Marshall Memo 339

A Weekly Round-up of Important Ideas and Research in K-12 Education
June 7, 2010

In This Issue:

Quotes of the Week

"Children are natural knowledge seekers. Whether it's orca whales, dinosaurs, or the latest technological doodad, children's activities are often guided by their need to know. They want to become expert in a domain. And it's this goal that drives their ambition to come to school to learn about literacy among many other skills, not the ability to 'rapidly name a sequence of repeating random sets of pictures of objects.'"

Susan Neuman (see item #5)

"Word selection is especially important when teaching students with impoverished vocabularies. Given the enormity of the word-learning task, no teacher or curriculum can teach or expose students to the thousands of unknown words needed for academic success."

Nonie Lesaux, Michael Kieffer, Elisabeth Faller, and Joan Kelley (see item #8)

"There is a simple economic axiom that bad teachers like more money as much as good teachers… Pay incentives should be offered only to teachers of proven effectiveness, and a portion should be in the form of bonuses contingent on continuing high performance."

Eric Hanushek in "An Effective Teacher in Every Classroom" in *Education Next*, Summer 2010 (Vol. 10, #3, p. 46-52) http://educationnext.org/an-effective-teacher-in-every-classroom/

"But higher pay alone might not be enough to solve the problem… The reason is simple: like any other professionals, great teachers place great value on a positive and supportive working environment characterized by strong leadership and opportunities to collaborate with colleagues."

Kati Haycock (ibid.)

1. Teacher Prejudice and Minority-Group Achievement in the Netherlands

In this troubling *American Educational Research Journal* article, five researchers report on their study of the impact of Dutch elementary teachers' implicit beliefs about ethnic minority students (of Turkish and Moroccan origin) and their students' achievement. When directly questioned, teachers did not reveal prejudice or lower expectations with regard to minority-group students. But when given the Implicit Association Test (Greenwald et al., 1998), a computer-based assessment that uses word associations to reveal unconscious attitudes, some teachers were found to have prejudiced beliefs and lower expectations toward minority-group students. In those teachers' classes, minority-group students did less well on standardized tests, native Dutch students did better, and the already-existing achievement gap widened.

"For these effects to occur," say the authors, "the teachers' prejudiced attitudes have to be communicated somehow to the students, whose performance is then affected more or less systematically." How does this happen? The authors believe the mechanism is teachers showing warmer affect toward native Dutch students and giving them more difficult and challenging materials, more opportunities to respond, and more informative feedback – while giving ethnic minority students the opposite treatment. "While this communication of expectations is presumably quite subtle, mostly nonverbal, and usually unintentional," say the authors, "students may nevertheless clearly perceive and internalize teacher expectations, alter their classroom behavior and motivation as a result, and thereby achieve in keeping with the expectations… Even when a person is highly motivated to react in an unprejudiced manner, one's impressions with regard to a member of an already stigmatized group can still be prejudiced."

"The Implicit Prejudiced Attitudes of Teachers: Relations to Teacher Expectations and Ethnic Achievement Gap" by Linda van den Bergh, Eddie Denessen, Lisette Hornstra, Marinus Voeten, and Rob Holland in *American Educational Research Journal*, June 2010 (Vol. 47, #2, p. 497-527), no e-link available

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2. The National Early Literacy Panel Report

In this *Educational Researcher* article, University of Illinois/Chicago professor Timothy Shanahan and Florida State University professor Christopher Lonigan summarize the findings of the 2008 Report of the National Early Literacy Panel (NELP), which is available at

http://www.nifl.gov/earlychildhood/NELP/NELPreport.html. This systematic and extensive synthesis of the published research (300 studies) identified eleven key variables from birth to age 5 that contribute to later literacy achievement:

Moderate to large correlations with later conventional literacy skills:

• *Alphabet knowledge* – Knowing the names and sounds of letters: average correlation of .50 with later decoding, .48 with later reading comprehension, and .54 with later spelling;

