

CHANGING *schools*

vol. 74 / Fall 2015

Technology *with intention*

6 Qs to ask
before buying
tech

Streamlining
tech PD

Social
networking,
digital literacy,
and more



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In this issue

Using technology to support “the real magic”

Last school year, my 2nd-grade son was asked to write five-paragraph essays as part of two different research projects—one on an animal and one on a foreign country. When he had to write some of his cheetah essay at home, with paper and pencil, it took him almost half an hour to think of and write down one topic sentence. However, at school, when working on his country project, he was able to produce whole paragraphs in the same amount of time—and he seemed much more excited about his topic. When I asked him why he liked writing about Brazil, he said matter-of-factly, “Because I could do it on the computer.”

This highlights one of the prevailing arguments for using technology in classrooms: student engagement. Proponents of educational tech say, despite a lack of evidence that it improves student achievement, technology is an important tool for teachers to use because it engages all students, including those with diverse learning styles such as English language learners and kids with learning disabilities, and teaches them critical 21st century digital skills.

But these benefits are just one piece of the larger puzzle of effective technology use. What about teachers who are resistant to using technology? How can we ensure that those who are using it are doing so in a way that supports instructional goals? Why do districts choose certain technologies and not others and how are they helping teachers implement them?

This issue of *Changing Schools* addresses these questions, in an effort to help you and your colleagues use technology in a way that enhances instruction and makes a tangible difference in student learning—keeping in mind that, as with any strategy or tool a teacher uses, there’s nothing magical about technology itself.

Rather, as McREL President and CEO Bryan Goodwin reminds us on p. 16, “The real magic lies . . . in school communities developing a deeper sense of purpose and clarity about what matters most and (only) then applying technology to help students succeed.”



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To learn more about how McREL helps schools support research-based instructional practices with technology, visit www.mcrel.org.

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Keep students “powered up” for learning with social networking

By Cheryl Abla



We live in a world where online information is a significant part of our daily lives. Students today can Google what they need to know, Wolfram their math problems, and TedTalk new concepts. They YouTube how to fix everything from a broken bicycle to a broken heart. With the click of a button or a voice command, they get information to help them solve virtually any problem or answer any question.

In the classroom, sharing information and connecting with others online offers limitless possibilities for learning. Social networking tools are free, readily available, and engage students in a way that is both exciting and comfortable for them. They are an easy way to enhance instruction and keep students “powered up” for learning when they step into the classroom.

And yet, many educators still hesitate to use them, or don’t use them at all. Choosing the right tool to use and figuring out how to use it effectively can be overwhelming, especially if they don’t already use it themselves.

So, for those who aren’t sure where to start, here’s a look at some of the most common and effective social networking platforms and ideas for how to use them. (Note: Students must be 13 and older to set up Twitter and Instagram accounts. The other platforms listed below are used with teacher accounts.)



Twitter

Twitter provides a plethora of concise information about specific content. Having students follow a hashtag (#) on current events or a specific book title or author, for example, will motivate them to learn in real time. With students following and tweeting with a specific hashtag assigned by the teacher, the breadth and depth of the content becomes much broader than one student reading about a topic.



Edmodo

Edmodo is a widely used resource that is set up like “a classroom Facebook,” with secured “rooms” for discussions on specific topics, books, etc. Teachers can set up parameters for a discussion, and each student in a specific group is responsible for writing and posting high-level questions for the others in the group to read and respond to. In addition to message posting, Edmodo features include resource libraries, online assignments, quizzes, texting, and e-mail. The level of engagement is high, and the knowledge gain is deeper than one student’s own thoughts.



Today's Meet

Today's Meet is a tool for “back channeling,” or talking online about an event or presentation as it’s happening. It can be used numerous ways, either inside or outside of the classroom. For example, it is used often for homework assignments as students are watching a live news event unfold on television. It is especially beneficial in helping shy students have a voice in classroom conversations, and it provides a safe place for second-language learners to feel confident enough to share their thinking and understanding.



Tween Tribune

TweenTribune is a daily news site where students can read relevant, engaging articles and become knowledgeable about current events around the world and how they impact one another. In addition, they can post comments about articles or simply read posts from other students. Teachers have the ability to set criteria and approve posts before they are published. Currently, TweenTribune serves as a safe, interactive community for 55 million students around the world.



Instagram

Instagram is all the rage these days for both younger and older generations, who use it to upload pictures, quotes, and videos. Teachers can use this trendy tool

in numerous ways:

- Post vocabulary words and encourage students to upload pictures that represent their understanding of that word.
- Post a quote or a particular phrase and have your students respond by posting what the quote means to them.
- Have students snap a photo of a book they recently read and write a book review to encourage others to read it.
- Create an ABC scavenger hunt as students are learning the alphabet.
- Have students upload pictures and then select one of the photos to write a poem about.



TedEd

TedEd features videos of presentations on a variety of subjects aimed at students, like TED Talks but shorter and with animated clips. Students can watch a short video and then take a quiz to check for understanding, discuss it in a blog post, or click on the “Dig Deeper” button to learn more about the subject. This is a highly engaging way for students to learn new concepts in a way that appeals to them while encouraging collaboration through discussions.



