



Project Tomorrow, a national education 501.c.3 non-profit organization, is pleased to provide the FCC with a specially selected set of our national research on the use of technology and the Internet within K-12 education to inform the modernization of the E-rate goals proposed in the Notice of Proposed Rulemaking (NPRM) adopted July 19, 2013.

The issue of school connectivity to the Internet and the availability of high capacity broadband as a prerequisite for leveraging emerging digital content, tools and resources to improve learning is part of the DNA of Project Tomorrow. In 1996, the organization under our former name, NetDay, promoted the importance of school connectivity to the Internet through a national campaign to organize volunteer-driven school wiring events in all 50 states. On March 9, 1996, over 50,000 classrooms in California alone were wired for the first time to the Internet on that single day with the support of cadres of community volunteers throughout the state. While many did not understand the potential educational benefits of classroom connectivity initially, these early attempts at providing Internet accessibility to students and teachers helped to build a new case statement for the value of digital learning for educators, parents, community members and policymakers. The NetDay school wiring events have long been heralded as an exemplar of a community collaborative education reform effort and one of the first school technology initiatives to be mobilized nationally via the Internet.

As school connectivity increased with E-rate funding, our attention turned to how that connectivity was being used by students and educators to transform teaching and learning. Initiated in 2003 with seed funding from the US Department of Education, the Speak Up National Research Project collects and reports on the authentic, unfiltered views and opinions on digital learning of almost 500,000 K-12 students, educators and parents on an annual basis. As an unbiased guardian of this ten-year collection of input from over 3 million K-12 education stakeholders, Project Tomorrow is in a unique position to provide informed insights and relevant data to inform the proposed rulemaking expressed in the NPRM.

The Speak Up data findings in combination with our consultative and evaluative work with K-12 schools and districts nationwide on their digital learning plans and initiatives provides three views for the FCC:

- information on the current state of digital learning and connectivity in our nation's school
- Information on the change in the views of students, educators and parents over the past ten years
- Information on the aspirations of these same key stakeholders for leveraging digital content, tools and resources for enhanced learning and student achievement.

The Speak Up data that is provided at this time is primarily aimed at addressing the questions posed in Goal 1 of the NPRM. The Speak Up data provided represents the views of over 364,000 K-12 students, 39,000 parents, 56,000 teachers and librarians, and 6,000 administrators from over 8,000 schools and 2,400 districts nationwide who were polled in fall 2012. While the data covers a wide spectrum of issues pertinent to digital learning, specifically, we have identified Speak Up data findings to illuminate the following topics within the NPRM:

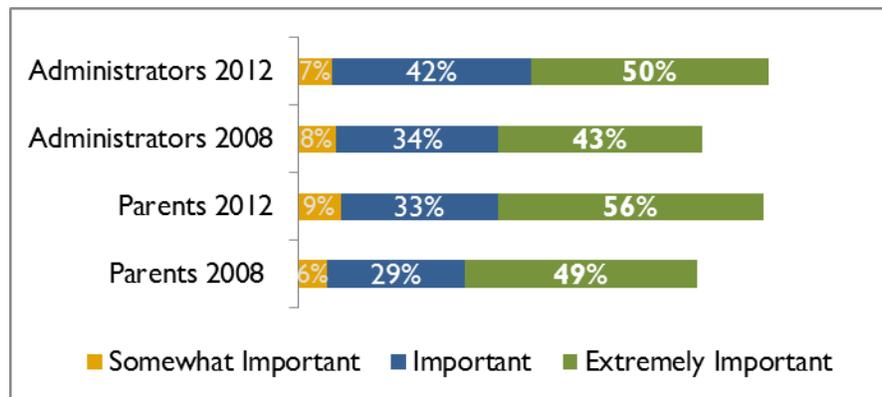
1. Current value and usage of digital content, tools and resources within K-12 education
2. Current perspective of education stakeholders on the capacity of Internet connectivity in the school
3. Current status of school and district budgets and the relationship of that status to funding for connectivity
4. Current status of students' out of school access to the Internet and the role of 3G/4G connectivity via mobile devices
5. Aspirations of education stakeholders for digital learning and communications, and specifically the usage of digital content, tools and resources that will demand high capacity broadband

All of the Speak Up data findings are provided in summary format. More detailed information is available upon request.

