development experiences for teachers. To be able to score a performance assessment accurately, teachers needed to fully explore the mathematics of the task, assessing and improving their own understanding. One teacher said, "I have learned how to look at student work in a whole different way, to really say, 'What do these marks on this page tell me about [the student's] understanding?'" Recognizing students' misconceptions helped teachers target instruction and get students to clarify their thinking (see quote above).

The scored tests became valuable curriculum materials for many teachers. As teachers looked at students' performance, it became clear that certain classroom practices were contributing to errors. After examining patterns of student errors, teachers improved their approach (sometimes realizing that they didn't understand the topic that well themselves and were actually misleading students) and students dramatically improved their performance on subsequent assessments. After the last page of the Marshall Memo is a sample item from one of the MARS tests. Students scored poorly on it, but after discussing the misconceptions that threw students off, teachers were able to get much better results on a similar item.

The California districts also used coaches to work with teachers in their classrooms. One common approach was to get teachers to administer old MAC assessments earlier in the year to diagnose students' problems and zero in on misconceptions. Discussions often uncovered weaknesses in teachers' own mathematical understanding, which the coaches proceeded to address. The discussions and common assessments also led to greater consistency in pacing and content coverage from teacher to teacher within a school. "By tracking student performance on tasks given throughout the year, teacher teams are able to determine when their approaches to teaching for depth of understanding have been particularly effective and when they might have missed the mark."

The performance assessments paid off in terms of deeper mathematical understanding – and also better SAT-9 results. For example, while 53% of third graders performed above the 50th percentile in 1998 (before the MAC assessments began), 72% did so in 2002. The districts found that performance on the MAC tests predicted SAT-9 results, and that this was increasingly true as students moved up through the grades. The initiative has been able to convince superintendents and school committees that "high-quality professional development significantly enhances student achievement."

All this affirmed the “theory of action” behind the program: “when teachers teach to the big ideas, participate in ongoing content-based professional development, receive support in the classroom from well-trained coaches, and use specific assessment information to inform instruction, their students will learn and achieve more.”

“The Mathematics Assessment Collaborative: Performance Testing to Improve Instruction” by David Foster and Pendred Noyce, M.D. in *Kappan Magazine*, January 2004 (Vol. 85, #5, p. 367-374). No e-link available but this article may be available next month; try <http://www.pdkintl.org/kappan/karticle.htm>

2. Four Key Skills for Principals

In this commentary piece in the current *Education Week*, William Price, a professor at Eastern Michigan University, describes four critical skills he feels principals must have if they are to be successful in standards era:

- *The ability to manage information* – Schools are overwhelmed by data that must be organized and compared across years and grade levels. Principals need to be able to use computers and other information management systems to understand it.

- *The ability to analyze and use data* – “Schools are rich in data but analysis-poor,” says Price. “Principals must know how to lead data-focused meetings at which, among other things, data is disaggregated by gender, race, disability, and socioeconomic level. In addition, careful analysis of test items in each subject area may be able to reveal patterns of where students are not doing well. Such an analysis should be used to inform actual decisions by the school’s staff – decisions that lead to the development of clear objectives and strategies to improve teaching and learning.”

- *The ability to align and monitor the curriculum* – The principal must ensure that the curriculum taught in classrooms is aligned with external standards. Teachers must have a clear sense of “what satisfactory performance means at each grade level and within each discipline. Principals must have more than a passing familiarity with the curriculum, particularly in math and reading in the early grades. They must know the curriculum thoroughly and be able to assess the degree to which it is being effectively taught. This also requires use of that dirty word ‘monitoring,’ which means regular visits to classrooms, honest feedback to teachers, and assistance for teachers whose teaching is not addressing the standards against which pupils will be measured.”

