Technology is nearly ubiquitous in classrooms, and it holds extreme importance in the lives of today’s children. But with technology comes responsibility, and many ed-tech stakeholders emphasize the importance of teaching students about digital citizenship, being aware of their digital footprint, and being responsible and safe online.

Despite the best efforts of parents and educators, children can—and do—get into sticky situations with technology. And as everyone knows, things you post online, in group chats, or send in text messages don’t disappear if you delete them.

Arguments against classroom technology are often unsupported by empirical evidence.

BY ANNA JOHANSSON

For decades, schools have been scaling up the technology incorporated into the classroom, from small computer labs designed to teach basic computer skills to student-assigned tablets for more complex, daily assignments (and occasional play).

Parents, lawmakers, and even some educators have spoken out against this trend, arguing that excessive classroom technology could end up doing more harm than good, but the foundations for most of these arguments are unsupported by empirical evidence.

6 underground apps students hide from schools

BY LAURA ASCIONE
Managing Editor

Technology is nearly ubiquitous in classrooms, and it holds extreme importance in the lives of today’s children.

But with technology comes responsibility, and many ed-tech stakeholders emphasize the importance of teaching students about digital citizenship, being aware of their digital footprint, and being responsible and safe online.

Despite the best efforts of parents and educators, children can—and do—get into sticky situations with technology. And as everyone knows, things you post online, in group chats, or send in text messages don’t disappear if you delete them.

Great lesson: Teacher buy-in is overrated

BY DR. KAREN BEERER

One of the greatest lessons my 30 years of experience in education has taught me is that teacher buy-in is, sometimes, overrated.

There, I said it.

Now, before you stop reading, note my use of the word “sometimes.” As a former school administrator, I realize there is a time and place for buy-in. However, as one of my mentors, a seasoned middle school principal once explained to me, while consensus and collaborative decision-making is important, it can also be paralyzing to innovation. Understanding the balance between growing buy-in and launching innovation has never been more important than in today’s era.

As new ideas about teaching and learning go in and out of style, teachers have a right to...
Myths

continued from page 1

Arguments against Classroom Technology in School

These are some of the biggest myths about classroom technology in school... and here’s why they’re unfounded:

1. Social limitations. Some argue that students who use technology in school regularly will be less socialized than students who are forced to interact only with other students. The idea here is that technology is a substitute for human interaction, and will have a negative effect on developing children’s social skills.

However, this is misleading for two reasons. First, technology can have a positive or negative effect on a person’s social development, depending on how it’s used—some technology can actually improve communication skills. Second, technology isn’t being used to replace social interactions—it’s being used to enhance them, and replace traditional textbooks and obsolete technologies.

2. Distractions. Some parents argue that technology poses more of a distraction than anything. Children could use their tablets to play games unrelated to the learning process, or refuse to follow the curriculum when a device is in front of them.

This is absolutely true, but it isn’t an inherent problem with technology—it’s an inherent problem with children. Anyone who’s been in a classroom knows that anything is a potential distraction, whether it’s writing notes on a sheet or paper or sending a text message. Technology doesn’t make the classroom any more distracting than it already is.

3. Stifling of cognitive development. It’s true that our overreliance on technology can cause the deterioration of certain cognitive skills. For example, if you rely exclusively on GPS systems to navigate, related cognitive skills like navigation, memory, and spatial reasoning start to decline over time. If you only teach a child to use a calculator, for example, they may never learn to do math problems in their head.

The problem with this argument is that technology is so ingrained in our everyday lives, our children may never be in a position to rely on these manual skills. Accountants don’t do math in their heads, and writers don’t (usually) use pencil and paper to write their first drafts. On top of that, schools aren’t relying solely on technology to do the teaching—it’s a hybrid model that teaches both technological and non-technological skills.

4. Test score effects. There are some isolated case studies of schools that have adopted technology, only to find their standardized test scores unimproved. An article from the New York Times pointed to a school system in Arizona that invested more than $33 million into new technology, yet saw little-to-no improvement in the standardized test scores of its students.

Here’s what’s important to remember: standardized test scores aren’t a full-picture perspective of what students are taking away from their education. Obviously, there are arguments for and against the use of standardized tests as a metric for measuring the success of an educational program, but the tests we use haven’t caught up to the modern age. Standardized tests don’t evaluate technological proficiency, nor can they accurately measure a child’s potential in different future career paths. Instead, they’re overly generalized, and schools with the highest test scores tend to be the ones focused exclusively on achieving those test scores (rather than preparing students for college, careers, or life in general).

5. Technology is expensive. Perhaps one of the best arguments against the use of technology in the classroom is the fact that technology is expensive to adopt, and may not yield benefits in proportion to that cost. The average American school district spends about $12,000 per child, while the cost of a single tablet or computer could eat up $500 alone.

However, there are many programs and organizations dedicated to introducing more technology into classrooms cheaply and effectively. Parents in many districts would be willing to provide their children with this equipment for a better learning experience, and not every child needs a personal device to themselves. Technology is expensive, but it’s not unfeasibly so.

The Best of Both Worlds

Nobody is arguing that schools should transition to entirely tech-driven curriculum, whether that means engaging remotely with AI interfaces or only using tablets for reading material.

But arguing against the use of technology only prevents students from developing the tech skills they’ll need to live in our modern world—and may even limit what they’re able to learn. The faster and more thoroughly we embrace technology in the classroom, the smarter and better-prepared our children can become.

Anna Johansson is a freelance writer, researcher, and business consultant. A columnist for Entrepreneur.com, HuffingtonPost.com and more, Anna specializes in entrepreneurship, technology, and social media trends. Follow her on Twitter and LinkedIn.
feel some initiative fatigue. From organizational concepts like Open Classrooms to pedagogical trends like Madeline Hunter’s Essential Elements of Instruction [I have to admit that I still love this one], great new ideas that will transform education seem to come and go with stunning regularity.

In my role working with school districts across the country as Vice President of Learning and Development at Discovery Education, I sometimes meet teachers who are not ready to make the transition from using textbooks as a core instructional resource to using digital content to create dynamic learning environments. They feel the digital transition is a fad, or that they, their students, or their school district is not ready for such a change. Here is a sample of the pushback I hear:

“My colleagues and I aren’t ready for a digital textbook.”

“Our students don’t have access at home, so we can’t go all digital.”

“We don’t have the budget to go 1:1, therefore, we can’t go with digital textbooks.”

“Our students are losing their ability to communicate effectively because they have too much technology already in their lives.”

3 Reasons Why Teacher Buy-In is (Sometimes) Overrated

1. The Real World Isn’t Dependent on Teacher Buy-In

I recognize these are all legitimate challenges that need to be addressed. However, the fact remains that today’s world is a digital world, and in order for our students to be successful beyond graduation, they need an education that prepares them to operate productively in our society as it is.

This reality makes the digital transition not a fad or something we might be able to get to, but rather, an immediate necessity that cannot always wait for optimum levels of teacher buy-in.

