Marshall Memo 606

A Weekly Round-up of Important Ideas and Research in K-12 Education
October 5, 2015

In This Issue:

Quotes of the Week

"What is the most important lesson that the brain sciences have for schools? The answer: Teachers must understand and actively manage their students' *working memory*… Schools are, in effect, shrines built to honor successful working memory functioning. Students simply can't think and learn without using working memory all the time."

Andrew Watson, Michael Wirtz, and Lynette Sumpter (see item #1)

"When I'm reading something that's not really interesting to me, it's like I'm licking the words and not chewing them. I know what all the words mean as I'm reading them, but they just don't stick inside my head. I don't really digest them."

A student with ADHD (quoted in item #5)

"Despite the frequency with which most students interact online through social media, many never see the impact of their words on the faces of the people reading their comments, texts, or Snaps."

Catlin Tucker (see item #6)

"Conferences are short, the info a parent receives is hard to interpret, and it's unclear what actions a parent or the teacher should take to maximize the student's strengths."

Heather Weiss (Harvard Family Research Project), quoted in "Parent Meetings Get A Makeover" by Sarah Sparks in *Education Week,* September 30, 2015 (Vol. 35, #6, p. 1, 13), www.edweek.org

"When it comes to affirming and improving teaching, there are no shortcuts. With real-time coaching, the skill threshold is too demanding, the risks of being superficial or getting it wrong too high, the probability of upsetting and alienating teachers too great, and the chances of not having deeper conversations about teaching and learning too real."

Kim Marshall (see item #2)

1. Working Memory 101

"What is the most important lesson that the brain sciences have for schools?" ask Andrew Watson (Translate the Brain) and Michael Wirtz and Lynette Sumpter (St. Mark's School) in this article in *Independent School*. "The answer: Teachers must understand and actively manage their students' *working memory*." This facet of memory is distinct from declarative memory (factual information) and procedural memory (how to do things); working memory is what allows us to hold onto a few pieces of information for several seconds and reorganize them into a new system or structure. "Schools are, in effect, shrines built to honor successful working memory functioning," say Watson, Wirtz, and Sumpter. "Students simply can't think and learn without using working memory all the time."

The problem is that working memory is surprisingly small – most people can hold only 5-7 items in mind at the same time. If we ask students to remember verbal instructions, that information takes up working memory capacity and reduces students' ability to think and learn. As classroom teachers, the authors confess, "we paid little attention to a cognitive capacity that is essential for our students' learning. For this reason, we probably overwhelmed our students' working memory without ever realizing we had done so."

It's essential, they say, that educators "develop our own expertise in the field of working memory – understand what it is, how it differs from, and contributes to, long-term memory… [and] explicitly discuss and develop teaching techniques to support our students' cognition within their limited working memory capacity."

Here are some classroom and homework activities that often risk swamping students' working memory capacity:

- Too much new information at once;
- Too many new combinations of information at once;
- Verbal instructions, especially if they're long or complex;
- Work combining cognitive and creative effort;
- Work early in the morning or late at night.

Here is how students often react when their working memory is on overload:

- Difficulty remembering some information while processing other information – for example, long multiplication;
- Atypical difficulties with attention;
- "Catastrophic failure" – difficulty adding just one simple step to several previous steps.

And here are the authors' suggestions for addressing problems with working memory:

- Make information visual. "Humans have much more brain real estate devoted to visual processing than to all our other senses combined," they say. "Visual depiction reduces

working memory demands." This means maximizing the use of photos and videos, flowcharts and diagrams, or simply writing down complicated instructions.

- Manage note-taking. "If students are trying to understand an idea at the same time they're writing notes, those two processes compete with each other in working memory," say Watson, Wirtz, and Sumpter. "As a result, they're likely not to do either very well." One strategy is to ask students to put their pencils or pens down (or stop typing) when you're explaining new, complex, or important ideas, then have students write notes in silence (with the teacher circulating to monitor what's being written).
- Redistribute working memory demands across longer periods of time.
- "Chunk" material – organize it into an already-familiar pattern.
- Explicitly teach strategies – for example, Treviso multiplication.
- Reduce pressure from time, grades, and peers.
- Reduce stress, especially using mindfulness.
- Regularly emphasize that struggle is normal.
- Reduce attention distractions in the classroom.
- Promote attention by reinforcing conceptual frameworks.