- *The ability to get teachers working with their colleagues* – Developing collegiality through teacher team collaboration “is the *sine qua non* of effective principal

leadership,” says Price. Grade-level and subject-area teams need to sit together and look at the results of their teaching, asking probing questions (see quote above) and figuring out how to get better results. This kind of collaboration will not happen by itself, and the principal is the key organizer and facilitator.

“New Age Principals” by William J. Price, *Education Week*, January 7, 2004, Vol. XXIII #16, p. 36-37) <http://www.edweek.org/ew/ewstory.cfm?slug=16price.h23>

3. “Scientifically-Based” Baloney?

In a provocative lead article in the new *Kappan* Magazine, Gerald Coles (an educational psychologist) launches a frontal attack on the “brain glitch” theory of why some children have difficulty learning to read, calling it “sham science” leading to “brainless instruction.” He flatly refutes the “scientific” research being used by President Bush and others to promote a highly prescriptive, skills-emphasis, building-blocks, phonics-based approach as the best way to teach reading.

This research is dubious at best, says Coles. “More than ever, claims about the research constitute an ideological barrier to a sounder understanding of the connections between brain activity and learning to read. More than ever, this work is a danger in the classroom both because it applies unproven labels to an ever-larger number of children and because it promotes a single kind of instruction that, based on the actual empirical evidence mustered for it, contains no promise of leaving no beginning reader behind. To all of this, add the false and cruel expectations that these claims generate in parents.”

Coles goes on to question the data from brain scans (using functional magnetic resonance imagery or fMRI), saying that it does not prove that some children have “brain glitches” and will benefit from a particular kind of teaching approach. He advocates a much broader analysis of children’s reading difficulties, including the emotional factors that might influence their level of engagement and effort, and warns against using a “one-size-fits-all reading program, insufficient individualized instruction, too much phonics, too little phonics.”

Coles contends that some children’s brains look different in fMRI scans because they haven’t learned how to read, and new knowledge and competencies from a well-rounded reading program produce “concomitant changes in brain structure and functioning, as one would expect from *all kinds of learning*.” He concludes that the scientific research in this area is a work in progress, and as of now, there is no single right way to teach children to read.

“Danger in the Classroom: ‘Brain Glitch’ Research and Learning to Read” by Gerald Coles, *Kappan Magazine*, January 2004 (Vol. 85, #5, p. 344–351). No e-link available now but this article may be available next month. Try <http://www.pdkintl.org/kappan/karticle.htm>

4. How to Get the Most out of the Coaching Model

Coaching can be a powerful professional development tool, packing a punch at the classroom level and in the teacher meetings coaches can convene. But the authors of this article caution that certain key elements must be in place for coaching to be optimally effective. Here is their list of caveats:

- Teachers get the most from in-class coaching, so coaches must be proficient in modeling, joint lesson planning, co-teaching, formal observation and feedback, informal one-on-one conversations, and mentoring.

- Many teacher team meetings are not professional learning communities and do not result in improvements in classroom practices, so coaches have to be skillful at facilitating group meetings to best effect.

- Some teachers don’t change their instructional practices because they don’t understand the materials and practices they are asked to use, so coaches have to provide more individual follow-up to bridge the gap.

- Coaches need to talk the language of performance standards and link them to classroom practices.

- Coaches can’t do it alone, and they need to be well trained and work closely with the principal and an outside support network.

- Coaches are neither fish nor fowl, and the boundaries of the coach’s role need to be clearly defined.

- Being an effective classroom teacher is no guarantee that one will also be an effective coach. Coaches must be great teachers, but they must also be able to critique and provide useful feedback to teachers and possess a host of other “emotional intelligence” skills.

- Coaching shouldn’t be limited to coaches. The principal, other teachers, and other staff within a school can take on a coaching role too.

