

EDUCATION MATTERS

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Digital Trends Shifting the Role of Teachers

Chris Merkert, a veteran teacher who has spent nearly two decades in the classroom, is constantly tweaking his lesson plans. It's become a kind of obsession. One recent evening, he sat watching TV with his wife when the news broke that an infrared camera had helped capture Dzhokar Tsarnaev, the man charged with setting off explosives during the Boston Marathon.

By Amanda M. Fairbanks



Mr. Merkert's response? He began retooling the following week's lesson on the electromagnetic spectrum, using a YouTube clip of the news broadcast as a hook to lure in his middle school science class. Mr. Merkert, 41, teaches eighth grade earth science at East Hampton Middle School in New York. It's one of three schools in a district of around 2,000 students on the eastern tip of Long Island's South Fork.

"My wife's asking me to put the iPad down, but I don't even want to watch television," he said during a break between classes. "It makes the next day so much more interesting. It's really lit that fire."

Since receiving a class set of Chromebooks, a Samsung laptop that uses a Chrome operating system, in December 2011, Mr. Merkert has altered his teaching style—spending less time holding court at the front of the room and more time crisscrossing the classroom to answer questions and

provide individual, targeted feedback. And rather than relying on outdated textbooks to drive the bulk of his instruction, he now writes his own curriculum.

Back in the "dark ages," he says his students might have listened to a lecture, read aloud from their textbooks, and completed a worksheet.

Now, during a recent forty-five minute class period, his twenty-one students listened to a pop song about gamma rays created by a fellow science teacher that Mr. Merkert found on Twitter; completed a digitized, five-question formative assessment on their laptops after a mini lecture on wavelengths; and queued up the evening's homework by logging in to Edmodo, a social learning platform, where they can email their teacher with questions and also ask their classmates for help.

"I'm no longer giving forty minute lectures four times a day and wondering which class got the raw deal, or collecting and grading exams only to discover too late that they

weren't getting it," said Mr. Merkert, who rotates among small groups of students, each with a laptop wide open.

As increasing numbers of school districts go digital, many teachers are witnessing a simultaneous change in their roles. To be sure, some see it as simply traditional teaching in disguise, but others describe a seismic shift—from being the lone purveyor of information to assuming a new role of facilitator, coach, and guide.

As a Google-certified teacher, a designation given to individuals who have completed the Google Teacher Academy, a highly selective professional development program, Mr. Merkert has long been a proponent of using technology in the classroom. In the spring of last year, the Science Teachers Association of New York State named him Suffolk County's science teacher of the year for his use of "flipped teaching." That approach allows students to watch short videos of instructional material during evenings and on weekends, freeing up valuable class hours for discussion and analysis.

By moving much of the direct instruction to nonclass hours, Mr. Merkert says, students can pause and rewind concepts that are giving them particular difficulty. Or, say, when prepping for a quiz, rather than reviewing hand-written notes, they can simply watch the videos over again. It's also freed up more class time for experiments and extended the learning day.

"There's so much you can now do to innovate and adapt. It almost becomes addictive," he said, with a smile. "I'm more enthused and involved than I've ever been. I can only hope that enthusiasm translates to my students."

"As increasing numbers of school districts go digital, many teachers are witnessing a simultaneous change in their roles."

'Learn the Technology or Get Out'

When several of Rose Ann Throckmorton's colleagues saw the digital transformation headed their way, many decided it was easier to simply retire than learn a whole new way of approaching their craft.

"I've known teachers who have taught the same thing, read the same book, and used the same bulletin board, year after year after year," said Ms. Throckmorton, 50, a fourth grade teacher at Rural Hall Elementary School in the Winston-Salem/Forsyth County schools in North Carolina. In total, she has taught for twenty-four years.

Last summer, Steven W. Anderson, the director of instructional technology for the 54,000-student district,

approached Ms. Throckmorton with the possibility of participating in a pilot that would equip all of her fourth graders with their own Samsung Galaxy tablet computers. She leaped at the possibility.