Skype

The video chatting software Skype helps students connect with other students and their teachers anytime, anywhere. Students can video Skype with classmates during a book talk or receive quick feedback on a written assignment. Mystery Skype is an geography game, invented by teachers, in which two classrooms guess the location of the other—sometimes in another part of the world—by asking questions. When teachers are unable to take their students on a field trip, Skype can provide a positive learning experience about other places. Skype is also a great way to conduct parent-teacher conferences if one of the parents is out of town during the scheduled time or if a teacher would like to contact the parents and share the successes of their child’s day.

What else?

Before using any of these tools, teachers need time to learn the social networking technology themselves and get comfortable with one before branching out to another. It’s important not to let social networking be an “add-on” or a last-minute thought; rather, it should be an extension of what teachers already do to enhance learning and make it relevant.

Our digital native students will catch on quickly and you may be surprised at how motivated they are to use a tool they already know. It’s important, however, to establish protocols and procedures for using social networking in class and review them often. For example, you could have students research and present to their classmates the importance of “unplugging” at specific times within the school day. You can also teach students norms of collaboration that emphasize the importance of being 100% engaged in class and not distracted by their devices.

Used with intention and in conjunction with other teaching tools, social networking is an effective way to engage students in collaborating, communicating, creating, and thinking critically about the world around them. Once teachers take the first step in using these tools in their classrooms, they will have wished they had started using them long ago. ●

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Technology's effect on student learning: *Does the research matter?*

By Heather Hein

For decades now, schools and districts have been investing in technology for classrooms—from computers and interactive white boards to online applications and digital content. But for just as long, educators have been asking, “Does technology really help students learn?”

Research studies have shown, and continue to show, mixed results overall. This is not surprising, given the diversity of technologies available and their ever-changing nature. What we know for sure, despite the lack of evidence of effectiveness, is that technology is now a fixture in schools across the U.S., and school leaders seem to be unanimously convinced of its value—or at least are resigned to its necessity.

So, what research should educators be paying attention to when it comes to technology? Does the research even matter anymore?

A mixed bag

In the past 10 years, there has been no shortage of research studies on specific technologies and their impact on student knowledge and skills. Take, for example, one-to-one laptop initiatives—programs which cost districts millions of dollars but appear to have inconsistent effects on student achievement.

A trio of studies cited by Goodwin (2011) highlights this inconsistency. In measuring the effect on overall student achievement, a study of Michigan's statewide one-to-one program found, among eight matched pairs of schools, higher achievement in four laptop schools, lower achievement in three, and no difference in two (Lowther, Strahl, Inan, & Bates, 2007). In the other two studies, similar programs in Maine and Texas yielded slightly positive effects in one skill area (writing and mathematics, respectively) but not in others (Silvernail & Gritter, 2007; Shapley et al., 2009). Interestingly, in the Texas study of middle school students, student scores in writing actually went *down* in the laptop group (Shapley et al., 2009).

So, giving all students laptops or other devices may not translate to better student achievement, but what about specific software programs and products? The research here is mixed as well. Meta-analyses that examined the effects of various technologies and applications on K–12 math and reading achievement found



the most successful model was computer-assisted instruction integrated with other, more traditional activities (Cheung & Slavin, 2011; 2012). Specifically, the researchers found, in the case of math, traditional instruction supplemented with computer-assisted instruction at the students' individualized assessed levels of need had the greatest effect (Cheung & Slavin, 2011).

The U.S. Department of Education found lackluster results across the board when it examined the effectiveness of 16 educational software products on the achievement of students in 1st-grade reading, 4th-grade reading, 6th-grade math, and algebra across 132 schools in 33 districts. The study showed test scores were not significantly higher in classrooms using the software products—which had been selected based on public submissions and ratings by the study team and expert reviewers—compared to classrooms which did not use the products (Dynarski et al., 2007).

The more things change, the more they stay the same

Notably, the U.S. Department of Education study also found that effects of software reading products on overall test scores were correlated with the *student-teacher ratio* in 1st-grade classrooms and with the *amount of time* that products were used in 4th-grade classrooms. Similar caveats were pointed out by a group of university researchers responding to the study—for example, that most of the programs used in the study were tutorials and not more “open-ended” programs that emphasize higher order thinking skills; that the programs were used for just 10% of instruction time, and it wasn't clear how the other 90% coordinated with computer use; and that there were unanswered questions about the training teachers received, how the programs were implemented, and how student learning was assessed (Fitzer et al., 2007).

In other words, as with any program or strategy in education, the successful use of technology tools and programs appears to come down to how they're used. Goodwin notes that one-to-one

laptop programs, for example, “rather than being a cure-all or a silver bullet . . . may simply amplify what's already occurring [in a school]—for better or worse” (2011).

It makes sense that, regardless of the technology, effective teachers generally use it effectively, and ineffective teachers generally use it less effectively. But what about effective teachers who are resistant to using technology or aren't using it to enhance their instruction?

Over and over again, research shows that teachers have been quite slow to catch up with all of the technology at their disposal, and that they tend to use it more as a tool for themselves rather than putting it in the hands of their students—for example, to plan lessons, communicate with colleagues, and access information on the Internet.

