Marshall Memo 652

A Weekly Round-up of Important Ideas and Research in K-12 Education
September 12, 2016

In This Issue:

Quotes of the Week

"Money spent well is a good way to boost outcomes; money spent poorly is not. You don't need an awful lot of social science research to prove that common-sense proposition: If you waste money you're not going to see results."

> James Ryan, Harvard Graduate School of Education dean, quoted in "An F-Minus for America's Schools from a Fed-Up Judge" by Kate Zernike in *The New York Times*, September 9, 2016, http://nyti.ms/2chPjXz, on a Connecticut judge's decision

"We've decided as a society that it's too expensive to modify the kid's environment. So we have to modify the kid."

> A clinician quoted in *ADHD Nation: Children, Doctors, Big Pharma, and the Making of an American Epidemic* by Alan Schwarz (Scribner, 2016)

"We can't make children learn, but we can let them learn."

> Alison Gopnik in *The Gardener and the Carpenter: What the New Science of Child Development Tells Us About Relationships Between Parents and Children* (Farrar, Straus, & Giroux, 2016)

"I had never realized just how deeply race penetrated all of our actions, whether we are conscious of it or not."

> Phil Santos, a New York City principal, whose school is implementing restorative justice, quoted in "Halls of Justice" by Susan Dominus in *The New York Times Magazine,* September 11, 2016 (p. 58-63, 81, 83), http://nyti.ms/2cEewcC

"Students should *only* take tests that (1) are aligned to what they're learning, (2) serve a useful purpose, and (3) are of high quality."

> Jonah Edelman in "Making Sense of the Opt-Out Movement" in *Education Next*, Fall 2016 (Vol. 16, #4, p. 59), http://bit.ly/2cDNaEg

1. "Noise" in Decision-Making

In this *Harvard Business Review* article, Daniel Kahneman (Princeton University) and Andrew Rosenfield, Linnea Gandhi, and Tom Blaser (The Greatest Good Group) say that organizations expect employees to treat similar situations similarly, if not identically. "The problem," they continue, "is that humans are unreliable decision makers; their judgments are strongly influenced by irrelevant factors, such as their current mood, the time since their last meal, and the weather." The jargon for these random factors is *noise*.

Some jobs are noise-free – post office clerks are required to follow strict rules that limit subjective judgment and guarantee that identical cases will be handled in the same way. But in jobs where decisions often call for human judgment – law, medicine, education – noise is a huge issue. "Research has confirmed that in many tasks, experts' decisions are highly variable," say the authors: "valuing stocks, appraising real estate, sentencing criminals, evaluating job performance, auditing financial statements, and more. The unavoidable conclusion is that professionals often make decisions that deviate significantly from those of their peers, from their own prior decisions, and from rules that they themselves claim to follow… *Where there is judgment, there is noise – and usually more of it than you think*." And indeed, in many organizations, noise is far above the level that leaders would consider tolerable – and yet they're largely unaware of the problem. Why? Because people tend to be overconfident in their own judgment and the judgment of their colleagues.

Noise is not to be confused with bias, which can also produce errors in judgment. "The term 'bias' has entered the public consciousness to the extent that the words 'error' and 'bias' are often used interchangeably," say the authors. But there's a big difference. As they describe it, a bathroom scale that consistently shows that you weigh five pounds more than your actual weight is biased. A scale that displays different weights depending on where you put your feet is noisy, as is a scale that gives different readings when you weigh yourself twice in the same 10-minute period. [In a school, if a principal consistently gives harsher punishments to boys than girls for the same infractions, that is bias, but if she often gives harsher punishments to students just before lunchtime, that's noise.]

How can organizations deal with this problem? One approach is creating a set of formal rules – an algorithm – using the data from a given situation to produce a prediction or a decision without the need for human judgment. [In schools, this might have been the thinking behind zero-tolerance student discipline policies and detailed teacher-evaluation rubrics accompanied by training to attain inter-rater reliability.] "In many situations, of course,

algorithms will not be practical," say the authors. "The application of a rule may not be feasible when inputs are idiosyncratic or hard to code in a consistent format. Algorithms are also less likely to be useful for judgments or decisions that involve multiple dimensions or depend on negotiation with another party."