A teacher at St. Mark's School wrote the following after being exposed to the research on working memory: "I used to think that pushing the bounds of memory was helpful, much like how lifting weights makes you stronger in the long run. I learned it is quite the opposite with working memory, and that overtaxing it can cause our students to shut down. As a result, I have tried to provide more visual cues, word banks, fewer choices, etc., so that students focus on the most important task at hand, instead of trying to juggle too many pieces of information in their working memories." Another teacher wrote, "I've learned how small and essential working memory is. When planning my lessons, I'm much more intentional about looking for areas where I risk overwhelming working memory. I know what to look for during a lesson to see if students are reaching the point of overload and how to change things up to get them back on track."

"Putting Memory to Work" by Andrew Watson, Michael Wirtz, and Lynette Sumpter in *Independent School*, Fall 2015 (Vol. 75, #1, p. 56-60), www.nais.org; the authors can be reached at Andrew@TranslateTheBrain.com, michaelwirtz@stmarksschool.org, and lynettesumpter@stmarksschool.org.

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2. Should Supervisors Get Involved While Observing Teachers' Classes?

In this *Kappan* article, Kim Marshall explores the appropriateness of supervisors jumping in during short, informal classroom visits (versus just observing). Here's why some administrators, especially in charter schools, might decide to interject during a lesson:

- To contribute an idea in a discussion;
- To draw attention to something particularly praiseworthy;
- If the teacher is missing an opportunity to make an important point;
- If some students seem confused and the teacher isn't noticing;

- If the teacher makes a consequential error (like mixing up perimeter and area);
- If a student's behavior is seriously disrupting instruction.

An example: A history teacher finishes explaining a point and asks, "Is everyone with me?" A student says, "Yes" and the teacher starts to move on, but the principal at the back of the room senses that many students don't understand and asks, "Do you mind if I ask your students a couple of questions?" The teacher nods, the principal interacts with students for a couple of minutes, and when the teacher proceeds, student mastery is much improved – and she does a better job teaching the remaining classes that day.

Proponents of "real-time coaching" believe it's one of the best ways to get coaching suggestions to stick in teachers' minds, especially with rookies struggling with pedagogy and classroom management. A district in Arizona took the idea to another level: three administrators visited classrooms together, observing for 5-7 minutes; two of them took the teacher out into the corridor for immediate feedback; they all returned to the classroom, and the third administrator demonstrated with students how the lesson segment should have been taught.

Marshall says that when he describes these practices, educators often worry that real-time coaching will undermine teachers' authority with students; throw teachers off their stride; distract students from curriculum content as they tune into intriguing adult interactions; change what's being observed, resulting in a less-accurate picture of the teacher's work (physicists call this the observer effect); and encourage teachers to game the system by nimbly showcasing what observers are looking for (e.g. checking for understanding) but not changing their practices the rest of the time. One former administrator had this reaction: "Improving adult practice is complex and requires lots of trust, time, and care. I fear advocates of real-time coaching are looking for a silver bullet, an easy way."

Those who believe in during-class intervention disagree. *Seize the moment!* they say. Waiting for the post-observation conference risks losing the immediacy of the classroom context and won't have nearly the same impact. Besides, supervisor/teacher conferences are often bogged down in compliance checklists and rubrics, and people are so busy that they often don't get around to having them. One New York City educator said that critics of in-class interventions should be less concerned with teachers' feelings and more concerned with students whose education is being compromised by mediocre and ineffective practices.

There are kinder and gentler ways for supervisors to intervene during a lesson – for example, whispering in the teacher's ear while students are doing group work, texting or slipping the teacher a note, gesturing toward a student who seems confused, or giving a misbehaving student "the look." In some schools and teacher-training programs, supervisors equip teachers with a Bluetooth earpiece and use a cell phone to talk quietly into their ear from the back of the room.

