Marshall Memo 368

A Weekly Round-up of Important Ideas and Research in K-12 Education
January 10, 2011

In This Issue:

Quotes of the Week

"Kids know effective teaching when they experience it."
Ron Ferguson (see item #6)

"To grow, our students must read lots. More specifically, they must read lots of 'complex' texts – texts that offer them new language, new knowledge, and new modes of thought."
Marilyn Jager Adams (see item #1)

"Knowledge truly is the most powerful determinant of reading comprehension."
Marilyn Jager Adams (*ibid*.)

"Think of reading as a two-lock box, requiring two keys to open. The first key is decoding skills. The second key is vocabulary sufficient to understand what is being decoded. Reading comprehension tests are basically vocabulary tests."
E.D. Hirsch, Jr. and Robert Pondiscio in "There's No Such Thing as a Reading Test" in *American Educator*, Winter 2010-2011 (Vol. 34, #4, p. 3-11, 53)
http://www.aft.org/pdfs/americaneducator/winter1011/Hamilton.pdf#page=4

"Teacher modeling has a profound effect on students' behaviors."
Douglas Fisher, Diane Lapp, and Karen Wood (see item #3)

"[P]unctuation is a train wreck among my students."
English professor Ben Yagoda in "The Elements of Clunk" in *The Chronicle of Higher Education/The Chronicle Review*, Jan. 7, 2011 (Vol. LVII, #18, p. B4-5),
http://chronicle.com/article/The-Elements-of-Clunk/125757/

1. Brain Research on How to Get Smarter

In this *Newsweek* cover story (check out the amusing illustration at the link below), Sharon Begley explores recent theories on how intelligence can be improved. "There are lots of quick and dirty studies of cognitive enhancement that make the news," says Brown University Medical School neuroscientist Peter Snyder, "but the number of rigorous, well-designed studies that will stand the test of time is much smaller. We're sort of in the Wild West."

Even so, the research is producing some solid findings. It's clear that the brain is quite "plastic" – it can change its structure and function in response to input. And scientists believe that greater cognitive capacity is associated with having more neurons or synapses, the creation of new neurons (especially in the memory-forming hippocampus), and increased production of BDNF (brain-derived neurotrophic factor). All of this boosts learning, memory, reasoning, and creativity. And what makes that happen? Begley lists some recent findings:

• *Focusing on an activity* – Attention to something, for example, learning how to read Braille, is "almost magical in its ability to physically alter the brain and enlarge functional circuits," says Begley. "That might explain why skills we're already good at don't make us much smarter: we don't pay much attention to them. In contrast, taking up a new, cognitively demanding activity… is more likely to boost processing speed, strengthen synapses, and expand or create functional networks." Certain chemicals (e.g., Adderall and Ritalin) help some people focus. So does the "ancestor effect" (believing that one's people have certain qualities), believing that one's group is good at an activity, and being in a positive mood. Conversely, believing that one's people or one's group are not good at something, and being in a foul mood, degrades cognitive performance.

• *Practice* – Skills improve and grab more neuronal real estate when we train them repeatedly. A study of the brains of London cabdrivers, who must memorize the city's 25,000 streets, found that their posterior hippocampus (the part of the brain that stores spatial memories) had grown bigger than that of average Londoners. Unfortunately, practicing a specific skill doesn't enhance the rest of the brain. "The research so far suggests that cognitive training benefits only the tasks used in training and does not generalize to other tasks," says Columbia neuroscientist Yaakov Stern.

So, does anything that does bring about transfer to other areas? There are three strong candidates:

• *Physical exertion* – Simple aerobic activity (such as walking for 45 minutes three days a week) improves episodic memory and executive-control functions by about 20 percent. "You can think of fitness training as changing the molecular and cellular building blocks that underlie many cognitive skills," says Art Kramer of the University of Illinois/Urbana-

Champaign. "It thus provides more generalizable benefits than specifically training memory or decision-making."