2. Students Are Ready, Whether or Not Teachers Are Ready

Yes, it may be true that teachers are used to teaching with paper textbooks and may not be ready for digital textbooks. Or, it may be that budgets are tight and we may have concerns about student access outside the classroom. No matter our concerns, we need to recognize that our students are ready—they want to engage with textbooks that are replete with immersive and interactive experiences. They want access to up-to-date information, and they want opportunities not only to consume content, but to create content as well.

3. Digital will be Used By Students Daily and the Classroom Won’t Change That

While a lack of teacher readiness for a digital transition can be one perceived barrier to making the digital transition, another objection I sometimes hear from teachers is that they are concerned at the impact technology is having on the way students write and communicate. Therefore, they don’t want to add any more technology to their classrooms.

There may be a belief texting is eroding students’ writing skills. Or that students are always on Snapchat, and their personal communication skills are being weakened. Or that the use of digital assistants like Siri and Alexa are hampering our students’ language abilities.

However, the reality is that technology is already deeply integrated into our lives outside the classroom and it’s here to stay. Our students need rich educational experiences with multiple resources—both print and digital, dynamic and static text, on multiple platforms including devices, smartphones, even virtual assistants like Siri or Alexa.

We don’t necessarily need 1:1 educational experiences; we need 1:digital.

How to Approach the Digital Transition

This imperative means that it is up to us as teachers to today take on the challenge of teaching students to use digital resources in an impactful, appropriate way, and approach the digital transition with an and, not or attitude. Here are some suggestions:

- Enhance the instructional experience by integrating digital strategies and content with “traditional” teaching strategies. This approach can be a catalyst for increasing student engagement. For example, ask students to write a five-paragraph essay, and then have them summarize their work Twitter-style in 140 characters or less. Or, have students create hypotheses about what type of sunlight, soil, and nutrition grow the best tomatoes through a virtual lab, then test those hypotheses with real tomato plants. Look for opportunities to provide both hands-on and digital learning experiences to your students.

- Let the content support differentiation. In a classroom powered by digital resources, a teacher can more easily assign students texts at different lexiles, or provide information through multimodal texts, empower students to access information through multiple languages, and much, much more. Digital resources can help teachers not only expand their impact, but it can be a tool that can help scale what we know is good instructional practice.

- Use technology to teach students how to learn. New apps. Technologies like Siri. New types of digital content like Virtual Reality. Every day, it seems, there is something new. Engage your students in exploring these new tools. How will a new app help their learning? When and why should it be used? We know the how is just as important as the what. Think about the Standard for Mathematical Practice that requires students to use appropriate tools strategically. Technology makes this a practicality.

And, practicality, in many cases, leads to buy-in, which brings us full circle.

The key is for all teachers who have not yet begun making the digital transition to get started on making that shift today. Our students cannot wait for teachers to

Lesson, page 10
Why Gen Z needs librarians now more than ever

Whether guiding research or introducing new technology, today’s librarian gives Gen Z the skills and tools they need to move from ‘getting it right now’ to ‘getting it right.’

BY GINNY BOUGHTER

Librarians and media specialists are in a unique position within schools, since they are very often the person responsible for introducing students to new technologies, and are also on the front lines when it comes to connecting students to meaningful sources for research.

Today’s students have never known a world without the smartphone or tablet, and many of them have been using these devices independently since infancy. The answers to their questions have never been more than a click of a button away. In this brave new world of technological innovation and free-flowing information, librarians are now tasked with teaching these digital natives how to navigate these waters with discernment, while still taking full advantage of the opportunities these tools afford them.

Kids are curious, and they soak up new information like a sponge. Gen Z has grown up with access to more technology than any previous generation, so they have a hard time waiting for information because they can so easily find it online. Even the youngest learners know that you can find out the answer to a question right now on the internet.

Guiding Research

With increased access to technology comes unique challenges such as increased access to inappropriate content and fake news.

As an elementary school, we are very concerned about inappropriate content. Our district’s web filters do a great job of making sure students don’t have access to unsafe content at school, and we also teach safe searching so that even when students are outside of school they can find appropriate content.

Even before “fake news” became a buzzword, we taught our students about vetted content. At school, they have access to trustworthy databases and we teach them that these databases contain researched information that has been proven to be accurate, as opposed to what they might find with an open-ended internet search.

When I became a librarian in my district, I was introduced to the tool we use to combat fake news, PebbleGo. It’s the first platform students at my school use to learn how to properly research a topic. It is easy to navigate for our youngest students because of the amazing photographs and the voice that reads the topics. They really love the articles with videos and sounds. One minute you’ll hear monkey howls sounding through the library, and next you’ll hear kids gasping at the fearsome shark videos.

PebbleGo is also amazing for our ELL/ESL students because there is an option to have the articles read to them. The voice is fluent and real, not like a robot! We want our ELL/ESL students because there is an option to have the articles read to them. The voice is fluent and real, not like a robot! We want our ELL/ESL students to hear great examples of fluent reading, so this is perfect for them. They also are not overwhelmed by the text because the articles are divided into sections to make them easier to digest and to help all students find the information they are looking for quickly.

As a librarian, I believe we need to start teaching research skills to today’s students as early as possible, and a vital first step is giving them the tools they need to find information they can trust and their teachers can trust.

When students find something they are interested in, they are very independent in searching out information about that topic. This is why it’s so important now for educators to teach students how to find relevant information. Kids can get their questions answered with a simple search on a phone, so we have to make sure we give them the skills to be critical of the information they find.

Just because you find it on the internet doesn’t mean it is automatically true, and we need to make sure kids know that.

Introducing New Technology

I am always on the lookout for new technologies that teachers can incorporate into their classrooms.

We were the first elementary school in our district to get a 3D printer, and so a 5th-grade teacher incorporated bridge design into math class, and at the end students were able to print their bridges.

Librarians are not only responsible for introducing new technologies to students, but also to teachers. The librarian is the gatekeeper who helps students open the door to the knowledge they want to acquire. When our students walk through the door of the library, we want them to feel like they can learn anything they can imagine.

Teaching Gen Z is an exciting opportunity. Students are no longer limited to making posters and PowerPoint presentations; they can use green screens and 3D printing. They are building their own worlds in Minecraft and coding their own games.

The technological future is a bright one, filled with opportunities and challenges, with schools at the forefront of fostering this creative energy. Our students today are tomorrow’s entrepreneurs, politicians, coders, and designers—and it’s very clear they are up for the challenge.

Ginny Boughter is a librarian at Terrace Elementary in Texas.
Summer must! 5 ways to support struggling readers

BY MERIS STANSBURY
Editorial Director

With summer break on the horizon, it’s more important than ever to not only better help struggling readers in the classroom, but understand what helps them improve and want to read when they’re at home.

More than 10 million American students struggle to read, but only 2.3 million are identified and even fewer receive special help; therefore, schools must provide support for struggling students by creating a culture of reading. In “45 Ways to Support Struggling Readers: A School-Wide Approach,” hosted by edWeb.net and sponsored by Learning Ally, Terrie Noland, Learning Ally National Director, Educator Engagement; and Kristy Mathieu, Kiker Elementary, Austin, TX, presented tips for how schools can support struggling readers in the classroom and at home.