Education researcher Larry Cuban, in researching for his 2013 book, *Inside the Black Box of Classroom Practice: Change Without Reform in American Education*, revisited a high school in Silicon Valley that he profiled in an earlier book for being a leader in technology investment. He found that, more than a decade later, just a handful of teachers were going beyond the familiar instructional approaches of lecturing, discussing, and occasionally using overhead projectors, videos, and computers. Even in classes which used computers regularly, a combination of teacher- and student-centered practices was the norm.

One of the largest studies on teacher technology use echoes this finding. A 2009 study by the National Center for Education Statistics found, among 3,159 teachers across the U.S., that the most common student uses of technology in the classroom were preparing written text (with 61% of teachers reporting using it “sometimes” or “often”); conducting Internet research (66%); and learning or practicing basic skills (69%). By contrast, only 25% used technology for conducting experiments or creating art or music, 13% for designing or producing a product, and 9% for contributing to a blog or wiki (Gray, Thomas, & Lewis, 2010).

More than meets the eye

The reasons are many for teachers not using technology or not maximizing its use—and they are not dissimilar from the reasons any one of us chooses not to jump on the bandwagon of the latest tech tool. If you don't understand how something works or how it will help you, you're unlikely to put the time and effort into learning about it, let alone use it.

A survey of 1,000 K–12 teachers conducted by Walden University found just that: The largest segment of teachers surveyed (34%) considered themselves “infrequent users” of technology for student learning because, said an overwhelming majority, technology “is not necessary” for their lessons. Further, almost half of all teachers surveyed, when asked about not using specific technologies, also said they weren't necessary (Walden University, 2010).

Pedagogical beliefs is one of four variables explored by Ertmer and Ottenbreit-Leftwich in their paper on the factors that shape the way teachers integrate technology. In addition to a teacher's belief system, they found that knowledge, self-efficacy, and school culture all play a role in teacher technology use (2010). When teachers are asked to use technology to support student learning, the researchers said, some degree of change—often second-order change—is required in each of these areas.

For example, in terms of knowledge, teachers have to understand not only the tools themselves but also how they help students learn. So that means, before using technology as an instructional tool, teachers must know how to develop plans for teaching the software to the students; select appropriate applications to meet the instructional needs of the curriculum and the learning needs of the students; and manage the computer hardware and software (Coppola, 2004). In addition to having all of this knowledge, they must believe in the value of technology in learning; be confident in their ability to implement it; be able to assess student learning related to the technology; and have a school culture that supports the use of technology to facilitate student learning.

Here to stay

Despite the lack of evidence that technology improves learning, the cost of implementing school-wide or district-wide technology, the implications for teacher education and professional development, and the Herculean effort required of teachers to implement technology effectively, the simple truth is that technology is here to stay. Schools are invested in it, kids are growing up on it, companies continue to develop it, jobs demand it, and the global economy depends on it.

Learning the 21st century skills that students need to succeed in the global economy requires the use of technology.

The Partnership for 21st Century Learning (P21) defines Information, Media, and Technology Skills as one set of necessary skills—and technology supports the learning of

“The simple truth is that technology is here to stay. Schools are invested in it, kids are growing up on it, companies continue to develop it, jobs demand it, and the global economy depends on it.”

others, including Critical Thinking and Problem Solving, Communication and Collaboration, and Creativity and Innovation (www.p21.org).

Not only are students learning these valuable skills when they use technology, but they also exhibit other positive behaviors. In the Walden University survey, teachers who identified themselves as “frequent users” of technology reported that their students were more engaged—coming to and participating in class regularly, staying focused on tasks, taking initiative, and managing time to meet goals. Long term, these behaviors could contribute to larger challenges like keeping students in school, reaching high-needs students, and improving achievement (Walden University, 2010).

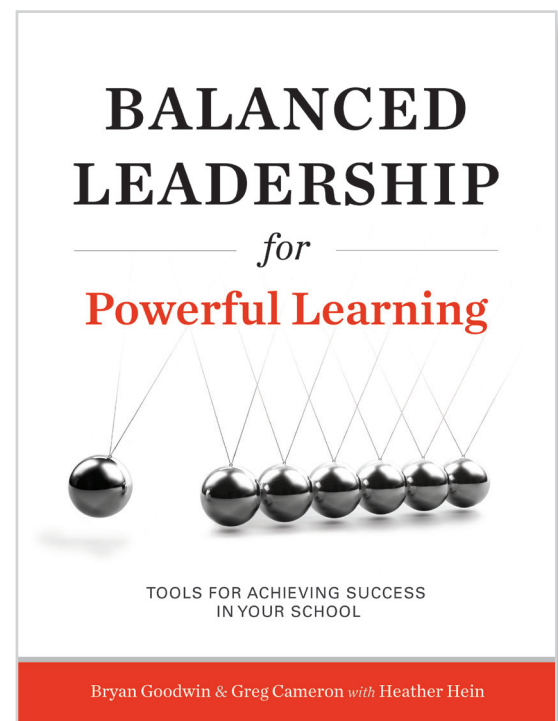
Therefore, as long as technology isn't hurting achievement, some say, implementing it is a net gain. Karen Cator, former director of the office of educational technology in the U.S. Department of Education and now president and CEO of a nonprofit called Digital Promise, told *The New York Times*, “In places where we've had a large implementing of technology and scores are flat, I see that as great. Test scores are the same, but look at all the other things students are doing: learning to use the Internet to research, learning to organize their work, learning to use professional writing tools, learning to collaborate with others” (Richtel, 2011).