• *Meditation* – This can increase the thickness of the parts of the brain that control attention and process sensory signals, thus enhancing mental agility and attention by making the brain more efficient.

• *Certain strategy videogames* – These use attention, motor control, visual search, working memory, long-term memory, cognitive flexibility, and decision making.

"Can You Build a Better Brain?" by Sharon Begley in *Newsweek*, Jan. 10 & 17, 2011 (p. 40-45) http://www.newsweek.com/2011/01/03/can-you-build-a-better-brain.html

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2. How Do People Learn 100,000 Words?

In this *American Educator* article, Brown University professor Marilyn Jager Adams says that eighth graders need to know about 100,000 words to be proficient readers of advanced texts. How is that possible? Direct vocabulary instruction is essential, she says, but if students are taught (and actually learn) 20 words each week from Grade 1 to 12, they will have only 8,640 words by high-school graduation – not even close to what's needed.

The only other strategy would seem to be students inferring the meaning of new words as they read. Adams does the math:

- The average middle-class fifth grader reads about 1,000,000 words a year.
- Because most words are used multiple times, a million words include about 17,200 different words.
- An average student would know about a quarter of those words.
- This means he or she would need to learn about 12,900 new words per year.
- The likelihood of the student understanding and retaining a new word from context is about 0.05.
- This means a child's vocabulary would increase by only 645 words a year.
- That's just 5,160 words by high-school graduation.

So how do all those other words get learned? Somehow, most of them *are* learned, because, as Adams points out, we have "the intuitive sense that a high-school student need be neither a genius nor a tireless scholar to read and understand most materials written for grade-school children."

The way all those other words are learned by proficient readers – and could be learned by less-proficient readers – is a combination of background knowledge, associating related words, and inferring meaning from context. "Every concept – simple or complex, concrete or abstract – is learned in terms of its similarities, differences, and relationships with other concepts with which we are familiar," says Adams. "As a simplistic example, when we read about tigers, then, by dint of both similarities and contrasts, we learn more about all sorts of cats and, further, about every subtopic mentioned along the way. The more deeply we read about tigers, the more nuanced and complex these concepts and their interrelations become… Another way to state the larger point here is that words are not just words. They are the nexus –

the interface – between communication and thought. When we read, it is through words that we build, refine, and modify our knowledge."

The key is increasing "domain knowledge," which makes it possible for reading strategies to have traction. "*Knowledge truly is the most powerful determinant of reading comprehension*," says Adams. Without it, the Matthew Effect is at work – students who are knowledge-rich get richer, those who are knowledge-poor get poorer.

"To grow, our students must read lots," says Adams. "More specifically, they must read lots of 'complex' texts – texts that offer them new language, new knowledge, and new modes of thought." And they need to tackle those texts with the language, knowledge, modes of thought, and reading skills necessary to understand. Those who don't have those need lots of support from teachers, families, and other adults to scaffold reading of challenging texts.

The recent trend to make textbooks easier (by using readability formulas) undermines what students need and makes the problem worse, says Adams, denying students "the very language, information, and modes of thought they need most in order to move up and on." She explains Zipf's law, which says that in any given text, many common words are used a lot and a few sophisticated words are used only one or two times. "Readabilitized" texts strip out these words – for example, they would use *strong* and not *valid, virile, tensile, pungent, dominant, vibrant, durable, lethal, tyrannical,* and *undiluted*. Without learning and using these Tier 2 words, students remain linguistically impoverished and never become proficient readers.

Adams has a specific proposal. Teachers and parents at every grade should do the following:

- Choose a topic (the planet Mars, for example) that students need to learn about and choose an appropriate text (short and simple for below-level students).
- Teach the key words and concepts directly, engaging students in using and discussing them so they are well anchored.
- Have students read as many other texts as possible, exploring subtopics and gaining detailed, deep knowledge about the topic.