Here are 5 of those tips (for more tips, click on the link at the bottom of the article for the full webinar):

1. Provide Students with a Comfortable Place for Reading

Mathieu implemented flexible seating into her classroom, which allows students to sit in a more relaxed environment as opposed to sitting in rows. Seats that allow for natural movement, such as stools that move, are also helpful for children with attention issues.

2. Give Struggling Readers a Fidget Object

Mathieu even provides toys for students to fidget with while reading, like putty, because some struggling readers may become anxious while trying to read. Kristy commented on her classroom setup, “It doesn’t matter to me where you’re working—as long as you’re working.”

3. Create At-School and Summer-Long Contests

Be a reading cheerleader by having your school participate in a “read more pages” contest. These kinds of contests spark student interest and conversation around books. Mathieu noted that “The Great Reading Games” contest, put on by Learning Ally, always gets her students particularly excited about the books they are reading. She makes sure to keep the focus on making great efforts and setting realistic goals, rather than winning. The students at Kiker Elementary have already set their goals for next year.

4. Offer Books in Multiple Formats

Spark all students’ love of reading by leveling the playing field with audiobooks and encouraging them that reading in any format is fine. “I always let them know that I listen to audiobooks, and that it’s okay. Anytime you’re reading, that’s reading, no matter what it looks like,” said Mathieu.

5. Set Up a Struggling Reader Buddy System

Schools and parents can also have older students and friends partner up with younger kids that have recently been identified as dyslexic. The older students help the younger students see that they aren’t alone, and show them that things will get easier. With programs like these, schools and parents can ensure all readers have the support they need.

About the Presenters

Terrie Noland is the National Director, Educator Engagement for Learning Ally. She has more than 22 years of experience as both a trainer and developer of content for educators and administrators. Her focus for the past five years has been on the pedagogical practices needed to create effective environments for students with dyslexia. Terrie has trained groups numbering in the thousands helping to build better understanding of working with struggling readers. She is currently pursuing certification as an academic language therapist.

Kristy Mathieu Kristy Mathieu is a teacher at Kiker Elementary School in Austin, TX. She has led an initiative in her own 3rd grade general education classroom to create universally designed instructional practices so that all students, including those with learning disabilities, can succeed. As a certified academic language therapist, she integrates an Orton-Gillingham multisensory program as a center rotation in her classroom. In addition, she has created learning spaces with flexible seating that promote student independence and choice. Kristy’s teaching method, innovative practices, and love for teaching have been recognized by Austin ISD. Her classroom has become a model for others to follow.

Join the Community

Empowering Struggling Readers is a free professional learning community that provides educators, administrators, special educators, curriculum leaders, and librarians a place to collaborate on how to turn struggling readers into thriving students.

This broadcast was hosted by edWeb.net and sponsored by Learning Ally. The recording of the edWebinar can be viewed by anyone at http://home.edweb.net/webinar/45-ways-support-struggling-readers/.

[Editor’s note: This piece is original content produced by edWeb.net. View more edWeb.net events at http://home.edweb.net/webinars/]

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Is this increasingly popular teaching job the Uber for teachers?

BY KARINA GODOY, REBECCA CRUTCHFIELD AND SARAH GRIEGO

Apps like Uber, Lyft, and Task Rabbit have helped millions of people use their skills to earn money on their own schedule. This model has now come to the American education market with 51Talk (pronounced “five-one-talk”), an online platform that connects educators in the U.S. with Chinese students who want to learn English.

During each 25-minute lesson, teachers interact one-on-one with students using a live videoconferencing platform. Here, three early adopters share the challenges and rewards of practicing their craft whenever and wherever they want.

A Pregnancy Leave Adventure for Karina Godoy

Last year I came across a Facebook ad for 51Talk. I was pregnant at that time and was not able to physically go to my regular job teaching preschool. For me, teaching via videoconference was a bit uncomfortable the first week, because during my eight years of teaching preschool, I had always been in a classroom environment. I had a trainer who was amazing, though, walking me through what I needed to know.

My biggest teaching challenge was getting used to the one-on-one interaction with the students. When I was a preschool teacher, I had a classroom of more than 14 kids ages 2 to 5, so I had to adjust to focusing on one student for a full 25-minute session.

When I started teaching online, I taught mostly repeat students, but after taking a training course offered by the company to improve my lessons with first-time students, I now have a great mix of both.

In my experience, the clearest cultural difference between American and Chinese students is that the Chinese students seem to be a bit more interested in learning.

Now, in addition to being a full-time mother and a zumbini instructor, I teach English from home 25 hours a week. It can sound scary to teach online, but I love teaching, and this gives me the flexibility to manage my own schedule.

The Freedom Needed in Both Teaching and at Home for Rebecca Crutchfield

I have taught in a variety of situations, including several years as a home-school teacher, as an interventionist for reading and math, and as a teacher for special needs students in special education and ESL. All of these were at the elementary level. I have also worked as a substitute teacher teaching many different subjects to multiple grade levels.

Approximately a year ago I wanted and needed the freedom to work from home. When I was introduced to the videoconferencing platform, I was very curious about how it would work. I was quickly having fun with it, and eventually I found it amazing, with everything at my fingertips.

There is little prep, since the PowerPoint, reward stars, writing tools and a chat box for remarks are all there when I click into the virtual classroom.

I also have the opportunity to teach all ages, from four-year-olds to adults, and 85-90 percent of my classes are with repeat students.

I have found little difference between my American and Chinese students. Most of my online students are very respectful, hard-working students who want to do well. We have a great time in the online classroom. I like to gather props such as pictures, puppets, and noisemakers for my classes.

Since leaving the traditional classroom and working this part-time job for 12–15 hours a week, I enjoy the healthy work/life balance I now have. When asked about working online, I tell other teachers, “I truly love my job!”

A great time to give online teaching a try would be the summer months when teachers have some time away from school.

A Chance to Experience a New Culture for Sarah Griego

I started teaching English to Chinese students in August 2015, and the biggest challenge I faced was the time difference between Colorado and China. When I was getting started with the videoconferencing platform, I needed some assistance in displaying parts of the lessons, but a support team was there to help right away.

I have been an elementary teacher, a high school English teacher, a high school science teacher, and a reading interventionist, so working with different types of students who range in age from 2 to 60 really appeals to me, as does the fact that I can teach from home.

These days, I work 40 hours a week as a substitute teacher and with 51Talk for another 35–40 hours. For my online lessons, I set my own schedule, and as I teach, I also learn about a different culture and history.

Unlike some of my American students, who sometimes feel entitled, the majority of my Chinese students are very respectful and diligent. My greatest reward is seeing their excitement as they learn new words and phrases in English.

Teachers who are interested in working with 51Talk can find out more at http://www.51talk.com/na/.

