



DIGITAL LEARNING: Peril or Promise for Our Students

Digital Learning: Peril or Promise for Our K-12 Students

By Julie A. Evans, Ed.D.

I am still old school. I realize that this is a day of technology, but I feel like the students get too much of it on their phones, ipads, etc. Sometimes just old practices of teaching get the job done. So, I feel like I am a good teacher, but technology hasn't had a great deal to do with it.

High school classroom teacher

Technology is a tool to customize and personalize the educational needs of my students. Recently, I learned about new apps and media tools to take my class further into the 21st century. I have noticed that they are more engaged, excited, and taking responsibility for their own learning. All of this has improved critical thinking, communication, collaboration and creativity. For lack of a better word, it's awesome!

Elementary school classroom teacher

Introduction

The stark difference in the views of these two teachers is highly representative of the challenges associated with the effective use of technology within schools today. One teacher sees the role of technology as enabling personalization of the learning process and supporting the development of college and career ready skills within their students. Yet, the other teacher appears to feel that the use of technology is supplemental at best to traditional teaching practices, and most likely is also a distraction for their students. The divergent views of these educators are shared by many others, including parents and administrators. Despite significant investments in digital tools, content and resources and in time and resources on teacher professional learning to support effective usage of these technology solutions, the jury appears to still be divided on the value and impact of technology on student learning and teacher effectiveness. Why is that the case? The use of technology in education is certainly not a new phenomenon. Consider this: *The Oregon Trail* computer game first appeared in classrooms 45 years ago, Apple revolutionized classroom computing with the introduction of their Apple IIe computers 36 years ago, and NetDay (the predecessor organization of Project Tomorrow®) held its first national wiring day for schoolwide Internet connectivity 23 years ago this year. We are certainly much more familiar today with technology than those pioneering teachers who discovered new ways to teach about westward migration using a simple but engaging game written in BASIC. Our individualized familiarity with technology as a learning tool may be derived from fledgling classroom tech experiences and/or from our own personal use of mobile devices and social media. How we have personally experienced technology, positively or negatively, purposely or trivially, therefore may be a contributing factor to our views on the value of digital learning today. In short, do we believe that digital learning is a peril or a promise for today's K-12 students?

As business, policy and education leaders continue to advance the use of technology as a means for improving student outcomes and preparing students to succeed in an increasingly information-intensive economy and society, it is important to consider whether we are addressing the potential of technology effectively to meet those goals. For the past sixteen years, Project Tomorrow's annual Speak Up Research Project has provided education leaders nationwide and around the globe with illuminating insights into the expectations of students for new learning environments by reporting on the authentic, unfiltered ideas of students themselves. Additional perspectives from teachers, librarians, administrators, community members and parents have illustrated the challenges as well as benefits of education technology usage. Our goal since the launch of the Speak Up Project in 2003 has been to build the capacity of local schools and districts

to address the promise of technology as a stimulus for both innovation and equity in education. Each year, education, policy, research and business leaders leverage the Speak Up findings to understand how schools and communities can better serve the learning needs of today's digital learners, and to support teachers, administrators and parents in their quest to ensure that our students are well-prepared for future success. To support this important work, we annually provide a series of briefing papers based upon the Speak Up findings to address key topics in the effective use of technology to enable new learning experiences and empower educational effectiveness. It is our hope that these briefing papers stimulate new discussions and possibly, instigate the development of new solutions or approaches to many of the challenges that continue to plague education and stymie innovation in our schools.

In this year's national briefing paper, we examine this important topic of the peril vs. promise value proposition for digital learning through a three-part analysis of the authentic feedback collected from over 343,500 K-12 students, parents, teachers and administrators during the 2018-19 school year. While the Speak Up findings cover a broad set of issues relative to the challenges and benefits associated with innovative learning environments, we have identified key findings associated with these three leading questions to inform this discussion:

1. Beyond educator assumptions or aspirations, and isolated examples of innovation, how are digital tools, resources and content actually being used by the average student today to support learning, both in school and out of school?
2. How do the majority of educators, parents and students define the value or impact of those digital learning experiences?
3. Given how the digital tools are being used, and the values ascribed to those technology-supported experiences, what are the real-world concerns of today's educators and parents that should be addressed to better understand the peril vs. promise dichotomy in our schools and communities?

