Marshall Memo 1097

A Weekly Round-up of Important Ideas and Research in K-12 Education
July 28, 2025

In This Issue:

1. Looking beyond reading and math scores to measure school quality
2. The role of background knowledge in learning math
3. How to get past the problem of cheating in the AI era
4. An analysis of college recommendation letters written by counselors
5. A study of grading practices in Chicago high schools
6. The dearth of role models for boys
7. Ten "micro habits" for a better day at work
8. Recommended children's and young adult books
9. Short item: A video on educational innovations

Quotes of the Week

"After decades of playing cat-and-mouse with academic dishonesty, we've reached an inflection point. Generative AI has disrupted our assumptions about authorship, originality, and the very nature of learning itself."
Michael Wagner (see item #3)

"The greatest risk posed by large language models isn't cheating but the encouragement of metacognitive laziness, an over-reliance that atrophies students' ability to think critically."
Michael Wagner (*ibid.*)

"What really matters is what happens inside the learner's head."
Derek Müller (see item #9)

"Greater stores of knowledge in long-term memory ease cognitive load and make it easier for new knowledge to stick."
Holly Korbey (see item #2)

"Not every math teacher sees themselves as a language teacher, but they are."
Holly Korbey (*ibid.*)

"At a crucial time in their lives, boys are increasingly cared for by women, especially the many boys whose fathers aren't a regular presence."
Claire Cain Miller (see item #6)

"Success is not about dramatic transformations. It is about the small, consistent choices you make every day."
Mary Kelly (see item #7)

1. Looking Beyond Reading and Math Scores to Measure School Quality

"What is the best way to measure a school's quality?" asks Lynn Olson in this Future*Ed* report. This question has been debated by parents, educators, employers, researchers, and policymakers for decades. Current models for evaluating K-12 schools, including state A B C D F ratings and *U.S. News and World Report* scores, don't capture many key aspects of school quality, said leaders at Research*Ed* and Keystone Policy Center. They decided to "start from scratch" and commissioned Olson to create a new measurement model for assessing the performance of schools.

Olson reviewed the history of research on effective schools, creating a Venn diagram of the factors cited in major research reports:

- Positive school climate and culture;
- Strong school leadership;
- High expectations and rigor;
- Effective teaching;
- Committed teachers
- Family involvement;
- Explicit schoolwide instructional priorities;
- Focus on basic skills;
- Frequent progress monitoring;
- Sufficient school resources.

Despite this broad-gauged research on effective schools, the No Child Left Behind era made standardized test scores the predominant factor in evaluating schools. In the early 2000s, there was a growing realization that test scores were closely correlated with student demographics, which meant that ratings weren't doing justice to the work of some beat-the-odds schools. The result was the 2015 ESSA (Every Student Succeeds Act) legislation, which opened the door for states to include year-to-year progress, student attendance, high-school graduation rates, and other measures.

But despite ESSA, test scores still carry the most weight today. That's what led Olson to create an assessment model that captures some of the other factors that researchers have found in effective schools. She ended up with a broader set of performance metrics – inputs, outputs, and outcomes – to give a more-complete picture of school quality, accompanied by suggestions on which should be used for accountability: Green, yes; blue, potentially; red, no:

• Growth in student achievement
  - Improvements in student test scores in classrooms/schools over a school year
• Access to rigorous instruction
  - Access to broad course offerings, including the arts, sciences, and technology;
  - Use of high-quality, standards-aligned instructional materials.
  - Availability of and enrollment in AP, IB, and dual-enrollment programs;
  - Student work reviews focused on rigor;
  - Student surveys on teacher/school academic expectations and support;
  - Comprehensive school inspections by trained evaluators;
  - Classroom observations;
• Effective school staff
  - Percentage of effective/highly effective teachers based on sound evaluation systems;
  - Analyses of principal impact on student success.
  - Teacher/staff surveys of trust and principal supportiveness;
• Supportive school climate
  - Surveys of students, parents, and teachers on school safety and culture;
  - Indicators of mutual respect and trust among students and staff.
• Postsecondary outcomes
  - Rates of college attendance and completion, career training, military enlistment.

"Just having a richer set of school quality metrics isn't enough," Olson concludes. "Schools also need help in using the data to get better, whether they're low-performing schools targeted by policymakers for improvement, or good schools working to become great schools. That requires coaching educators to understand school data and the steps needed to improve specific indicators. And it requires leadership at the school building level."

