Marshall Memo 11

A Weekly Round-up of Important Ideas and Research in K-12 Education
November 3, 2003

In this Issue:

Quotes of the Week

"Teaching 25 or 30 young children all day, every day is a much harder job than I have."

Lawrence Summers, President of Harvard, after being Principal for a Day at the Jackson-Mann Elementary School in Boston (*Boston Globe*, November 2, 20003)

"When it comes to standards in this country, we assume they are all equally important. But some standards are trivial. We need to stop teaching everything and ask, What are the key concepts that are critical to students so that they progress in math?"

James Stigler in *ASCD Curriculum Update* (see #2)

"I always tell my students that they have to be mini-mathematical attorneys who can defend their position as confident math problem solvers, either through drawing a picture, through discussion, with a mathematical sentence, or by acting out the problem with manipulatives."

Mary Santilli, Elementary Math Coordinator, Trumbull, Connecticut Public Schools (see #2)

"She doesn't love to be tough. She's tough because she loves."

Movie advertisement seen in New York City last week.

1. Should Literacy Teachers Have Their Students Read Aloud?

There is lots of uncertainty among teachers and principals about whether it's a good thing to have students read out loud in class. In a long and thoughtful article in the new *Reading Research Quarterly*, two reading experts look at the latest evidence and conclude that oral reading is very important to improving student achievement – if it's done right.

Studies have found that reading with *fluency* is highly correlated with good comprehension and overall reading achievement. This is because the brain can only handle a limited amount of traffic at one time, and if it's preoccupied with decoding, it can't concentrate on getting meaning, the ultimate goal of reading. The central goal of early reading instruction is therefore to get students to the point where they recognize words instantly and effortlessly and devote the maximum amount of their brainpower to making sense of the text. Because oral reading allows students and teachers to observe, examine, reflect on, and respond to a child's reading in real time, it is an ideal arena for improving fluency.

In colonial times, teaching children to read orally was one of the main goals of American schools. This was because there was usually only one person in the home who was literate and the only way the rest of the family could enjoy literature (or the Bible) was if that person read aloud. Colonial teachers used the recitation method: they read a passage aloud, had students practice on their own, and then had them read orally one at a time.

By the beginning of the 20th century, adult literacy was more widespread and there were more books in many homes, and reformers (including Horace Mann) argued that there should be more focus on silent reading comprehension. This was reinforced by the advent of standardized tests, which evaluated silent reading comprehension.

But the reformers failed to dislodge oral reading, and it remained a mainstay in most American schools throughout the 20th century. In the 1950's, a variation – round robin reading (unrehearsed sight-reading with turn-taking) – became part of the daily routine across the land – and still is today. Researchers agree that round robin reading is a singularly ineffective way of teaching reading because:

- Only one student reads at a time, so the amount of reading that each child does is minimal.
- When one student is reading aloud, the rest of the class is often not following along.

- Unrehearsed reading is challenging, especially for students who are not strong readers, and frequent correction is needed, which breaks up the flow and interfering with everyone's comprehension.
- Many students find "this public display of their lack of competence in reading an ongoing source of embarrassment that is not easily forgotten."

If it is not supported by the research, why is round robin reading used by so many teachers?

- It allows the teacher to control the class because students are called on without warning and need to pay attention while others read.
- It requires minimal teacher preparation – just pick a passage and pick a reader.
- If the student makes an error, "teaching" consists of prompting or correcting the student.
- It makes students publicly accountable for their reading, which supposedly motivates them to try harder and get better.

In short, round robin reading is a lazy and ineffective way to teach. Here is a list of some alternative approaches to oral reading that have produced much better student achievement, especially for struggling readers:

- Repeated readings – Students practice reading a passage until they can read it fluently. This works especially well with struggling readers when the passage they are practicing is a little above their current reading level.
- Assisted readings – Students orally read a text while simultaneously listening to a fluent reading of the same text by a reading partner, a group reading chorally, or a recording.
- Combined repeated and assisted readings – The student reads a text multiple times while simultaneously listening to a fluent rendering of the same passage.
- Shared Book Experience (SBE) – The teacher introduces a book, reads it to a class or a group, discusses it, and then has students read and re-read the text with the teacher, in small groups, with partners, and eventually on their own.
- Oral recitation lesson – The teacher expressively reads a passage, discusses it with the class, has the class construct a story map or summary of the story, then has students select a segment of the story, practice it, and perform it for the class.