It is our hope that the findings and insights shared in this briefing paper will inspire new candid conversations in schools, districts and communities about how to ensure that technology is used effectively to support student learning and prepare student for future success. We encourage education and community leaders to use this paper and our other briefs as starting points for follow-on local discussions. To advance such critical conversations, we have included a list of thought-provoking questions at the end of this paper to jumpstart new dialogues with a diverse set of stakeholders about the value of technology within learning environments, and how to effectively quantify and message new value propositions within your community.

Students and digital learning today

A key challenge to understanding students' experiences with digital learning is determining if news stories or conference presentations about exemplary uses of technology are the norm or exception to the rule for the average student. The Speak Up Project plays a significant role in differentiating "campfires of innovation" from regular usage through our polling of school and district administrators nationwide and the feedback from K-12 students directly. Using data from school and district administrators, the Project Tomorrow Digital Learning Maturity Model identifies the pervasiveness of various technology tools and environments in schools today. Our model differentiates adoption of technology as *established* (indicating that more than two-thirds of school and districts administrators say they have implemented a particular technology or environment in their schools), *developing* (as identified by around 50% of administrators) or *nascent* (reported by 40% or less administrators). The Digital Learning Maturity Model based upon the 2018-19 Speak Up data from administrators is represented in Table 1. Examples of established implementations include social media tool

usage for school to home communications and cloud-based tools, most notably, G Suite for Education. Developing implementations include 1:1 mobile device programs and online classes for students and teachers. Blended learning models and game-based environments represent nascent or just emerging implementations in schools.

Table 1: Digital Learning Maturity Model

| Established (> 66% of administrators report as implemented) | Developing (~50% of administrators report as implemented) | Nascent (≤ 40% of administrators report as implemented) |
|--|---|---|
| Using social media tools to communicate with parents and students (76%) | Students are assigned a 1:1 mobile device to use in school only (57%) | Blended learning environments for students (40%) |
| Cloud based collaboration tools such as G Suite for Education (72%) | Online professional development classes for teachers (50%) | Students are assigned a 1:1 mobile device to use in school and to take home (38%) |
| Students have periodic access to mobile devices to use in class to support instruction (66%) | Online textbooks for use by students (49%) | Game based learning experiences (35%) |
| Use of videos, simulations, animations and other digital content (66%) | Online classes available for students (48%) | Flipped learning environments for students (28%) |

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Other emerging technologies that are popular in media or at education technology conferences such as augmented reality, virtual reality environments or artificial intelligence have been implemented to date by less than 10% of schools.

Students' reporting on the use of various digital tools, content and resources within their school learning experiences closely follows the adoption patterns identified by the school and district administrators. Relative to the access to mobile devices, most students now report having the ability to use some type of a device (tablet, laptop or Chromebook) within class as needed for academic activities. The type of computing device varies by grade level with the youngest students more likely to use a tablet while their older siblings use a Chromebook type appliance. The environment for student access to technology at their fingertips has changed significantly in the past few years with the increased investment by school districts in Chromebooks specifically. In 2014, 50% of students in middle school said that their primary access to technology was in the computer lab. As illustrated in Table 2, only 25% of students in grades 6-8 now say their access is dependent upon a library or lab visit. Today, 64% say they use a Chromebook in class, a growth of 138% in student Chromebook access in just 4 years.