Another approach to dealing with noise is conducting a *noise audit* – asking several professionals to independently evaluate a particular scenario, identifying differences, diagnosing the source of the noise, and working toward more consistent performance. A noise audit works best when respected team members create a scenario that is realistic, the people involved buy into the process, and everyone is willing to accept unpleasant results and act on them.

"Noise" by Daniel Kahneman, Andrew Rosenfield, Linnea Gandhi, and Tom Blaser in *Harvard Business Review*, October 2016 (Vol. 94, #10, p. 38-46), https://hbr.org/2016/10/noise

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2. Are Classroom Observations Accurate Measures of Teachers' Work?

"Improving teacher evaluation is one of the most pressing but also contested areas of educational policy," say Julie Cohen (University of Virginia Curry School of Education) and Dan Goldhaber (American Institutes for Research) in this article in *Educational Researcher*. Much of the debate in recent years has been about value-added measures of teacher effectiveness, but these are available for only 20-30 percent of teachers and have been criticized for problematic statistical properties – specifically, misclassifying "effective" teachers as "ineffective" and vice versa.

Cohen and Goldhaber decided to focus instead on supervisors' classroom visits, which have been a mainstay of teacher supervision and evaluation for decades. "Interestingly, given their prevalent use, we know surprisingly little about the statistical properties of classroom observations in consequential personnel decisions," say the authors. "Little is known about the degree to which, and ways in which, teaching practices evolve in response to observation systems." Cohen and Goldhaber point out that the 2012 Measures of Effective Teaching (MET) study drew its conclusions about teacher evaluation in a low-stakes research context, while other studies have shown that in the real world of schools, there's rampant grade inflation, with virtually all teachers getting proficient or exemplary ratings.

The challenge, say the authors, is designing classroom observations that provide valid data on what's happening day to day in classrooms, make meaningful distinctions among teachers, provide teachers with useful feedback, and support helpful, high-quality professional development. To accomplish these important goals, several challenges need to be addressed:

- Quality assurance of supervisors' observation and coaching skills;
- Achieving a reasonable degree of inter-rater reliability among supervisors;
- A rubric with research-based criteria for classroom instruction;
- The conceptual difficulty of capturing complex classroom dynamics in a rating instrument;
- Getting an accurate sampling of each teacher's work;

- Giving fair evaluations to teachers working with different types of students in different types of school cultures (so as not to create disincentives for working in challenging classrooms and schools);
- Addressing the tendency of principals to "go easy" on some teachers to keep the peace and/or avoid the hard work of following up on critical evaluations (are outside observers and/or multiple observers necessary to get truly objective data on teachers?).

Cohen and Goldhaber conclude that researchers, policymakers, and school leaders need to focus on five key areas to ensure that teacher observations are fair, valid, and helpful:

• *Student results* – Researchers need to answer the question of how well data from supervisors' classroom observations correlate with the most important long-term student outcomes – and whether observations can be an effective lever for improving those outcomes.

• *The quality of teacher-evaluation rubrics* – "We need to develop greater conceptual clarity around the features of instructional quality that we want to capture in consequential evaluation systems," say Cohen and Goldhaber, "and make clear for teachers why and how we think such practices are essential in supporting a range of more and less readily assessable student outcomes… Are there particular practices that teachers can more readily improve upon and that are also valuable to student learning, broadly defined? How does the composition of practices in observation instruments influence implementation and effectiveness of teacher evaluation?"

• *Accurately sampling instruction* – How many visits, of what length, and of what type, are needed to form a reliable assessment of a teacher's performance?

• *Evaluator quality* – Who is best positioned to conduct classroom visits and provide accurate and helpful feedback and summative assessments? Principals? Department heads? Instructional coaches? Peers? Master evaluators? And what is the best training and support for people in these roles?