“The Heart of the Matter: Coaching as a Vehicle for Professional Development” by Susan Poglinco and Amy Bach, *Kappan Magazine*, January 2004 (Vol. 85, #5, p. 398–400). No e-link is available but this article may be available next month at <http://www.pdkintl.org/kappan/ktoc0401.htm>

5. Maybe Boys Just Aren't Meant for the Classroom

Males have enjoyed special advantages through the ages, but now boys are lagging behind girls throughout our educational system. Some statistics:

- Girls tend to get better grades than boys.
- Girls score higher on the NAEP in language skills and about the same in math.
- Young women make up 56 percent of college undergraduates.
- About 300,000 more women than men enter graduate school each year.
- The percentage of boys who complete high school (70 percent), enter college (40 percent), and go on to graduate school (8 percent) has risen only slightly or not at all over the last decade, while girls have advanced in all three categories.
- Boys make up 3/4 of children categorized as learning disabled.
- Boys are disproportionately placed in special education classes, and once in those classes, they rarely get back on the college track.

Why this reversal of the perennial dominance by boys and men? The author of this article, a researcher on the staff of *The Atlantic*, theorizes that boys disengage from academics because:

- Schools reward self-control, obedience, and concentration – “qualities that, any teacher can tell you, are much more common among girls than boys, particularly at young ages. Boys fidget, fool around, and worse.” In the past, teachers paid more attention to boys than girls to manage their behavior. Not any more.
- The inability to sit still has been “medicalized” and teachers’ options for dealing with misbehavior have been severely constrained.
- Recess has been cut back, there is less physical education, and more time is spent on rote learning (in a misguided effort to prepare students for tests).
- Extrinsic rewards outside school lure boys away from focused effort in the classroom. This includes sports and early employment, both of which offer immediate rewards – and relief from “the drudgery of the classroom.”

Poe contends that the failure of more than half of the boys in the U.S. to take advantage of the opportunity to go to college (a prerequisite for a middle-class lifestyle) will have long-term economic consequences for the nation.

What is to be done? The United Kingdom and Australia, facing similar male under-achievement, are experimenting with ways to make schools more “boy-friendly,” including single-sex schools, single-sex classes, and gender-specific curricula. Why are there very few similar efforts in the U.S.? Poe theorizes that it’s

because there is “a residual anxiety over the idea of helping boys in a society where men for so long enjoyed special advantages.”

“The Other Gender Gap” by Marshall Poe, *The Atlantic*, January/February 2004 (Vol. 293, #1, p. 137). This article will be available next month at <http://www.theatlantic.com/>

6. Short Items:

- *Making peer review work* – Rochester, New York is one of the few districts that has implemented a peer review system. Teachers’ union president Adam Urbanski sings its praises: more first-year Rochester teachers are fired (up to 12 percent) but fewer teachers subsequently drop out of teaching (retention is over 90 percent, up from 65 percent before peer review was implemented). Only a small percentage of tenured teachers who undergo mandatory peer review are ultimately dismissed, the superintendent has the final say, and teachers have the right to contest the decision in court. Some of the keys to success: mentor teachers must carry a part-time teaching load, which keeps them connected to the realities of the classroom. The initial fears have been dispelled: that peer review would lead to a climate of distrust (massive snitching), dissension in the ranks, and confusion about the lines of authority between teachers and administrators. Instead, peer review has been a major plus. Rochester teachers feel they can have a say in their own fate, and the program is seen as cultivating good teaching rather than weeding out bad teaching. Mentor teachers observe their mentees in the classroom, demonstrate lessons for them, relieve them so they can observe best practices elsewhere, direct them to relevant workshops and courses and professional reading, and meet one-on-one to talk over issues that arise and evaluate their work products. Urbanski says that peer mentors spend considerably more time with teachers than any administrator could, and very often administrators yield to the peer mentor’s judgment.

“Have Teachers Review Each Other” by Ed Finkel in *Catalyst*, December 2003. <http://www.catalyst-chicago.org/12-03/1203urbanski.htm> Summarized in *PEN Weekly NewsBlast*, January 9, 2004.

