Marshall Memo 206

A Weekly Round-up of Important Ideas and Research in K-12 Education
October 22, 2007

In This Issue:

Quotes of the Week

"Many believe that (1) praising students' intelligence builds their confidence and motivation to learn, and (2) students' inherent intelligence is the major cause of their achievement in school. Our research has shown that the first belief is false and the second can be harmful – even for the most competent students."

Carol Dweck (see item #1)

"You mean I don't have to be dumb?"

A New York City seventh-grader, upon learning about the malleability of intelligence (*ibid.*)

"The middle school years offer the last chance for many struggling students to build the literacy skills they need to succeed in demanding high-school courses."

Robert Slavin, Anne Chamberlain, and Cecelia Daniels (see item #2)

"If students conclude that there is no hope, is doesn't matter what the adults decide. Learning stops… True hopelessness always trumps pressure to learn."

Rick Stiggins in *Education Week*, Oct. 17, 2007, p. 29

"Grammar is the skunk at the garden party of the language arts."

Deborah Dean in her new book, *Bringing Grammar to Life* (International Reading Association, 2007)

"Sorting fact from fiction, tragedy from comedy, fever from fevered performances is the venerable part of a school nurse's job."

Jan Hoffman in a *New York Times* story on a school nurse, October 16, 2007 (p. D5)

1. Carol Dweck on Praising for Effort, Not Intelligence

(Originally titled "The Perils and Promises of Praise")

In this *Educational Leadership* article, Stanford psychology professor Carol Dweck continues her lucid explanation of the erroneous beliefs that many Americans hold about intelligence and the ways we need to change them. "Many believe that (1) praising students' intelligence builds their confidence and motivation to learn, and (2) students' inherent intelligence is the major cause of their achievement in school. Our research has shown that the first belief is false and the second can be harmful – even for the most competent students."

Dweck says that the impact of praise is closely linked to how students view intellectual ability, and they tend to hold one of two beliefs:

• *Intelligence is a fixed trait* – "Students with this fixed mind-set become excessively concerned with how smart they are," says Dweck, "seeking tasks that will prove their intelligence and avoiding ones that might not. The desire to learn takes a back seat." Students who think this way tend to:

- Care a lot about whether people think they are smart or not smart;
- Avoid learning challenges where they might make mistakes;
- Try to hide mistakes rather than trying to correct them;
- Believe that if they have the ability, they shouldn't have to try hard;
- Believe that needing to apply a lot of effort means they're dumb;
- Not deal well with frustration and setbacks, sometimes giving up or cheating.

• *Intelligence can be improved* – "When students believe they can develop their intelligence, they focus on doing just that," writes Dweck. "Not worrying about how smart they will appear, they take on challenges and stick to them… They don't necessarily believe that anyone can become an Einstein or a Mozart, but they do understand that even Einstein and Mozart had to put in years of effort to become who they were." Students with the growth belief system tend to:

- Care about and invest themselves in learning;
- Believe that effort is a positive thing, causing their intelligence to grow;
- Try hard in the face of frustration and failure;
- Look for new learning strategies.

"More and more research in psychology and neuroscience supports the growth mind-set," says Dweck. "We are discovering that the brain has more plasticity over time than we

ever imagined; that fundamental aspects of intelligence can be enhanced through learning; and that dedication and persistence in the face of obstacles are key ingredients in outstanding achievement."

It turns out that the way adults praise children's successes and failures has a direct impact on the mind-set children develop. Dweck and her colleagues have conducted a series of fascinating experiments in recent years and found the following:

• *Praising for intelligence* – Many educators and parents believe that commending children for being smart will increase their self-confidence and help them enjoy learning. Not true! "Praising students' intelligence gives them a short burst of pride," says Dweck, "followed by a long string of negative consequences." This kind of praise pushes the child into the innate-intelligence mind-set, which makes them more fearful of messing up, less willing to work hard to learn new skills, less adventurous with difficult challenges, more prone to cheat or give up, and less confident in their ability to be successful. "Praising students for their intelligence, then, hands them not motivation and resilience but a fixed mind-set with all its vulnerability," concludes Dweck.

• *Praising for effort* – By contrast, commending students for the *processes* they use – engagement, perseverance, strategies, improvement – fosters motivation, increased effort, willingness to take on new challenges, greater self-confidence, and a higher level of success. "Process praise keeps students focused, not on something called ability that they may or may not have and that magically creates success or failure, but on processes they can all engage in to learn," writes Dweck.