• *Theory of action* – Is the primary purpose of classroom observations to give teachers formative feedback to help them get better, or is it to get an accurate sense of the very different levels of teacher performance that inevitably exist within every school?

[I would suggest two more questions: First, are classroom visits announced or unannounced? If researchers don't gather data on this, they are missing an important variable in the reliability of teacher assessment – teachers are likely to put on an especially good lesson when they know they're being observed. Second, are teacher-evaluation rubrics used to score individual classroom visits, which is conceptually very difficult, or as end-of-year summations of multiple classroom visits with feedback conversations through the year? K.M.]

"Building a More Complete Understanding of Teacher Evaluation Using Classroom Observations" by Julie Cohen and Dan Goldhaber in *Educational Researcher*, August/ September 2016 (Vol. 45, #6, p. 378-387), available for purchase at http://bit.ly/2cyjmdR; the authors can be reached at jjc7f@virginia.edu and dgoldhaber@air.org.

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3. A Different Way of Thinking About Differentiation

What is the problem to which differentiation is the solution? asks Kim Marshall in this article in *Phi Delta Kappan*. "Clearly it's the fact that students walk into school with a wide range of differences in prior knowledge, vocabulary, reading proficiency, fluency in English, attitudes toward school, mindset about learning, tolerance of frustration and failure, learning-style preferences, special needs, and distracting things on their minds." Whole-group instruction for a classroom of students with even a few of these differences is likely to leave many students bored or confused, so differentiation would seem to be a moral imperative. Carol Ann Tomlinson, a leading expert in this area, makes a compelling case for "effective attention to the learning needs of each student… getting to know each student and orchestrating the learning environment, assessments, and instruction so all students learn what's being taught." Tomlinson and other proponents suggest that teachers differentiate by content (what is taught), process (how it's taught), and product (how students are asked to demonstrate their learning).

For all its obvious appeal, differentiation is not without its critics, and they have raised a number of concerns:

- Can a teacher realistically tailor instruction to 20-30 different students?
- Is differentiation inherently exhausting, leading to teacher burnout and attrition?
- Can differentiation result in lowered expectations for students who are behind?
- Does it spoon-feed students, undermining self-reliance and initiative?
- Does it balkanize classrooms, sacrificing group cohesion and collective experiences?
- Is it effective?

Mike Schmoker is a leading critic, asserting in a 2010 article that differentiation is based "largely on enthusiasm and a certain superficial logic" and describing what he has seen in classrooms around the country: teachers trying to match each student's or group's "presumed ability level, interest, preferred 'modality,' and learning style… In English, creative students made things or drew pictures. Analytic students got to read and write… With so many groups to teach, instructors found it almost impossible to provide sustained, properly executed lessons for every child or group."

Tomlinson and David Sousa responded to Schmoker's critique, conceding that trying to customize worksheets and coloring exercises to students' supposed learning styles was "regrettable and damaging." They agreed on the importance of clear objectives, high standards, and frequent checks for understanding, and stoutly defended differentiation's track record – students learn better, they said, when the work is at the right level of difficulty, personally relevant, and appropriately engaging.

This hardly settled the issue, and three other experts have been heard from in recent years: John Hattie's comprehensive meta-analysis, *Visible Learning*, ranked individualization 100th out of 138 classroom methods, with an effect size of only 0.23. Cognitive psychologist Daniel Willingham debunked the idea of catering instruction to students' individual learning styles. And PD guru Jon Saphier believes that differentiation is a "low-impact strategy" that's not the best target for professional development if other fundamentals aren't in place. The

debate continues, leaving many educators scratching their heads about the best approach to the day-to-day challenge of teaching students with many different needs.

Marshall suggests stepping back and analyzing the differentiation challenge from a broader perspective. Consider the following classroom scenarios with two questions in mind: Which is the most and the least differentiated? And in which is the most learning taking place?