Karina Godoy is a former preschool teacher. Rebecca Crutchfield has worked as a home-school teacher, a reading and math interventionist, and a substitute teacher. Sarah Griego has worked as a reading interventionist and has taught elementary education for 1st through 5th grade, as well as 9th-grade English, 11th-grade English, and high school science.
5 education trends of the future catapulted by blended learning

BY JULIA FREELAND FISHER

As blended learning practices are becoming more widespread, it is increasingly challenging to collect accurate data on the number of schools that have gone blended, but by examining student enrollments in online courses and edtech vendor data, we estimate the number of students engaging in some kind of blended learning to be approximately 9 million, which represents about 20 percent of K-12 student enrollment.

With so many students engaged in this mode of learning, it’s important to examine current trends and technologies to try and predict where blended learning could take students in the future.

The Evolution

Trend 1: More student choice and responsibility for learning

As teachers and students grow accustomed to a given model, they may find opportunities to take the learning experience another level deeper. We’re seeing teachers who have been doing blended learning for a while starting to crave elbow room from strict, structured classroom choreography. As we recently profiled in our playbook on emerging teacher “moves,” a teacher who starts off “managing” a blended model may, over time, start to release more responsibilities to the students, such as determining their own pace or path through a curriculum unit. When teachers are more confident with their blended practice, they often realize they’re ready to take personalization in the learning process to the next level.

Trend 2: Digitization

The theory of disruptive innovation enabled us to predict years ago that blended learning would become the dominant instructional method in K-12 education, but that prediction could mean two very different futures. On the one hand, this could mean driving down the cost of delivering learning by merely digitizing our old, factory-based model of monolithic instruction.

Trend 3: Personalized learning for EVERY student

On the other hand, online and blended learning could take on a new form as a way to break the mold and starts to customize and personalize learning down to the level of the individual student. In our work, we strive to help the education sector adopt blended learning with student needs at the forefront, which ultimately means transforming the monolithic system to one that is entirely student-centered.

In the longer run, this focus on outcomes is crucial to scale: only when blended learning is perceived in this vein will it make a compelling case to parents, teachers, students, and school leaders that it is more effective than traditional instruction at addressing their day-to-day challenges. Mainstream adoption of blended learning will not come from policy reform, but from persuading the people who work at the ground level in education.

New Pedagogies, New Technologies

Trend 4: New models yet unknown

Both pedagogical and technological change will be a huge driving force for the evolution of blended learning models. Even now we are seeing teachers who get started with one model, but over time as they identify more opportunities that online learning affords both them and their students, they start to modify their model. In most cases, those classrooms still fit the contours of our existing blended models, but over time we predict the emergence of unique combinations and potentially, entirely new models.

Trend 5: New technologies yet unknown

Technologically, we are really just at the beginning of a sea of change ahead. Improvements in assessment, adaptivity, and engagement will continue to enable teachers to unlock new approaches to blended learning as the field moves forward.

Although there are many pioneers in the space extending the frontier of blended learning, there are many, many schools who have yet to adopt non-traditional instructional practices. It will take several years for the most disruptive blended-learning models to become mainstream.

Seeing the Future in the Present

For a look at what is happening now, I invite you to our Blended Learning Universe, a free, interactive database that hosts more than 500 examples of schools implementing various blended learning models. What that data set suggests is what we’ve long hypothesized: blended learning is not “one thing”; rather it is being deployed to solve a wide variety of challenges facing a diverse array of school systems.

For example, systems like Summit Public Schools have been at the vanguard of blended learning for some time. In addition to implementing a Flex model to support academic and personal development, their learning platform is now getting used in dozens of schools across the country and has been a boon to educators looking to change approaches. At a more granular level, we see pockets of innovation all across the country. At Bella Romero Academy in Greeley, Colorado, for instance, several educators are adapting their blended-learning approach on a weekly if not daily basis to laser-focus on student needs. They’ve created a school-wide culture of innovation and collaborative development. Their staff’s nimble
Breaking: Microsoft just made its biggest education investment in history

New summer STEM courses, technology released by Microsoft are designed to empower the students of today to create the world of tomorrow.

BY eSCHOOL NEWS STAFF

Beginning this Saturday, May 6, Microsoft Store locations across the U.S., Canada, Puerto Rico, and Australia will host STEM Saturdays throughout May in all full-line locations in addition to the range of free programs year-round that empower students and educators. STEM Saturdays brings pop-up classrooms to Microsoft Store and offers hands-on experiences like building a sensor that measures the flexion and extension of a finger to learn about the anatomy of a human hand.

Microsoft also introduced new offerings for education, representing its biggest investment ever in education, designed to empower the students of today to create the world of tomorrow.

New offerings include:

• Windows 10 S – this new Windows experience, inspired by students and teachers, is streamlined for security and superior performance. When partnered with Intune for Education, Windows 10 S will enable schools to ramp up and manage computers in the classroom cost-effectively and quickly.
• Surface Laptop, powered by Windows 10 S – Perfect for college students, Surface Laptop is incredibly thin and light, striking the right balance of performance, portability and beautiful design for a truly personal laptop. Starting at $999 USD, the Surface Laptop is available for pre-order now and will be generally available starting on June 15th.
• New Windows 10 S partner devices – Our partners, including Acer, ASUS, Dell, Fujitsu, HP, Samsung and Toshiba already offer a range of new Windows 10 PCs for Education today – starting at $189. These partners will also offer a range of PCs with Windows 10 S – from beautiful, premium devices to highly affordable devices starting at $229 – starting this summer.
• Microsoft Teams in the classroom – Adding to Office 365 for Education, Microsoft Teams is a digital hub that encourages active learning while helping students develop the communication and collaboration skills they’ll need to be successful in the future.
• Code Builder for Minecraft: Education Edition – A new in-game feature for “Minecraft: Education Edition” that inspires educators and students to learn to write code to explore, create and play in the full 3D Minecraft world.

For more details from today’s announcement, read this blog post from Terry Myerson, EVP of the Windows & Devices Group.


Material from a press release was used in this report.

Trends

continued from page 7

approach to instruction is rare, and really exciting for the field.

Blended learning presents one powerful new delivery model to help educators serve every student. But we must look at blended learning for what is: an instructional delivery mechanism, not the silver-bullet solution to more effective instruction.

The truth is, the efficacy of blended learning greatly depends on its specific implementation, the particular problem it is designed to solve, and the quality of tools emerging across the ed tech market. The field needs to leverage education innovations like blended learning to address what works for what students in what circumstances.

Only with circumstance-driven solutions will schools reap real benefits from online and blended learning that deliver on the promise to personalize instruction for each individual student.

Julia Freeland Fisher is the Director of Education at the Clayton Christensen Institute, where she leads a team researching the effects of disruptive innovation on the public and private education landscape. She has published and spoken extensively on topics including the ed tech market, new school models, and competency-based education policies and practices. Most recently, her research focuses on emerging tools and practices that leverage technology to expand students’ social capital by enhancing their access to new networks and their ability to navigate those networks.
5 technologies to avoid in the classroom—and what to use instead

BY MERIS STANSBURY
Editorial Director

One of the most popular articles on eSchool Media is a surprising one to the editors: “6 apps that block social media distractions.” This story, which seemed a bit counter-intuitive for us to write (being a tech-cheerleading publication in nature), has held the top spot by a massive margin for almost three years now; which had the editors considering the question, “Are there technologies that should simply be avoided in the classroom?”