In 2015, perhaps the question is not whether technology use is helping or hurting achievement but, rather, if *not* using technology is hurting students' chances for success. ●

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Look Before You Launch

6 questions to ask before you add more tech to your school

Many schools and districts are experienced tech buyers, but some still make the mistake of rushing to buy hardware and software without identifying a clear purpose and plan for the new technology. This can lead to misuse of expensive equipment and diminish the impact it has on student learning. Consider these six vital questions before your next purchase.



1

Why are we doing this?

Schools have many reasons for launching a technology initiative. Maybe you are preparing for online assessments, trying to make teacher tasks more efficient, or trying to increase student engagement or creativity. You may have one reason or several. Your first step must be defining your goals clearly—and long before you make any major purchases.



How will we know if we are successful?

Define the measureable targets you will use to track progress toward your goals. For example, if you're adding tech to increase student engagement, define what you mean by engagement and how you'll measure change over time (e.g., fewer discipline referrals and higher attendance rates?). How will you collect, disaggregate, and report data?



3

Are our teachers ready for this?

Conduct a survey of staff readiness to review their tech skills and instructional practices before making tech decisions. For a one-to-one program, for instance, assess whether teachers typically use whole-group instruction or collaborative groups to determine if adding laptops will be disruptive or a smooth transition.

4

Is our facility ready for this?

Adding tech to a building requires a certain level of supportive infrastructure. Do you have enough bandwidth for all students to be taking online assessments, creating videos and animations, or using 3D printers? Will you need to add local data storage space or use a cloud service? Is the entire system robust enough to handle increased data use from multiple schools? Can your building's electrical system support a simultaneous re-charging of all devices?



5

How will you support the staff during this change initiative?

Look at the PD teachers have had in the past three years—was it focused on pedagogy or on the mechanics of using the hardware or software? Be sure you have a plan and budget for giving staff adequate, appropriate PD that maximizes their use of the new tech.

6

What is your sustainability plan?

Hardware and software typically need to be renewed at least every five years; do you know where your renewal funding will come from? Also, you need a plan for repair and maintenance—whether in-house or through the manufacturer—and establish a protocol for loaner technologies while devices are being repaired. Make sure to factor in the long-term PD you will need to provide for both new and current staff.

ESAs in Michigan create award-winning website to share best practices in instructional technology

By Christine H. Schmidt



Macomb Intermediate School District (MISD), located just north of Detroit, is the largest of Michigan's 56 education service agencies, serving more than 10,000 teachers and 150,000 students in 21 public school districts and numerous charter and private schools across Macomb County. Among the many services it provides, MISD delivers professional development (PD) for staff on effective instructional practices and technology integration. In 2008, a group of instructional technology specialists from MISD and two of its fellow service agencies noticed that they were repeating the same trainings often and that the sessions were lacking a cohesive framework.

Collaborating to solve a problem

The team of specialists sat down together to create a PD plan and brainstorm ways to deliver PD on instructional technology in a more cost-effective and consistent way.

Dr. Jennifer Parker-Moore, MISD's instructional technology and school data consultant, says the team asked themselves, "Why don't we start putting these trainings on a website so we can share?" In that meeting, they sketched out the framework for 21Things4Teachers.net, or "21 Things," on the back of an envelope. After a year of development and refinement, the website—which houses 21 free training modules—quickly became a popular resource for teachers and instructional technology trainers across Michigan.

The following year, MISD adopted a school improvement plan called Forward Thinking, which, among seven focus areas for improvement, included curriculum and instruction, PD, and technology. The 21 Things website addressed these three key focus areas, but it had not been reviewed for alignment with curriculum standards, an instructional framework, or international technology standards for instruction.

Around the same time, the team learned about a successful school improvement initiative underway in the state's Upper Peninsula. The Eastern Upper Peninsula Intermediate School District (EUPISD) had been working with McREL to develop

a school improvement plan using framework components of McREL's Balanced Leadership®, Power Walkthrough®, Classroom Instruction That Works® (CITW), and Using Technology with Classroom Instruction That Works® (UTCITW) programs.

The 21 Things' team was interested in similarly aligning their website with the framework found in CITW and UTCITW to help teachers become more comfortable and effective with technology use in their classrooms. "What we really wanted was a best practices framework," Dr. Parker-Moore explains.

MISD invited Dr. Howard Pitler, co-author of McREL's book, *Using Technology with Classroom Instruction That Works* (ASCD, 2012), to meet with the website team and technology specialists from most of the service agencies in Michigan. They began aligning each of the 21 Things training modules with the CITW instructional framework for best practices, including each of the nine categories of technology outlined in UTCITW. "From there, our site has taken off," Dr. Parker-Moore says.