• *Phonological awareness* – Detecting, manipulating, or analyzing the auditory aspects of spoken language independent of meaning: average correlation of .40 with later decoding, .44 with later reading comprehension, and .40 with later spelling;

• *Rapid automatized naming sequences of letters and digits* – Average correlation of .40 with decoding and .45 with reading comprehension;

• *Rapid automatized naming of a sequence of random objects and colors* – Average correlation of .42 with reading comprehension and .31 with spelling;

• *Writing letters in isolation and writing one's name* – Average correlation of .49 with decoding, .33 with reading comprehension, and .36 with spelling;

• *Phonological memory* – Remembering spoken information for a short period of time: average correlation of .26 with decoding, .39 with reading comprehension, and .31 with spelling.

Moderate correlations with at least one measure of later literacy development:

• *Concepts about print* – Knowledge of print conventions like left-right, front-back;

• *Print knowledge* – Skill reflecting a combination of elements of alphabet knowledge, concepts about print, and early decoding;

• *Reading readiness* – A composite of alphabet knowledge, concepts of print, vocabulary, memory, and phonological awareness;

• *Oral language* – Being able to produce or comprehend spoken language;

• *Visual processing* – Children being able to match or distinguish between visually presented symbols.

Five instructional practices that enhance early literacy proficiency:

- *Code-focused interventions* – Teaching skills related to cracking the alphabetic code: moderate to large effects across a broad spectrum of literacy outcomes;
- *Shared reading interventions* – Reading books to children, shared reading, and dialogic reading: moderate effects on children's print knowledge and oral language skills;
- *Parent and home programs* – Using parents as agents of intervention, including teaching parents instructional techniques to use with their children at home; moderate to large effects on children's oral language skills and general cognitive abilities;
- *Preschool/kindergarten programs* – programs, curriculums, and policies, mostly the Abecedarian Project; moderate to large effects on spelling and reading readiness;
- *Language enhancement interventions* – Improving young children's language development: large effects on children's oral language skills.

These interventions (except for preschool/kindergarten) were effective at all ages and regardless of socio-economic status.

"The National Early Literacy Panel: A Summary of the Process and the Report" by Timothy Shanahan and Christopher Lonigan in *Educational Researcher*, May 2010 (Vol. 39, #4, p. 279-285), no e-link available; the authors are at shanahan@uic.edu and lonigan@psy.fsu.edu.

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3. Phonics or Meaning in Kindergarten and First Grade?

In this *American Educational Research Journal* article, University of Maryland/Baltimore County researchers Susan Sonnenschein, Laura Stapleton, and Amy Benson report that for kindergarten and first-grade students who enter school with weaker literacy skills, phonics-focused instruction is more effective than meaning-focused instruction. For students who enter school with stronger literacy skills, meaning-focused instruction works better.

"The Relation Between the Type and Amount of Instruction and Growth in Children's Reading Competencies" by Susan Sonnenschein, Laura Stapleton, and Amy Benson in *American Educational Research Journal*, June 2010 (Vol. 47, #2, p. 358-389), no e-link available

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4. Toward Balanced Literacy

In this *Educational Researcher* article, University of California/Berkeley professors David Pearson and Elfrieda Hiebert bemoan the fact that the National Early Literacy Panel Report, authoritative though it is, may result in "an even more aggressive curriculum of 'pieces' of language" – what one researcher calls "elementitis", "where skills are broken into elements and taught discretely, where playing the whole game of reading is put off until later, once the pieces are in place… Somehow, in our fascination with all the pieces and predictors, we seem to have lost sight of the goal to which their mastery is linked." This shouldn't happen, they argue, especially given the way the 2000 National Reading Panel's findings were used and the disappointing results of Reading First and Early Reading First.