"Gradually and seamlessly," says Adams, "students will find themselves ready for texts of increasingly greater depth and complexity. Better yet, as their expertise on, say, Mars, expands, they will find themselves in a far better position to read about Venus, Jupiter, earth sciences, space exploration, and on and on."

"The challenge, then, lies in organizing our reading regimens in every subject and every class such that each text bootstraps the language and knowledge that will be needed for the next," concludes Adams. "Zipf's law tells us that this can be done by carefully sequencing and scaffolding students' reading materials within any given topic. *Ideally, such scaffolding would begin on the very first day of school, with prekindergarten and kindergarten teachers reading aloud stories and nonfiction texts that build on each others' vocabulary and ideas*."

"Advancing Our Students' Language and Literacy: The Challenge of Complex Tasks" by Marilyn Jager Adams in *American Educator*, Winter 2010-2011 (Vol. 34, #4, p. 3-11, 53)
http://www.aft.org/pdfs/americaneducator/winter1011/Adams.pdf

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3. Helping Students Focus When They Read Online

In this *Middle School Journal* article, San Diego State University professors Douglas Fisher and Diane Lapp and University of North Carolina/Charlotte professor Karen Wood report on a study comparing students who read texts online and those who read conventional print versions. When asked questions about main ideas and general themes, the online and print readers performed at comparable levels. But when asked about important details and specific information, online readers did significantly worse than print readers.

Why did this happen? Fisher, Lapp, and Wood found that online readers were much less focused than print readers. Even though they weren't allowed to, online readers wanted to click on links and start reading related pages, click to see pictures, go to the online dictionary, and check their e-mail. These distractions kept them from reading as methodically as the print readers.

"[W]e cannot assume that skill in reading conventional text will transfer to online reading without modeling and explicit instruction," say Fisher, Lapp, and Wood. They suggest the following ways to help students read online material more carefully:

• *Establish purpose*. Students are more likely to focus on specific content if they know why they are reading a passage. Is it for pleasure, the main idea, the author's perspective, or specific details?

• *Model*. "Teacher modeling has a profound effect on students' behaviors," say the authors. Modeling and thinking out loud is especially important when gleaning information from the Internet. Here's an example of a science teacher doing this: "This line is confusing to me. It says, 'The water cycle has no starting point.' How could that be? I have to find the details to support this main idea. I see a graphic here with the same words on it that are underlined in the text. I think I'll read more about each term and then come back to the main idea to see if I understand the details that support it."

• *Use graphic organizers*. Even if students know how to use these with print reading, they don't carry over to online reading. Fortunately, there are several programs that can help, including Inspiration, Webspiration, and Microsoft Word templates.

• *Facilitate discussions*. "Learning is a social endeavor, and people tend to learn better when they get to talk with others about what they are learning," say Fisher, Lapp, and Wood. They suggest getting students to blog and instant-message as they read online and unpack the meaning and details of passages.

• *Slow down*. "Teachers have to remind students that reading is not a race," say the authors. "While fluency is important, and exceptionally slow reading will interfere with comprehension, it is important to note that different types of texts and different purposes for reading require different reading speeds… Reading more slowly and deliberately also provides readers time to activate relevant background information, make connections, visualize, infer, predict, and even disagree with the author – in other words, to mobilize all of the strategies they have been taught."

"Reading for Details in Online and Printed Text: A Prerequisite for Deep Reading" by Douglas

Fisher, Diane Lapp, and Karen Wood in *Middle School Journal*, January 2011 (Vol. 42, #3, p. 58-63)), available for purchase at http://www.nmsa.org/Publications/MiddleSchoolJournal/Articles/January2011/tabid/2309/Default.aspx. The authors are at dfisher@mail.sdsu.edu, lapp@mail.sdsu.edu, and kdwood@uncc.edu.