Olson is not optimistic that there will be leadership from Washington for school improvement, and suggests four guidelines for states to build and implement better measurement models:

- Prioritize a manageable set of school quality metrics based on research.
- Provide access to research-based surveys and other measures of student wellbeing.
- Lean into the school improvement process, especially providing timely data.
- Hold districts accountable for providing schools with the people, time, and money they need to succeed.

"Quality Check: The New, Best Way to Measure School Performance" by Lynn Olson in Future*Ed*, April 2025

Back to page one

2. The Role of Background Knowledge in Learning Math

In this *Education Gadfly* article, Holly Korbey says there's an increasing recognition of the importance of background knowledge in K-12 classrooms. "Greater stores of knowledge in long-term memory," she says, "ease cognitive load and make it easier for new knowledge to stick." So far this insight has been applied to history, geography, science, and literature.

What about mathematics? Surely the same logic would apply to a subject in which new skills build cumulatively on previous learning. "Everything in math requires background knowledge and knowledge of math language," says math educator Sarah Powell (University of Texas/Austin). "We really need to be thoughtful about how all of this knowledge works across grade levels and even into our adult life, so that people actually understand math instead of just all these bits and pieces of math."

Doing well in math depends heavily on knowing key vocabulary; 100 math words are introduced in kindergarten, more than 500 by middle school – words like *place value, proportion,* and *ratio* – not to mention the symbolic meaning of all those numbers – *hundreds, hundredths*. "Not every math teacher sees themselves as a language teacher," says Powell, "but they are." There's the additional challenge of helping students understand how some words have a different meaning in mathematics – for example, *degree* and *base*.

Today's math content becomes tomorrow's background knowledge, but the curriculum often moves along too quickly, without consolidating key terms and concepts and building a firm foundation of student understanding over time. Turning math content into background knowledge stored in long-term memory takes practice, repetition, and time, says Powell – something math teachers are notoriously short on. Vocabulary and skills need to be systematically spaced and interleaved week after week, with plenty of repetition, continuously activating and consolidating background knowledge.

Word problems are where mastery of math terms and concepts is most important – and most challenging for students. They need to understand what's being asked, filter out extraneous information, make the right calculations, and see if their answer makes sense. "If you do have difficulty with working memory," says Powell, "if you do have difficulty understanding, let's say, place value – that's going to make the word problem solving just so much harder for kids."

Take this problem: *Holly buys five dog bones for each of her three dogs. How many dog bones did she buy?* "First I have to understand, she's got these dogs, and each dog has the same number of bones," says Powell. "If I don't understand the math and grouping, it's going to be really hard to visualize that each dog has the same number of dog bones." Setting up the problem is the hard part; once students have done that, the actual calculation – 3 times 5 – rarely trips up students.

"The expectations we have for students are often quite unreasonable," says Powell. "It doesn't matter if the kid knows five times three is fifteen. They have to be able to read these eighteen words and extract all of that information and get to the point where they know that they have to end up multiplying five times three."

"Math Needs Knowledge Building, Too" by Holly Korbey in *Education Gadfly*, July 24, 2025

Back to page one

3. How to Get Past the Problem of Cheating in the AI Era

"After decades of playing cat-and-mouse with academic dishonesty, we've reached an

inflection point," says Michael Wagner in *The Augmented Educator*. "Generative AI has disrupted our assumptions about authorship, originality, and the very nature of learning itself." Attempts to detect students' chatbot-created writing have only about a 40 percent success rate, he says, and English learners and neurodivergent students have the biggest chance of being falsely accused of cheating.

"The failure of detection," says Wagner, "forces us to confront a more fundamental question: "What does authorship mean when AI can generate sophisticated text on demand? The traditional model assumes a solitary human author responsible for every word on the page. But this assumption no longer holds in an era where AI serves as a powerful thought partner for brainstorming, research, and revision." The question is no longer *Did you write this*? but *How did you write this?* with students being transparent about who did what.

In our new hybrid era, teachers need to assign essays and projects that promote deeper learning and tap into personal experience, local context, and current events. Teachers also need to assess students' work at every stage, giving feedback on outlines, drafts, revision logs, and students' reflections on their evolving thinking. For final assessments, oral examinations have great advantages. "Through live, unscripted dialogue," says Wagner, "instructors can probe for genuine comprehension, moving beyond surface recall to evaluate analysis, synthesis, and evaluation." For students with speech and hearing differences and anxiety issues, portfolios are a viable alternative.