- Fluency-Oriented Reading Instruction (FORI) – After the teacher reads and discusses a passage, students reread it at home with their parents or another adult over a number of days, then re-read it with a partner in school, alternating pages while the partner listens to and monitors the reading.
- Fluency Development Lesson (FDL) – Students read and re-read a familiar passage (usually a poem); then students (usually in pairs) practice the poem three times each with their partner, perform it for the class or another audience, and then take it home to read to a parent or family member.
- Early Steps – This first-grade program consists of repeated re-readings of books that have been previously introduced and read, word study, and sentence writing.
- Book Buddies – Students get one-to-one instruction (two 45-minute lesson a week) from a trained and supervised tutor in which they do oral re-readings of familiar texts, word study, writing, and have a new book introduced.
- Across the curriculum – Finding natural ways to use oral reading in other parts of the curriculum, including poetry reading and historical oratory.
- Readers Theater – Students perform a script (without movement, costumes, props, scenery, or memorization of lines) with expressive and meaningful voices.
- Cross-age peer tutoring – Older students read to and with younger readers.
- Talking books – Older students record books for younger students.
- Matching books to students' reading levels – When students are reading "just right" (not too hard, not too easy), they appear to make the greatest gains (although when using the repeated reading method, it appears that having books that are above the student's current level works best).

There are two key components in making oral reading effective at boosting reading achievement (rather than humiliating and discouraging students):

- Teacher feedback – The trickiest part is how the teacher responds when students make errors. Research is clear that the type of feedback teachers give can have a profound effect on reading development. The two worst kinds of teacher correction are publicly embarrassing students and immediately giving the student the correct word. One study found that correcting every error immediately appears to be effective only for special

education students. For regular-education students, the research so far suggests that feedback is most effective when it is:

- - Selective (correcting only errors that interfere with meaning);
- - Delayed (students should be given a few seconds to self-correct);
- - Focused on meaning (feedback should relate to what the text is saying rather constantly zapping errors).

- Self-monitoring – Good readers are constantly monitoring as they read. Less capable readers need to be explicitly taught this skill, looking at miscues to figure out what caused the error and how it can be corrected in the future.

- Guided reading – Although this practice is now quite widespread in American classrooms and has great potential for incorporating the best thinking on oral reading, it can also be done poorly – just round robin reading transposed into a small group. Curiously, there is very little research yet on the effectiveness of guided reading.

The article concludes by calling for more research on oral reading, especially as it relates to special needs students and second language learners.

"Oral Reading in the School Literacy Curriculum" by Timothy Rasinski and James Hoffman, *Reading Research Quarterly*, October/November 2003 (Vol. 38, #4, p. 510-522) Sorry, no e-link is available, but you can purchase the article for $10 by going to www.reading.org and clicking on Publications and Reading Research Quarterly Online.

2. Keys to More Effective Math Instruction in the U.S.

Those who are serious about boosting math achievement are swimming against a strong belief that math is abstract and difficult – a subject reserved for a select few. Parents are apt to say things like, "I was not very good in math." But Johnny Lott, the president of the National Council of Teachers of Mathematics, believes that "all kids can learn if math is presented in a good way – having a knowledgeable teacher and quality materials including texts and manipulatives."

The Third International Mathematics and Science Study (TIMSS) 1999 Video Study revealed major differences among the way math is taught around the world. In high-achieving countries (especially Japan), teachers give students time to puzzle through an interesting or complex math activity. American teachers, says James Stigler (one of the leaders of the TIMSS study), "tend to cut to the chase and say 'This is how to do it.' The problem is not that we don't cover the same math topics as other countries but that we don't present them as problems that students should take time

to think about. [Japanese teachers allow] students to struggle with a problem, then they teach them how to do it."