- A college professor gives a lecture to 700 students.
- A 6th-grade class discusses a bullying incident.
- A group of 2nd graders does an experiment with batteries and bulbs.
- First graders sprawl on a rug engrossed in books they chose.
- High-school biology students work individually or in groups on a "layered" unit, choosing whether to do one set of tasks for a C, additional work for a B, or higher-level work for an A.
- Eighth graders watch a film about the Holocaust.
- Seventh graders read the same article on climate change at five different reading levels, using the website NewsELA (https://newsela.com).
- Fifth graders use a computer program that adapts the level of difficulty to their responses.
- A Reading Recovery teacher tutors a struggling 1st grader for 30 minutes a day.
- A middle-school physical education class does stretching and aerobic exercises in unison.
- Kindergarteners paint with watercolors with encouragement and feedback from the teacher.
- A docent at a city art museum teaches visiting 10th graders about a Renoir masterpiece.

On the first question, differentiation runs all the way from zero in the college lecture hall to 100 percent with one-on-one tutoring and a personalized computer program. On the second question – well, it depends. "Even one-on-one tutoring can be off-track on the curriculum and produce bored, confused, and alienated students," says Marshall. "But handled skillfully, each scenario has the potential for high levels of appropriate learning" – even the college lecture (in the hands of a brilliant and charismatic professor) and the phys. ed. class (aerobic exercise has an especially beneficial impact on ADHD and overweight students). The conclusion: trying to assess a teacher's work asking, *Is it differentiated?* runs the risk of missing the forest for the trees. Better, says Marshall, to ask two broader questions (tip of the hat to Rick DuFour):

- *What are students supposed to be learning?*
- *Are all students mastering it?*

"Embedded in these questions," says Marshall, "are all the variables that research tells us will produce high levels of student learning: appropriate cognitive and noncognitive goals for the year, the curriculum unit, and the lesson; a positive classroom culture; instructional strategies that will best convey the content; the right balance of whole-class, small-group, individual, and digital experiences; frequent checking for understanding; a clear standard of mastery (usually 80 percent); effective use of assessment data to fine-tune teaching; and follow-up with students below mastery."

With these two questions in mind, teachers' work (and principals' support and evaluation of that work) falls logically into three phases – a different way of thinking about content, process, and product that is more in synch with the day-to-day work of schools:

• *Phase 1: Planning units and lessons* – Good unit plans, ideally crafted by same-grade/same subject teacher teams, focus on standards and have clear statements of what students will know and be able to do; a pre-assessment; likely misconceptions; essential questions to guide students to the key understandings; periodic assessments; and a lesson-by-lesson game plan. Good lesson plans build in multiple entry points, using the principles of Universal Design for Learning to make learning accessible to as many students as possible, and have clear goals; thoughtful task analysis; chunked learning; teaching methods appropriate to the content; links to students' interests and experiences; checks for understanding; and accommodations for students with special needs. "All students learn more," says Willingham, "when content drives the choice of modalities." Teachers also need to put well-chosen visuals on the classroom wall – essential questions, examples of student work, rubrics, worked problems, word walls, anchor charts, graphic organizers, mnemonics, and other helpful visual aids.

Phase I is where there is the greatest danger of teachers overthinking, overworking, and burning out, says Marshall, and points to several critical success factors:

- Sharing the work of unit and lesson planning among team colleagues;
- Using efficient, well-thought-out templates to streamline unit and lesson planning;
- Tapping into Internet resources;
- Saving and sharing good unit and lesson plans for future years;
- Knowing when enough is enough – not letting the perfect be the enemy of the good.