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4. Problems with Value-Added Test-Score Evaluation of Teachers

In this forceful *Rethinking Schools* article, University of Washington/Bothell professor Wayne Au lists seven reasons he believes it's unwise to use standardized-test value-added measurement (VAM) as part of teacher evaluation:

• *There is a high error rate in test statistics*. According to a 2010 study by Peter Schochet and Hanley Chiang, the error rate is 35 percent when using one year's test data on a teacher, 25 percent when using three years' data. "Because of these error rates," says Au, "a teacher's performance evaluation may pivot on what amounts to a statistical roll of the dice."

• *Test scores are unstable from year to year*. A number of studies (including one by Tim Sass) show that the test performance of students taught by the same teacher fluctuates over time. In one study, only one-third of teachers who were top-ranked one year were still in the top rank the following year, and one third had plummeted to the bottom 40 percent. This shows that other factors are at work – factors not within teachers' direct control.

• *Test scores are affected by random events*. A study by Thomas Kane and Douglas Staiger found that 50 to 80 percent of a student's test-score improvement or decline can be attributed to one-time occurrences – whether or not the student ate breakfast that morning, had an argument with peers on the way to school, or had positive or negative feelings about the test administrator. A dog barking incessantly outside a classroom window can affect the test scores of an entire class.

• *Students' class assignments matter*. Value-added analysis attempts to control for students' demography and prior achievement and assumes that all students' scores should improve at an equal rate – this makes it possible to calculate which teachers are over-performing and under-performing. But a recent study by the Economic Policy Institute ("Problems with the Use of Student Test Scores to Evaluate Teachers") notes that some students wind up in low-achieving tracks within schools, which depresses their achievement, while others attend well-resourced suburban schools, which boosts their performance – and these placements are not random – they are often linked to SES, race, learning disabilities, and English proficiency. The EPI study notes that "teachers who have chosen to teach in schools serving more affluent students may appear to be more effective simply because they have students with more home and school supports for their prior and current learning, and not because they are better teachers."

• *A test may catch a student at a low point on the learning curve*. Steven Pinker and other researchers have found that learning often follows a U-shaped trajectory – an initial dip and considerable mistake-making is part of getting to mastery. "When tests are used to evaluate teachers," says Au, "it is possible that highly effective teachers who push students out of their

cognitive comfort zones are penalized for provoking the deep learning that requires students to make mistakes on the way to greater understanding."

• *It's hard to trace the impact of each teacher*. The Economic Policy Institute study also notes that "the essay writing a student learns from his history teacher may be credited to his English teacher, even if the English teacher assigns no writing; the mathematics a student learns in her physics class may be credited to her math teacher."

• *Teachers can't overcome all disadvantages*. Although the research is clear that teachers can make a huge difference to students' achievement, out-of-school factors such as food insecurity, inadequate access to health care, and poverty-related stress may be insurmountable in some cases.

"Yes, teachers' performance needs to be evaluated," concludes Au, "but in a manner that is fair and accurate. Using high-stakes standardized tests and VAM to make such evaluations is neither."

"Neither Fair Nor Accurate: Research-Based Reasons Why High-Stakes Tests Should Not Be Used to Evaluate Teachers" by Wayne Au in *Rethinking Schools*, Winter 2010-2011 (Vol. 25, #2, p. 34-38), http://www.rethinkingschools.org/archive/25_02/25_02_au.shtml

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5. How Valid Are Course Evaluations Filled Out by College Students?

In this *Chronicle of Higher Education* article, David Glenn explores the validity and usefulness of the course evaluations that college students are asked to fill out on their professors. One study looked at the data from 1,100 students who took a remedial math course at a large California university between 2007 and 2009. The course was divided into many sections, and instructors had lots of freedom in how they taught and graded – but all students took the same high-stakes final exam and filled out the same course evaluation. Because researchers had access to pre-test, final-exam, and course-evaluation data, they were able to compare students' learning gains to how they evaluated the teaching.