Here's what this kind of adult praise sounds like: "You really studied for your English test, and your improvement shows it. You read the material over several times, outlined it, and tested yourself on it. That really worked!" and "It was a long, hard assignment, but you stuck to it and got it done. You stayed at your desk, kept up your concentration, and kept working. That's great!"

What about a student who works hard and does poorly? Dweck suggests saying, "I liked the effort you put in. Let's work together some more and figure out what you don't understand." How about a student who gets an A without trying very hard? Dweck suggests saying, "All right, that was too easy for you. Let's do something more challenging that you can learn from."

To test this theory, Dweck and her colleagues worked with a group of New York City seventh graders whose math grades had been plummeting in the opening months of school. The researchers gave two groups of students, the intervention group and the control group, a series of workshops on study skills, time management, and memory strategies. In addition, the students in the intervention group were presented with information about how intelligence develops. "They learned that the brain is like a muscle," says Dweck, "the more they exercise it, the stronger it becomes. They learned that every time they try hard and learn something new, their brain forms new connections that, over time, make them smarter. They learned that intellectual development is not the natural unfolding of intelligence, but rather the formation of new connections brought about through effort and learning."

The students who heard this information were riveted, says Dweck. "The idea that their intellectual growth was largely in their hands fascinated them." Even the most disruptive students calmed down and listened. "You mean I don't have to be dumb?" asked a particularly unruly boy. Teachers noticed a marked improvement in the motivation and effort of the intervention group, despite having been kept in the dark about what the intervention was. In the past, the boy who thought he was dumb had rarely turned in homework and put in minimal effort beforehand; now he worked for hours to finish an assignment early, got feedback from his teacher, revised it, and earned a B+. Overall, the intervention students turned around their math achievement and made dramatic gains. The achievement of the control-group students, despite the workshops on study skills, continued to decline.

Dweck and her colleagues extended the study to 20 New York City schools and got similar results. One student said she could actually "picture the neurons growing bigger as they make more connections." Another student said, "If you do not give up and you keep studying, you can find your way through."

"Adolescents often see school as a place where they perform for teachers who then judge them," concludes Dweck. "The growth mind-set changes that perspective and makes school a place where students vigorously engage in learning for their own benefit. Our research shows that educators cannot hand students confidence on a silver platter by praising their intelligence. Instead, we can help them gain the tools they need to maintain their confidence in learning by keeping them focused on the *process* of achievement."

"The Perils and Promises of Praise" by Carol Dweck in *Educational Leadership*, October 2007 (Vol. 65, #2, p. 34-39), full article available at http://www.ascd.org.
For more on this subject, see the summary of Dweck's classic 1999 *American Educator* article in Marshall Memo 144, which has more detail of a study of fifth graders, and a recent *Education Week* online chat with Dweck in Memo 152.

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2. What Makes an Effective Middle-School Reading Program?

(Originally titled "Preventing Reading Failure")

"The middle school years offer the last chance for many struggling students to build the literacy skills they need to succeed in demanding high-school courses," write Robert Slavin, Anne Chamberlain, and Cecelia Daniels of Baltimore's Success for All Foundation in this *Educational Leadership* article. "Middle school is not too late to accelerate the reading achievement of young adolescents."

They go on to describe Reading Edge, a program designed to take advantage of middle-school students' interests, social enthusiasm, desire for independence, and craving for honest, positive feedback. Among the program's key components:

• *Cooperative learning* – "Young adolescents are strongly interested in competition, in taking responsibility, and in one another," write Slavin, Chamberlain, and Daniels. Reading Edge students study together in four-person teams, but are accountable for what they have learned in individual assessments. One routine is *team talk*: all four students read a passage

silently; one student reads a question aloud; the next student restates the question, clarifying any troublesome issues; a third student answers the question; then the fourth agrees, disagrees, or adds to the answer. In a group of students using this protocol in a West Virginia middle school, one student didn't notice the phrase *according to the text* in a question about pesticides and fertilizer and tried to answer the question by trying to remember what he knew on the subject. A teammate pointed out the key phrase and the whole team dove back into the text to find out what it said about pesticides and fertilizers. A little later the team got stuck on the phrase *pros and cons* until one clarified its meaning by giving the example of the pros and cons of trading a well-known football player. "In the past," say Slavin, Chamberlain, and Daniels, "the comprehension challenges posed by this question might have led to off-task behavior. In this case, the students used their team as a safe place to dissect a troublesome question, thus building confidence in their ability to use strategies to understand text and answer academic questions."