Adapting to new challenges

Now a joint project of the Regional Educational Media Centers (REMC) Association of Michigan, MISD, and several other service agencies, the 21 Things site helps teachers improve technology proficiency and align technology use with effective classroom instructional practice. The modules, taught by

REMC's regional instructional technology specialists, are part of a year-long, blended-learning course available to anyone who visits the site.

The course offers sequenced curriculum and provides up to 120 hours of instruction, through video tutorials and live virtual sessions, on a variety of digital applications that can be used in any learning environment or subject. Each module also includes learning objectives, reflection time, and practice time, encouraging the development of lesson plans to enhance understanding.

The site on its own is a valuable resource for educators; however, the team has found that, with greater technology demands on teachers—and given their broad range of technology proficiency—some need extra face-to-face, guided practice on the use of the technology.

This has been a paradigm shift for MISD and other Michigan service agencies, stresses Janice Harding, MISD interactive learning consultant. The focus has shifted away from 21 Things simply being a repository for technology tools to it actively supporting teachers' discovery of "how technology can support best teaching practices and learning in the classroom," she says.

In addition to online resources it provides for any site visitor, it also now offers, for Michigan educators, blended-learning PD or locally designed or individualized PD through partner agencies, as well as graduate credits for taking the full online course. Teachers are no longer working in isolation, learning about available technology tools but wondering whether they're a help or a hindrance to learning. They are now able to see how to effectively implement technology in the classroom.

Due in part to their expertise in technology, along with the organization's leadership through its strong commitment to CITW, MISD instructional technology trainers became the first group authorized by McREL to deliver its PD on UTCITW. Of the 10,000 teachers in MISD, two-thirds are now fully trained in Classroom Instruction That Works, and the 21 Things training modules are widely used by teachers in the MISD service area.

Although 21 Things was originally developed for Michigan teachers, it is now widely used as a free PD resource by educators in all 50 states and in several countries. "I have shared this with schools around the world," says Dr. Pitler, who recently left McREL and is now an independent consultant. "[MISD's] attitude is that they want to do the right thing to help people."

Qualitative data show that teachers who have gone through 21 Things training have become more comfortable using technology in the classroom and implementing formative assessments to gauge student learning and adjust classroom practice. In addition, their students are more positively engaged with technology—and with their teachers.



Members of the 21 Things team include: (front row) Tina Tribu, Janice Harding, Dr. Jennifer Parker-Moore; (back row) Kay Hauck, Carolyn McCarthy, Melissa White.

In 2014, 21 Things received the distinguished International Society for Technology in Education (ISTE) Seal of Alignment for Readiness, becoming one of only 17 resources worldwide that meet ISTE's rigorous standards for educational technology. (Another MISD project, 21Things4Students.net, a resource site that helps students become more tech-savvy in the classroom, has also earned the coveted ISTE Seal of Alignment.)

"When [trainers] see the McREL name and the ISTE seal," Dr. Parker-Moore says, "they know we are a valid and reliable resource for technology proficiency and implementation."

Innovating for the future

MISD has contributed to a statewide portal (moodle.22itrig.org) available to all Michigan educators. This portal offers 10 PD modules, three of which were developed by MISD and are based on CITW, UTCITW, and 21 Things.

The MISD tech team also created techbestpractice.net, which has garnered international recognition, to support teachers as they work through these three modules. This site offers best practices, tips, and tools for tech integration (including the CITW framework for instructional planning). "We are showing how technology can change teaching and learning in the classroom, and how you can make it happen for yourself," Dr. Parker-Moore says.

Dr. Pitler lauds the innovative thinking and collaborative nature of the 21 Things team. "They see ideas, and they push toward them," he says. This mirrors the true potential of technology use in the classroom—to be collaborative, adaptive, and innovative. ●

For more information on the 21 Things project, visit <http://21thingsproject.net>.

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Using technology to enhance multimodal writing

By Robin Wisniewski

In 1932, Wuthier Crue published a story called “Ordeal by Cheque” in *Vanity Fair* magazine. This wasn’t an ordinary story, not because of the contents but because of the presentation. On four pages were images of 45 personal checks, written by a man named Lawrence Exeter from 1903 to 1931. The story line of Mr. Exeter’s life can be inferred from the information on the checks—for example, the first three checks were written out to a baby shop, a hospital, and a doctor (see two of these below). Crue then takes you on a journey through Mr. Exeter’s next 25 years with varying amounts of money and recipients, and changes in name and handwriting.

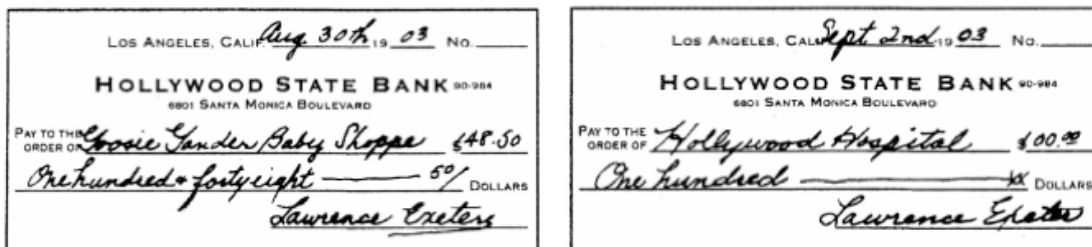


Figure 1. Examples from “Ordeal by Cheque”

When we think of “literacy,” we tend to think of words, specifically print text. Crue, however, did not write a print-text essay; he wrote a story in multiple *modes*: with cursive handwriting, the design of the checks, and the images of block checks on the pages. A mode is a resource for making meaning—be it a moving image, a layout on a page, the written word, or a speech—that is shaped culturally and socially (Bezemer & Kress, 2008). In the 1930s, writing checks for family needs was a sociocultural norm and told a lot about a family’s life, just as someone’s credit card statement would today.