So why do alphabet knowledge and phonemic awareness come through so strongly in the research and threaten to overwhelm the other equally important components? Pearson and Hiebert believe that these building blocks are really "proxies for a host of other causative variables with which letter-naming scores are naturally correlated… A substantial body of evidence supports the view that young children learn a great deal about print and literacy (acquire letter names, grasp the alphabetic principle, and even learn a handful of words) through activities that are fairly typical in some homes but not in others – manipulating magnetic letters, writing words, singing alliterative songs, playing rhyming games, and writing messages to extended family members."

Pearson and Hiebert believe that the research reported in NELP clearly shows that a balanced approach works best – phonics and phonological awareness balanced by early,

authentic reading, comprehension, and language development. "[I]t is high time for the field to reject the pendulum swing, or even the fulcrum, metaphor in favor of an ecological metaphor that argues for, to paraphrase the author of Ecclesiastes, a time for every curricular purpose under heaven."

"National Reports in Literacy: Building a Scientific Base for Practice and Policy" by David Pearson and Elfrieda Hiebert in *Educational Researcher*, May 2010 (Vol. 39, #4, p. 286-294), no e-link available; the authors are at ppearson@berkeley.edu and Hiebert@berkeley.edu.

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5. Knowledge as the Essential Underpinning of Reading Proficiency

In this thoughtful *Educational Researcher* article, University of Michigan professor Susan Neuman points to what she believes is the inordinate emphasis on code-based interventions in the National Early Literacy Panel (NELP) Report. Because more than 40 percent of the studies analyzed by the panel dealt with decoding, the recommendations aren't surprising, she says: "NELP discovered that alphabet knowledge (code), phonological awareness (code), phonological memory (code), writing one's own name (code), and rapid naming of letters (code) were the strongest predictors of later measures of literacy development."

The problem, she says, "is that you can't examine what hasn't been tested. Although many of us might think that at least something must be missing from this equation for successful reading, you'd be hard pressed to convincingly prove your case." Researchers have done very little to tap into how comprehension develops in the pre-school and primary-grade child's mind. "In fact," she says, "most of what we know about comprehension occurs after children have begun to fail at it." Frustrated teachers say things like:

- *The student can't understand the text at all.*
- *The student reads the text by totally changing its meaning.*
- *The student misreads the text by taking words and phrases out of context.*
- *The student is a "word caller" – accurate decoding but zero comprehension.*

All this culminates in the so-called fourth-grade slump, says Neuman: "As the texts get harder and the academic language gets tougher, students can't understand what they read."

So what is the underlying stuff that we aren't measuring and that is underemphasized in reports like NELP's? Look at really good preschools, says Neuman, which tap into young children's desire to know. "Children are natural knowledge seekers," she says. "Whether it's orca whales, dinosaurs, or the latest technological doodad, children's activities are often guided by their need to know. They want to become expert in a domain. And it's this goal that drives their ambition to come to school to learn about literacy among many other skills, not the ability to 'rapidly name a sequence of repeating random sets of pictures of objects.'"

"Perhaps the true path to literacy," she continues, "is the knowledge of content and concept that underlies its foundation. In this case, our efforts would be to get children to think, to grapple with ideas, to experience the 'aha,' the 'flow' that comes when we achieve

something meaningful against resistance. In this scenario, knowledge is the headline star, with conventional literacy skills as the supporting cast members."

Neuman describes an experiment in which 576 youngsters, including soccer experts and soccer novices, were tested on their ability to memorize details, infer, and detect basic contradictions in a story about soccer that included lots of misinformation. The soccer experts did much better than the novices; they remembered more details, applied what they read to new situations, and detected more contradictions. This was true even when the experts were "bad readers." And novices with high aptitude in reading did no better than novices with low aptitude. Similar experiments have been done with experts and novices in chess, computer programming, bridge, circuit design, map reading, music, and dance – with the same results. The bottom line: "Knowledge improves comprehension and performance," says Neuman. "To be successful in reading comprehension, students must acquire knowledge." The NELP Report missed this, she thinks, because of the "old-fashioned notion" that learning to read precedes reading to learn.