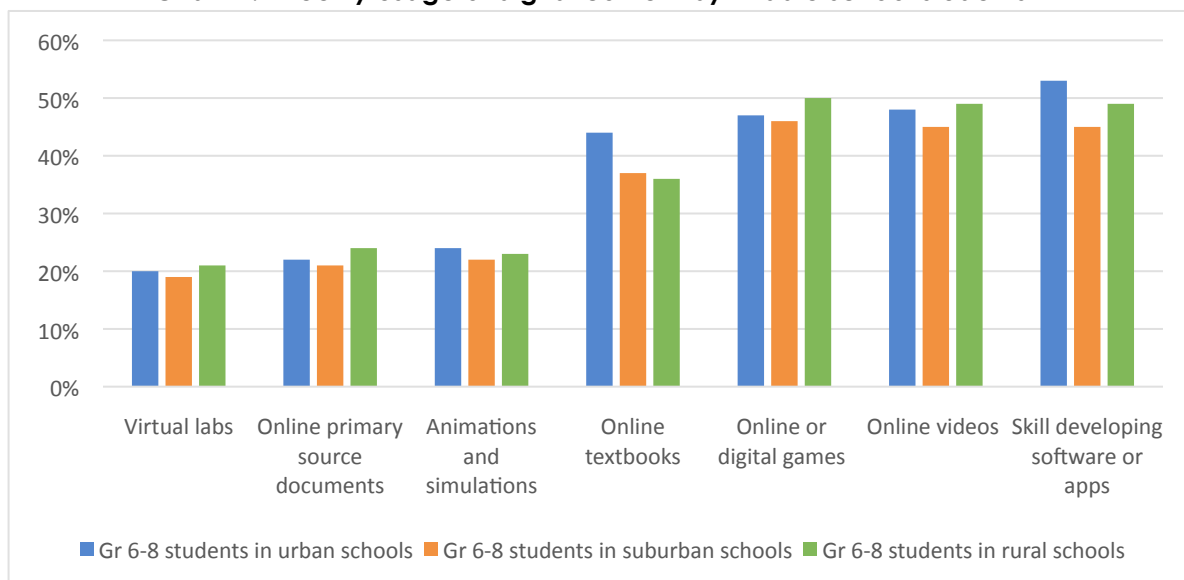
Table 2: Students' access to computing devices to support schoolwork and learning in school

| Grades | Tablet | Laptop | Chromebook | Computer lab access only |
|---------|--------|--------|------------|--------------------------|
| K-2 | 43% | 21% | 51% | 35% |
| Gr 3-5 | 20% | 19% | 71% | 29% |
| Gr 6-8 | 14% | 28% | 64% | 25% |
| Gr 9-12 | 7% | 29% | 49% | 23% |

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As with students' personal use outside of school, students are likely to use multiple devices to support class-based learning as well. For example, in addition to the school provided devices, 61% of high school students say that they also regularly use their own mobile devices (most often their smartphone) to support learning while in class. As noted in earlier Project Tomorrow reports and briefing papers, today's students are highly adept at identifying the right tools to support various learning activities. While a Chromebook may be the optimum tool for accessing online databases for a research paper, a smartphone is the better tool for taking a quick photo of the assignment pages for tonight's homework.

With this more prevalent access to a computing device in class, we would expect to see frequent usage by students of various digital content and online resources. However, that is not necessarily the case. As noted in the maturity model, school districts have widely implemented the G Suite for Education products for classroom usage. Consequently, 83% of students in grades 6-12 say that they use Google tools on a weekly basis to support schoolwork. Six in 10 students report taking online tests or assessments on a weekly basis. However, students use other types of digital or online resources less frequently. Chart A depicts the percentage of middle school students who report usage of various digital solutions on a weekly basis disaggregated by their community locale (urban, suburban or rural). As noted by this data, there is relatively little difference in the students' experiences based upon community locale.

Chart A: Weekly usage of digital content by middle school students

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Digital games, online videos and skill-developing software or apps are part of the weekly learning routine for just under 50% of middle school students. However, only 1 in 5 middle school students are using online primary source documents, animations or simulations or virtual labs as part of their regular schoolwork activities. A majority of the students (58%) say that their access to these online tools is never or rare in the school year. This is significant for two reasons relative to our discussion about the peril or promise value proposition. First, all three of these types of digital content represent learning activities that cannot be easily replicated without the use of technology. For example, students can potentially learn about the Civil War's impact on the families of both Union and Confederate soldiers by reading their textbook. But a more in-depth and relevant learning experience can be gained by accessing primary source photographs and letters written by soldiers to their families through the National Archives website. Similarly, it is becoming increasingly challenging for schools due to costs and liabilities to provide students with authentic science bench or lab learning experiences. Virtual labs, animations and simulations provide a unique opportunity for students to efficiently and effectively experience real world experiments and bring meaning to abstract concepts that cannot be replicated in the natural world.

Second, today's students value digital learning experiences to bring context to education. Primary source documents, virtual labs and animations and simulations provide an additional layer of context by infusing a real-world perspective within the learning process. Too often, classroom technology implementations aim to mirror or replicate traditional learning modalities such as using a mobile device to take class notes or take a class poll. It is difficult however to demonstrate value or justify a return on investment with those substitution type digital activities. Rather, identifying ways where the unique features or capabilities of technology can support new learning modalities especially in terms of the personalization and contextualization of the learning process can yield better returns and demonstrated value.