• *Proactive classroom management* – "Young adolescents are naturally rambunctious," write the authors. To channel this energy, "teachers need to design rapidly paced, varied, active classroom lessons – lessons that continually engage students in motivating activities that are worthy of their attention and energies." Among the strategies they recommend:

- Think-pair-share – The teacher presents material, asks a question that is an important "cog in the wheel of understanding", and has students quickly share an answer with a partner, thus involving every student in the class in thinking through the answer.
- Numbered heads – Team members each have a number and don't know who the teacher will call on, so the incentive is to make sure everyone on the team knows the answer.
- Discuss and defend – Teams discuss a question and decide how they can defend their point of view.

• *Instruction in metacognitive skills* – "An important developmental strength of young adolescents is their rapidly growing ability to think about and manage their own learning," say Slavin, Chamberlain, and Daniels. Part of Reading Edge is explicitly teaching summarizing, predicting, questioning, and clarifying. Students work in groups to test out different strategies and find the ones that work best for them personally.

• *Frequent assessment and feedback* – "Young adolescents work best when they can see that they are achieving success and earning recognition," write the authors. The Reading Edge program uses a computerized reading assessment to group students by levels and regroups every nine weeks based on each student's progress. Other variables are tracked, including books read at home, how they used vocabulary words in new contexts, and team members' success helping peers master new content and improve past performance.

• *Goal setting* – "Unlike most elementary students, middle-school students can imagine alternative futures and plan toward goals," say Slavin, Chamberlain, and Daniels. Reading Edge teachers get baseline reading levels and skill inventories and share the information with each student, setting learning goals for the year. Students then track their progress using a

Learning Guide that includes their personal goals, their strengths and areas for improvement, new vocabulary words for each lesson, personal reflections on strategies that work, and points they earn for class work, homework, and tests.

"Preventing Reading Failure" by Robert Slavin, Anne Chamberlain, and Cecelia Daniels in *Educational Leadership*, October 2007 (Vol. 65, #2, p. 22-27); this article can be purchased at http://www.ascd.org.

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3. Key Factors in Good Pre-School Programs

(Originally titled "Changing the Odds")

"Early interventions can profoundly affect the developmental outcomes for disadvantaged children and their families," writes University of Michigan professor Susan Neuman in this *Educational Leadership* article, "but only if the interventions are of high quality and follow the principles supported by the robust evidence now available." Neuman believes there are seven:

• *Targeting* – Effective programs focus resources and personnel on the neediest children. This allows more favorable adult-child ratios and more individualized delivery of services and prevents resources from being spread too thin.

• *Developmental timing* – In most cases, says Neuman, the earlier children get help, the better. "[I]t is far more efficient to prevent reading difficulties early than to wait until more serious problems occur and costly remediation becomes necessary," she writes. But there is the danger of falsely identifying students as learning disabled and intervening too early. "Such overidentification can lead schools to engage students in developmentally inappropriate activities," writes Neuman. "Drilling young children in alphabet skills when they are only beginning to explore these symbol systems can be counterproductive, smothering their interest and motivation to read later on."

• *Intensity* – "More intensive programs produce larger positive effects," says Neuman. "What matters in intensity is not only the amount of time devoted to the program but also how the program uses that time… Children are likely to make good progress if they receive help for a substantial length of time each day, one-to-one or in a small group, with a highly trained professional." Active involvement by children and parents is also key. Neuman cites Bright Beginnings in the Charlotte-Mecklenburg schools as a model program: http://www.cms.k12.nc.us/programs/PrekServices/index.asp.

• *Professional training* – "Programs that demonstrate significant, long-term, life-changing effects for our most disadvantaged children all use professionals, not just paraprofessionals or volunteers," says Neuman.

• *Coordination* – Programs must launch an integrated attack on all the factors that are preventing children from blossoming, including health problems, poor nutrition, family stress, and literacy. Close links with elementary schools are also important.