"Twenty-first-century classrooms are coming whether we want them to or not," said Ms. Throckmorton, who possesses neither a smartphone nor wireless Internet at home. "When I signed up for this, I realized I wasn't technologically savvy, but I knew it was coming, and if I planned to stay in this profession, I knew that I had to either learn the technology or get out."

The road was bumpy at first, Ms. Throckmorton admits. She started out by trying to focus too much on the technology itself and not enough on the content. However, after growing frustrated, she decided to simply plan her lessons the way she always had, and used the technology as an additional layer, or tool, to advance it.

Compared with previous years, student engagement has improved, and her class is now able to tackle more material in significantly less time, she says. For instance, when learning about the phases of the moon, rather than handing in a grid of nightly sketches, students used their tablets to take pictures of the moon and built a narrated slideshow of their findings.

Consequently, Ms. Throckmorton also sees herself playing a different role in the day-to-day functioning of her classroom. "Because of the cooperative learning and because of the higher-order thinking, I now give a twenty minute mini lesson, and they have the resources right in front of them to run with it," she said. "In past years, I would have been standing at the front of the room lecturing the entire time, which I hate."

And rather than becoming intimidated by a student who might be more nimble than she is in using technology, Ms. Throckmorton views students as a team and often relies on their expertise to help fill in the gaps. "One afternoon, some of us suddenly lost the Google toolbar, and a few students showed everyone how to get it back up," she said.

Mr. Anderson sees the role of the teacher as undergoing a fundamental overhaul. He sees it as part of his job to help dispel the inevitable fear that comes along with such changes. "It's less of kids sitting in rows and listening to the teacher, from Charlie Brown, than a teacher on the sidelines who is listening to what kids are doing and saying and providing that guidance," he said.

In contrast with the 2012-13 school year, with six classrooms piloting the tablet-based 1-to-1 computing initiative,



the entire Winston-Salem/Forsyth County district is planning to put in place a “bring your own device,” or BYOD, initiative in September. Students will be allowed to bring their own digital devices—whether a tablet, a laptop, or a smartphone—to school.

However, the difference, Mr. Anderson says, is not simply the presence of such devices in the classroom. “The biggest shift has to happen in teaching. It’s a pedagogy shift that teachers will have to undergo, from teacher-centered to student-centered, and it’s pretty incredible what we’re seeing so far,” said Mr. Anderson, who has worked in the district for the past decade.

“Because when the student has access to the same amount of information as a teacher, teaching has to change,” he said. “Teachers simply can’t do what they’ve traditionally done. It’s impossible.” Part of that change is jettisoning the notion that younger teachers are necessarily better equipped to teach in a digital classroom.

So far, in Winston-Salem, of the six teachers in the district’s 1-to-1 computing pilot, the two teachers with twenty years or more of experience are outperforming their younger, less experienced colleagues, according to Mr. Anderson.