"The greatest risk posed by large language models," says Wagner, "isn't cheating but the encouragement of metacognitive laziness, an over-reliance that atrophies students' ability to think critically." But that doesn't mean banning AI; it suggests a return to the Socratic classroom, with students asking chatbots the right questions, probing their own assumptions, demanding evidence, exploring alternative viewpoints, tracing implications, and critically interrogating the responses.

In this learning dynamic, says Wagner, "the act of questioning becomes the primary learning activity, forcing the deep, reflective thinking that marks genuine education. This solves the cheating problem by redefining the assignment into something AI cannot do alone: critically evaluate its own outputs and synthesize the results of human-led inquiry." In short, students need to be taught not to avoid AI but to use it as one part of their intellectual toolkit.

"The End of Cheating As We Know It" by Michael Wagner in *The Augmented Educator*, July 13, 2025

Back to page one

4. An Analysis of College Recommendation Letters Written by Counselors

In this *Research in Higher Education* article, Julie Park (University of Maryland/ College Park) and nine colleagues report on their study of 615,557 college recommendation letters written by high-school counselors, focusing on the length and content of letters and students' race, ethnicity, socioeconomic status, test scores, and extracurricular activities.

Recommendation letters are important for students applying to selective colleges, providing admissions officers important details as they decide among students with top-notch

grades and SAT/ACT scores. "Letters submitted by counselors," say Park et al., "provide a unique vantage point since they compare students to a broader range of their peers and/or the student body as a whole, versus teachers, who generally compare students to other students in their classes."

How were the researchers able to look at so many recommendation letters? By getting access to those submitted via the Common Application portal (2018-19 and 2019-20) and using natural language AI processing. Here are the main findings:

- Counselors' letters for students attending private schools and high schools in wealthier areas were longer (i.e., had more sentences).
- The same was true for students with higher SAT/ACT scores and those whose parents had attended college.
- This trend was true for letters written by the same counselor for different students in the same high school.
- Private school students had significantly more sentences on personal qualities, character excellence, intellectual promise, the humanities, extracurriculars, and athletics than students who attended public schools.
- Fee-waiver recipients and first-generation students had significantly fewer sentences on intellectual promise, academics, STEM, extracurriculars, arts, and athletics, even when comparing students in those groups who had the highest SAT/ACT scores.
- Black and Latin students had fewer sentences overall, and fewer on intellectual promise than white students, when comparing letters written by the same counselor.
- Asian and Asian-American students had fewer sentences about personal qualities and character excellence and, with Asian-American students, more sentences about academics.
- For students with the highest test scores, black and Latin students' letters had significantly fewer sentences on extracurriculars, arts, and athletics than letters written by the same counselors for white students.
- Some counselors used letters to highlight the way students overcame adversity.

Summing up, Park and her colleagues note (a) the clear advantage of students who attend schools with a more-favorable counselor-to-student ratio; (b) the way implicit bias affects the college prospects of certain subgroups; and (c) in the wake of the recent U.S. Supreme Court decision banning race-based affirmative action, the potential for counselors' recommendation letters to help disadvantaged students gain admission to selective colleges.

A key factor, of course, is how recommendations are read by college admissions officers, and the degree to which they are attuned to issues of equity, seeing beyond how long letters are and discerning patterns that favor certain students. "Letters can work as a sort of double-edged sword," say Park et al., "where (if left unchecked) they can perpetuate privilege for some, while having the potential to disrupt and contextualize inequity for others."

"Letters of Recommendation by High-School Counselors in Selective College Admissions: Difference by Race and Socioeconomic Status in Letter Length and Topics Discussed" by Brian Heseung Kim, Julie Park, Pearl Lo, Dominique Baker, Nancy Wong, Stephanie Breen,

Huong Truong, Jia Zheng, Kelly Rosinger, and OiYan Poon in *Research in Higher Education*, July 2025 (Vol. 57, #1, pp. 1-35); Park can be reached at parkjj@umd.edu.

Back to page one

5. A Study of Grading Practices in Chicago High Schools

In this *American Educational Research Journal* article, researcher/consultant Roy McKenzie and Elaine Allensworth (University of Chicago Consortium on School Research) report on their study on the grades different Chicago Public School teachers gave 9th graders, the impact teachers had on students' course grades in the same subject in 10th grade and subsequently. The researchers note that during the study (2011-2019) CPS policy was that "teachers shall exercise their independent professional judgement in developing their grading practices."