Marshall hears the arguments in favor of real-time coaching and wonders what the research will ultimately find about its effectiveness. For the present, he recommends starting with some basic questions: What is the ultimate goal of teacher supervision and evaluation? *Getting effective and highly effective teaching in more classrooms more of the time*. What is

the best way to accomplish that? "Since even the most energetic supervisors observe teachers only about 0.1% of teaching time," says Marshall, "we need to create intrinsic motivation in teachers to use effective practices the other 99.9% of the time." And how can school leaders optimize day-to-day instruction and instill a continuous-improvement mindset in teachers who don't already have it? Here are some practices, in descending order of impact:

- Hiring and retaining teachers with an inner drive to get results, a growth mindset, and a willingness to constantly reflect;
- Orchestrating teacher teamwork to plan units and lessons and engage in ongoing reflection on content and process;
- Supporting teacher teams and instructional coaches as they regularly look at assessments and student work, identify best practices, and constantly improve instruction;
- Creating a professional culture in which teachers visit each others' classes and engage in non-defensive discussions about what's working and what isn't.
- Providing helpful professional development;
- Conducting formal evaluations.

"Why is teacher evaluation ranked last?" Marshall asks. "Because research tells us that, with a few exceptions, traditional evaluations have not played an important role in improving teaching and learning. Alas, administrators' time is often consumed by documentation, evaluation, and compliance – and the myriad other things they need to do to keep their schools running smoothly. Real-time coaching is a well-intentioned attempt to improve this dismal record." And because of the crushing time-management challenges school administrators face, it's very appealing to be able to take care of coaching during an observation.

However, is it possible that real-time coaching is a false efficiency? asks Marshall. Here are some reasons to doubt its effectiveness as a supervisory tool:

• *Difficulty level* – "Scoping out what's going on in a classroom during a short visit is complex and demanding work," he says, "and coming up with wise and helpful feedback on the spot is a high bar." Supervisors enter with background knowledge about the teacher and the curriculum but need to watch and listen carefully, look over students' shoulders at the instructional task, check in with one or two students ("What are you working on today?"), see what's on the board or screen, and listen to the teacher. "Shooting from the hip during the class seriously risks getting it wrong and undermining the kind of trust that's essential for teachers to be receptive to the input," says Marshall.

• *Superficiality* – The tendency with during-class interventions is to focus on classroom management and teachers' tactical moves rather than deeper curriculum and pedagogical issues, he says: "During short classroom observations, visitors can only guess at what occurred before and after the visit and may not understand the broad curriculum goals or a teacher's on-the-fly adaptations." The best way to get that information is talking to the teacher, but that's not possible during the lesson.

• *Power trip* – Teachers might hear this implicit message: "Not only can I walk into your classroom any time, but I will interrupt your teaching when I feel like it." To many

teachers, this may come across as disrespectful – and 99 percent about administrative convenience. One educator said that if a supervisor had acted this way early in his teaching career, it would have driven him out of the profession.

• *Stress* – If there's always the possibility of being interrupted, teachers may find supervisory visits much more stressful. "Administrators are never going to be invisible during classroom visits," says Marshall; "– students and teachers are well aware of their presence – but the dynamic is heightened if supervisors frequently jump in."

• *Competence* – "Finally," he says, "let's be frank, some principals, assistant principals, and department heads don't have a good eye for instruction, lack an understanding of the essentials of good pedagogy, are opinionated about one best way to teach, and lack the skill set needed to have helpful feedback conversations with teachers. In the hands of supervisors like these, real-time coaching can do serious damage to teaching and learning, not to mention faculty morale." Of course it's the job of superintendents and their designees to deal with competence issues, and that's best done by co-observing lessons with their building administrators on a regular basis, improving ineffective practices, and removing those who can't or won't get better.