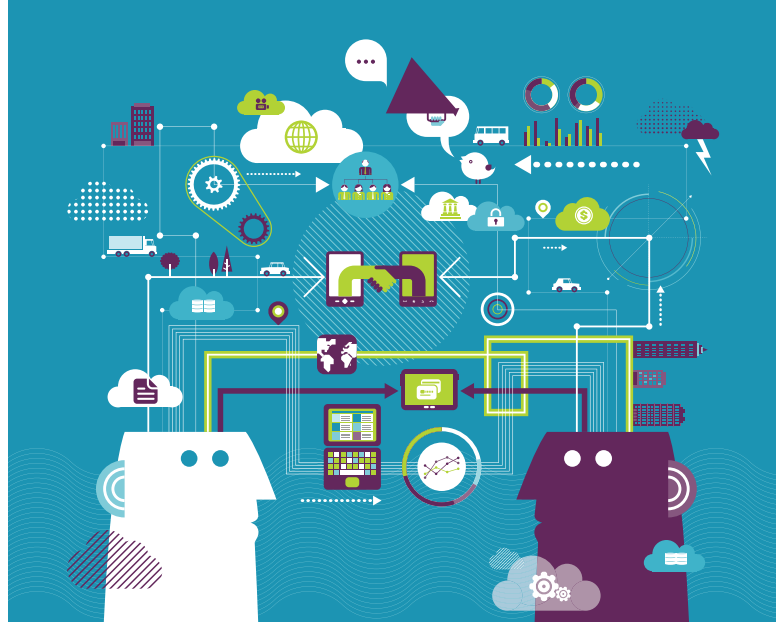
“They might have come to this kicking and screaming, but the teachers who have been the most successful didn’t necessarily know anything about technology. They were the masters of their content,” he said. “For some of the younger teachers, who are still grappling with classroom management and learning the content, it’s been a very difficult transition.”

Getting Connected

Karen Cator, the new president and chief executive officer of Digital Promise, an organization first authorized by Congress to accelerate innovation in education is now an independent, bipartisan nonprofit based in Washington, similarly thinks districts should abandon the mythology that younger teachers are necessarily more capable of integrating technology in their classrooms.

Going forward, Ms. Cator sees teachers as one spoke on a personalized learning network, with the role of the teacher shifting from what she describes as an explainer-in-chief to more of an orchestrator-of-learning. “The future of teaching is going to be about creating a more complex learning environment because students can do much of their own work,” said Ms. Cator, who previously was the U.S. Department of Education’s top educational technology official. “In the past, teachers had to find the resources, find the experts, get the kids sitting down and listening,” she said. “Now, it’s become so multilayered, with every student having his own device and getting individual feedback.”

Josh Stumpenhorst, a sixth grade teacher at Lincoln



Junior High School in Naperville, Illinois, sees the shift as having less to do with technology and more to do with teaching. “You can digitize a worksheet and put it on an iPad and not change anything at all,” said Mr. Stumpenhorst, 32, who is in his tenth year of teaching language arts and social studies. In the 2011-12 school year, he was named Illinois’ teacher of the year. “The shift to student-centered classrooms would have happened anyway,” he said, “but the technology has definitely made it easier.”

Targeted Mini-Lessons

Since his classroom became one of seven in his 20,000-student district to pilot a BYOD initiative, Mr. Stumpenhorst rarely stands before his class for more than five or so minutes at a time, he says. Instead, as students work in small, self-directed groups, he moves around the room delivering targeted mini-lessons based on the individual needs of his students.

“If I stand in front of the class and talk for forty minutes about a theme, the kid in the front row who already knows it is bored out of his mind and has completely tuned me out,” Mr. Stumpenhorst said. Increasingly, he sees his job as one of helping his students evaluate information.

“Kids have more access to content than I have,” he said. “They find all this garbage on the Internet, and it’s my job to help them figure out what’s true, what’s relevant, what’s accurate.” For advancing his own craft and coming up with new ideas, Mr. Stumpenhorst—like several other teachers interviewed—has grown increasingly reliant on Twitter. Rather than ask a colleague down the hall, he often solicits feedback from educators across the country by using certain hashtags or posing a question to his more than 12,000 Twitter followers, most of whom are fellow educators.

Tom Whitby, a retired teacher who taught high school English for more than thirty years, now conducts workshops on digital teaching and contributes to the SmartBlog on Education. He sees the transition

among educators still occurring in pockets—with a huge gulf now developing between what he describes as connected and unconnected educators. He defines connected educators as teachers who are comfortable with collaborative learning, social media, and sharing their ideas online. It's a changing role that takes some adjustment.

"We have to get away from the mindset of teachers as content experts," said Mr. Whitby. "It's how most teachers were brought up, that you don't make a mistake in front of your class, that only one person can have control, and it's the teacher who must have control."