"If we're to stay true to our long-desired goal of high achievement for all children," Neuman concludes, "then we cannot simply focus on the nearest target – decoding. Rather, we must look toward the goal that has real 'staying power' – the complex skill of reading comprehension and content learning… Code-related skills, the essential alphabetic principles that make up our language, are a critical component of learning to read. But although these skills are necessary, they are certainly not sufficient. They must be accompanied by a massive and in-depth foundation of factual knowledge." And this must start early and be the core of instruction day after day, month after month, and year after year.

"Lessons from My Mother: Reflections on the National Early Literacy Panel Report" by Susan Neuman in *Educational Researcher*, May 2010 (Vol. 39, #4, p. 301-304), no e-link available; the author is at sbneuman@umich.edu.

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6. Intensive Teacher Coaching Around Vocabulary Development

In this article in *The Reading Teacher*, Temple University professor Barbara Wasik describes a coaching model – Exceptional Coaching for Early Language and Literacy or ExCELL – that she says was successful helping teachers develop their preschoolers' vocabularies.

Oral language and vocabulary development are cornerstones of reading acquisition, says Wasik. But recent studies have shown that few early literacy programs are successful at increasing children's vocabulary knowledge. She believes this is because they haven't paid enough attention to teachers – to explicit, individualized, ongoing training in how to scaffold children's language development in the classroom.

Why do teachers need such intensive coaching? First, they tend to get caught up in managing their classrooms and engage in lots of "business talk" – telling children what to do and what not to do – which takes time away from meaningful discussion of content. Second, some teachers need to expand their repertoire on how to build vocabulary. And third, many

believe a quiet classroom is a good classroom and aren't comfortable with lots of student talk. The result is that students don't have enough opportunities to learn and use language.

"Changing how teachers talk with children can be very difficult," says Wasik, "because it requires that teachers examine the ways in which they interact with children and consciously change their patterns of communicating… They need to know that children who are asked open-ended questions, encouraged to expand on their language, and provided with feedback to their comments and questions have more opportunities to talk and use language, and therefore, are more likely to develop language… Conversations that support children's language and develop vocabulary are often part of the natural rhythm of the classroom, interwoven with children's individual interests and observations and cannot be dictated by a packaged curriculum."

Wasik observed the ExCELL program in action as 19 teachers worked with four expert coaches on these components of literacy:

- Interactive book reading
- Guiding conversations across the curriculum
- Phonological awareness
- Alphabet knowledge
- Writing

There were monthly 3-hour group trainings on these themes and lots of one-on-one coaching that included classroom observations, modeling, and follow-up conversations. A recurring theme was how much teachers talked and how much they allowed students to talk. Teachers were coached on asking open-ended questions, expanding children's language, providing models of rich language, explicitly using vocabulary words in conversations (for example, saying "Put the crayons back in the container in the art center" rather than "Put that over there"), and continuing the dialogue with children, commenting on their responses to open-ended questions.

"What Teachers Can Do to Promote Preschoolers' Vocabulary Development: Strategies from an Effective Language and Literacy Professional Development Coaching Model" by Barbara Wasik in *The Reading Teacher*, May 2010 (Vol. 63, #8, p. 621-633), no e-link available; Wasik can be reached at bwasik@temple.edu.