Proponents of real-time coaching push back. These problems can be solved, they say, if administrators are competent, teachers know the process up front, there are trusting relationships, and students see all adults in the school as learners. With all this in place, they contend, on-the-spot feedback is much more powerful than traditional teacher supervision and evaluation. Marshall agrees that the old four-hour process (pre-observation conference, full-lesson observation, analysis and write-up, and post-conference) is largely a waste of time, but argues that short classroom visits followed promptly by 5-10-minute feedback chats will have significant impact. "Coaching suggestions are much more likely to be heard and acted on if the teacher has a chance to explain the context and the bigger picture in a face-to-face conversation," he says. "These conversations may include strong redirection (*I didn't hear a single higher-order thinking question while I was in there*), and supervisors can learn a great deal from how teachers react to criticisms and reflect on their work. In short, high-quality debriefs are golden opportunities to get inside teachers' heads and strengthen instruction." Key factors, of course, are a manageable caseload of teachers – and being liberated from the discredited traditional evaluation process. Then supervisors can focus on 2-3 short observations and conversations a day, followed by brief narrative documentation.

Some successful charter schools say real-time coaching is an important contributor to their students' achievement. "I'm skeptical," says Marshall. "Isn't it possible that successful schools using real-time coaching are getting high test scores in spite of this practice, not because of it? That in their impatience to fix problems in the moment, practitioners of real-time coaching are turning teachers off, undermining trust, and missing out on post-lesson coaching that can have much greater effect? That real-time coaching is contributing to teacher attrition, one of the biggest problems of struggling high-poverty schools?"

Marshall concludes with how he would handle teacher feedback if he were still a principal:

- Visit all classrooms at least once a month so teachers get frequent, timely feedback;
- During visits, observe carefully, check in with students, and jot a few notes;
- Interrupt instruction only if safety is an issue and avoid undermining teachers with students;
- Very occasionally, communicate with a teacher via a note or whispered suggestion;
- Have brief face-to-face conversations soon after each visit, preferably in the teacher's classroom when students aren't there;
- Avoid checklists, rubrics, and evaluative scoring as part of the supervisory process;
- With the teacher's permission, sometimes take videos and review them with the teacher afterwards;
- Encourage invitations to take part in lessons and make a substantive contribution, but don't count these as observations;
- Dovetail classroom visits with teacher teams' work on curriculum unit planning and analysis of assessments and student work.
- Sit with teachers to review what students have to say in anonymous twice-a-year surveys.
- Use the teacher-evaluation rubric at three points: beginning-of-year teacher self-assessment and goal-setting; a mid-year check-in to compare the supervisor's tentative scores with the teacher's current self-assessment and debate disagreements; and then repeat the mid-year process at the end of the year, including consideration of the teacher's interactions with parents and colleagues and other activities in the school.

"When it comes to affirming and improving teaching," Marshall concludes, "there are no shortcuts. With real-time coaching, the skill threshold is too demanding, the risks of being superficial or getting it wrong too high, the probability of upsetting and alienating teachers too great, and the chances of not having deeper conversations about teaching and learning too real. The good news is that supervisors can avoid these pitfalls by taking a little more time, reflecting a little more carefully, and engaging teachers in face-to-face coaching after each observation. Fitting in these conversations is challenging, and they are sometimes stressful on both sides, but this is the core work of school leaders. Doing it well will result in more effective teaching in more classrooms more of the time."

"Should Supervisors Intervene During Classroom Visits?" by Kim Marshall in *Phi Delta Kappan*, October 2015 (Vol. 97, #2, p. 8-13), http://pdk.sagepub.com/content/97/2/8.full.pdf+html

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3. Two Levels of Good Humanities Teaching

In this *Chronicle of Higher Education* article, Julius Taranto (Yale Law School Information Society Project) and Kevin Dettmar (Pomona College) say that the best humanities teachers do two things in sequence: "First, they take something that's confusing and complicated for students and simplify it to the point where students have their bearings. They're oriented; they can see in broad, general terms what a passage, text, or author is doing

and talking about… In high schools, English teachers will usually be (and should be) satisfied just getting students to this point – where they have a broad but accurate understanding of the themes, arcs, and ideas in the text."