• *Compensatory instruction* – Effective programs work to catch children up on missing pieces, including knowledge, skills, motivation, curiosity, and problem-solving strategies. "In

compensatory programs, depth matters more than breadth," says Neuman. What works is focusing on specific skills and working to accelerate children's skills and knowledge so they enter school on a par with their more advantaged peers.

• *Accountability* – "To some," says Neuman, "accountability may appear as uncomfortable as a tax audit." But it's actually an early-intervention program's best friend, she argues. "Programs that monitor progress, provide careful oversight, create clear expectations, and evaluate effects have shown dramatic results," writes Neuman. "Good accountability also uses valid, reliable, and accessible tools to measure not just the program's effects on cognition, but also its effects on other characteristics essential for school readiness, including social-emotional skills, dispositions for learning, and self-regulatory skills."

"Changing the Odds" by Susan Neuman in *Educational Leadership*, October 2007 (Vol. 65, #2, p. 17-21); this article is available in full at http://www.ascd.org.

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4. Intervening in Middle School and Ninth Grade to Prevent Dropouts

(Originally titled "An Early Warning System")

In this *Educational Leadership* article, researchers Ruth Curran Neild, Robert Balfanz, and Liza Herzog say that students who eventually drop out send "strong distress signals" much earlier. "These students are metaphorically waving their hands and asking for help," say the authors. "By paying attention, schools and districts can develop interventions that can help keep potential dropouts on track to graduation."

Based on a 6-year study of a cohort of 14,000 Philadelphia students as they moved from grades 6-12, the authors concluded that the times to rescue students are in middle school and ninth grade. A sixth grader with *even one* of the following had at least a 75% chance of dropping out of high school:

- A final grade of F in math;
- A final grade of F in English;
- Attendance below 80% for the year;
- A final grade of Unsatisfactory in behavior in at least one class.

Students with more than one of these warning signs had an even greater chance of dropping out within six years. Each of the factors had more predictive power than special-education status or other factors, and it's easy to see why: students with failing grades in major courses were exhibiting major deficits in academic skills and motivation; students with poor attendance probably had little support for schooling at home; and students with poor conduct grades probably had social and emotional challenges.

How can schools help students who send these signals? Neild, Balfanz, and Herzog recommend the following:

• *A three-tiered intervention in the middle grades* – Not all students need intensive help. Schools should use a layered approach focused on preventing problems in the general

population and focusing intensive intervention on the small number of students who need it. Here are examples focused on the issue of student attendance:

- Tier 1: whole-school preventive measures, which can keep 70-80% of students on track to graduation – for example, a schoolwide attendance program that highlights the importance of attendance; tracks attendance data at the classroom level; has an adult follow up on the first absence of each student; and provides weekly recognition and monthly social rewards (e.g., pizza parties or field trips) to students with perfect or near-perfect attendance.
- Tier 2: targeted interventions for students who continue to have poor attendance despite the schoolwide program – for example: having each of these students sign an attendance contract; convening a conference with family members; having an adult do a personal daily check-in, saying he or she is pleased to see the student in school; and calling home any time the student is absent.
- Tier 3: intensive interventions for the 5-10% of students who need small-group or one-on-one help – for example, a team of adults (perhaps a counselor, assistant principal, and teacher) work together to understand the source of the problem and, if necessary, refer the student and family for appropriate social-service help.

"Our experience has shown us that schools are often doing far less in each of these areas than they think," write the authors. Gathering day-to-day data is essential to monitoring and refining such a system.

• *Keeping an eye on ninth graders* – At least half of students in low-income areas enter high school two or three years below grade level, say Neild, Balfanz, and Herzog. These students need age-appropriate, accelerated curriculum to catch up on the skills demanded by high-school courses. They also need engaging activities that give them a chance for success and fun in school – debates, artistic and performance experiences, and service learning projects that they can participate in if they have good attendance and are trying hard in their academic courses. Talent Development High School (http://www.csos.jhu.edu/tdhs), a model developed by urban educators and Johns Hopkins researchers, organizes 9th-grade teachers into four-person interdisciplinary teams that track students' progress, compare notes, and decide on the best strategies for struggling students.

• *Re-engaging out-of-school youth* – Students who do drop out are unlikely to be enticed back into traditional high schools. They need something different that will give them a chance to earn credits toward graduation and fast-track their remaining requirements in a non-traditional setting. The authors report on Project U-Turn (http://www.projectuturn.net), a multi-agency effort to rescue Philadelphia dropouts.