Crue’s *multimodal* story, more than 70 years ago, challenged the notion of literacy being simply reading and writing. Today, researchers and practitioners refer to the complex processes

of deriving meaning from different modes (reading, writing, speaking, listening, and viewing) as *new literacies*.

We use and see multimodal “texts” every day—from newspaper articles with accompanying graphs of relevant data to social media and video games that use gestures, movement, sound, and images. Table 1 shows different modes of text and examples.

In the classroom, technology is central to new literacies and a key way to enhance the use of multiple modes. Teachers can use technology that is present in students’ everyday lives to teach critical thinking and literacy skills in a more engaging way. Doing so is also culturally responsive, in that it activates students’ background knowledge and experience and addresses different learning styles.

Table 1. Modes of Texts

Mode of text	Examples of text “products”
Print text	Trade books, magazines, or newspaper articles; newspapers; bus schedules; essays; journal entries
Audio text	Speeches, music
Print + Audio text	Speeches with transcript Music with lyrics Essays with read-alouds
Audio + Image text	Videos Image stories Performances Video games
Print + Image text	Graphic novels, flow charts, dialogues, comic strips
Interactive text	Read/write websites including social media

With writing, the traditional mode is essays. But in addition to or instead of essay writing, students can express their ideas by turning analyses and syntheses into comics, trading cards, performances, flow-charts, song lyrics, movie posters and trailers, and video stories.

A starting point for many forms of multimodal writing is *dialogue*. Writing dialogue is a well-known strategy in reading and writing; for example, it is used to identify important information from texts or to create sustained conversations on a topic among peers. Dialogues can be used on their own, or they can be used as part of a broader multimodal project, like comic strip writing.

Technology can make writing dialogues more engaging for students, and it can enhance lessons—if used effectively. Not sure where to start? Let’s take a look at ways to help students create dialogues via texting, one of the most popular forms of dialogue among students, and comic strip writing, one of the most versatile multimodal forms.

Texting as dialogue writing

Texting has become ubiquitous in recent years, especially among young people. A Pew research study found, in 2011, that older teens (ages 14–17) were sending an average of 100 texts a day

(Lenhart, 2012). Texts from Last Night, a Twitter account with 4.3 million followers, and hundreds of similar websites, are dedicated to sharing entertaining, publically submitted messages, such as text autocorrects and texts from parents.

In the classroom, “digital dialogues” like texting can be used as a literacy strategy that propels reading and writing tasks. Texting dialogues can help writers think through conflicts and solutions and can be a starting point for larger writing projects.

For example, students could create a conversation between historical or literary figures as a precursor to writing an analysis. What would Romeo and Juliet have said if they had been texting their famous balcony conversation? Students can also create shorter summaries of longer, more formal pieces of literature (Center for Technology Implementation, 2014). Imagine your friend was absent and missed reading “Romeo and Juliet,” for instance, and asked you via text what it was about.

In addition to dialogue writing, texting can be used as a starting point for classroom discussions or written analyses about language. For example, students could compare and

contrast texting and instant messaging language with formal, written English.

Expanding dialogues with comic strip writing

Dialogue writing is an element of another, more sophisticated form of multimodal writing: comic strip writing. Comic strips include the modes of print, image, and layout and, in addition to dialogue, use other elements like characters and framing techniques. It's a versatile form, allowing for a continuum of uses for different groups of students and for different topics—from a singular frame to a series of frames or even an entire graphic novel. With so many easy-to-use online resources available, it can be modified for any grade level and with any content area.

Comic strip writing has been shown to engage students of different backgrounds and have a number of academic and non-academic benefits. In 2001, for example, a literacy initiative called the Comic Book Project was piloted among 700 students in New York City Schools. As students engaged in the creative process of brainstorming, sketching, plotting, designing, and publishing original comic books, they showed gains in writing, as well as social awareness, character development, and community building (Bitz, 2004). By 2009, the project spread to California, where it helped increase achievement for English-language learners (“Comic Books Written,” n.d.).

Over the years, students in cities across the U.S. have produced comic book titles such as *I Am a Superhero*, *I Am a Migrant*, and *Bullies Beware* (<http://www.comicbookproject.org/cbppubs.html>). The three frames in Figure 2 are from “Ness’ Secret,” a six-page, 35-frame story in the compilation called *Bullying Backfires*, written by youth in New York City (Crothers et al., 2008).

As you can see, the first frame depicts a young boy alone by a tree, looking down. The next frame shows three of his peers sitting and looking at the back of the boy. The last panel shows one of them saying to the others, “Why are we beating him up?” They don’t respond.