Students' use of technology to support learning however is not limited to only the school day hours. With 81% of middle school students and 92% of high school students having personal access to a smartphone, a learning experience is never farther away than their pocket no matter whether that student is at home, at a sporting event or in a restaurant. With the majority of students saying that their school has too many rules limiting tech use in school, it is not surprising that 50% of middle and high school students say that they use technology more outside of school than in school for learning purposes. Per previous Speak Up findings, students value a self-directed learning experience where they can follow their academic passions and leverage a variety of tools to learn skills and prepare for their future.

High school students are using various technology tools outside of school to support skill development and academic interests. Examples of those activities include reading news stories online (62%), tapping into social media channels to learn about what others are doing around a topic of interest (57%), playing online or digital games (42%), leveraging online writing tools to get feedback for self-improvement (42%), and watching TED Talks to learn about people's ideas (41%). Additionally, 78% of high school students and 84% of middle school students say they are regularly using online videos from YouTube to learn how to do something. In many ways, the experiences that students are having with YouTube is a microcosm of how students are tapping into online resources to support their self-directed learning, particularly around skill development. As illustrated in Table 3, students are using YouTube as a source for homework help as well as self-directed learning. Additionally, students are developing their competencies as content recommenders, creators and online curators. It is not surprising therefore that students, most notably girls, believe that schools should allow access to YouTube.

Table 3: Middle school and high school students' experience with YouTube disaggregated by gender

| YouTube activity | % of students in grades 6-8 who agree | | % of students in grades 9-12 who agree | |
|---|---------------------------------------|------|--|------|
| | Girls | Boys | Girls | Boys |
| Recommended YouTube content to a friend | 53% | 49% | 52% | 50% |
| Recommend that schools allow YouTube access | 53% | 45% | 52% | 44% |
| Use YouTube for my own self-directed learning | 50% | 44% | 52% | 50% |
| Posted a comment on a video | 41% | 46% | 31% | 42% |
| Regularly seek homework help on YouTube | 34% | 27% | 40% | 34% |
| Have my own YouTube channel | 21% | 35% | 19% | 31% |
| Posted a self-created video | 15% | 27% | 13% | 23% |
| Started a business on YouTube | 4% | 7% | 4% | 8% |

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As educators think about the value proposition for technology within learning, it is important to appreciate that students view their out of school learning experiences, most notably on YouTube, as highly valuable skill development opportunities that will positively impact their future. While 40% of high school students say that they are learning important skills in school to support their future success, a higher percentage of students (48%) say that the skills they are learning through their YouTube experiences are important for their future as well.

Defining the value of digital learning

When asked to define the benefits of technology use within learning, educators and parents will most frequently identify increased student engagement in learning as the primary value. Research has long documented the benefits of engaging students in the learning process including increasing attention and focus, propelling students to persevere in the face of difficulty, motivating sustained practice and remediation, and creating a more memorable learning experience for the student. This focus on the role of engagement in learning has become the predominant theme when evaluating the impact of technology. When asked to identify the value for example of mobile device usage in the classroom, 86% of teachers and 93% of school principals chose increased student engagement as the most significant outcome from that usage. Similarly, almost 7 in 10 district administrators say that changes in students' engagement levels is the most effective metric for evaluating the efficacy of their technology initiatives. A far fewer number of administrators identify enhanced quality of student work (30%), depth of student collaborations (38%) or students' skill development (38%) as meaningful proof cases for the value of technology within learning, even though these types of outcomes would be expected for most other new educational interventions.

The educators' view on the value of technology as primarily an engagement tool is most likely the result of three pre-existing conditions:

1. Most adults' first introduction to technology was as an engagement tool for themselves, not as a learning tool. For most educators, their introductory personal use of social media and smartphones focused on entertainment or communications activities. Many educators have overlaid those personal experiences and beliefs on the use of technology in the classroom.
2. Most digital learning training and professional development, especially for teachers, has put a greater emphasis on the mechanics of usage of the technology, rather than helping teachers build capacity for integrating digital content and resources within curriculum. While it is necessary to build skill-based competencies, the outsized focus on procedures and policies of technology usage has obscured teachers' abilities to create their own value propositions around the use of technology beyond compliance. Effective teacher integration of technology requires a twin set of value propositions – value for the teacher and value for the students.
3. In a rush to demonstrate the value of technology use in the classroom, many schools and districts have pursued efforts to identify tangible outcomes before teachers have thoroughly assimilated these digital tools within their curriculum. The teacher adoption and adaptation process for digital learning involves re-engineering instructional practices and that process can sometimes take more time than administrators first envision. When forced to identify impact too soon in the implementation process, engagement personified by "shiny eyes and smiling faces" is easier to document than other student outcomes that may still be developing based upon teachers' overall effectiveness with the tools.