"An Early Warning System" by Ruth Curran Neild, Robert Balfanz, and Liza Herzog in *Educational Leadership*, October 2007 (Vol. 65, #2, p. 17-21); this article can be purchased at http://www.ascd.org.

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5. Answers to Legal Quiz

Marshall Memo 205 contained a quiz on teachers' legal knowledge on student rights and teacher rights and responsibilities authored by David Schimmel and Matthew Militello and published in the *Harvard Educational Review*. Here are the answers, followed by the percent of teachers who responded correctly to each question in the study.

Student Rights True or False? (teachers' average score: 39.2%)

a. School officials may legally search a student's personal belongings without a specific reason. *False. In New Jersey v. T.L.O., the Supreme Court ruled that public school officials must have "reasonable suspicion" to search students and that the search must be justified at its inception and reasonable in scope.* (55.7% correct)

b. Students who refuse to salute the flag may be required to stand in respectful silence. *False. Students who refuse to salute the flag may not be required to stand or leave the room and may remain seated.* (40.7% correct)

c. Law enforcement officials requesting permission to search a student at school must have probable cause. *True. Unlike school personnel, police officers are subject to the higher standard of "probable cause" before conducting a search.* (73.6% correct)

d. Students who choose to participate in competitive athletics may be subjected to random drug testing. *True. The Supreme Court has ruled that schools may require students to sign waivers to allow random, suspicionless drug testing before participation in competitive athletics or extracurricular activities.* (48.6% correct)

e. Schools may require all students to wear uniforms without violating student rights. *True. Students have no constitutional right to dress as they wish.* (53.8% correct)

f. Before students are suspended for 5-10 days, they have a right to a hearing where they can bring a lawyer to advise them. *False. Before being suspended for 1-10 days, students only have a constitutional right to an informal notice and hearing, but they usually do have a right to bring a lawyer in cases of possible expulsion.* (17.5% correct)

g. Students have the right to promote their political beliefs to other students at school. *True. The First Amendment protects student freedom to promote their political or religious beliefs in a nondisruptive manner.* (52.7% correct)

h. School officials must permit students to distribute controversial religious materials on campus if it does not cause disruption. *True. Student freedom of expression includes the right to nondisruptively share controversial religious beliefs verbally or in writing.* (19.1% correct)

i. Students have a constitutional right to participate in extracurricular activities. *False. Schools have no duty to provide extracurricular activities, and participation is not a constitutional right.* (34.3% correct)

j. Students may wear T-shirts that criticize school policies as long as they do not cause a significant interference with school operations. *True. Students usually have a right to criticize school policies verbally, in writing, or on T-shirts as long as they don't cause substantial disruption or interfere with the rights of others.* (35.8% correct)

k. The First Amendment protects student speech that is offensive, provocative, and controversial. *True. Controversial, provocative, and even offensive speech is protected by the First Amendment if it is not obscene, does not cause disruption or interfere with the rights of others, or promote illegal activity.* (18.1% correct)
l. Invocations and benedictions at graduation ceremonies are permitted. *False. The Supreme Court has ruled that school-sponsored graduation prayers at public schools violate the Establishment Clause of the First Amendment.* (21.2% correct)

Teacher Rights and Liability True or False? (teachers' average score: 39.2%)

a. Teachers can be held liable for any injury that occurs if they leave their classroom unattended. *False. Teachers can only be held liable if they are negligent (i.e., they fail to act with reasonable care) and their negligence causes the injury. Most injuries are the result of accidents, not negligence.* (2.8% correct)
b. Teachers may be held liable for their failure to report sexual, physical, or verbal abuse. *True. Teachers are mandatory reporters of student abuse and neglect.* (92.9% correct)
c. It is unconstitutional to study the Bible in a public school. *False. Although public schools may not promote religion, the Bible can be studied objectively as part of secular courses, such as literature or history.* (47.9% correct)
d. Teachers can be disciplined for publicly criticizing school policies of community concern. *False. The First Amendment protects teachers when they speak or write publicly and critically as citizens about matters of public concern, including education policies. Personal complaints are not protected.* (39.9% correct)
e. Teachers have the legal authority to select the texts for students. *False. School boards have the authority to select texts.* (46.7% correct)
f. Academic freedom generally protects teachers who discuss controversial subjects if they are relevant, appropriate for the age and maturity of the students, and do not cause disruption. *True. Although academic freedom is limited in K-12 schools, it usually allows teachers to discuss controversial subjects if their comments are balanced, relevant, age-appropriate, and not disruptive.* (60.6% correct)
g. If a teacher is asked to give a recommendation for a student and includes false information in the recommendation that causes a student to be rejected for a job, the teacher can be held liable for libel even if the libel was unintentional. *False. When teachers give recommendations as part of their job, they are protected by a "qualified privilege." This means that they can't be held liable for defamation for false information that they had reason to believe was true.* (14.8% correct)
h. Teachers are prohibited from viewing their students' records unless they receive permission from the parents or the principal. *False. The Family Educational Rights and Privacy Act protects student records from being shared with outsiders without parental permission but permits access by educators who have "legitimate educational interests" in seeing the records.* (67% correct)