#### **1. Current value and usage of digital content, tools and resources within K-12 education**

Parents of school aged children and district administrators place a very high value on the role of digital learning within education, and that value proposition has steadily increased over the past few years as demonstrated by the increase in the number of stateholders who view technology as *extremely important* to students' education and future success.

Table 1: How important is the effective use of technology in education to student success?  
Administrator and Parent Views – 2008 vs. 2012



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When asked to identify the school reform initiatives that they believe would have the greatest impact on increasing students' college and career readiness, 52 percent of district administrators in 2011 called for leveraging technology more effectively. By comparison, only 34 percent of those administrators chose implementation of Common Core standards, 22 percent selected increasing AP classes at high school and 15 percent proposed lengthening the school day or school year; all popular initiatives promoted by various education reform groups. The strong value proposition of the administrators on the potential of technology indicates their readiness to support greater integration of these digital assets into instruction.

Correspondingly, teacher usage of various digital content, tools and resources has increased significantly in recent years per a longitudinal review of the Speak Up data and this also indicates a sea change in terms of teachers' acceptability and comfort with using technology within their classroom. These examples of increased teacher usage of technology to support their own professional development are especially significant as that indicates a highly personalized value proposition.

- Teacher participation in professional online communities – increase of 76% from 2007 to 2013
- Teacher participation in video conferences and webinars – increase of 160% from 2008 to 2013
- Teacher participation in online professional development courses – increase of 24% since 2008

**2. Current perspective of education stakeholders on the capacity of Internet connectivity in the school**

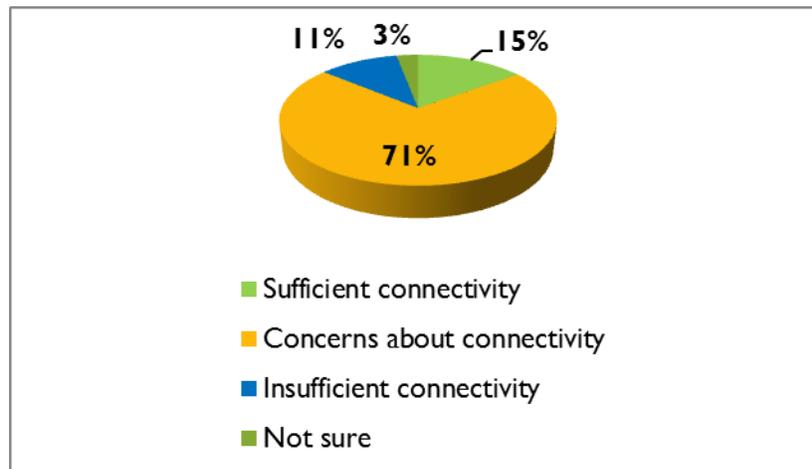
When asked to identify the greatest technology challenges facing their district, technology leaders note their concerns about Internet connectivity and bandwidth to support this evolving increase in teacher usage in the classroom of digital content. Technology leaders' concern about high capacity bandwidth increased 160 percent from 2010 to 2012.

This same concern is shared by district and school site administrators. Over one-third of both groups indicated that inadequate bandwidth to support digital learning was a primary obstacle they faced in thinking about expanding the use of digital content, tools and resources within their school classrooms. Similarly, teachers noted the same issue as well as related issues in talking about the obstacles they face trying to use technology at their school. When asked about what prevents them from using technology at school to support student learning:

- 37 percent of teachers noted a concern about technology and Internet reliability in their school
- 26 percent specifically named inadequate Internet connectivity as the culprit
- 55 percent stated that the lack of available computers to use dampened their enthusiasm or willingness to engage in digital learning.