One of the most interesting findings from the Speak Up Research has been the differences in how educators and students view the value of technology within learning. In general, teachers and administrators have a much narrower vision on the benefits of digital learning than their students. As illustrated in Table 4, students report that as a result of using technology to support learning, they are realizing improved academic outcomes, developing future-ready skills and enjoying a more personalized learning experience. For example, 59% of middle school students say they have better grades and test scores as a result of having access to digital tools, content and resources to support schoolwork.

Table 4: Benefits of digital learning – the middle school student perspective

| Benefits | % of students in Grades 6-8 who agree |
|--|---------------------------------------|
| Improved academic outcomes | |
| Better grades and test scores | 59% |
| Stronger understanding of class content | 52% |
| More likely to complete homework assignments | 49% |
| Future-ready skill development outcomes | |
| Creativity skill development | 55% |
| Application of knowledge to practical problems | 48% |
| Collaboration skill development | 48% |
| Critical thinking skill development | 47% |
| Personalized learning outcomes | |
| Learning at one's own pace | 56% |
| In control of the learning process | 50% |
| Fits personal learning goals and style | 48% |

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Students also value the increased engagement in the learning process provided through technology usage, but that outcome is of less significance to students than other outcomes. Only 41% of the students in grades 6-8 and 35% of students in grades 9-12 identify increased engagement in learning as an outcome they associate strongly with the use of technology.

Educators' overemphasis on the value of technology as primarily a vehicle for increasing student engagement may be an unintended contributing factor to new parental concerns around their children's screen time or technology usage. By not identifying or putting greater emphasis on other value propositions for digital learning, many schools may be leaving an unintended false impression with their parents that technology use in school is exclusively about engagement. Many parents believe that their children have plenty of engagement already with their mobile devices at home and thus, it is not necessary for their children to receive any more digital engagement at school.

Addressing new concerns around digital learning

Despite the seemingly ubiquity of technology in schools today, the debate continues about the appropriate use of digital tools to support student learning. In this discussion about the peril or promise of digital learning, it is important to bring to light three current concerns around digital learning that can impact the effectiveness of technology usage for learning. Those three current concerns are: parents' worries about too much screen time, the efficacy of teacher usage of technology in the classroom, and how to create equitable learning environments with technology.

Parents' worries about too much screen time

When asked to identify their concerns about their child's technology usage, 64% of parents of school-aged children nationwide said they are worried about their child's exposure to excessive screen time. The parents who identify this concern tend to be higher educated, more affluent parents in suburban communities. However, the important distinction here for education leaders is to understand the difference between concerns about technology use in general and concerns about school technology use. When parents are asked if they are worried about the amount of time that their children spend using a computing device at school, only 1/3 of parents say that is a concern for them. As indicated by Table 5, the too much screen time issue is a real concern for parents that should not be minimized. However, it is important to appreciate the difference between in school and general level concerns. The lower percentage of parents who are concerned about too much screen time at school is reflective of the value most parents place on technology use at school to help their children become prepared for college and career.

Table 5: Parents' concerns about too much screen time – at school and at home

| Demographics | % of parents who say they are concerned about too much screen time at school | % of parents who say they are concerned about too much screen time in general |
|-----------------------------------|--|---|
| All parents nationwide | 32% | 64% |
| By grade level of child in school | | |
| K-5 | 32% | 64% |
| Gr 5-8 | 33% | 64% |
| Gr 9-12 | 33% | 65% |
| By community type | | |
| Urban | 29% | 57% |
| Suburban | 32% | 66% |
| Rural | 34% | 65% |
| By family income | | |
| Under 50K annually | 24% | 50% |
| Over 150K annually | 36% | 70% |

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The valuation that parents have for technology within their child's learning life at school is validated through several Speak Up findings from this past school year:

- 82% of parents of school aged children say that the effective use of technology in school is important for their child's future
- A majority (58%) say that a good way for their child to learn college and career ready skills is to use technology regularly within their school classes
- Only 3% of K-12 parents say that students should not use mobile devices in class
- Parents' #1 concern about technology use at school? Parents say that tech usage varies too much from teacher to teacher (46% of parents). This is indicative of the variance in how teachers are using technology in their classroom and their comfort levels with those tools.