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7. Counteracting the Dominance of Narrative Texts in Preschool Classrooms

In this article in *The Reading Teacher*, four researchers make the case for using many more nonfiction texts in preschool read-alouds. One study showed that 82 percent of texts used in preschool classrooms are narrative, 13 percent are mixed (presenting expository information within a narrative genre), and only 4 percent are expository. Here are their suggestions:

- Locate high-quality informational books. Some possibilities:
  - *How Kittens Grow* (Selsam, 1992)
  - *Whales Passing* (Bunting, 2003)
  - *Children around the World* (Montanari, 2008)

- *Everybody Cooks Rice* (Dooley, 1991)
- *Planting a Rainbow* (Ehlert, 1992)
- *Tell Me, Tree: All About Trees for Kids* (Gibbons, 2002)
- *Feast for 10* (Falwell, 1993)
- *Shapes, Shapes, Shapes* (Hoban, 1986)
- *Recycle!: A Handbook for Kids* (Gibbons, 1996)
- *Volcano!* (Prager, 2004)
- *How It Happens at the Post Office* (Frederick, 2002)
- *Veterinarians* (Reading 1997)
- *My Five Senses* (Aliki, 1991)
- *You Are What You Eat* (Gordon, 2002)
- *A Picture Book of George Washington* (Adler, 1990)
- *Ox-Cart Man* (Hall, 1983)
- *School Bus* (Crews, 1984)
- *Trains* (Gibbons, 1987)
- *I Read Signs* (Hoban, 1987)
- *Mapping Penny's World* (Leedy, 2003)
- *Emergent Science Readers* (Scholastic)
- *Let's-Read-and-Find-Out Science, Stage 1* (HarperCollins)
- *Look Once, Look Again! Science* (Creative Teaching)
- *National Geographic Kids* (National Geographic Society)
- *Pebble Books* (Capstone)
- *Rookie Read-About Science* (Children's Press)
- *Scholastic First Discovery* (Scholastic)
- *Science Kids* (Macmillan)
- *See More Readers, Level 1* (SeaStar)
- *Welcome Books* (Children's Press)

- Prepare key discussion points for the read-aloud, planning strategic stopping points and identifying important vocabulary words.
- Identify state standards that can be targeted in read-alouds.
- Plan extension activities and/or embed books within curriculum units.

"Informational Text Use in Preschool Classroom Read-Alouds" by Jill Pentimonti, Tricia Zucker, Laura Justice, and Joan Kaderavek in *The Reading Teacher*, May 2010 (Vol. 63, #8, p. 656-665), no e-link available; Pentimonti can be reached at JPentimonti@ehe.osu.edu.

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8. Effective Teaching of Academic Vocabulary in Middle Schools

In this *Reading Research Quarterly* article, four researchers report on a study of an 18-week program designed to increase the academic vocabulary of urban middle school students, most of whom were language minority learners. The researchers were guided by three principles for more effective word learning:

• Vocabulary instruction should promote deep understanding of a relatively small number of words, their elements, and related words, all in a rich context. Teaching "shallow knowledge" of a large number of words and their definitions from a list or workbook, say the authors, is unlikely to improve reading comprehension.

• The targeted words should have very high utility – they should be general-purpose academic words like *analyze, frequent,* and *abstract*, versus colorful and exotic but low-frequency words like *refuge* and *burrowed*. "Word selection is especially important when teaching students with impoverished vocabularies," say the authors. "Given the enormity of the word-learning task, no teacher or curriculum can teach or expose students to the thousands of unknown words needed for academic success."

• Teachers should balance direct teaching of the target words with teaching word-learning strategies (e.g., context clues and morphological awareness) so students acquire the cognitive tools they need to learn words independently.

The program the researchers used was ALIAS – Academic Language Instruction for All Students. It uses short high-interest, accessible, grade-appropriate passages and targets a few words in each text for vocabulary instruction. These are some of the ways students work with each word through the ALIAS lessons:

- How to spell it
- What it looks like
- What it sounds like
- What I already know about its meaning
- What my teacher and classmates tell me about its meaning
- Its dictionary definition
- Its meaning in the article
- How to use it to talk about the article
- How to represent its meaning graphically
- How to judge when it's used correctly in a sentence
- The different forms of the word and how they are used
- The different word parts inside the word and their meanings
- The meaning of the word in different contexts
- How to use the word to write about other topics
- How to use the word precisely in writing an essay
- How to help classmates write the word.