i. Public schools can fire a teacher for having a consensual sexual relationship with a student in their school even if the student is over 18. *True. Schools can prohibit consensual sexual relations between teachers and students of any age*. (77.8% correct)
j. Teachers cannot be held liable for student injuries that occur in breaking up a fight. *True. The federal Teacher Liability Protection Act protects teachers from liability for injuring students while enforcing discipline even if the teacher is negligent*. (26.4% correct)
k. Teachers/schools can be held liable for educational malpractice. *False. Courts have declined to hold teachers or schools liable for educational malpractice*. (9.3% correct)
l. As an agent of the state, a public school teacher is constrained by the Bill of Rights. *True. Since public schools are governmental entities, teachers' actions are constrained by the Constitution*. (41.3% correct)
m. Teachers can be sued for defamation if their report of student abuse is not substantiated. *False. As long as teachers have a "reason to believe" that abuse took place, they cannot be held liable for defamation even if an investigation proves that no abuse took place*. (35.1% correct)
n. Schools can be held liable for failing to prevent student sexual harassment. *False. The Supreme Court has held that under federal law, schools cannot be held liable for failing to prevent peer sexual harassment, unless school authorities were "deliberately indifferent" after having been informed of abuse that is "severe, pervasive, and objectively offensive" and the schools' action or inaction is "clearly unreasonable." In addition, the Court has ruled that under federal law, school districts will be liable for a teacher's harassment only when the district is "deliberately indifferent to known acts of sexual harassment by a teacher."* (4.8% correct)
o. Schools have the right to require supplemental material approval by administrators in advance without violating teachers' academic freedom. *True. Although most schools do not require prior approval of supplementary material, K-12 administrators usually have authority to require approval in advance*. (54.6% correct)
p. Schools can impose rigid dress codes on teachers without violating their rights. *True. Although many schools have no written dress code for teachers, they may impose strict, professional dress codes if they wish*. (36.9% correct)
q. If a teacher gives a student a ride home from school without parental permission and the student is injured – not as a result of teacher negligence – the teacher would still be held liable. *False. Although many schools discourage teachers from driving students in their cars, teachers cannot be held liable for a student's injury unless it is proven that their negligent driving caused the injury*. (3.6% correct)

"Legal Literacy for Teachers: A Neglected Responsibility" by David Schimmel and Matthew Militello in *Harvard Educational Review*, Fall 2007 (Vol. 77, #3, p. 257-284), no e-link available

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6. The Elements of a Strong K-8 Science Program

In this article in *Principal Magazine*, University of Rhode Island professor Betty Young lists the elements she thinks are essential to a really first-rate district science program:

- A common core curriculum for all grades, with fewer topics and multiple investigation opportunities within each unit;
- High-quality materials that are classroom-tested for developmental appropriateness, content accuracy, and high cognitive demand;
- Ongoing professional development to prepare all teachers for kit and module content and materials, provide teaching strategies using inquiry and discovery methods, and allow them to experience inquiry and discovery as learners;
- Advanced training in inquiry methods and activities for teacher leaders in order to have them present professional development from the perspective of classroom teachers experiencing the inquiry process;
- Teachers-in-residence who work two-year terms to assist with organization, lead training sessions, help prepare classroom-based trainers, provide in-class coaching, facilitate connections with science mentors, and deliver presentations at district, administrative, and parent meetings;
- Partnerships with colleges and universities to engage science educators, scientists, and engineers who can assist with grant writing and curriculum content, and can connect kit and module topics to real-world applications;
- A central facility to refurbish and maintain science materials;
- Yearly retreats to build connections among teachers, scientists, and administrators, and to learn new approaches to science instruction.