But good college professors take it to the next level, say Taranto and Dettmar: "After making it look simple, and orienting the students, these professors will make things complex again. That is, they teach the text again, but this time show the subtleties and depths. They start bringing out the reasons that the text looked complicated in the first place – because it is… A good professor brings the complexities back into the text not as noise but as music – organized by the broad ideas and structures that were exposed during the simplifying part of teaching. The second part of good humanities teaching is how students start to see why the text was really worth reading – and rereading."

This kind of teaching is why we read *Hamlet* rather than *Hamlet SparkNotes*, say Taranto and Dettmar: "Bringing complexities back into the text is the part of teaching where the text itself – and the broad enterprise of taking certain texts seriously – gets sold: because the juice is worth the squeeze." A scientific text says, "Here's what we've learned," whereas a literary, philosophical, or art history text says, "Come see what I saw, feel what I felt, think what I thought." First you understand Hamlet. Then you grapple with how and why that experience was created – and understand *Hamlet*.

With Joseph Conrad's *Heart of Darkness*, you have to take two trips up the Congo, say Taranto and Dettmar. On the first trip, you're trying to see what's going on amidst the literal and literary fog of the story. "By the end of the first voyage, we know that we've been lied to by Marlow, so it's necessary to retrace our steps, his steps, and find out how he got away with it… A complex rereading seeks to understand why we, as readers, were so willing to be lied to. Confronting that dark truth is the true 'horror' at the story's heart."

"The Secret of Good Humanities Teaching" by Julius Taranto and Kevin Dettmar in *The Chronicle of Higher Education*, October 2, 2015 (Vol. LXII, #5, p. A68), http://chronicle.com/article/The-Secret-of-Good-Humanities/233097

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4. Building Writing Proficiency in Adolescent ELLs

In this *Education Week* article, Mary Ann Zehr reflects on what she has learned since she left a career in education journalism four years ago and began teaching writing in ESL classes in the Washington, D.C. public schools. She attributes the successes she and her colleagues have had with their students to these insights:

• *English learners need models of writing and instruction in specific genres*. "When I give a substantial writing assignment, I provide models," says Zehr – for example, a personal narrative, an argumentative essay, a research paper. She believes this is more effective with ELLs than a process approach.

• *Students benefit from meeting authors*. Zehr has taken advantage of a local program that buys books and brings in authors to interact with students – six visited her class last year.

• *ELLs need to talk first and write later*. When she began teaching, Zehr asked students to plunge right into composing, but learned that it's more effective to get them talking about a topic first – especially with argumentative essays. "After debate," she says, "it's not hard for them to identify arguments to support a claim or counterarguments that they must address in writing."

• *Teens' writing is more interesting and developed when they have something to say*. Zehr mandates some topics to provide substance and structure and then gives students choices.

• *It's helpful to have an authentic audience*. Writing for the school newspaper has been motivational for Zehr's students, as well as writing letters to real authors.

• *It also helps for teens to develop a literary self-concept*. "If adolescents don't see themselves as writers, they groan when I announce a writing assignment, and some do not finish it," says Zehr. Identity formation plays a major part in teens' interest in school work, and progress in writing is challenging when students haven't figured out who they are.

"Can a Former Journalist Teach English-Language Learners to Write?" by Mary Ann Zehr in *Education Week*, September 23, 2015 (Vol. 35, #5, p. 19, 21), www.edweek.org

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5. What Research Tells Us About Attention Deficit Hyperactivity Disorder

(Originally titled "ADHD: From Stereotype to Science")

In this *Educational Leadership* article, Thomas Brown (Yale Clinic for Attention and Related Disorders) summarizes recent findings on ADHD:

• ADHD is "a developmental impairment of the brain's self-management system," says Brown, and it involves challenges in these six areas:

- *Activation* – Getting motivated, organized, and started on necessary tasks, prioritizing;
- *Focus* – Attending to what needs to be done, sustaining attention, and shifting focus when needed;
- *Effort* – Regulating alertness, sustaining effort to complete tasks, having enough processing speed, and managing sleep;
- *Emotion* – Handling frustration and modulating emotions;
- *Memory* – Using short-term working memory and accessing recall;
- *Action* – Processing and presenting information efficiently, monitoring actions to fit the setting, and avoiding excessive impulsivity.