Many online tools with a variety of layout choices are available for comic strip writing. For example, one of the first such tools was the Comic Creator, developed for grades K–12 by the International Reading Association and the National Council of Teachers of English (available at ReadWriteThink.org). The user-friendly tool allows students to select characters and place them in the frame, choose backgrounds and props, and create thought bubbles. They can also print out a draft of their comic strip in a PDF and revise before creating and printing the final version.

Trading Cards, another tool on ReadWriteThink.org which

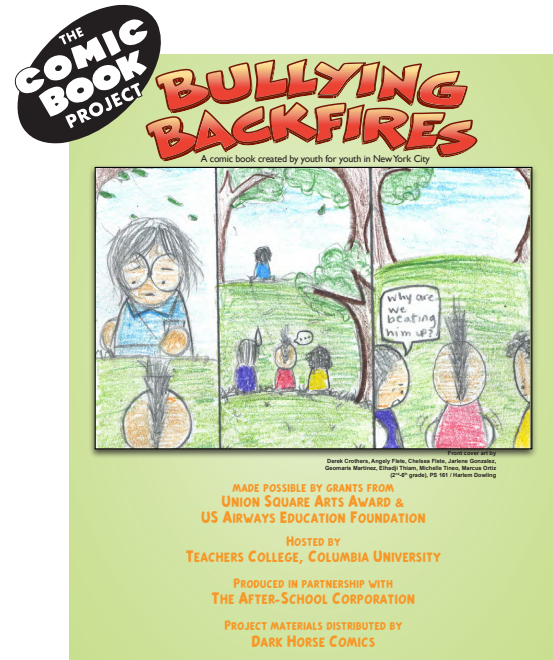


Figure 2. Cover Image of *Bullying Backfires*. Used with permission from The Comic Book Project, www.comicbookproject.org

could accompany the Comic Creator, is available as an iPad or Android app. It’s designed to let students in grades 3–8 create digital trading cards for categories such as a fictional person, a fictional place, a real place, an object, an event, or a vocabulary word. Each category has guiding questions to help students come up with specific information while choosing which details are important enough to fit on the card. They can then share cards with other students and/or sort them into collections.

In the 10 years since teachers began using Comic Creator and Trading Cards, several other sites for students to create their own comic strips or book have been developed, such as Marvel Comics’ Create Your Own Comic (www.marvelkids.com/create-your-own-comic), MakeBeliefsComix.com, and Chogger.com.

Pixton.com is another site that has become a favorite of teachers and students for its simplicity, diversity in characters, voice-over option, ability to imply movement, and the grading and assessment tools embedded on the site. The three frames in Figure 4 were created in Pixton as an example of how a teacher might create a comic to help students remember to self-monitor comprehension while reading.

When using digital tools that combine image and print, you could also consider adding moving images with video editing software applications. For example, Apple’s iMovie app allows students to create movie trailers using their own still photos or video clips and adding sound or voice-overs.

To help students plan for writing comic strips, have them use a basic graphic organizer at the beginning of the process, just

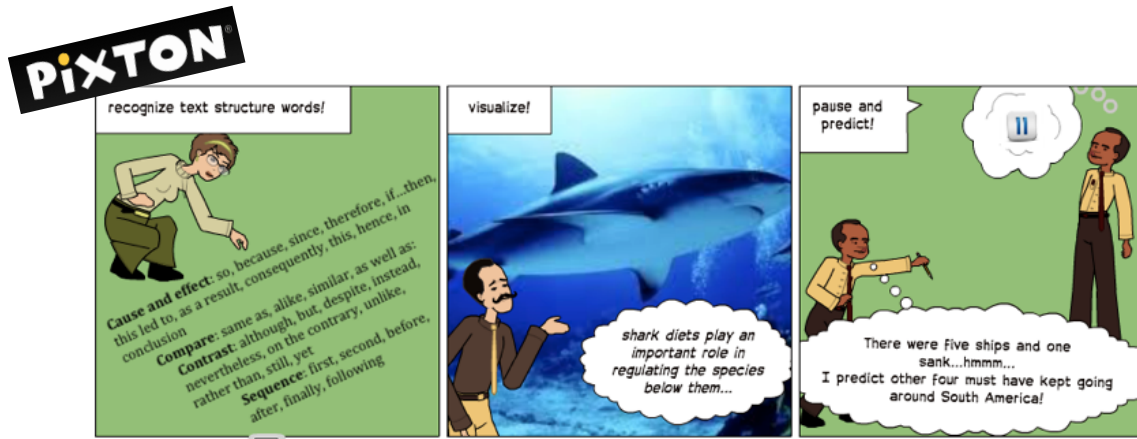


Figure 3. Example of Teacher-Created Comic on Pixton.com

as if they were planning an essay. As an example, let's go back to the Comic Book Project example, "Bullying Backfires." For that story, you could complete a simple story frame (Figure 5), either digitally or on paper, which describes the beginning of the story, the rising action, the climax, the falling action, and the resolution.