• *Phase 2: Delivering instruction* – "Lessons are where the rubber meets the road," says Marshall, "and a major factor in student success is a set of in-the-moment moves that effective teachers have always used, among them effective classroom management; knowing students well; being culturally sensitive; making the subject matter exciting; making it relevant; making it clear; taking advantage of visuals and props; involving students and getting them involved with each other; having a sense of humor; and nimbly using teachable moments." But equally important is checking for understanding – dry-erase boards, clickers, probing questions, looking over students' shoulders – and using students' responses to continuously fine-tune teaching. Critical success factors in Phase 2 are:

- Being sharp and fresh every day for energetic and sensitive lesson execution (another reason for not working too long and hard on lesson planning the night before);
- Managing student behavior so the teacher is able to move around the room delivering appropriate support and help;
- A classroom culture in which students are comfortable asking for help and helping each other;
- Ways of checking the whole class's understanding and following up;
- Resisting the urge to do too much for students.

• *Phase 3: Following up after instruction* – "No matter how well teachers plan and execute," says Marshall, "some students won't achieve mastery by the end of the lesson or

unit. This is the moment of truth – if the class moves on, unsuccessful students will be that much more confused and discouraged and fall further and further behind, widening the achievement gap." Timely follow-up with these students is crucial – pullout, small-group after-school help, tutoring, Saturday school, and other venues to help them catch up. Critical success factors in Phase 3 are:

- Time for same-grade/same-subject teacher teams to meet and look at student work;
- Having prompt access to data from well-crafted common assessments;
- Analyzing what material students had problems with and why;
- Organizing effective help for struggling students;
- Honestly assessing teaching techniques in light of the results.

If these factors aren't in place, the "professional learning community" process can result in a cycle of repeated failure.

In all three phases, another priority is building students' self-reliance and not doing too much for them. "Among the most important life skills that students should take away from their K-12 years," says Marshall, "is the ability to self-assess, know their strengths and weaknesses, deal with difficulty and failure, and build a growth mindset. Student self-efficacy and independence should be prime considerations in planning, lesson execution, and follow-up so that students move through the grades becoming increasingly motivated, confident, and autonomous learners prepared to succeed in the wider world."

"Rethinking Differentiation – Using Teachers' Time Most Effectively" by Kim Marshall in *Phi Delta Kappan*, September 2016 (Vol. 98, #1, p. 8-13),
https://dl.dropboxusercontent.com/u/99191814/Kappan.pdf

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4. A Professor Changes His Mind About Cold-Calling

In this *Chronicle of Higher Education* article, David Gooblar (University of Iowa) says that cold-calling students in class has never been his cup of tea. "It just doesn't fit with the kind of teacher I want to be," he says. "I don't want to be the authority figure in front of whom students cower. I get no pleasure from putting students on the spot, from scaring them into knowing the material." He views his job as creating a classroom climate where students come to class prepared, are eager to take part, and gain from being active participants.

What began to change Gooblar's mind was watching students sit on their hands, his questions hanging in the air unanswered, discussions dying on the vine. He was also influenced by research showing that over a semester, cold-calling actually increases students' voluntary participation. "Cold-calling encourages students to prepare more and to participate more frequently," said one researcher. "The more they prepare, and the more frequently they participate, the more comfortable they become when participating."

That last point was the clincher for Gooblar. He began to see cold-calling not as an aggressive act producing student discomfort but as a warm invitation to contribute, a bridge to students enjoying his classes and learning more. "I need to remember," he says: "The thing that often keeps me from calling on students – my concern that they might be uncomfortable

speaking up in class – is actually a good reason to call on them. If we don't encourage students to come out of their shells for fear of putting them on the spot, we may be doing them a disservice… You're curious about their views and their understanding of the issues being discussed. What they think is important – both to their own learning and to that of their peers."

Gooblar's article sparked several responses, two of which raised concerns about cold-calling students who are highly introverted or have severe social anxiety. Both responses suggested accommodating those students, either by sharing questions in advance or refraining from cold-calling them in class.

"Why Cold-Calling on Students Works" by David Gooblar in *The Chronicle of Higher Education*, September 9, 2016 (Vol. LXIII, #2, p. A32), http://bit.ly/2bAnGpe; Gooblar can be reached at david-gooblar@uiowa.edu.