Of course, the editors then had to ponder what would make a technology easier to avoid than try to implement, and came up with a list of broad technologies and technology trends that either A) caused, rather than eased, more problems and concerns in the classroom, and/or B) were not evolved enough to make an actual difference in teaching or learning.

And, not wanting to simply talk technology trash without offering some useful information, the editors then came up with the technology options that may be better suited for the intended classroom task.

See any technologies you believe should be avoided that didn’t make the list? Be sure to leave your comments in the section below.

5 Technologies to Avoid in the Classroom

1. Social Media: This was the easiest to choose, thanks to our reigning king of articles mentioned above. Though social media platforms like Facebook and Twitter are great for informal, personal use, most of education still has problems implementing these larger social media platforms for meaningful teaching and learning without running into privacy, security and cyberbullying headaches.

   Better Option? Classroom-created forums. Many technology-savvy educators have deduced that perhaps the best way to mitigate social media distractions while still allowing for collaboration and discussion is to use a classroom or subject-specific forum or platform. In fact, according to EDUCAUSE, one of the core functions of the post-LMS era is to use a “next generation digital learning environment (NGDLE)” that “supports collaboration at multiple levels and make it easy to move between private and public digital spaces. The NGDLE must also include a requirement to move past a “walled garden” approach to locking down a course’s LMS, and instead enable a learning community to make choices about what parts are public and what parts are private.”

   Outside of cloud-based or platform-enabled communication spaces, some apps even allow for project and assignment-only collaboration and organization, such as Slack (which Stanford uses for team communication and work management) and Trello (a project management app). Both are available for Android, as well.

   2. Games: There’s a lot to be said for gaming in specific areas of education, like for learning how to code or applying mathematical concepts to real-life technology. In fact, eSchool News recently wrote an article touting the benefits of game-based learning and describing how schools are effectively using game-based learning with great results. However, for the average non-STEM heavy course, using actual games to learn is still in its research infancy as to whether or not games provide any major benefits to learning. Compound this with the unfortunate reality that most gaming is still male-centric, doesn’t usually allow for multiplayer experiences, and is new to many educators, the time it takes to vet and properly implement games may be more of a hassle than it’s worth.

   Better Option? Augmented Reality (AR)/Virtual Reality (VR). With AR or VR, educators can still boost student engagement while incorporating some of the best characteristics of visual technology: interaction and visual learning. With AR and VR, teachers can help students better understand abstract or difficult concepts, take learning outside the classroom while still incorporating technology, and strengthen emotional engagement in course material—all while incorporating the traditional gaming characteristics of play and humor. Read more about AR in K-12 at http://www.eschoolnews.com/2016/08/01/how-augmented-reality-enhances-the-classroom-even-without-technology/, as well as apps for AR at http://www.eschoolnews.com/2017/02/10/augmented-reality-apps/. Read more about VR in education at http://www.eschoolnews.com/2016/10/17/ways-virtual-reality-used-education-right-now/, as well as how some schools are seeing massive STEM gains with VR at http://www.eschoolnews.com/2017/03/20/stem-gains-vr/.

   3. Untested Apps and Online Tools: Thanks to the explosive growth of mobile technology and its use in education, apps and digital resources and tools across a host of platforms are also available…perhaps dizzyingly so.

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Checking education apps and tools on any large platform, like the Apple Store, for educator-based comments and reviews is tedious; and often challenges like apps and tools that are never updated, or apps and tools that don’t actually perform as promised cause more headaches then they’re worth.

Better Option? Vetted apps and tools. Because of the overwhelming choice of apps and digital tools and resources that currently exist for education, some notable industry companies and organizations have taken the time to vet these tools for educators, using a selection process based on their own experience as well as feedback from teachers and administrators. For example, Common Sense Media reviews apps, digital tools and much more, providing feedback from educators when applicable. You can find their vetted apps here on eSchool News, as well as their “EdTech Eleven” monthly tool and resource picks at https://www.commonsense.org/education/blog/the-edtech-eleven-this-months-must-know-tools.

4. Anything That’s Not Accessible:
With the growth of online and blended education options, as well as digital tools and technologies, accessibility has become a hot-button issue in education. Accessibility not only applies to technology hardware and software, but to school websites, classroom content, and literally anything on the cloud.

Better Option? Consult IT First.
During an EDUCAUSE 2015 conference, a panel of education IT experts were asked to discuss accessibility issues as they related not just to overall school technology, but specifically to classroom materials and technology. EDUCAUSE even has its own IT Accessibility Constituent Group that its members can consult for accessibility advice. You can find a rundown of proactive accessibility considerations from a recent toolkit at http://www.eschoolnews.com/2016/11/14/toolkit-outlines-steps-to-ensuring-accessibility/, but it’s also a good idea to consult your school or district’s IT department before implementing any kind of new technology. A step-by-step guide for making online learning accessible is available at http://www.eschoolnews.com/2015/12/17/10-steps-for-making-your-online-courses-accessible-for-all-students/, and video accessibility compliance steps can be found at http://www.eschoolnews.com/2015/03/27/online-accessibility-520/.

5. Device-Specific Technology:
In the war of iPads versus Chromebooks versus Androids, honing in on apps, platforms or branded software that are only compatible with one kind of technology is usually a mistake, thanks to the quick turnover of many of these devices. Also, technology that doesn’t work well with others (think older LMS’ that refuse to integrate with other school or classroom software) is not a smart, future-looking option.

Better Option? Interoperable, Device-Agnostic Technology. According to educational experts, the best approach to supporting BYOD for instruction is the “device-agnostic” class. To help smooth out some of the BYOD-related bumps in the classroom, applications like Haiku Deck (presentation software), Tackk (a multimedia scrolling poster), and Snapguide (for creating step-by-step guides) are all offered in iOS, Android, and/or web versions. The latter, for example, uses a browser-based interface to allow students to access the application from any device—regardless of operating system—and use it online without having to worry about software incompatibility issues.

One of the newer entrants to the device-agnostic BYOD market is EXO U, a platform that allows teachers to share information and collaborate with students across multiple operating systems. Shan Ahdoot, CEO of the San Francisco-based firm, says such applications help educators get “everyone on the same page” quickly and effectively without wasting classroom time or IT resources. “The goal is to create a consistent experience from phone to laptop to interactive whiteboard,” says Ahdoot.

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feel 100 percent comfortable with the funding, training, or buy-in that supports a digital transition, because their preparation for life beyond graduation is happening right now.

Even if you don’t fully buy-in, as one of my colleagues says, at least “be” in. Engage your students with robust digital content. Try a new app. Put Alexa in your classroom and explore how to integrate it into your instruction.