The researchers found that the ALIAS approach was easy for teachers to implement and quite effective in increasing students' word knowledge and independent word-learning skills. They believe it would also be a productive approach for upper-elementary classrooms to prepare students for the challenges of reading content-area textbooks.

"The Effectiveness and Ease of Implementation of an Academic Vocabulary Intervention for Linguistically Diverse Students in Urban Middle Schools" by Nonie Lesaux, Michael Kieffer, Elisabeth Faller, and Joan Kelley in *Reading Research Quarterly*, April/May/June 2010 (Vol. 45, #2, p. 196-228), no e-link available

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9. Improving Girls' Math and Science Achievement

This *SEDL Letter* article summarizes research on closing the male/female job gap in math and science and makes the following recommendations for encouraging girls' achievement and aspirations:

• *Teach students that academic abilities are expandable and improvable*. Teachers should explain how synaptic connections grow in our brains when we apply effective effort, whether it's practicing free throws in basketball or working on understanding math and science.

• *Provide prescriptive, informational feedback*. Merely giving students a grade or a score is the least helpful kind of feedback. Teachers should compliment students on effort and strategies, reinforce the idea that effective effort is more important than innate ability, and treat students' mistakes as opportunities to correct problems and fine-tune learning strategies.

• *Expose girls to female role models in math and science*. This includes reading about successful female scientists, mathematicians, astronomers, and engineers and having in-person exposure to successful professionals and high-achieving students in higher grades and college.

• *Create a classroom environment that sparks curiosity and fosters interest*. Interest sparks effort, achievement, and choosing higher-level courses. Teachers should seek out real-world applications of math and science skills and concepts, implement project-based cooperative learning whenever possible, and make effective use of technology.

• *Provide spatial skills training*. Performing certain hands-on tasks (for example, playing with toys that require the application of spatial knowledge) develops spatial skills, which in turn improves performance in math and science.

"Research Update: Encouraging Girls in Math and Science" in *SEDL Letter*, Spring/Summer 2010 (Vol. XXII, #1, p. 12-13); the article draws on this Institute of Education Sciences study: *Encouraging Girls in Math and Science: IES Practice Guide* by Halpern et al. (2007) http://ies.ed.gov/ncee/wwc/pdf/practiceguides/20072003.pdf

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10. News Flash: Student Attendance Matters!

In this *American Educational Research Journal* article, University of Pennsylvania researcher Michael Gottfried studied the relationship between student attendance and academic achievement in Philadelphia elementary and middle schools. The result? Higher attendance has a positive and statistically significant relationship to grade-point averages and test scores.

"Evaluating the Relationship Between Student Attendance and Achievement in Urban Elementary and Middle Schools: An Instrumental Variables Approach" by Michael Gottfried in *American Educational Research Journal*, June 2010 (Vol. 47, #2, p. 434-465), no e-link available

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Do you have feedback? Is anything missing?

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

About the Marshall Memo

Mission and focus:

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

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

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Publications covered

Those read this week are underlined.

American Educator
American Journal of Education
American School Board Journal
ASCD, CEC SmartBriefs, Daily EdNews
Catalyst Chicago
Ed. Magazine
EDge
Education Digest
Education Gadfly
Education Next
Education Week
Educational Leadership
Educational Researcher
Edutopia
Elementary School Journal
Essential Teacher (TESOL)
Harvard Business Review
Harvard Education Letter
Harvard Educational Review
JESPAR
Journal of Staff Development
Language Learner (NABE)
Middle Ground
Middle School Journal
New York Times
Newsweek
PEN Weekly NewsBlast
Phi Delta Kappan
Principal
Principal Leadership
Principal's Research Review
Reading Research Quarterly
Reading Today
Rethinking Schools
Review of Educational Research
Teachers College Record
The Atlantic Monthly
The Chronicle of Higher Education
The Language Educator
The Learning Principal
The New Yorker
The Reading Teacher
Theory Into Practice
Tools for Schools