He underscored the importance of a school culture that supports risk-taking and fosters creativity for those looking to make the digital leap. "If I limited my students to the content in my own head, I would be doing them a huge disservice," he said. "Students are no longer empty vessels, where it's our job to fill them with the knowledge that we have. We don't have all the facts. Our role is changing every day." ■

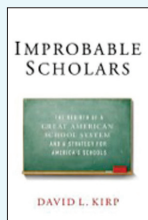
This article originally appeared in *Education Week*, Vol. 32, Issue 32.



Amanda Fairbanks is an education writer. She previously taught sixth grade in New York City as part of the Teach for America program. Her work has appeared in *The New York Times*, *the Boston Globe*, *Newsweek*, *The Huffington Post*, *Education Week*, and *The East Hampton Star*. She is a graduate of Smith College and Columbia's Graduate School of Journalism.

Top Ten Summer Reads

We love summer. The students are gone and it's a great time to head to the beach and lay in the sun with a good book. Wait. You don't have a good book? Try one of these—sure to inspire and entertain.

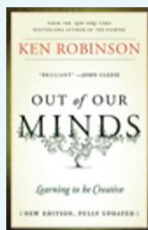


Improbable Scholars: The Rebirth of a Great American School System and a Strategy for America's Schools

by David L. Kirp

No school district can be all charismatic leaders and super teachers. It can't start from scratch, and it can't fire all its teachers and principals when students do poorly. Great charter schools can only serve a tiny minority of students.

The good news is that there's a sensible way to rebuild public education and close the achievement gap for all students. Indeed, this is precisely what's happening in a most unlikely place: Union City, New Jersey, a poor, crowded Latino community just across the Hudson from Manhattan. The school district—once one of the worst in the state—has ignored trendy reforms in favor of proven game-changers like quality early education, a word-soaked curriculum, and hands-on help for teachers. When beneficial new strategies have emerged, like using sophisticated data crunching to generate pinpoint assessments to help individual students, they have been folded into the mix.



Out of Our Minds: Learning to be Creative

by Ken Robinson

Ken Robinson offers a groundbreaking approach to understanding creativity in both education and business. He argues that people and organizations everywhere are dealing with problems that originate in schools and universities and that many people leave education with no

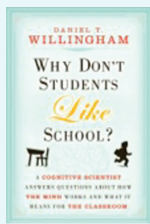
idea at all of their real creative abilities. *Out of Our Minds* is a passionate and powerful call for radically different approaches to leadership, teaching and professional development to help us all to meet the extraordinary challenges of living and working in the twenty-first century.



Sticks and Stones: Defeating the Culture of Bullying and Rediscovering the Power of Character and Empathy

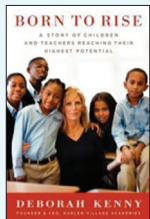
by Emily Bazelon

In *Sticks and Stones*, Emily Bazelon brings readers on a deeply researched, clear-eyed journey into the ever-shifting landscape of teenage meanness and its sometimes devastating consequences. The result is an indispensable book that takes us from school cafeterias to courtrooms to the offices of Facebook, the website where so much teenage life, good and bad, now unfolds.



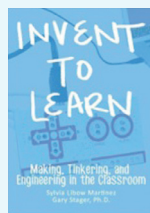
Why Don't Students Like School: A Cognitive Scientist Answers Questions About How the Mind Works and What It Means for the Classroom
by Daniel T. Willingham

Cognitive scientist Dan Willingham focuses his acclaimed research on the biological and cognitive basis of learning. His book will help teachers improve their practice by explaining how they and their students think and learn. It reveals the importance of story, emotion, memory, context, and routine in building knowledge and creating lasting learning experiences.