Don’t worry. Your students will help because when it comes to buy-in with digital, they are leading the charge. 

Dr. Karen Beerer is Discovery Education’s vice president of Learning and Development. She began her career as a second-grade teacher, but also taught fifth grade, seventh grade, and graduate level courses. Dr. Beerer served as a reading specialist and an elementary principal as well as a Supervisor of Curriculum and Professional Development. Prior to joining Discovery Education, she served as the Assistant Superintendent for Curriculum, Instruction and Assessment in the Boyertown Area School District (PA) for 8 years.
Is the digital divide entirely different from what we think it is?

Interestingly, closing the digital divide within classrooms may have more to do with digital citizenship than hardware.

BY JEFF RUBENSTEIN

For a while now, there’s been a great deal of concern over the digital divide—the gap between students who have easy access to technology and those who don’t. Most debates center on choosing the best classroom hardware to bridge the gap: ‘Should we try to get a laptop on every desk? Tablets? Two-in-ones?’ However, the hardware debate obscures a deeper issue. It doesn’t matter what kind of technology a student uses, so much as what the student is encouraged to do with it.

The subtler, but no less harmful, digital divide is between the students who are empowered to be creators and problem solvers with technology, and those who aren’t.

The Most Important Tool is a Skill, Not a Tablet

Since students today live in a digital world, digital citizenship is one of the most important lessons schools can teach. Online behavior—social pressure, harassment, bullying—is a big issue with a real-world impact.

Good digital citizens know how to protect themselves (and their personal information), how to protect others, and how to behave civilly in online discourse. These are all things that we’ve taught students to do face-to-face in schools for years. But now schools need to extend these lessons into the digital space.

One of the best ways to teach digital citizenship—or better, to encourage—students to be good digital citizens is to help them become digital creators. We do not expect students to learn courtesy by reading etiquette manuals; we teach them by exposing them to real-world situations and helping them to correct their mistakes. Young people should not be unleashed unsupervised into a digital environment without preparation, any more than we expect to drop them off at their first birthday party with no adult supervision. They have to be taught to create speech in a digital space just like in a physical one.

Digital Skills via Creation

Similarly, students need to be given the tools to tell the difference between fact and opinion. Today, we have a crisis of authority. Anyone can put something up on YouTube and far too many people treat it with the weight of a peer reviewed journal article.

We’ve been teaching students how to tell truth versus opinion in written texts, yet video has a way of bypassing some of those defenses. The very qualities—immediacy, visual impact, emotional engagement—that make video an incredibly powerful communication tool also make it a potential propaganda weapon. We need to give students the ability to step back and think critically about video.

The only way to help students determine multimedia quality effectively is to teach them to be video creators—removing some of the magic by showing them how they, too, can manipulate video can help students gain necessary distance.

For instance, when students are mere consumers (whether the medium is digital or not), they’re in a passive mode, and that’s not what we want education to be. The only way to truly understand the medium being consumed is if the viewer is no longer just a consumer.

Digital critical thought and discussion around digital objects is going to happen largely in a digital world. To participate, students will need to be digital creators. Here is where the real gap comes into play. In the world we’re building now, the difference will be ‘are you a creator who actively participates in the world, or are you a consumer?’

Jeff Rubenstein is the VP of product learning & collaboration for Kaltura.

One of the best ways to teach digital citizenship—or better, to encourage—students to be good digital citizens is to help them become digital creators. We do not expect students to learn courtesy by reading etiquette manuals; we teach them by exposing them to real-world situations and helping them to correct their mistakes. Young people should not be unleashed unsupervised into a digital environment without preparation, any more than we expect to drop them off at their first birthday party with no adult supervision.
BY HEATHER NGOMA

Despite clear advantages to advancing digital literacy, schools often experience considerable roadblocks to implementing digital literacy initiatives. Interestingly, accessibility often isn’t the biggest factor blocking this process—more often than not, it comes down to a teacher’s own comfort with social media.

Teachers with little to no training on how to integrate digital literacy exercises into the classroom run the risk of compromising their students’ development of valuable soft skills that can produce educational and professional career advantages.

For the past three years, Rutgers Alternate Route has supported new teachers in boosting their digital literacy, by hosting edtech workshops, sharing digital resources on social media, and leading hosted discussions on LinkedIn and Twitter. After surveying 165 teachers part of these workshops, responses indicated that social media is arguably the most challenging digital tool for teachers to guide students in navigating, in large part because many school districts block students from accessing social networks when on school grounds.

Also, while teacher feedback on LinkedIn was overwhelmingly positive, feedback on Twitter was contentious. While most teachers appreciated our push for them to engage with both networks, a sizeable minority adamantly disfavored Twitter.

Three key obstacles emerged from their objections, leading Rutgers Alternate Route to address how these problems can be solved, perhaps with some digital literacy know-how.

**Twitter Problem #1: Personal Privacy Concerns**

“I do not like to have a presence on social media to protect my privacy.”

Many teachers refrain from using social media due to concerns of scrutiny from students, parents or even other educators. They also worry that students will attempt to communicate with them inappropriately. While maintaining distance from students is very important for teachers’ professional and personal well-being, teachers with Twitter privacy concerns can still safely and privately reap the professional benefits of social media by following any or all of these steps:

- **Set up a new account:** The simplest way for teachers to resolve Twitter privacy concerns and establish professional boundaries is to create a Twitter account separate from their personal account.
- **Set up a Twitter account under a pseudonym:** By refraining from using their full name, teachers can post tweets without fear of public scrutiny and reap the benefits of live Twitter-hosted education chats such as #NJEdchat.
- **Change default account settings so that tweets are private:** With private tweets, teachers have the ability to accept or deny follower requests from other Twitter users. Only approved accounts will be able to see the teacher’s tweets. All tweets, including those posted with hashtags, will only appear on the feed of approved account followers. While this protects teachers from unwanted scrutiny, it also limits teachers’ ability to fully engage in live Twitter-hosted education chats.

With these tips, fielding social media requests from students doesn’t have to be one more piece of work that teachers have to bring home with them after a long day. What’s more, teachers can apply their newly acquired digital literacy in advising students on how to protect their identity online and avoid unwanted scrutiny.

**Twitter Problem #2: Information Overload**

“I am against social media because I fear that it has too many distractions.”

The Twitterverse is virtually without bound—vast pools of information circulate across the social network each second. For teachers with notoriously little spare time and an abundance of distractions, Twitter can lose appeal despite it being a valuable platform for exchanging ideas and accessing resources.

#Hashtags enable teachers to filter through their Twitter feed and quickly find relevant professional and industry-focused information. Many lists of popular education hashtags exist that teachers can consult. After searching for relevant communication streams, teachers can save and follow #hashtag streams that contain valuable information, in a single click.

Also, Twitter hosted education chats move at the speed of the Twitterverse—a speed that’s too fast for some. In our
experience, Twitter chats evoke a diversity of opinion in teachers. After participating in a Twitter education chat hosted by Rutgers Alternate Route, one teacher praised Twitter as the perfect medium for the modern teacher, while another disfavored Twitter because they experienced difficulties finding their Tweets in the chat.