Efficacy of teacher usage of technology in the classroom

As discussed earlier in this year's briefing paper, the effective integration of digital tools, content and resources within instruction requires teachers to re-engineer existing lessons and re-think current instructional practices to take advantage of the unique features and functionalities afforded by technology. Quite candidly, this is challenging and time-consuming work. Teachers need specialized support and professional learning to leverage technology solutions effectively within teaching and learning experiences. To understand teachers' readiness to engage in these types of high integration activities, the Speak Up findings provide a unique roadmap for school and district leaders.

As indicative of current teacher proficiencies, only one-fifth of classroom teachers (22%) say they are very comfortable using technology to facilitate student collaborations, integrating mobile devices within instruction or differentiating instruction using digital tools. While most teachers say they are somewhat comfortable with these representative tasks, 39% say they are not comfortable at all with those types of technology-enhanced instructional practices. To increase teacher comfort with using technology, and thus elevate their efficacy in the classroom today, it is important to identify what teachers need to become more proficient with digital learning. Table 6 quantifies what teachers in the field say they need to become more proficient using technology, based upon their current years of experience as a teacher. As noted, access to technology, planning time with colleagues, professional development experiences, tech support and adequate bandwidth constitute teachers' top requests to be able to more effectively use technology within

their classroom. These top 5 requests have remained consistent since 2014. More interesting however is the increase in the number of teachers, particularly novice teachers, who are interested in a curated collection of online and digital resources to support their curriculum, and information about new classroom strategies for technology integration. In 2014, only 25% of teachers identified those support tools as needs; in 2018, 38% of teachers with 1-3 years of experience are asking for a curated set of resources and 42% of those same teachers would like classroom strategy tips. This increased interest in those types of support tools indicate a higher readiness for effective technology usage than we have seen previously.

Table 6: Teachers' identified needs to use technology more effectively in the class by years of experience

| What teachers say they need | % of teachers | | | |
|---|-------------------------|--------------------------|---------------------------|-------------------------|
| | 1-3 years of experience | 4-10 years of experience | 11-15 years of experience | 16+ years of experience |
| Class set of mobile devices | 55% | 51% | 49% | 48% |
| Planning time with colleagues | 55% | 61% | 61% | 62% |
| Professional development | 52% | 48% | 48% | 51% |
| Just in time tech support as needed | 47% | 46% | 46% | 54% |
| Adequate Internet bandwidth that is reliable and consistent | 46% | 46% | 46% | 47% |
| List of district recommended resources | 43% | 34% | 33% | 36% |
| Information on classroom strategies for technology use | 42% | 28% | 24% | 26% |
| Curated set of resources for their subject area/grade level | 38% | 34% | 30% | 31% |
| In school coaching on usage | 38% | 32% | 35% | 40% |

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Teachers (43%) also note that to be effective with the use of technology in the classroom they need confidence that their students have out-of-school access to technology tools and the Internet. Teachers understand that technology and equity considerations are interwoven with their effectiveness in the classroom.