- *Special education inclusion* – *Education Week* has just published another in its series of massive “Quality Counts” reports, this one entitled “Count Me In: Special Education in an Era of Standards.” This comprehensive “report card” looks at what the states and the District of Columbia are doing to test special education students,

hold schools accountable for their performance, prepare teachers to educate all students, and pay for special education. A survey found that the percent of special needs students proficient or above was 30 percent or more behind regular education students. Among other things, "Count Me In" looks at the over-representation of minority students in special education and the misidentification of students who did not receive effective instruction in the first place. You can see most of the report at <http://www.edweek.org/sreports/qc04>

• *Advice on zero tolerance policies* – Gerald Tirozzi, Executive Director of NASSP, believes that zero tolerance policies are appropriate, but has the following pointers for schools formulating tough policies on drugs, weapons, and violence:

- Engage parents and the entire school community in developing the policy
- Clearly articulate the policy to staff, students, and parents to minimize the chance that it will be misinterpreted.
- Fairly and consistently administer the policy and make sure that punishments are age-appropriate and fit the crime.
- Assure due process for accused students, providing suspended or expelled students with alternative education and counseling.
- Ensure that special-needs students are disciplined in accordance with IDEA provisions.
- Collect, analyze, and disaggregate student discipline data.
- Review the policy and its implementation every year.

"Policies Are Appropriate" by Gerald N. Tirozzi in *USA Today*, January 2, 2004 (p. A11). Summarized in *PEN Weekly NewsBlast*, January 9, 2004. For the full article, see http://www.principals.org/advocacy/views/usatoday_policies.cfm

• *Urban preppies* – Last week's *Time Magazine* had an article on the SEED School in Washington, D.C., a 5-day-a-week boarding school for inner-city children. The school features small classes (14), a full high-school course-load, a longer school day, periodic tests to measure progress, and strict standards for promotion to the next grade. Admission is by lottery, and last year there were 213 applicants for 140 openings in the seventh grade. Test scores are higher than D.C. public schools but still nothing to brag about. A major issue is attrition: only 23 of the 40 students in the school's first class are still at the school.

“Urban Preppies” by Perry Bacon, Jr. in *Time Magazine*, January 12, 2004 (Vol. 163, #2) summarized in *PEN Weekly NewsBlast*, January 9, 2004. The full article is available at: <http://www.time.com/time/magazine/article/0,9171,1101040112-570286,00.html>

• **Getting students using six thinking styles** – In this on-line column, middle grade teacher Brenda Dyck tells how she uses Edward DeBono’s six thinking strategies to help students use different styles of thinking and gets them to look at a problem from different perspectives. She has students put on these “thinking caps”:

- *White hat* – Discuss the facts and other objective information.
- *Red hat* – Share feelings and emotions on the topic.
- *Black hat* – Present negative aspects or a worst-case scenario.
- *Yellow hat* – Consider positive aspects or advantages.
- *Green hat* – Consider creative ideas from looking at the problem in a new way.
- *Blue hat* – Sum up all that has been learned.

“Put on Your (Six) Thinking Hats” by Brenda Dyck, *Education World* website: http://www.educationworld.com/a_curr/voice/voice102.shtml. Summarized in *PEN Weekly NewsBlast*, January 9, 2004.

• **Fred Jones discipline installment** – The January installment of Fred Jones’s *Tools for Teachers* is on the *Education World* website. This month’s focuses on “Helpless Handraisers, Part III.” See

http://www.educationworld.com/a_curr/jones/jones005.shtml

• **A resource for teachers of low-income students** – The RISE network (Resources for Indispensable Schools and Educators) is a resource designed for teachers working in public schools serving low-income communities. It is designed to help teachers get in touch with like-minded professionals and/or find jobs in low-income schools. Click on: <http://www.risenetwork.org>

From *PEN Weekly NewsBlast*, January 9, 2004

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Do you have feedback? Is anything missing?