Take finding the area of a triangle, American teachers would typically tell students the formula (Area = 1/2 of base x height) and have them practice with a series of problems. Japanese teachers would typically have students compare the triangle to the rectangle that can be constructed on the same base, play around with folding the rectangle into two triangles, and think the problem through conceptually so they learn not only about area and geometry but also how equations are arrived at. In the end, the Japanese students would have a far deeper understanding of the concept and be able to apply it to many more situations.

Part of the problem, of course, is teachers' understanding of the math involved, and this is especially acute at the elementary level, where many teachers' training is not that strong. To reach all students, especially those who are struggling, teachers need good training and need to know how to use manipulatives and visual aids, which can embed the learning in students' minds. Training should involve teachers in using manipulatives themselves, for example challenging them to use 30 color tiles to build a rectangle that is 1/2 red, 1/5 green, and 1/10 yellow – and explain how they arrived at their answer. Teachers also need to be encouraged to ask their students to see themselves as lawyers seeking evidence (See Quote of the Week). High-school teachers need to get away from lecturing and assigning individual work and using hands-on learning. Even in algebra lends itself to manipulatives. Finally, getting teachers to plan in teams is especially important to escaping their isolation and sharing best practices.

Another key step to improving the math achievement of American students is winnowing down overly-long lists of math standards to a few "power standards" based on these criteria:

- Is it a building block of math?
- Does it have real-life implications?
- Is it likely to be assessed?

Not all standards need to be taught, says Stigler (see Quote of the Week); we have to zero in on the standards that really make a difference in students' understanding. Most other countries many fewer math standards to "cover" than the United States. High-school teacher Bill Reed, who traveled to Japan to investigate math teaching practices, reports that "Japanese teachers basically hit the big ideas and cover them so thoroughly that a student can make inferences on their own for all of the subtopics.

The Japanese math curriculum is a foot wide and a mile deep." Using this approach in geometry, for example, the properties of a circle would be de-emphasized and doing proofs (a series of statements showing the logic behind a problem's solution) would be a "power standard."

Another successful strategy is having students write in a math journal, responding, for example, to a weekly math challenge problem. An example: finding the height of a building based on the shadow it casts. "Journal writing is a chance to build up their skills in reflection and their ability to look at different ways of attacking one particular problem," says Indiana math teacher John Drozd. Journal writing also personalizes math rather than allowing students to see it as just "cold calculations."

A final piece in improving math instruction is convincing students of the value of math in the real world.

" Embracing Math: Attitudes and Teaching Practices Are Changing – Slowly" and "Math Teachers Draw on International Expertise" both by Rick Allen, *ASCD Curriculum Update*, Fall 2003. No e-link, but the article can be purchase: http://www.ascd.org/cms/objectlib/ascdframeset/index.cfm?publication=http://www.ascd.org/publications/curr_update/index.html For more information on the TIMSS study, go to http://nces.ed.gov/pubsearch/pubsinfo.asp?pubid=2003011.

3. Closing the Achievement Gap

Abigail and Stephan Thernstrom were interviewed in the current *Education Week* on their new book, *No Excuses: Closing the Racial Gap in Learning*. "More than anything," said Abigail, "We wanted to create a sense of outrage." The interview focused mostly on their chapters on the role of culture in achievement. *No Excuses* reports that Asian-American students do twice as much homework as white students and are taught that how well they achieve in school is directly linked to how hard they work (in other words, you're not just born smart – you can get smart). African-American students spend less time on homework and more time watching television, and the "trouble threshold" is lower: most Asian children catch hell if they bring home a grade lower than an A-; for most white students the threshold is a B-; for most black students, it's a C-. The Thernstroms implore African-American and Hispanic families to change their attitudes about education. But they put the primary responsibility on schools, which they feel can do much better. The Thernstroms are at pains to say that they are not questioning the intelligence of lower-achieving students. The racial gap is in academic achievement, not I.Q., they say.