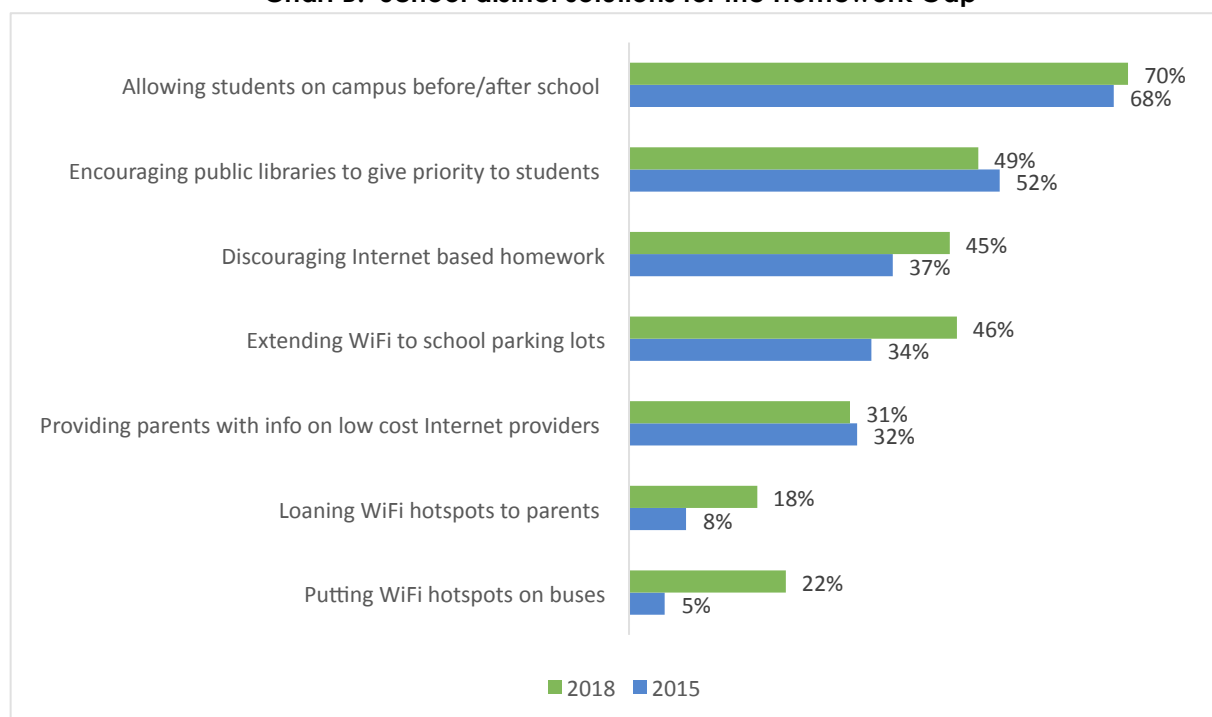
Creating equitable learning environments with technology

Beyond teachers' concerns about equity and technology, 48% of school site administrators say that equitable access to technology is a major concern for them when planning for digital learning. Technology has long held the promise of leveling the playing field for students so that there could be equitable access to high quality learning materials for all students. And while that may be true within the hours of 8 am to 3 pm during the school day, that may not be the reality for students who lack adequate digital access outside of school. Per this year's Speak Up results, 13% of students in grades 6-12 say they sometimes cannot do homework or schoolwork due to a lack of digital access outside of school. While the percentage of students impacted by the "Homework Gap" is down from 20% of students in 2015, we should not be satisfied that 1 in 8 students today may be doing homework at a McDonald's on a family member's smartphone. Additionally, given that learning today is really a 24/7 enterprise with access to an abundance of learning resources online, students who lack out of school access are also most likely not participating in the rich self-

directed learning experiences enjoyed by students with appropriate connectivity at home. Inherently, this is another level of inequity in education.

Many school districts feel a responsibility to address the homework gap issue. As digital learning becomes more commonplace in the classroom, the expectation for students to have appropriate connectivity outside of school is becoming more critical. The most common approach that district leaders (70%) are taking is to allow their students to come on campus before the first bells and stay after the closing bells so that they can access the school network. As detailed in Chart B, several emerging solutions have been adopted by districts over the past few years. Notably, four times more districts in 2018 than in 2015 report that they have implemented WiFi hotspots on their school buses, thus providing an environment for students to access the Internet on their way to and from school now. Additionally, twice as many districts say they are now loaning parents WiFi hotspots to use at home to support their students' Internet connectivity.

Chart B: School district solutions for the Homework Gap



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It has been our consistent message that every student needs to have out of school connectivity that meets these four criteria: ability to access technology in a safe place for children and youth, the access is consistent and reliable for schoolwork needs, connectivity is high quality with necessary bandwidth capacity, and the tools students are using are appropriate for schoolwork. Technology has the promise to provide equitable learning experiences for all students, but only if access to the tools and resources is also equitable.

Ending thoughts

In this year's national briefing paper, we examine the important topic of whether digital learning today represents a peril or a promise for our K-12 students. To understand this issue, we analyzed the authentic feedback of over 343,500 K-12 students, parents, teachers and administrators collected during the 2018-19 school year. Key findings shared in this paper include how students are using technology in school and out of school to support learning and the differences in how students and educators view the value proposition around digital learning. Additionally, we examined three top concerns with digital learning today – parents' worries about too much screen time, teachers' effectiveness with using technology, and the Homework Gap as a representation of technology equity.