• All of us experience some ADHD characteristics from time to time, says Brown; those with ADHD have more chronic and impairing challenges.

• Not all people with ADHD have problems with hyperactivity and excessive impulsivity; the majority of those who do outgrow it in early adolescence.

• A quarter of children with ADHD have a parent who has ADHD and 30 percent have siblings who do, with higher incidence between identical twins;

• Areas of the brain that are important to self-management tend to mature 3-5 years later in children with ADHD than in the general population;

• For many but not all children with ADHD, some impairments continue throughout their lives.

• ADHD symptoms most often emerge in the elementary and middle-school grades, but for some, onset occurs in high school or when they move away from home.

• There is no correlation between ADHD and intelligence; it occurs across the IQ spectrum.

• Emotions (conscious and unconscious) play a crucial role in motivation and self-regulation among children with ADHD; many also have chronic difficulty recognizing and managing the expression of emotion.

• There are many differences in how the various symptoms manifest themselves among children with ADHD, even those of exactly the same age.

• Children with ADHD are more likely than the general population to have difficulty with learning disabilities, anxiety and mood disorders, sleep, obsessive-compulsive behavior, substance use, and autism spectrum disorders.

• Eight out of 10 people with ADHD can benefit from carefully managed medication, but meds aren't a cure; the best analogy is eyeglasses improving vision while they're worn.

• One mystery is why children with ADHD can have great difficulty maintaining focus with some activities (school tasks, for example) and yet have no difficulty focusing on a video game or art project for extended periods of time. Motivation and interest appear to be the key factors.

• Short-term working memory is often a challenge for people with ADHD – keeping one bit of information in mind while thinking about or doing something else – but long-term memory is often excellent. "When I'm reading something that's not really interesting to me, it's like I'm licking the words and not chewing them," said one student with ADHD. "I know what all the words mean as I'm reading them, but they just don't stick inside my head. I don't really digest them."

• Open-ended writing is the biggest challenge for most children with ADHD because of executive-function challenges with organizing, prioritizing, sequencing, and elaborating free-floating ideas into organized sentences and paragraphs.

"Educators who are aware of our new understandings about ADHD are better equipped to identify students who may be struggling with this disorder," says Brown. They can then describe the symptoms to parents who may then work with a physician, psychologist, or other medical specialist who is trained in making a full diagnosis and treatment plan.

"ADHD: From Stereotype to Science" by Thomas Brown in *Educational Leadership*, October 2015 (Vol. 73, #2, p. 52-56), available for purchase at http://bit.ly/1jJSY0B

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6. Teaching Digital Etiquette to High-School Students

(Originally titled "The Techy Teacher: Creating a Safe Digital Space")

"Despite the frequency with which most students interact online through social media," says California teacher Catlin Tucker in *Educational Leadership*. "many never see the impact

of their words on the faces of the people reading their comments, texts, or Snaps." This is why Tucker incorporates online communication into her high-school English curriculum. She starts each year by posting signs in the corners of the classroom:

- Face-to-face conversations;
- Text or instant messages;
- Photo-sharing apps;
- E-mail.

She puts a group of students in each to a corner and asks them to discuss:

- How often do you engage in this mode?
- What are the norms?
- What's polite or rude?
- How did you handle a time when your feelings were hurt communicating this way?

Students rotate, crowd-sourcing a list of Do's and Don'ts. Some examples: It's rude to repeatedly check your phone when talking face to face. E-mail is reserved for formal, important communication. Don't over-post photos, and get consent to use one. "Like" photos and post compliments. With texts, respond quickly and re-read to make sure you're making sense. Don't respond when angry, and don't respond to a long text with a super-short message.

Tucker then reaches consensus with her students on some norms and guidelines for online communication in school:

- Create a friendly tone by using people's names.
- Read questions and conversational postings carefully to avoid confusion.
- Compliment peers on responses.
- Get clear by asking questions.
- Remember that peers can't see body language or hear tone of voice.
- Respond instead of reacting.
- Critique the content, not the person.
- Don't use all caps, which comes across as SHOUTING.
- Avoid informal text talk like "lol" or emojis.