McKenzie and Allensworth looked at three variables affecting students' math, English, science, and social studies performance in 10th grade and beyond:

- 9th-grade teachers' effectiveness boosting their students' skill and strategy development, understanding of concepts, and interest in the subject;
- Whether teachers were lenient or harsh graders – whether they gave higher or lower grades than other teachers for similar student work;
- Students' prior achievement and background (including 8th-grade test scores), course characteristics, and school demographics.

There were two major findings:

• Some teachers had significantly better downstream results than others, and this was true for all the groups they taught.

• Teachers who were tougher graders, holding students to high standards, did better than teachers who were lenient graders – provided that demanding grades were accompanied by the support students needed to rise to high expectations.

Data on teachers' grading practices and next-year student performance, say McKenzie and Allensworth, are "an unused source of information" for supervisors. They make it possible to identify effective classroom practices and "prompt internal reflection and collaborative discussions among teachers at the same grade level and between teachers in the same subject at different grade levels." This could make it "less likely," say the researchers, "that a student would get a particularly strong or weak teacher by luck or by parental insight and influence."

Comparing students' same-subject course grades in 9th grade and 10th grade is much more helpful than looking at value-added measures (VAM) of standardized test scores, say the authors. The data are more timely and reliable (many concerns have been raised about VAM), adding another dimension to supervisors' assessment of teachers' effectiveness.

But McKenzie and Allensworth caution against using comparisons of course grades as high-stakes accountability measures or single indicators for personnel decisions. "They could be one indicator," they say, "used in context, and considering the grading practices of the teachers students have in the subsequent year."

The authors conclude with three implications of their study for supervision and improvement of teaching and learning:

• Focus on mismatches in student grades rather than on teachers' average grades. "Grade variations by teacher," say McKenzie and Allensworth, "occur not only because some teachers are harsher or more lenient than others, but because some teachers are more or less effective at preparing students for subsequent academic coursework than their peers."

• Zero in on teachers with discrepant grades rather than spending "valuable professional time working to improve the grading consistency of all teachers."

• "Teachers who positively impact subsequent academic performance tend to be harder graders," say the authors. But the study also shows that just giving low grades is not helpful. "There is a balance – expectations should be challenging but with enough support that students rise to the challenge and get good grades in the end."

"Variability in the Grades Teachers Give: Teacher Grade Value-Add, Mismatch, and Long-Term Effects" by Roy McKenzie and Elaine Allensworth in *American Educational Research Journal*, August 2025 (Vol. 62, #4, pp. 763-797); McKenzie can be reached at roymckenzie4@gmail.com.

Back to page one

6. The Dearth of Role Models for Boys

"At a crucial time in their lives," says Claire Cain Miller in this *New York Times* article, "boys are increasingly cared for by women, especially the many boys whose fathers aren't a regular presence." Here are the data on women in caregiving roles:

- Babysitters – 98%
- Preschool teachers – 97%
- Child care workers – 94%
- Speech pathologists – 94%
- School psychologists – 88%
- Child social workers – 88%
- Librarians – 83%
- Solo parents – 82%
- K-8 teachers – 79%
- Guidance counselors – 79%
- Tutors – 70%
- Pediatricians – 69%
- Volunteer mentors – 60%
- High-school teachers – 57%
- School bus drivers – 56%
- Grandparent caregivers – 54%
- Scout leaders – 33%
- Coaches – 26%
- Religious leaders – 14%

The importance of role models for girls and young women is irrefutable, says Miller, and recent improvements in this area are one reason they now outpace boys in K-12 and medical and law schools and are excelling in previously male-dominated fields like technology and politics.

But a lack of male role models for boys, she says, "is contributing to their struggles in school and employment – and the overall feeling that they're adrift… Research suggests that it's the adults children personally know – and who share their gender or race – who have the biggest effect. They influence children by representing what's possible, modeling behavior and empathizing from shared experience."

Tony Porter, head of A Call to Men, a group providing training on healthy manhood and violence prevention, says, "While women, I believe, are doing their very, very best to raise boys, I believe until men become part of that process, we're not going to make a huge dent in this issue."

What's needed is more male role models and a clearer picture of what it means to be a good man – crucial to counteracting misogynistic influencers like Jordan Peterson and Andrew Tate. Another key factor: getting past gendered stereotypes that prevent young men from going into fields like health care where there are many opportunities.

"Shaped by Women, Boys Feel Dearth of Strong Male Mentors" by Claire Cain Miller in *The New York Times*, July 17, 2025

Back to page one

7. Ten "Micro Habits" for a Better Day at Work

"Success is not about dramatic transformations," says Mary Kelly in this article in *Productive Leaders*. "It is about the small, consistent choices you make every day." She suggests ten "micro habits" to boost workplace success and overall wellbeing:

• Start the day with a clear plan. "Spend five minutes outlining your top three priorities for the day," says Kelly. "This small step provides direction and helps prevent overwhelm."