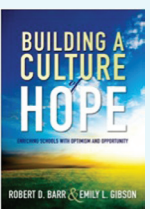
Born to Rise: A Story of Children and Teachers Reaching Their Highest Potential
by Deborah Kenny

Deborah Kenny was a young mother of three small children seeking to make sense of her life amid the despair of her husband's untimely death, when she decided to devote herself to radically reinventing public education. *Born to Rise* recounts a journey that led Kenny to risk her life savings to open schools in Harlem while proving that all children, regardless of socioeconomic circumstances, can learn at high levels.



Invent To Learn: Making, Tinkering, and Engineering in the Classroom
by Sylvia Libow Martinez and Gary S. Stager

Even if you don't have access to expensive (but increasingly affordable) hardware, every classroom can become a space where kids and teachers learn together through direct experience with an assortment of high and low-tech materials. The potential range, breadth, power, complexity, and beauty of projects have never been greater thanks to the amazing new tools, materials, ingenuity, and playfulness you will encounter in this book. In this practical guide, Sylvia Martinez and Gary Stager provide K-12 educators with the how, why, and cool stuff that supports classroom making.



Building a Culture of Hope: Enriching Schools with Optimism and Opportunity
by Robert D. Barr, Emily L. Gibson

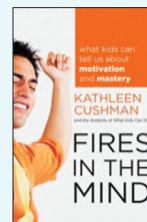
Research demonstrates that children of poverty need more than just academic instruction to succeed. Discover a blueprint for turning low-performing schools

into Cultures of Hope! The authors draw from their own experiences working with high-poverty, high-achieving schools to illustrate how to support students with an approach that considers social as well as emotional factors in education.



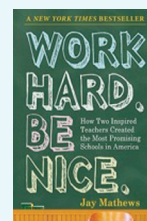
Open the Door: How to Excite Young People about Poetry
by Dominic Luxford

This one-of-a-kind mixture of essays, interviews, and lesson plans gathers the best thinking about how we can impart the value and joy of poetry to kids. *Open the Door* will be useful for first-time and veteran teachers, as well as parents, babysitters, MFAs with no job, and anyone else with an interest in poetry's place in the lives of our younger citizens.



Fires in the Mind: What Kids Can Tell Us About Motivation and Mastery
by Kathleen Cushman

Through the voices of students themselves, *Fires in the Mind* brings a game-changing question to teachers of adolescents: What does it take to get really good at something? Starting with what they already know and do well, teenagers from widely diverse backgrounds join a cutting-edge dialogue with adults about the development of mastery in and out of school. Their insights frame motivation, practice, and academic challenge in a new light that galvanizes more powerful learning for all. To put these students' ideas into practice, the book also includes practical tips for educators.



Work Hard. Be Nice.: How Two Inspired Teachers Created the Most Promising Schools in America
by Jay Matthews

When Mike Feinberg and Dave Levin signed up for Teach for America right after college and found themselves utter failures in the classroom, they vowed to remake themselves into superior educators. They did that and more. In their early twenties, by sheer force of talent and determination never to take no for an answer, they created a wildly successful fifth-grade experience that would grow into the Knowledge Is Power Program (KIPP), which today includes sixty-six schools in nineteen states and the District of Columbia.



Report: Practice Makes Perfect

Doug Lemov may be best known for his bestseller, *Teach Like a Champion*, which provides teachers with specific teaching strategies. Recently, he released a paper just as interesting and useful for teachers—one that champions the use of practice in the refinement of teaching skills.

The paper was part of a broader report, “A Roadmap for Education Reform,” which was released in partnership between the American Enterprise Institute and the Wisconsin Policy Research Institute. Lemov’s immediate and practical implications make his paper stand out among other education reform initiatives.

“We do this by having great teachers coach others in their school, while helping them to hone these skills through repetitive practice.”

