

Report Card:

How the Digital Skills Gap is Failing Teachers & Students-- And What We Can Do About It

“Education is a one thousand-year-old industry on the cusp of profound change. We need to design an ecosystem this time around that will be suitable for at least the next one hundred years.”

AT Kearney¹



Why This Matters To You

There is a two-pronged, and potentially two phase, digital skills gap. The first is occurring right now; the full impact of the the second may not be seen for several years. Both are critically important.

First, the technology skills of many teachers today have put them behind the skill level of their students. Teachers are often well-meaning and dedicated education professionals who may simply lack the digital skills necessary to properly school their students.

Second, although schools overall are moving in the right direction to incorporate more digital education into the day-to-day curriculum, K-12 students do not yet have the full support and monetary backing of school districts and their administrators. While students in grades K-12 are naturally more receptive to new technology, without the necessary training, K-12 students will face a future skills gap once they graduate to postsecondary education and eventually to the digital workplace.

Read on to learn:

- The six underlying trends that are driving this twin digital skills gap
- The eight core digital competencies that will be required of both teachers and students in the future
- How teachers can upgrade their skills to stay at least on par with the current digital skills of students
- How to equip students with the digital skills they will need to start college and/or break into the workforce

The skills gap will only worsen if we do not take action now to address the problem and close the gap.

Trend #1

Teachers and educators are falling behind in learning and applying the digital skills required to stay ahead of their students.

A contingent of teachers and educators who are net immigrants, rather than net denizens like their students, have fallen behind in terms of learning and understanding digital skills and applying the newest technology.

In a recent Harris Poll conducted on behalf of Pearson, most students said they feel that they know more about tablets and other computers than their teachers. More than half (56%) of elementary school students, 65% of middle school students and 75% of high school students agreed with the statement: “I know more than my teachers about how to use tablets and other computers for learning.”²

Millennials, many of whom already possess an impressive array of digital skills, are becoming the new population of K-12 teachers. However, veteran teachers are still very valuable contributors. Baby Boomers in particular have not abandoned their career field en masse, and many are extending their working lives.³

Whether old, young or somewhere in between, future teachers will need the skills to work one on one with different types of learners as they study in a student-centric way.⁴

“The skills we need today and in the future are dramatically different than they were only five years ago.”

Deloitte Consulting⁵

Trend #2

Mobile device usage is increasing as the K-12 population increases.

School populations, as well as the usage of mobile devices, are expected to rise, making the need for students to be appropriately equipped that much more urgent.

For the Fall 2014 term, 49.8 million students are enrolled in 98,000 public elementary and secondary schools in the US (35.1 million in grades Pre-K through 8 and 14.7 million in grades 9 through 12.) Another 5 million students are attending private schools in grades K-12. Enrollment in public elementary and secondary schools is projected to increase to 58.4 million by 2021, and to almost 60 million by 2022.⁶

In 2013 one-quarter of students in grades 3 to 5, and almost one-third of students in grades 6 through 12, reported using a mobile device that was provided by their school in order to support schoolwork. And high school students in 2013 reported using technology to support homework by: texting with classmates, taking photos of assignments using a mobile device, finding videos to help with homework, using Facebook to collaborate on projects, and using Skype or iChat with classmates.⁷

The Case for BYOD



The US Department of Education issued a forward-looking plan in 2010 "Transforming American Education: Learning Powered by Technology." It presents a model with a mission to incorporate classroom technology in key areas: learning, assessment, teaching, infrastructure and productivity. Each core section outlines concepts for using technology to holistically transform education. These goals include allowing students to have access to technology via their own mobile devices, known as Bring Your Own Device (BYOD) or Bring Your Own Technology (BYOT). The overarching goal is to cut costs for schools and increase student engagement.⁹

"Students are not just adopting new technology to use within learning, but they are actively manipulating and modifying standard uses for the digital tools to meet individualized learning needs."

Project Tomorrow 2014 report⁸

Trend #3

Our K-12 educational systems have not kept pace with new teaching methods that embrace online, multi-media and the learning of digital skills.

A significant percentage of schools are stuck in the industrial age -- instead of advancing into the digital age -- and they continue to teach content that has lost relevancy using outdated teaching methods that “no longer benefit young people’s evolved minds,” according to AT Kearney.¹⁰ While most K-12 learning institutions have tried to keep pace by adapting curriculum to include courses such as computer studies, and some schools have added technology laptops to classrooms, this is not a truly evolutionary leap.

“In many ways, the skills of a secondary school graduate today are similar to the skills of a graduate 20 to 40 years ago, making education one of the few industries in the world where significant evolution has yet to occur,” the Kearney report adds. A significant evolution would be a “radical transformation” within which schools change operating models in direct response to environmental changes. Technological competency -- judged to be one of the three pillars of curriculum -- is the goal.