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5. Close Reading of Challenging Texts in Middle School

In this article in *AMLE Magazine*, Doug Lemov, Colleen Driggs, and Erica Woolway of Uncommon Schools say that many middle-school teachers want to get students reading texts that will engage and motivate them – often contemporary young adult fiction. This is all well and good, say Lemov, Driggs, and Woolway, but "what students 'like,' or more precisely think they will like, is inherently limited. We can all name a handful of texts we read against our better teenage judgment – infallible though it seemed at the time – but which turned out to be transformative – instantly in many cases, years later in others." So teachers need to make sure students use their finite and precious classroom hours to grapple with some complex texts of the sort that they'll encounter in college and life. Here are five types:

• *Archaic texts* – The first sentence of *Oliver Twist* by Charles Dickens is 98 words long and includes unfamiliar turns of phrase like "to wit," "inasmuch," and "in this workhouse was born…" In earlier eras, whether in novels or documents like the Declaration of Independence, people used words in different ways, and students need to be able to unpack and comprehend such texts.

• *Nonlinear time sequence* – The narrative of *Bigmama's* by Donald Crew switches back and forth between memories of a specific trip to the narrator's grandparents' house and recollections of visits made over several years. It's challenging to keep all this straight, and *Bigmama's* is ideal for helping young readers slow down and figure things out.

• *Complexity of narrator* – R.J. Palacio's book *Wonder* uses six different narrators to tell the story of a boy with severe craniofacial disfigurement, and one of them uses idiosyncratic punctuation and no uppercase letters. "It's a useful book, first and foremost as an object lesson in kindness and understanding," say Lemov, Driggs, and Woolway. "But it's also a starter kit for understanding books with complex and potentially confusing narration."

• *Complex plot and symbolism – Where the Mountain Meets the Moon* by Grace Lin weaves fairy tales into the journey-of-discovery narrative, with characters telling other characters' stories and characters reacting to fairy tales they hear, which shapes the plot.

Mastering this kind of text helps students prepare for challenging narrative structures like those in William Faulkner's novels.

• *Resistant texts* – The beginning of *Slaughterhouse Five* by Kurt Vonnegut uses a highly unconventional style to capture the difficulty of telling a story (the firebombing of Dresden in World War II) that cannot be told simply. "The elements create a thrilling narrative unbounded by traditional rules," say Lemov, Driggs, and Woolway. "But confused readers – readers unaware that a text might deliberately try to disorient them, readers who have never struggled with that disorientation – may in fact be confused by the premise, not comprehend that they are not supposed to comprehend, and fail, perhaps even give up on the narrative." Poetry doesn't always conform to our "expectation of logic" – for example, "Jabberwocky" by Lewis Carroll. Close reading and unpacking of short passages of texts like these prepare students for the intense challenges of reading difficult material.

"Selecting Complex Texts with Intention" by Doug Lemov, Colleen Driggs, and Erica Woolway in *AMLE Magazine*, September 2016 (Vol. 4, #2, p. 36-37), no e-link available; this article is based on the authors' book, *Reading Reconsidered: A Practical Guide to Rigorous Literacy* (Jossey-Bass, 2016)

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6. Good News on the Rich-Poor Gap in Kindergarten Entry Skills

In this *New York Times* article, Sean Reardon (Stanford University), Jane Waldfogel Columbia University), and Daphna Bassok (University of Virginia) describe their research on the narrowing gap in the reading and math skills with which low-income and high-income children enter U.S. kindergarten classes. Drawing on two decades of data from the National Center for Educational Statistics, the authors found that between 1998 and 2010, the reading readiness gap closed by 16 percent and the math gap by 10 percent. The black-white and the Hispanic-white gaps also narrowed by about 15 percent. "The gaps that remain are still vast," say Reardon, Waldfogel, and Bassok, noting that low-income children still enter kindergarten a full year behind their more-fortunate peers, "but even this modest improvement represents a sharp reversal of the trend over the preceding decades." Better yet, the gaps closed because of rapid progress by low-income children, not declines in the readiness of high-income children, and the gains persisted at least through fourth grade.