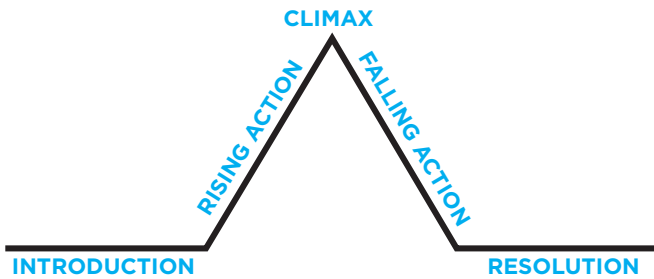


Figure 4. Basic Graphic Organizer

In this example, the boy sitting alone is the introduction. The rising action is in frame two, where the reader's lens is now behind the three peers, watching them look at the single boy by himself from behind. The climax occurs in the last frame with the question from the first peer; and the falling action is the lack of response from the other peers. Finally, the resolution is inferred by the reader: The peers decide not to beat up the boy.

Teaching writing with multiple modes allows teachers to help meet the needs of students with different learning styles, interests, and levels of readiness. Today, technology makes it easier. With the click of a mouse, students can use and create multimodal texts with a variety of sights and sounds that engage them in a way that traditional texts can't. ◆

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Why use technology? No, really ... *why?*

By Bryan Goodwin

A couple of years ago, Amanda Ripley (2013), a writer for *Time* magazine, interviewed 200 American students studying abroad in countries that are out-performing the United States on international comparison tests. One striking difference these students noted was that, in high-performing nations, there was very little technology. Almost none. There were no interactive whiteboards, few computers in classrooms, and certainly no school-issued iPads or Chromebooks in student book bags.

What the smartest kids in the world don't seem to need

Puzzled by this, Ripley interviewed Andreas Schleicher, who surveys school systems for the Organisation of Economic Cooperative Development (OECD) in Switzerland. “In most of the highest-performing systems,” he observed, “technology is remarkably absent from classrooms. I have no explanation why that is the case, but it does seem that those systems place their efforts primarily on pedagogical practice rather than digital gadgets” (Ripley, p. 215). A frustrated Ripley concluded that “Americans waste an extraordinary amount of tax money on high-tech toys for teachers and students, most of which have no proven learning value whatsoever” (Ripley, p. 215).

It's true. The evidence base to date for technology use in classrooms is pretty thin. In a monthly column I write for ASCD's *Educational Leadership* magazine, I've reported that one-on-one laptop programs are not a silver bullet and, rather, produce mixed results (Goodwin, 2011), and that the distractions of digital media can impede reading comprehension; thus, media literacy is probably best introduced *after* students have already developed strong regular reading skills (Goodwin, 2013).

Avoiding “solutionitis”

In light of these findings, it would appear that, often, education technology becomes a solution in search of a problem. Researchers at the Carnegie Foundation note that education has long been afflicted

by something they cleverly label as “solutionitis”—the tendency to leap to solutions before fully understanding what problem we're trying to solve (Bryk, Gomez, Grunow, & LeMahieu, 2015).

Class-size reduction is one such example. After research found a link between smaller classes and student performance, policymakers (most notably in California) leapt to a costly solution: a massive class-size reduction initiative. School districts were forced to build new classrooms and embark on teacher hiring sprees, investing millions in an effort that, ultimately, produced disappointing results. In hindsight, of course, it's easy to slap our foreheads. We know that, for the most part, teacher effectiveness is more important than class size, so reducing class size at the expense of teacher quality (the predictable result of hiring thousands of new teachers) is bound to fail. However, such second-guessing misses the mark as it nitpicks the *solution* instead of stepping back and asking, “Wait ... exactly what *problem* were we trying to solve?”

Asking better questions

In this issue of *Changing Schools*, we have encouraged educators to ask six questions before diving into a technology initiative (see p. 10). The most important one is the very first one: Why are we doing this? Before answering that question, though, you should try to forget about the technology in question altogether. Otherwise, it's too easy to rationalize your foregone solution by finding a problem for it to solve (e.g., “interactive whiteboards will make our classrooms, well, more interactive”). Was that really a problem you needed to solve before the technology salesperson showed up at your door?



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Being intentional and purposeful

What you find at the bottom of those five whys may have nothing to do with technology, but rather, something relative to more basic concerns, like curriculum, student engagement, or teacher development. That said, once you get clarity on the problem you must solve and the best solution for it, you may find that you can *deliver* or *augment* that solution with technology.

Years ago, Jim Collins observed that so-called *Good to Great* companies all employed technology as an “accelerator” of their already strong formula for success. Unsuccessful comparison companies were also heavily invested in technology, yet, because they had not found a clear formula for success, their investments did little to boost their performance. The same could be said of education technology: The real magic lies not in the technology itself, but in school communities developing a deeper sense of purpose and clarity about what matters most and (only) then applying technology to help students succeed. ●

Bryan Goodwin is president and CEO of McREL International. He presents research and insights to education audiences worldwide and is the author of *Simply Better* and co-author of *The 12 Touchstones of Good Teaching*. Contact him at bgoodwin@mcrel.org or 303.632.5602.

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Changing Schools

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ISSN 2150-1106 (print)
ISSN 2150-1114 (online)

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20151006

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