In preparing his research, Lemov worked with the Milwaukee Public School District to analyze the efficacy of their teacher professional development program. Needless to say, he found Milwaukee’s professional development efforts to be no different than most other school

districts across the country—weak. Although Milwaukee spends a good deal of money on professional development (\$5 million), the money is usually spent on one-time lecture style classes, which are disconnected from the classroom, discount the expertise of classroom teachers, and introduce concepts with neither practical help for implementing them nor adequate, if any, follow-up. When individualized development is provided, it is also focused on those teachers who struggle the most, meaning teachers who are already good seldom get the push they need in order to become great.

Instead of maintaining this traditional view of teacher professional

development, Lemov envisions something completely different. Working off of a premise that we already know—the skills that make great teachers truly great—Lemov believes the key to creating great teachers is to develop these skills in other teachers. We do this by having great teachers

coach others in their school, while helping them to hone these skills through repetitive practice.

Lemov explains as follows:

Though it is rarely referred to as such, teaching is a performance profession. It happens live, and an outstanding lesson on Tuesday guarantees little about Wednesday’s outcome. [...] Every other performance profession [...] prepares for the dynamics of their work via practice. [...] A tennis player wouldn’t dare step onto center court at Wimbledon to try out a new backhand; she would have practiced it over and over in a series of training sessions. Similarly, a surgeon would practice his suturing over and over before putting needle to live tissue. Performance professions understand that you get good at what you do in the game by practicing it beforehand, that practice reduces stress during performance and frees your mind to be more responsive to situations that develop during performance.

While this seems at first glance to be a radically new way to look at teacher professional development, it’s worth remembering that we’ve already seen rumblings of this type of professional development through techniques such as video clubs and lesson studies. It will be interesting to see if more teachers and districts gravitate towards this practical form of improving teacher quality. ■

Melissa Pratt serves as AAE’s Professional Programs Manager. Email her at profdev@aaeteachers.org with any professional development questions or concerns.

Member Mention:

Jackie Collins Wins Emerging Leader Award

AAE's state chapter Northwest Professional Educators member Jackie Collins was recently named as a winner of the Dr. Denise Davis-Cotton Emerging Leader Award. The award, given by the Arts Schools Network, recognizes excellence and achievement among rising arts schools administrators, and serves to highlight innovative practices and programs implemented by such leaders.

the lower elementary and arts academies for the middle and high school. "[Students] get that hands-on work with those [professional artists] that that's their passion as adults, and what they've done with it as adults. And they get to see all of those things that they probably wouldn't get to any other way, sometimes because of their background," said Collins.

When Idaho Charter School started, it was housed in mobile units

at Centennial High School and this was a great honor for me. During my career I have had the good fortune to have eight student teachers and was a mentor for first-year teachers in my department for three years. I consider teaching to truly be a craft in which only the most talented and enlightened people engage."

Congratulations to Jackie Collins for her outstanding work at Idaho Arts Charter School! ■



Jackie is the principal of Idaho Arts Charter School (IACS), a public, low-income school in Napa, Idaho. She has served as principal at IACS for seven years. Jackie was responsible for planning and integrating everything from student lunches, busing, and teacher contracts to curriculum. Under her supervision, Idaho Arts Charter School (IACS) has met annual yearly goals, continues to grow in arts and academics despite its location in a low socio-economic area, and is the first exposure to the arts for many students. The school features arts-integrated classes for

"I consider teaching to truly be a craft in which only the most talented and enlightened people engage."

and an old church building. Collins and her team were instrumental in putting together a plan to purchase an existing school and design an arts addition so the school could have a permanent facility. Her team was able to secure \$7.5 million in bonds from investors, and their dream school was complete.

"Our goal is that we have students who walk away with an appreciation for the arts, who work well in groups. They are creative, they think outside the box," Collins continued.

"I have been a professional educator for 30+ years teaching a variety of subjects including speech, drama, debate, government, history, special education, accelerated studies, economics, and sociology, and was the first night school administrator for the Meridian School District. In 2001, I was selected "Teacher of the Year"

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