• Use the two-minute rule. If you can answer an e-mail or take care of a small task in less than two minutes, do it immediately. This keeps small things from piling up and becoming distractions later.

• Take a 60-second brain break. "Pause for a deep breath, close your eyes, and reset your mind for just one minute every hour," says Kelly. "Studies indicate that short mindfulness practices can increase productivity by up to 20 percent."

• Stand up and stretch every hour. Set a reminder to get up and move; it improves circulation, energy, cognition, and creativity.

• Use the "one-touch" rule with e-mails. Do it now (applying the two-minute rule), says Kelly, delegate it, delete it, or wait until you have more time and the information needed. "This prevents inbox overload and keeps communication efficient."

• Acknowledge others every day. Expressing appreciation, complimenting a colleague's work, sending a quick thank-you message – these all strengthen professional relationships and foster a positive work environment.

• Hydrate. Studies show that regularly drinking water improves cognitive performance and productivity.

• Use a shutdown ritual at the end of the day. Kelly suggests a two-minute routine to organize your desk, close out tasks, and mentally transition out of work mode.

• Limit social media to finite time-slots. "Designate two specific times in the day to browse," she advises, "rather than allowing it to interrupt workflow." Some apps are so seductive they'll drag you down the rabbit hole, so be strict with yourself.

• Write down one work-related win each day. "This simple act reinforces progress, keeps motivation high, and builds a success-oriented mindset," says Kelly.

"The Power of Micro Habits: How Small Changes Drive Big Success in the Workplace" by Mary Kelly in *Productive Leaders*, June 24, 2025

Back to page one

8. Recommended Children's and Young Adult Books

This *School Library Journal* feature lists the best children's and young adult books in the first half of 2025. Click the link for cover images and brief descriptions.

"Counting the Stars (So Far)" by Kelly Jensen in *School Library Journal*, July 7, 2025 (Vol. 71, #7, p. 88)

Back to page one

9. Short Item:

A Video on Educational Innovations – This 7-minute video by Derek Müller describes claims over the years about game-changing educational innovations, including movies, TV, radio, computers, videodiscs, etc.

"The Most Persistent Myth" by Derek Müller, *Veritasium*, 2015

Back to page one

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About the Marshall Memo

Mission and focus:

This weekly memo is designed to keep principals, teachers, superintendents, and other educators very well-informed on current research and effective practices in K-12 education. Kim Marshall, drawing on 54 years' experience as a teacher, principal, central office administrator, writer, and consultant lightens the load of busy educators by serving as their "designated reader."

To produce the Marshall Memo, Kim subscribes to 60 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 early Tuesday (there are 50 issues a year). Every week there's a podcast and HTMI version. Artificial intelligence is not used.

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- The "classic" articles from all 20 years

Core list of publications covered

Those read this week are underlined.

All Things PLC
American Educational Research Journal
American Educator
American Journal of Education
American School Board Journal
AMLE Magazine
ASCA School Counselor
ASCD SmartBrief
Cult of Pedagogy
District Management Journal
Ed Magazine
Education Gadfly
Education Next
Education Week
Educational Evaluation and Policy Analysis
Educational Horizons
Educational Leadership
Educational Researcher
Edutopia
Elementary School Journal
English Journal
Exceptional Children
Harvard Business Review
Harvard Educational Review
Independent School
Journal of Adolescent and Adult Literacy
Journal of Education for Students Placed At Risk (JESPAR)
Kappa Delta Pi Record
Kappan (Phi Delta Kappan)
Knowledge Quest
Language Arts
Language Magazine
Learning for Justice (formerly Teaching Tolerance)
Literacy Today (formerly Reading Today)
Mathematics Teacher: Learning & Teaching PK-12
Middle School Journal
Peabody Journal of Education
Principal
Principal Leadership
Psychology Today
Reading Research Quarterly
Rethinking Schools
Review of Educational Research
School Administrator
School Library Journal
Social Education
Social Studies and the Young Learner
Teachers College Record
Teaching Exceptional Children
The Atlantic
The Chronicle of Higher Education
The Journal of the Learning Sciences
The Language Educator
The Learning Professional (formerly Journal of Staff Development)
The New York Times
The New Yorker
The Reading Teacher
Theory Into Practice
Time
Urban Education