It’s all too easy for teachers who are inexperienced with Twitter to feel that their tweet is a tree falling in the forest (are they being heard?) especially when their tweets don’t receive a reply or aren’t retweeted. This is a feeling that consistent participation in Twitter chats can dissipate. In the immediate term, teachers can resolve this concern with a simple Twitter hack. With what’s called a mention (@username), teachers can pose follow up questions and share responses with all participants of a chat, while singling out participants whom they would like to engage in one-to-one discussion threads. Single out chat participants receive an instant notification of Tweets that are directed at them.

**Twitter Problem #3: Too Few Characters**

“Social media provides unparalleled access to resources and proficiency, [which] is expected in the teaching profession. However, I feel social media sacrifices depth over easy access for communication.”

The art of brevity in communication is something that few teachers have mastered. That’s part of what makes them feel at home when leading a classroom—and frustrated when faced with Twitter’s 140 character limit. The good news is that teachers don’t have to forcefully simplify their ideas in order for them to satisfy Twitter’s character limits. It is possible to share ideas in multiple Tweets— the key is to ensure that sentences don’t break between Tweets. This could make it more difficult for readers to follow the communication thread.

**Do Teachers Like Anything About Twitter?**

“Use of social media is very helpful. You get instant help/feedback/reactions/suggestions/ideas from educators across the globe.”

Despite commonly cited challenges with Twitter, many teachers are realizing its benefits. Teachers nationwide, including many of our own candidates and program leaders, are using Twitter as a professional development tool—cultivating robust professional learning networks and maintaining professional contact with peers near and far.

Beyond professional networking, teachers also consult Twitter as a classroom resource aid, to enhance student engagement, and to connect with parents and the community. As more teachers share how they are leveraging Twitter’s benefits, perhaps their more hesitant peers will revisit the idea of experimenting with Twitter and advancing their own digital literacy.

[Readers: Continue the conversation on Twitter! Should teachers consult Twitter as an added resource? Do you follow any strategies for incorporating Twitter into your daily professional practice? How vital is social media to teachers’ digital literacy?]

Heather Ngoma has over 20 years experience collaborating with educators across New Jersey to drive education innovation. She currently serves as the Director of Rutgers University’s Alternate Route Teacher Training Program at the Center for Effective School Practices, a program which helps career changers, recent college graduates and other aspiring education professionals become licensed teachers in New Jersey. Follow her on Twitter @heatherngoma.

**Apps**

Here, we’ve compiled a list of apps adults might want to know about:

1. **Whisper:** The app states users must be 17 years old to download the app. Even if children followed that age restriction, high school students can download and use it. The app lets users share their thoughts or opinions via text that is placed on top of an image. Users also can connect directly with one another. It has the potential for cyberbullying and online harassment.

2. **ASKfm:** This app lets users ask anonymous questions (they also can choose to not be anonymous). Kids might use it for cyberbullying and to unfairly target certain classmates.

3. **Private Photos (Calculator%):** According to the app, “anyone who starts this application will see a calculator but if you put in passcode it will open up a private area.”

4. **HiCalculator:** The app’s description indicates it “ can hide your photos and videos behind a calculator.” Parents, teachers and other adults are likely to pass over the app without realizing it.

5. **Hide It Pro:** Users can hide pictures and videos behind a lock screen and can create multiple photo and video albums and email them to others from inside the app. The app automatically locks when users exit it, and it also includes a code-enabled feature that makes the app appear empty if someone, like a parent or teacher, finds it and knows what it does.

6. **Yik Yak:** This location-based app lets users post text-only messages that are visible to users who are closest to the original poster’s location. The app’s iTunes description says the app contains frequent and/or intense sexual content or nudity, frequent and/or intense alcohol, tobacco or drug use references, crude humor, fantasy violence and more—all of which could be problematic in any kind of environment where bullying and cyberbullying or sexual assault or harassment are concerns.
There’s an emotional side of edtech—and it’s affecting school innovation

BY ALAN NOVEMBER

At one of my recent workshops, I was approached by a teacher who had never redesigned her lessons to take advantage of edtech’s potential to transform learning. She was still stuck in the $1,000 pencil phase of using new tools to do traditional work. When I showed examples of how teachers around the country were challenging students to design and find solutions to their own problems, she immediately saw the benefit of shifting her thinking.

The good news was that she was reconsidering her beliefs and was now convinced that she had been underestimating her students. The bad news is, she was afraid of appearing vulnerable in front of her students if something went wrong. Because she had never tried shifting control to her students to research their own problem designs using edtech, she was worried that she would not be knowledgeable enough to help them develop their own ideas. While she could see the value of challenging her students to try something new, she felt anxious about moving ahead.

A Common Dilemma

I believe this is a common dilemma. Any one of us can feel paralyzed by the tension between wanting to change but feeling vulnerable if we try something new. I am convinced that the difficult work of transforming teaching and learning with the help of edtech is not about teaching teachers how to use new tools; it’s really about the emotional side of letting go of control and managing the anxiety that comes with a sense of loss.

If we are to tap the potential of emerging tools and the web to increase student achievement, we need to better prepare our leaders and teachers to understand the emotional side of change.

Rob Evans is one of the foremost experts on this issue. He is the author of Understanding the Human Side of School Change, and I’m thrilled to say he will be speaking at the 2017 Building Learning Communities (BLC) conference in Boston on July 28. In a podcast I recorded with Rob, he briefly touched on some of the keys to successfully managing change in education.

When I told Rob the story of this teacher who had approached me after my workshop and shared her anxiety with me, he said: “It would be surprising if she felt anything else.”

He explained: “I have yet to encounter a school that is able to confidently and publicly say to its students and parents, ‘We’re going to try some new stuff. It might not work as well as we hope at first. We’ll probably learn some valuable lessons in the process. But there might be some disruptions en route.’ The tolerance for error that we know is crucial to the learning in children is something that adults (too often) don’t give each other.”

I asked Rob: How can K-12 leaders build a culture that supports risk-taking among their staff?

“All human beings react to any kind of change not purely to the event itself, but to its meaning to us,” he said. When change is occurring in a school system, “the question isn’t just what does it consist of pedagogically, but what does it mean to the people who are going to have to do it?” Leaders can be very helpful “if they’re able to shape the meaning of the change so that it combines an obvious commitment to something new and important for students with an obvious commitment to the practitioners who are going to have to deliver it.”

Managing Loss

The initial meaning of the change to the practitioner often involves loss, Rob said. Teachers are giving up not just something they know how to do well, but the whole way they learned how to do it. This sense of loss is very real and pervasive, but often it’s disregarded by K-12 leaders. To an advocate for change, he said, these issues “seem very, very small—but they are loaded with meaning for the teacher.”

Leaders need to communicate to their staff that edtech holds the potential not just for promise and excitement, but also for loss and challenge.