K-12 school district technology trends are showing improvement. For instance, according to a 2014 study, teacher facilitation of online tests in middle school classrooms has increased 47% between 2009 and 2013 due to both the availability of online tests within school curriculums and teacher adoption of those assessment tools.¹¹ Still, as a nation our students are not fully digitally literate.

“Educators in both K-12 and postsecondary have a desire to integrate technology at a much higher level than they currently have, but need support and assistance to make that happen.”

SIIA Vision K-20 Initiative¹²

Trend #4

Neglecting to upgrade the digital skills of our nation's students right now could feed into a worsening workplace digital skills gap down the road.

That current gap -- between the skills that today's employees possess and the digital skills that they need -- is responsible for a staggering \$1.3 trillion loss in the United States economy due to a measurable loss of productivity.¹³ Moreover, a study from consulting firm Deloitte concluded that digital skills have a half-life of 2.5 years due to the increasing pace of technological advancement, with this loss set to grow at an exponential rate.¹⁴

The McKinsey Global Initiative estimates that by 2020 there will be a global shortfall of 85 million high- and middle-skilled workers.¹⁵ While a variety of skills will be necessary for workers across a plethora of different industries, digital skills are seen as transcending across multiple occupations.

Both hard skills (academic knowledge learned) as well as soft skills (effective communication, problem solving and critical thinking skills) will be required of today's students who will transform into tomorrow's competent workforce.

"We now live in a world in which half of today's jobs didn't exist 25 years ago. How do you prepare students for jobs that don't exist today? You can't."



Dennis Yang

President, COO
Udemy¹⁶

Trend #5

States that adopt Common Core State Standards for standardized curriculum will mandate that teachers and students possess digital skills, especially online test taking.

Although the Common Core curriculum for math and English language arts is being hotly debated among educational professionals right now, this was developed to “prepare all students for success in college, career, and life.”¹⁷ Online test taking by students will be part of the process of evaluating how well standardized information is learned by students.

That means that both students and educators will need to be at least marginally competent enough for basic online test-taking skills. Schools that have not thus far transitioned into the teaching of digital skills could use this transition as the jumping off point for embracing wider digital learning.

In the classroom, online test taking is already being employed, but not across all schools nor all students.

Teaching Information Literacy



Among the items included in the Common Core is "information literacy" which includes "Information, Media and Technology" skills. Depending on the specific grade, this includes the ability of students to use technology and digital media strategically and capably in order to make informed decisions, solve problems and evaluate the credibility of the source.

Partnership for 21 Century Skills¹⁹

“The 21st-century workforce is global, highly connected, technology-savvy and demanding.”

Deloitte Consulting¹⁸

Trend #6

Digital content is increasingly “disruptive” but can enhance traditional educational efforts.

Digital platforms no longer require schools or their districts to spend massively. Affordability has been a major concern among K-12 school district leaders and administrators as budgets are continually being squeezed.

What are K-12 students doing with digital technology?

While digital learning can encompass many areas of study, a recent study found that there are two very important new components of students’ self-initiated technology use for homework: digital writing and digital reading.²⁰

One-third of middle school students surveyed said that when it comes to schoolwork, their preference is for reading digital materials over traditional printed materials. Moreover, 51% believe that online textbooks should be an essential component within schools. This same recent survey showed that among high school students, each spent an average of 14 hours per week using digital technology for writing.²¹ As English teachers can widely appreciate, the frequency of writing -- including digital writing -- is a great first step to students’ improved fluency with words.

Case Study:



Cyber Civics in the Classroom

A middle school teacher in Southern California has been teaching a weekly Cyber Civics class whose goal is to teach students the digital skills necessary for them to become competent, empowered and ethical digital citizens. Topics include: protecting students’ privacy, managing their digital reputations, preventing and appropriately responding to cyberbullying, avoiding plagiarism and copyright infringement, identifying phishing schemes, and critically evaluating online information. The curricula was adapted from a traditional civics class with the blessing of a forward-thinking principal.²⁴

“Success is increasingly about building skills beyond formal education.”

**OECD Skills Outlook 2013:
First Results from the Survey of Adult
Skills, November 2013²²**

“Despite mythology to the contrary, today’s students are spending a significant amount of time doing digital-based writing.”

Project Tomorrow 2014²³

Learnings

K-12 school district leaders, superintendents and education decision makers will have to, sooner or later, address the problem of a two-pronged digital schools gap. They will need to work to update the online skills of both their staff -- whose tech skills may be outdated -- and students -- who likely live online but whose skills must be refined and appropriate.

Teachers will need to have an assortment of 21st century skills in order to incorporate digital learning into the day-to-day curriculum and interact with pupils. Students in grades K-12 will be required to possess competency in a variety of digital skills so as to participate in the enhanced learning experience both in and beyond the classroom, engage responsibly on social media platforms, and be ready to enter college and compete in the new technology-rich digital workplace.