The study found a small but statistically significant positive correlation between how well students evaluated the course and their before-and-after learning gains – a one-standard-deviation increase in learning was associated with a 0.05-to-0.07 increase in course-evaluation scores (on a 5-point scale). This suggests that students' assessment of a course might contain valuable information on the quality of teaching and learning.

The researchers took their analysis a step further, looking at which parts of the course-evaluation form had the strongest link to increased learning. The most powerful predictors were positive responses to these statements:

- The instructor was clear and understandable.
- The supplementary materials (e.g., films, slides, videos, guest lectures, Web pages, etc.) were informative.
- The course over all as a learning experience was excellent.

The least predictive items were:

- The syllabus clearly explained the structure of the course.

- The exams reflected the material covered during the course.
- The instructor respected the students.

This suggests that looking at specific items in well-designed evaluation forms might capture information about student learning.

A second study investigated why many students choose not to fill out course evaluation forms – and whether the increasing non-response rate is skewing the data. Looking at 20,000 students, the researchers found that:

- Students who earn D's and F's are 23 percent less likely to fill out the course's evaluation.
- Students are more likely to fill out forms for courses in their major.
- Students in "realistic" majors (e.g., biology, computer science) were more likely to fill out forms than students in "social" majors (communications, psychology).
- "Survey fatigue" was a factor – if students got 11 or more online surveys in a semester, their response rates tended to go down.

All this led the researchers to conclude that universities should be cautious interpreting average evaluation scores for a particular course – and about releasing survey data to the public, as is now the case for public colleges and universities in Texas.

"As Course Evaluations Go Public, New Studies Caution Against Over-Reliance" by David Glenn in *The Chronicle of Higher Education*, Jan. 7, 2011 (Vol. LVII, #18, p. A9-10), http://chronicle.texterity.com/chronicle/20101107a?pg=9#pg9

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6. Out of the Mouths of Babes

In this *New York Times* article, Sam Dillon reports on a study comparing student questionnaire data with calculations of their teachers' test-score data. The researchers found that teachers whose students agreed with these statements:

- Our class stays busy and doesn't waste time.
- In this class, we learn to correct our mistakes.
- My teacher has several good ways to explain each topic that we cover in this class.

had higher value-added scores. Conversely, teachers whose students agreed with this statement:

- We spend a lot of time in this class practicing for the state test.

tended to make smaller test-score gains than other teachers.

Harvard professor Ron Ferguson, who developed the student questionnaire, commented, "Kids know effective teaching when they experience it. As a nation, we've wasted what students know about their own classroom experiences instead of using that knowledge to inform school reform efforts."

"What Works in the Classroom? Ask the Students" by Sam Dillon in *The New York Times*, Dec. 10, 2010
http://query.nytimes.com/gst/fullpage.html?res=940DE0DD1F3BF932A25751C1A9669D8B63&scp=2&sq="What%20Works%20in%20the%20Classroom?%20Ask%20the%20Students"%20&st=cse

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7. Writing An Effective College-Admission Essay

In this *New York Times* education supplement article, Trip Gabriel describes the drama in his own family as his twin sons applied to colleges – and the increasing importance of the personal essay to the process. "Admissions officers are running out of calibration devices," says Barmak Nassirian of the American Association of Collegiate Registrars and Admissions Officers. "All else being the same or similar, the essay suddenly becomes meaningful because it becomes the tie breaker."

The problem, says Gabriel, is that high-school seniors haven't had much experience writing personal narratives and sometimes come across sounding "wooden or pretentious or thunderously trite" as they try to express themselves in the first person. "Prose in which an author's voice emerges through layers of perfectly correct sentences is the hardest kind of writing there is," he says. "Plenty of professional authors can't manage it." That's why some families are paying up to $2,500 to have consultants tune up essays.