Pedro Noguera, a visiting professor at Columbia, criticized the Thernstroms' book because it overlooks why some schools consistently produce high-achieving African-American students. Eric Cooper of the National Urban Alliance for Effective Education criticized the Thernstroms for not delving deeply enough into what influences students' behaviors and attitudes, and said that the causes of the racial gap in learning identified by *No Excuses* do not support their recommendations: vouchers and more charter schools.

"Book Cites Role of Culture in Achievement Gap" by Karla Scoon Reid, *Education Week*, October 29, 2003 (Vol. XXIII, #9, p. 5)
http://www.edweek.org/ew/ewstory.cfm?slug=09GAP.h23

4. Quick Items

• ***Professional accountability*** – Lee Shulman, the president of the Carnegie Foundation, wants teachers to be the primary agent of their own accountability, rather than depending on outside agencies or tests to pressure them. Shulman says that "excellent teaching, like excellent medical care, is not simply a matter of knowing the latest techniques and technologies. Excellence also entails an ethical and moral commitment…. Teachers with this kind of integrity feel an obligation to not just drive by. They stop and help. They inquire into the consequences of their work with students… A professional actively takes responsibility; [he or] she does not wait to be held accountable."

Summarized in PEN Weekly Newsblast, October 31, 2003. The full article is at:
http://www.carnegiefoundation.org/perspectives/perspectives.v01.n01..htm

• ***No choice but to touch type*** – North Star Academy, a Grade 5-12 charter school in Newark, New Jersey, uses a trick to force students to learn to touch-type: they paint over the keys on computer keyboards. Starting in fifth grade, students need to memorize the keyboard and finger locations – and they do!

From a visit to North Star Academy on October 21, 2003.

• ***Halloween mayhem*** – The *New York Times* reported last Saturday that student attendance plummets in many Big Apple schools because of a tradition of egg-throwing and other malicious pranks. "My 13-year-old brother wouldn't even try to get out of bed because he is so scared of getting attacked," said Danielle James. "A bunch of bullies start to throw things like batteries, frozen eggs and potatoes from the

roof." Citywide high-school attendance last Friday was 55.9 percent, down from the usual 85 percent. Chancellor Joel Klein decried the mayhem. "Nobody wants our kids to go to unsafe schools on Halloween or any other day," he said.

I was in two New York City schools last Friday (one in Brooklyn, one in the Bronx), and I can report a different story: aggressive preventive action by the schools, including searching every backpack first thing in the morning in the Brooklyn school and keeping a very close eye on students in the Bronx, produced an incident-free Halloween for student and staff.

"A Top Costume in New York City: The Invisible Student" by David M. Herszenhorn, *New York Times*, November 1, 2003
http://www.nytimes.com/2003/11/01/nyregion/01HALL.html

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

About the Marshall Memo

Mission and focus:

This weekly memo aims to keep busy principals 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 as soon as they come out, zeroing in on the articles that are most relevant and useful to improving teaching and learning, 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; time management.

• *Effective teaching* – Key variables associated with high student achievement; supervision and evaluation of teachers; 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
Atlantic Monthly
Bay State Banner
Boston Globe
Commonwealth Magazine
Curriculum Update (ASCD)
Education Digest
Education Gadfly
Education Week
Educational Leadership
Elementary School Journal
Harpers
Harvard Education Letter
Harvard Education Review
Harvard School of Education Ed. Magazine
New York Times
New Yorker
PEN Weekly NewsBlast
Phi Delta Kappan
Principal Magazine
Psychology Today
- Reading Research Quarterly

Reading Today
Review of Educational Research
Rethinking Schools
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.

Subscriptions:

The Marshall Memo is published weekly (with occasional breaks), usually on Monday. Major support from Research for Better Teaching and New Leaders for New Schools makes it possible to offer individual subscriptions at $50 a year. To subscribe, please contact Kim Marshall at kim.marshall8@verizon.net or at 222 Clark Road, Brookline, MA 02445 (617-566-4353).