The eight core digital skills that Grovo believes are essential for teaching and learning in the 21st century:



Document Creation, Collaboration and Management

Learning how to create digital documents, share them with others, annotate them as necessary, and then locate them at a later date are critically important skills. Being fluent in creating and managing documents -- both for students and teachers -- is at the core of digital literacy.



Project Collaboration and Management

Learning in a classroom environment always includes classmates and team/committee members working together on collaborative projects, reports and research topics. Both students and teachers must master collaborative skills so as to allow for efficient and effective project management across classes, grades, and even schools. Moreover, teachers who spearhead partnership lessons with schools in other towns, states and even internationally must be able to coordinate with the goal of an enriched learning experience for students.



Focus and Attention Management

There is no shortage of distractions in today's 24/7, 'always on' world. Attention spans have shortened considerably over the past decade to the current five minutes.²⁵ Being able to filter out surrounding "noise", focus on a task at hand and give a lesson, project or learning experience your full attention has become more of an art than a science. Being able to additionally prioritize tasks that are the most important has also become a critical skill within the educational process.



Communication

Effective communication skills strike at the very core of the school experience. Communications between teachers and students, students and students, and students to others in the outside world are vital. Increasingly, digital communications -- including email, instant online chatting, over social media platforms and more -- have become a favored method of communication. With such prominence, digital communication skills can and must be mastered.

The eight core digital skills that Grovo believes are essential for teaching and learning in the 21st century:

continued



Digital Etiquette

Also known as “netiquette” -- has become an increasingly important skill. Learning and understanding the rules of the road for communicating in a digital environment has become an imperative. Digital etiquette can include the understanding of the risks of being on various social media platforms, watching for online stalkers, digital reputation management and tackling the online rumor mill. Mistakes and poor digital communication management can have negative, and sometimes severe, implications for students, teachers, administrators, and even schools districts. Missteps can also lead to security breaches.



Search and Research

With the sheer proliferation of online information, data and databases comes the need to effectively, efficiently and soundly tap into the information being sought, without falling into the online traps and inevitable potholes. Students and teachers must have the critical skills necessary to be able to access specific information quickly and effectively and be able to determine whether an online item is fact, fiction or fantasy.



Platform Flexibility

The growing use of various digital devices has increased the need for students -- as well as teachers, educators and school district personnel -- to be able to competently navigate throughout and across a bevy of platforms and operating systems. The ability to learn and utilize new technology as it goes mainstream has become more important than ever.



Security and Privacy

Every day, news headlines report about various security breaches and privacy being compromised. Consequently, it is crucial for students, teachers/educators, institutions of learning and school districts to know how to protect their personal information and their privacy. Security breaches are no laughing matter and can expose many to undesirable consequences. Proper training in state-of-the-art security measures is not only hyper-important, but is just plain common sense.

The Next Steps

What do school districts and their administrators need to consider in order to tackle the twin digital skills gap problem existing among K-12 teachers today and for students both today and in the future? Here's what Grovo recommends in developing an action plan with the goal of closing those skills gaps:



Step 1: Define your goals

Clearly define the goals you wish to achieve, for your district, your individual schools, each individual school's collective staff members, and your total school student population. Remember to review the reasons for setting these goals, and don't hesitate to define short-range and longer-range goals. You may even wish to develop a "wish list" of goals you would love to achieve but aren't sure that you realistically can, at least over the short-run.



Step 2: Define the skills your school community requires

Choose from among the eight core digital competencies Grovo has outlined -- or decide to embrace all of them. Then consider which skills must be prioritized and decide where and how you wish to start training.



Step 3: Assess the magnitude of your school district's skills gap

Assess current internal competencies of skills against the digital skills that are important and necessary to your school community. Decide where gaps and vulnerabilities exist to start your enhancement process moving forward.



Step 4: Design a training program

Plot out what next steps must be taken to partner with a training specialist or training vendor, with your goals, budget and time frame in mind.



Step 5: Determine to periodically repeat this process

"Fix it and forget it" may be great for rotisserie ovens. But with the pace of new technologies being developed which constantly require refreshed skills, periodically reevaluating your needs, goals, skills gap and time frame is a valuable part of the process.

Grovo

Grovo teaches Internet and modern professional skills with 60-second videos. The videos follow Grovo's proprietary micro learning method and are delivered in its beautiful and effective training platform. With more than 4,500 video lessons and assessments covering 150 Internet tools, cloud services, and professional topics—all produced at its NYC headquarters—Grovo makes it easy for people and organizations to learn the critical digital skills needed to succeed in today's always-connected world.

For more information about the K-12 digital skills gap, to browse through our extensive training topics, or to get started on your personalized action plan, visit Grovo.com, or contact Grovo:

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