Many seniors worry that they haven't had enough life experience to write a winning essay. But Gabriel says that small, everyday subjects are just fine – they're "more likely to produce revealing portraits." He quotes advice from several authors on how to approach writing the essay:

• Dani Shapiro, author of *Devotion: A Memoir* – "The high-wire act of writing in the first person involves the willingness to reveal oneself in all of one's humanity. But make no mistake: this is not your diary. You are not letting it all hang out. You are picking and choosing every single word. Do not forget that you're carving a story out of what is true – but still, you're telling a story."

• Darin Strauss, author of *Half a Life* – Write the essay initially in the third person to get a more objective view of yourself, then switch to the first person when you're finished. "Looking at yourself as you would a character should help remove that extra pinch of sugar by which you want to sweeten your story a little," says Strauss.

• Christopher Beha, author of *The Whole Five Feet: What the Great Books Taught Me About Life, Death and Pretty Much Everything* – "Write about things that puzzle you… Good writing emerges from discovery… You might even find that you know more than you thought you did. In the meantime, writing through confusion allows you to avoid arrogance and self-absorption, the great risks of all first-person writing."

• Ander Monson, author of *Vanishing Point: Not a Memoir* – "We find ourselves not by turning inward toward what we imagine is inside us, but by the act of looking outward at the world… Thus a focus on our obsessions, however nerdy, creepy, lovely, allows the self to emerge and live and blink a little in the bright light… [T]he best way to write about ourselves is to write about something specific in the world."

"The Almighty Essay" by Trip Gabriel in *The New York Times Education Life*, Jan. 9, 2011 (p. 6), http://thechoice.blogs.nytimes.com/2011/01/07/the-almighty-essay/?scp=1&sq=The%20ALmighty%20Essay&st=cse

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8. Books That Hook Middle-School Students on Subject Matter

In this helpful *Middle School Journal* article, Kent State University professor William Bintz suggests that certain books – he calls them "way-in" books – can grab students' interest and engagement in topics that might seem boring. "They are tools for exploration," he says, "a way to inquire – an opportunity to pose questions, arouse curiosities, and pursue anomalies about topics of unexpected interest that hopefully will capture their imagination." Way-in books aren't a substitute for actual content instruction, but they can create a far better learning climate if used skillfully.

Bintz has specific suggestions for middle-school teachers in all content areas. Here are excerpts from his selection:

<u>English language arts</u>

Inference:

- *The Incredible Book Eating Boy* (Jeffers, 2006)
- *Beneath the Surface* (Crew, 2005)
- *The Watertower* (Crew, 1999)
- *The Collector of Moments* (Buchholz, 1997)
- *The Invention of Hugo Cabret* (Selznick, 2007)

Persuasive arguments:

- *Earrings* (Voist, 1993)
- *I Wanna Iguana* (Orlof, 2004)
- *Detective LaRue: Letters From the Investigation* (Teague, 2004)
- *The Perfect Pet* (Palatini, 2003)
- *Dear Mrs. LaRue: Letters from Obedience School* (Teague, 2002)

<u>Social studies</u>

Culture and cultural diversity:

- *The Hello, Goodbye Window* (Norton, 2005)
- *First Day in Grapes* (Perez, 2002)
- *The Pot That Juan Built* (Andrews-Coebel, 2002)
- *Uptown* (Collier, 2004)
- *Amelia's Road* (Altman, 1993)

Individuals, groups, and institutions:

- *Benjamin Banneker: Pioneering Scientist* (Wadsworth, 2003)
- *Molly Bannaky* (McGill, 1999)
- *Immigrant Kids* (Freedman, 1980)

<u>Mathematics</u>

Patterns, relations, and functions:

- *The Warlord's Puppeteer* (Pilgard, 2003)
- *Patterns in Peru* (Neuschwander, 2007)
- *Sir Cumference and the Sword in the Cone* (Neuschwander, 2003)
- *If You Hopped Like a Frog* (Schwartz, 1999)
- *Spaghetti and Meatballs for All* (Burns, 1997)

Geometric shapes:

- *The Greedy Triangle* (Burns, 1994)
- *Mummy Math* (Neuschwander, 2005)
- *What's Your Angle, Pythagoras? A Math Adventure* (Ellis, 2004)
- *Sir Cumference and the Great Knight of Angleland* (Neuschwander, 2001)
- *Sir Cumference and the Dragon of Pi* (Neuschwander, 1999)
- *Sir Cumference and the First Round Table* (Neuschwander, 1997)
- *The Librarian Who Measured the Earth* (Lasky, 1997)
- *The Fly on the Ceiling* (Glass, 1998)

Numbers and operations:

- *Beanstalk: Measure of a Giant* (McCallum, 2006)
- *If Dogs Were Dinosaurs* (Schwartz, 2005)
- *Polar Bear Math* (Nagda and Bickel, 2004)
- *The Warlord's Puppeteers* (Pilgard, 2003)
- *A Place for Zero* (Lopresti, 2003)
- *One Riddle, One Answer* (Thompson, 2001)
- *Inchworm and a Half* (Pinczes, 2001)

Measurement:

- *How Tall, How Short, How Far Away* (Adler, 2000)
- *Greater Estimations* (Goldstone, 2008)
- *Great Estimations* (Goldstone, 2006)
- *Measuring Penny* (Leedy, 2000)
- *How Big Is a Foot?* (Myller, 1991)

Science

Experimental and observational inquiry:

- *Gregor Mendel: The Friar Who Grew Peas* (Bardoe, 2006)
- *What's the Matter in Mr. Whiskers' Room?* (Ross, 2007)
- *Science Verse* (Scieszka and Smith, 2004)
- *Mr. Archimedes' Bath* (Allen, 1998)
- *June 29, 1999* (Weisner, 1995)

Observational inquiry and the scientific method:

- *Snowflake Bentley* (Martin, 1998)
- *Rachel: The Story of Rachel Carson* (Erhlich, 2008)
- *Galileo's Journal* (Pettenati, 2006)
- *The Tarantula Scientist* (Montgomery, 2004)
- *The Man Who Made Time Travel* (Lasky, 2003)
- *Leonardo: Beautiful Dreamer* (Byrd, 2003)

Physics and Chemistry:

- *A Drop of Water* (Wick, 1997)
- *Where Does Electricity Come From?* (Mayes, 2006)
- *Forces Make Things Move* (Bradley, 205)

- *The Island That Moved* (Hooper, 2004)
- *How Do You Lift a Lion?* (Wells, 1996)
- *Why Can't You Unscramble an Egg?* (Cobb, 1990)
- *Why Doesn't the Earth Fall Up?* (Cobb, 1988)

Living systems and life sciences:

- *The Way We Work* (Macaulay, 2008)
- *Alive: The Living, Breathing Human Body Book* (DK Publishing, 2007)
- *What a Family!* (Isadora, 2006)
- *Have a Nice DNA* (Balkwill, 2002)
- *Amazing Schemes Within Your Genes* (Balkwill, 1993)
- *The Facts of Life: A Drop of Blood* (Showers, 1989)

Earth and space science:

- *Arctic Lights, Arctic Nights* (Miller, 2003)
- *The Incredible Water Show* (Frasier, 2004)
- *Mountain Dance* (Locker, 2001)
- *On the Same Day in March* (Singer, 2000)
- *Cloud Dance* (Locker, 2000)

"'Way-In' Books Encourage Exploration in Middle Grades Classrooms" by William Bintz in *Middle School Journal*, January 2011 (Vol. 42, #3, p. 34-45), available for purchase at http://www.nmsa.org/Publications/MiddleSchoolJournal/Articles/January2011/tabid/2309/Default.aspx
Bintz can be reached at wpbintz@gmail.com

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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 41 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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American Journal of Education
American School Board Journal
ASCD, CEC SmartBriefs, Daily EdNews
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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
The School Administrator
Theory Into Practice
Tools for Schools