These narrowing gaps are surprising because other indicators have been much less encouraging: income inequality grew by about 10 percent from 1998 to 2010, economic segregation increased by 20 percent, and racial gaps in education, employment, and health persist. What brought about the early reading and math gains? The authors believe several factors contributed:

• The availability of high-quality, publicly funded preschool programs – the percent of U.S. 4-year-olds enrolled in state-funded preschools has increased from 14 to 29 percent from 2000.

• The fact that more families are investing in books and other reading matter for children, as well as Internet access and computer games focused on reading and math skills.

• More parents are spending quality time with children, taking them to local libraries, and engaging in learning activities at home.

• Finally, say Reardon, Waldfogel, and Bassok, there is "the widespread diffusion of a single powerful idea: that the first few years of a child's life are the most consequential for cognitive development. Less than a century ago… mainstream magazines routinely advised new mothers that intellectual stimulation of babies was harmful. Now we know better, the result of decades of scientific research about brain development, poverty, and the long-term effects of high-quality preschool programs." Public information campaigns like Reach Out and Read, Too Small to Fail, Providence Reads, home-visiting programs, and preschools have spread these insights to more families. "Like a new medical innovation that is first adopted by the wealthy but then becomes commonplace, the emphasis on public and private investments in young children has helped turn a benefit for the rich into an equalizing force in society."

"The Good News About Educational Inequality" by Sean Reardon, Jane Waldfogel, and Daphna Bassok in *The New York Times*, August 28, 2016, http://nyti.ms/2bYtqK3

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7. On-the-Spot Assessment Tools

In this *AMLE Magazine* article, Ohio district administrator Bryan Drost recommends eight free digital tools to check for understanding and maximize student involvement:

• Padlet www.padlet.com is a virtual wall on which students can express thoughts on a topic. It's also possible to embed audio and video and have students join a threaded discussion.

• Recap https://app.letsrecap.com is a video-based assessment tool that allows teachers to pose a question, have students respond with a short video recorded on a cell phone, and then get feedback.

• Today's Meet https://todaysmeet.com allows students to engage in live "backchannelling" while a classroom activity or video is taking place.

• Active Prompt http://activeprompt.org allows teachers to upload any image and ask students a question about it; students move a dot on their device to indicate their answer.

• Flubaroo www.flubaroo.com is a plug-in for Google Sheets that allows teachers to quickly score student quizzes.

• Zaption http://zaption.com allows teachers to take already-made videos (like a YouTube clip), publish interactive lessons, and track student understanding.

• Nearpod and Pear Deck www.nearpod.com and https://www.peardeck.com allow teachers to embed interactive assessments into a slide deck and get student responses via their cell phones.

• Quizlet Live http://quizlet.live allows students to practice teamwork and communication skills while the teacher checks for understanding.

"8 Digital Formative Assessment Tools to Improve Motivation" by Bryan Drost in *AMLE Magazine*, September 2016 (Vol. 4, #2, p. 42-43); Drost is at drostbr@gmail.com

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8. Short Item:

The Kappan poll – The results of this year's Phi Delta Kappan poll of U.S. attitudes on public education are available at www.pdkpoll.org. You can download a PDF of the report, link to poll archives, post comments, follow links to news coverage and national commentary, and read blogs by leading educators.

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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 45 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
Center for Performance Assessment Newsletter
District Administration
Ed. Magazine
Education Digest
Education Gadfly
Education Next
Education Week
Educational Evaluation and Policy Analysis
Educational Horizons
Educational Leadership
Educational Researcher
Edutopia
Elementary School Journal
Essential Teacher
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Harvard Business Review
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Independent School
Journal of Adolescent and Adult Literacy
Journal of Education for Students Placed At Risk (JESPAR)
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Kappa Delta Pi Record
Knowledge Quest
Literacy Today
Middle School Journal
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