But this discussion should not end here. Rather, we encourage schools, districts and communities to use this year's findings as a jumpstart to new local discussions around technology use within learning. Project Tomorrow has long advocated for the inclusion of a diverse set of views and voices in local decision-making. The Speak Up Research Project provides an efficient and effective way for you to learn about the perspectives of your key stakeholders, notably students, parents and staff. But beyond reviewing the data collected via the Speak Up surveys, we also highly value the power of active listening to constituents, clients and stakeholders. The views and voices of your community are a valuable asset that can be effectively leveraged to inform your plans, your messages and your policies. To support your efforts, we have identified for you some thought-provoking questions to include in your critical conversations with your stakeholders. Good luck and keep us informed of your progress!

1. How is the use of technology in your classrooms advancing student learning and preparing students for future success? How could digital tools, content and resources be used more effectively in the classroom to achieve your school or district objectives?
2. What are the most appropriate ways for measuring the impact of your digital initiatives? Are you focusing too much on engagement and not enough on other types of outcomes? What do you need to more effectively evaluate the impact of technology on student learning and teacher effectiveness?
3. How are you messaging the value of technology to parents and other community stakeholders? Are you adequately addressing the concerns or misunderstandings of parents about technology use by their children in school? How are your teachers and administrators communicating with parents about the "hows and whys" of technology usage in the classroom? Are you meeting the expectations of parents for effective technology usage within learning?
4. What do your teachers need to move from sporadic, non-strategic uses of technology to deeper integration of digital resources within their instructional practice? Are your teachers ready to implement more advanced instructional models? Are you providing the right dosages of support to help teachers build capacity for greater effectiveness? What are those right dosages for your teachers?
5. Is digital learning today a peril or a promise for your students? How effectively are you addressing inherent concerns with technology usage? Are you effectively leveraging technology as an asset for personalizing learning or enabling future-ready skill development? Is digital learning inadvertently contributing to unequitable learning environments in your school or community? How can you more effectively harness the potential of technology to create new learning experiences for all students?

About Project Tomorrow and the 2018-19 Speak Up Research Initiative

Speak Up is an initiative of Project Tomorrow®, the leading global education nonprofit organization dedicated to the empowerment of student voices in education. Each year, the Speak Up Research Initiative polls K-12 students, parents, and educators about the role of technology for learning in and out of school. Speak Up represents the largest collection of authentic, unfiltered stakeholder voices on digital learning. Since fall 2003, over 5.7 million K-12 students, parents, teachers, librarians, principals, technology leaders, district administrators, communications officers, and members of the community have shared their views and ideas through Speak Up. K-12 educators, higher education faculty, business, and policy leaders report that they regularly use the Speak Up data to inform federal, state, and local education programs.

During the 2018-2019 school year, Project Tomorrow received input from 289,373 K-12 students, 26,122 teachers and librarians, 2,190 administrators, 21,951 parents and 3,861 community members representing over 3,157 public and private schools and 800 districts. Schools from urban (26%), suburban (33%), and rural (41%) communities were represented in the analyzed data. Just over one-half of the schools (59%) that participated in Speak Up 2018-19 were Title I eligible schools (an indicator of student population poverty). The Speak Up 2018-19 Project was open for input from K-12 stakeholders between October 15, 2018 and June 30, 2019. To learn more about the Speak Up research questions, our methodology or analytical processes, please visit us at https://tomorrow.org/speakup/about_SU.html.

Project Tomorrow's goal with our research is to help build the capacity of education leaders to create new learning experiences that prepare today's students to compete and contribute to the global economy and society. To share the Speak Up 2018-19 national findings, Project Tomorrow is creating a series of briefing papers and infographics to address key topics in the effective use of technology to enable new learning experiences and empower educational effectiveness. These publications can be downloaded from <https://tomorrow.org/publications/publications.html>.



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ABOUT PROJECT TOMORROW

Project Tomorrow is the leading global education nonprofit organization dedicated to the empowerment of student voices in education. With 22 years of experience in the K-12 education sector, Project Tomorrow regularly provides consulting and research support about key trends in K-12 science, math and technology education to the school districts, government agencies, business and higher education.

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