If you have comments or suggestions, or if you saw an article or web item in the last week that you think should be covered, please e-mail: kim.marshall8@verizon.net


This is a sample item from the MARS assessments described in item #1.

FIGURE 1.
Fifth-Grade Flower Bed Task


Flower Beds

In the diagram below, the shaded hexagons are flower beds, and the white hexagons are white paving stones.


Marco figures out how many white paving stones are needed around different numbers of flower beds.



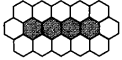
1 flower bed
6 white stones



2 flower beds
8 white stones



3 flower beds
10 white stones



4 flower beds
12 white stones

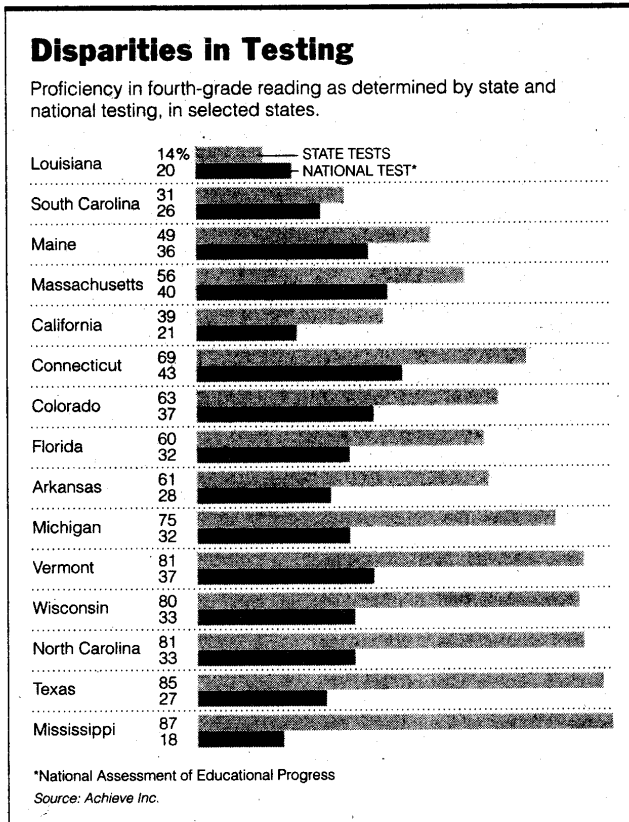
1. Draw a diagram to show how many white stones are needed around 5 flower beds.

...

4. Marco says that 28 white stones are needed around 13 flower beds. Without drawing the flower beds, explain how you know that Marco is not correct. How many white stones are needed around 13 flower beds?

Based on a figure © 1999, MARS. Used with permission.

This graph from the *New York Times* (December 31, 2003) shows the differences in fourth-grade proficiency as measured by state tests (grey) and the National Assessment of Educational Progress (black). The bigger the disparity, the fishier and less well-aligned the state tests.



Dec. 31, 03

The New York Times

About the Marshall Memo

Mission and focus:

This weekly memo aims to keep busy principals, teachers, and other educators very well-informed on important research, ideas, and developments in K-12 education. Kim Marshall, a former Boston teacher and administrator, is your “designated reader,” searching through a wide range of publications the week they come out, zeroing in on the articles that are most relevant and useful to improving teaching and learning at the school level, and summarizing them in a brief e-mail. Target topics include the following:

- *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
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 Week
Educational Leadership
Educational Researcher
Elementary School Journal
Harpers
Harvard Business Review
Harvard Education Letter
Harvard Education Review
New York Times
New Yorker
PEN Weekly NewsBlast
Phi Delta Kappan
Principal Magazine
Psychology Today
Reading Research Quarterly
Reading Today
Review of Educational Research
Teachers College Record
Teacher Magazine
and occasional books, lectures, and websites.

If one of the summaries is of particular interest, subscribers are encouraged to read the full article. E-links will be provided whenever possible. If you would like to suggest additional publications, please be in touch.

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