“If those things can be combined,” Rob said, “what you’re able to do is give people more encouragement to try something new, because you’re acknowledging the challenge built into (the change) and therefore not expecting them to be perfect at first. At the same time, you’re saying, ‘There is a way forward here. And we’re going to balance the tension of what you’re losing and giving up with a focus on what we’re going to gain.’”

Pressure + Support

None of us changes without some combination of pressure and support, he added. Pressure is anything that makes it harder for us to continue doing what we were doing, and it can be range from simply asking someone to change, to threatening to fire them if they continue their old course of action. Support would be anything that makes it easier for us to try something new. This can include money, incentives, training, or even overt permission to take risks without having to be perfect.

“If you only pressure people, they retreat into a shell and the resistance goes underground,” Rob said. “If you only support people, they typically stay where they are and don’t do much.” It’s the combination of these two strategies, he said, that makes a real difference.

When communicating with their staff about change, leaders must explain why, what, and how, he said. In other words:
4 good computer habits every teacher should have

Good computer habits in the digital age can help teachers with not just productivity and student achievement, but with health, too.

BY JESSICA CARRELL

They say computers make life easier. I say they sometimes make our lives miserable.

During the past two years, I’ve visited Apple’s Genius Bar eight times. I’ve watched a student cry in front of her PC after she found a Word document she had worked on for days corrupted. I’ve witnessed someone spill coffee on my colleague’s MacBook, and then felt enraged when he had to spend almost half its price to make the thing work again.

Now you may ask me: What’s going on with our computers? Well, there is nothing wrong with the computers. It’s us. It’s our bad habits that led to these tragedies.

That’s what I’d like to share with you today: four good computer habits every teacher should have in the digital age. These habits may affect your productivity, data security, and health. Health… seriously? Yes: A survey claims that Americans spend two hours a week waiting on their slow computers, which are sources of immense frustration and constant stress.

Let’s jump right in. How many of these habits are a part of your teaching life?

1. **Back up your computer:** This may sound old-school, and you’ve probably heard people say it all the time; but let me tell you again that back-up is the single most effective way to prevent data loss.

   You may think data loss will never happen to you, but it happens to everyone at some point. It’s often too late when you realize it, the moment when you accidentally deleted a student’s assignment from your flash drive; worse yet, when your computer crashed all of a sudden due to unexpected errors. Having an up-to-date backup will avoid frustration and save you time to restore.

2. **Clean your desktop and hard drive:**

   We all like to save files and folders to the computer desktop to make them easier to access. You probably never locate a file by clicking “This PC” (for Windows) or “Macintosh HD” (for macOS) because it’s a waste of time. But if your computer desktop looks cluttered with dozens of files, folders, or shortcut icons, it’s time to clean them up a little bit. Not only does a cluttered desktop affect your productivity, as files are harder to find, but it can even slow down your computer if you use a Mac.

   Likewise, clean up your hard drive. Research shows that the first 50 percent of a hard drive performs better than the second 50 percent due to the way disk storage works. Also, if the internal hard drive of your computer is almost full, chances are everything will slow down and you’ll wait longer for your PC to fully startup, and apps won’t run any quicker than before.

   **How to do?** Start by transferring large files to an external drive, then delete duplicates and remove third-party programs you no longer use. Last but never least, be more organized by having fewer folders to categorize all files.

3. **Keep your software up to date:** It’s not just the Windows or Mac operating system you should keep up to date; all your software should be as well. Outdated software is not only less secure, but it’s also less efficient and slower. Besides, some software updates make your programs more user-friendly.

   **How to do?** Visit the website of the software company to download the latest update. For Windows, you can also install Windows Update and keep your system up to date automatically.

4. **Use good passwords:** Weak passwords are not only easy for hackers to crack, but they also provide a backdoor for others to access your computer. Good passwords are a combination of letters, numbers, and symbols, and they’re long and unique for each of your accounts.

   **How to do?** Use a password manager to help you remember your passwords. These tools make it easy to create complex passwords and store them securely.

   **For those important files, such as the students’ assignments and your teaching materials, make sure you also save at least one copy saved to an external hard drive.**

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the files you have—your computer will be more productive and so will you.

3. Wipe your old computer or device: Technology evolves fast. Chances are you’ll get a new computer (or a mobile phone) every several years. What about the old computer or device? You probably want to trade in or sell it; or if you’re kind, you may choose to donate it so teachers and students in poor areas can benefit from technology. But one thing you should remember to do before you let your device go—wipe out all data on the device. Wiping is critical because your computer or device may fall into wrong hands, thus putting your personal data at risk.

How to do? If you are a tech-savvy teacher, you know that data recovery is often possible even if you’ve emptied Recycle Bin or Trash or formatted a hard drive. For example, we all delete pictures or videos to free up space, but they can often be retrieved by photo recovery software. How do you erase these old devices? Visit your device manufacturer’s official website, do a quick search, and you should be able to find related guides.

4. Set strong and different passwords: If you have a Yahoo account, you probably heard that Yahoo announced 1 billion user accounts were hacked, and that was right before the holiday season in 2016. I use Yahoo’s email services, and at that time I received a notification from Yahoo security center with one important message about changing my password. I also remember one day a friend shared with me this PCMag article. I laughed because I had exactly three passwords for almost all my online accounts because I hated to reset passwords for security concerns.

What to do? Even if you think you have a strong password that no one can hack, you might be wrong because yesterday’s clever tricks could be dated to protect today’s hackers. A few password principles you should have are: 1) always set a login password for your computer and important folders, 2) don’t save your password in any web browsers, 3) use unique passwords for all sites, 4) manage them with a password management tool like LastPass or Roboform, and 5) change passwords on a regular basis, just in case.

In the digital age, computers are like co-workers. Building good computer habits will not only boost your productivity but also help you live a healthier lifestyle. What other good or bad computer habits do you think teachers should have or get rid of?

Jessica Carrell is the co-founder at AnySoftwareTools, a technology site about helping people solve everyday tech challenges with software solutions. She is an avid reader, life learner, and a lover of teaching and photography. She is recently keen on researching educational tech and how to leverage it to make classroom a better place for teaching and learning.

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“Why we can’t stay where we are, what we have to change to, and how we’re going to get there.” Most school districts cover the “what” “We’ve got a new math series this year.” They address the “how”: “We will hold training on the second Tuesday of every month.” But they typically omit the most important element, he said, which is the why: “Why do we have to do this?”

If more K-12 leaders addressed this one simple word—“why”—when discussing change with their staff, they might see more success with using technology to transform teaching and learning. Of course, knowing this and putting it into practice are two different things.

For more change management advice from Rob Evans, come hear him speak at BLC ’17 this July, where—after his keynote address—he’ll continue the conversation about this critical topic during a more intimate question-and-answer session with conference participants. 

Alan November is the founder of edtech consulting firm November Learning. Join Alan in Boston July 26-28 for his 2017 Building Learning Communities, where hundreds of educators from around the globe will gather to discuss the world’s most successful innovations in education.