"Rewriting the Book on Science Instruction" by Betty Young in *Principal Magazine*, November/December 2007 (Vol. 87, #2, p. 28-31)

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7. Short Items:

a. Professor Garfield website – This website offers games, challenges, videos, and cartoons for students from PreK-8: http://www.professorgarfield.org. Major sections:

- Orson's Farm – phonemic awareness;
- The Reading Ring – a professional wrestling theme to practice spelling, sequencing, comprehension, and vocabulary;
- The Comics Lab – creative writing taught through a series of videos and written instructions that allow students to create their own comic strip;
- KB Kids – interactive learning activities for grades K-6 in science, language arts, social studies, and math;
- Scholarship America's Options for Kids – a resource center for motivating and preparing students;
- Sparktop.org – interactive modules to help learning-disabled and dyslexic students;

- Starsleeper – learning about the importance of sleep through games and programs;
- Art-Bot – producing art, sculpture, and other media through interactive videos;
- Music-Bot – producing music and songs.

"Cool Cat Aims to Spur Reading" in *Reading Today*, October/November 2007 (Vol. 25, #2, p. 28) no e-link available

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b. Learning toolbox website – This site is a treasure-trove of strategies for writing, taking notes, setting goals, and more. There are areas for students, teachers, and parents. It was designed for special-needs students at James Madison University, but many of the tools are applicable in middle and high schools. http://coe.jmu.edu/learningtoolbox/index.html

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c. Cornell notes website – These two sites give step-by-step directions to using the Cornell note-taking system. The first is graphic, the second more analytic:
http://coe.jmu.edu/learningtoolbox/cornellnotes.html
http://ccc.byu.edu/learning/note-tak.php

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d. All Kinds of Minds website – This site has numerous resources for teaching students with special needs: http://allkindsofminds.org/activities.aspx

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e. Social studies website – This Edmond, Oklahoma site has tons of resources on classroom activities, homework, rubrics, study skills, and more:
http://www.edmond.k12.ok.us/socialstudies/reading_room.htm

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f. Science simulations website – The Explore Learning Gizmos website has small, interactive applications that help students understand science concepts:
http://www.explorelearning.com.

Spotted in "Using Technology to Promote Science Inquiry" by Elizabeth Hubbell and Matt Kuhn in *Principal Magazine*, November/December 2007 (Vol. 87, #2, p. 24-27)

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g. Periodic table of elements website – This website has information, pictures, movies, and possible reactions for each of the elements: http://www.webelements.com.

Spotted in "Using Technology to Promote Science Inquiry" by Elizabeth Hubbell and Matt Kuhn in *Principal Magazine*, November/December 2007 (Vol. 87, #2, p. 24-27)

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h. Exploratorium website – The Institute for Inquiry at the Exploratorium in San Francisco has an extensive set of professional development activities at http://www.exploratorium.edu/ifi.

Spotted in "Rewriting the Book on Science Instruction" by Betty Young in *Principal Magazine*, November/December 2007 (Vol. 87, #2, p. 28-31)

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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).

Subscriptions:

Individual subscriptions are $50 for the school year. Rates decline steeply for multiple readers within the same organization. See the website for these rates and information on paying by check or credit card.

Website:

If you go to http://www.marshallmemo.com you will find detailed information on:

- How to subscribe or renew
- A detailed rationale for the Marshall Memo
- Publications (with a count of articles from each)
- Article selection criteria
- Topics (with a count of articles from each)
- Headlines for all issues
- What readers say
- About Kim Marshall (including links to articles)
- A free sample issue

Marshall Memo subscribers have access to the Members' Area of the website, which has:

- The current issue (in PDF or Word format)
- All back issues (also in PDF or Word)
- A database of all articles to date, searchable by topic, title, author, source, level, etc.
- How to change access e-mail or password

Publications covered

Those read this week are underlined.

American Educator
American School Board Journal
ASCD, CEC SmartBriefs, Daily EdNews
Atlantic Monthly
Catalyst Chicago
Chronicle of Higher Education
CommonWealth Magazine
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
NASSP Bulletin
New York Times
New Yorker
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
Teacher Magazine (online)
Teachers College Record
TESOL Quarterly
Theory Into Practice
Tools for Schools