Tucker then does an online icebreaker activity and has students critique some products. "This activity gives me the opportunity to gently correct missteps before we dive into academic conversations," she says.

"The Techy Teacher: Creating a Safe Digital Space" by Catlin Tucker in *Educational Leadership*, October 2015 (Vol. 73, #2, p. 82-83), http://bit.ly/1WHTbzz

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7. Some Ways Cell Phones Can Be Helpful in Classrooms

In this article from the Center for Teaching Quality website, English teacher Robert Sterner notes some of the reasons educators want to ban cell phones from classrooms: "The sly under-the-desk move, the obvious Snapchat selfie, the random laugh at a Tweet snicker." But he believes there are four reasons to allow cell phones in classrooms:

• *To have a conversation about proper use* – "Few students (or adults) know how low the legal threshold for harassment truly is," says Sterner. "Harassment: Unsolicited words or actions intended to annoy, alarm, or abuse another individual. That's it." By integrating cell phones into classroom activities, it's easier to talk about the downside of thoughtless online chatter. "Certainly, some students will continue to act in risky ways online," he says. "That's what teens do – engage in risky behavior. But I can make sure the students who are ready to listen and think before they act are informed properly."

• *The carrot or the stick* – "The cell phone is a tangible symbol of teens' independence," says Sterner. "Its power with my students makes it a useful instrument for getting the behavior needed in class. If I have already banned cell phones, I lose this option as a teacher."

• *The tool that they are* – "[E]verything about that cell phone in your student's pocket is vastly more powerful than the computer used by Neil Armstrong to land on the moon," says Sterner. He has students using their phones for poetry analysis and composition, tweeting from a character's point of view, research, and photojournalism.

• *Instilling a growth mindset about willpower* – Drawing an analogy between Walter Mischel's classic "marshmallow" experiments and students' ability to ignore a Twitter or Snapchat buzz in their pocket until later, Sterner says, "By observing how students interact with their cell phones, I can see which are more mature and who can control their desires and not let those desires control them. With this information I can help students work to build willpower."

"4 Things You'll Miss by Banning Cell Phones in Your Classroom" by Robert Sterner on The Center for Teaching Quality website, February 24, 2015, http://bit.ly/1JPhkLo

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8. Short Item:

Video on Minard map of Napoleon's invasion of Russia – This short video by James Grime https://www.youtube.com/watch?v=3T7jMcstxY0 walks us through the 1862 infographic by Charles Joseph Minard that includes six separate streams of data on Napoleon's disastrous invasion of Russia in 1812 on a single page. Minard's creation is considered one of the best visual displays of quantitative information ever – as well as a powerful anti-war statement.

"The Best Ever Infographic – Numberphile" by James Grime, April 3, 2014

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If you have feedback or suggestions,
please e-mail kim.marshall48@gmail.com

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 44 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 64 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 50 issues a year).

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Core list of publications covered

Those read this week are underlined.

American Educational Research Journal
American Educator
American Journal of Education
American School Board Journal
AMLE Magazine
ASCA School Counselor
ASCD SmartBrief/Public Education NewsBlast
Better: Evidence-Based Education
Center for Performance Assessment Newsletter
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Education Digest
Education Gadfly
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Peabody Journal of Education
Perspectives
Phi Delta Kappan
Principal
Principal Leadership
Principal's Research Review
Reading Research Quarterly
Responsive Classroom Newsletter
Rethinking Schools
Review of Educational Research
School Administrator
School Library Journal
Teacher
Teachers College Record
Teaching Children Mathematics
Teaching Exceptional Children/Exceptional Children
The Atlantic
The Chronicle of Higher Education
The District Management Journal
The Journal of the Learning Sciences
The Language Educator
The Learning Principal/Learning System/Tools for Schools
The New York Times
The New Yorker
The Reading Teacher
Theory Into Practice
Time Magazine
Wharton Leadership Digest