Teacher and administrator concerns are well founded. The bottom line is that as demand increases for the use of more digital tools and content in the classroom, the vast majority of districts are facing a serious bandwidth capacity problem. Only 15 percent of school districts say that they have enough bandwidth capacity to support their instructional needs; and 71 percent of districts either have current problems with bandwidth issues or are concerned about the impact of implementing more digital content on their capacity.

Chart 1: Do you have enough bandwidth to support instructional use of digital content in your district?



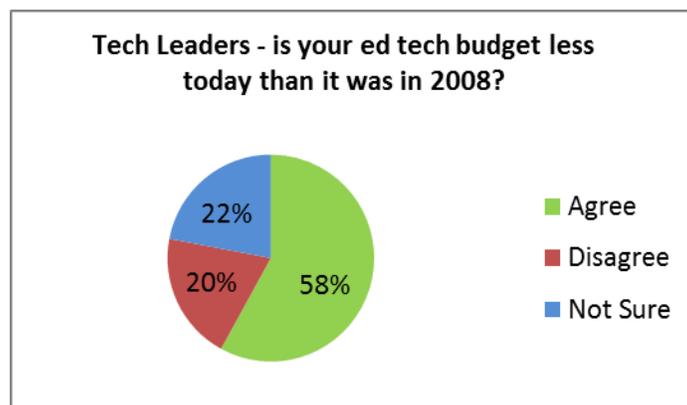
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This connectivity crisis in combination with the increases in teacher usage and parental and administrator values provides a case statement around the increased demand for high capacity broadband , a tidal wave of demand that is not going to subside and should be addressed from both a funding and policy perspective.

**3. Current status of school and district budgets and the relationship of that status to funding for connectivity**

Most the school districts in the United States continue to face budget challenges. And despite recent high profile calls for increased investment in technology to support learning, district education technology budgets continue to feel the after effects of the recession. When asked to evaluate the current state of their technology budgets, 58 percent of technology leaders said that their budgets were less than in 2008.

Chart 2: The state of district ed tech budgets



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Due to this financial quagmire, technology leaders say they are postponing new projects (37 percent), cutting back on projects (22 percent) or applying for additional E-rate funding (20 percent). Almost half of all technology leaders are simply maintaining the status quo. This means that despite the new interest by teachers, administrators and parents in digital content, tools and resources, their school and district technology budgets have no or very limited financial capacity to provide classrooms with new technology to support learning.

**4. Current status of students' out of school access to the Internet and the role of 3G/4G connectivity via mobile devices**

Parents and educators are very interested in how to effectively leverage new mobile devices such as tablets and smartphones to improve learning opportunities. Specifically, they see these devices as providing a unique way to extend learning beyond the school day and to provide opportunities especially for students that are underperforming to receive just in time remediation support through their mobile devices. A majority of parents (50 percent), teachers (55 percent) and administrators (64 percent) say that one of the most significant benefits of mobile learning is this ability to extend learning from the school to the home.

However, the reality is that 6 percent of high school students in Grades 9-12 still do not have home Internet access and an additional 10% of high school students say their connection is slow or dialup.

From our study of this over the past 10 years, we have seen no change in these statistics. The impact of this on the classroom is significant. In a typical high school classroom of 30 students, it is conceivable that 5 of those students do not have adequate Internet connectivity outside of school to support the digital homework that their teachers may be assigning. This reality is not lost on the teachers or the administrators. Two-thirds of teachers say concern over students' lack of home Internet access is an obstacle to their greater use of digital content, tools and resources in the classroom. And 45 percent of administrators say that digital equity concerns like this are a major challenge within their district.

Many students, including those without home Internet access, are turning to their mobile device's 3G/4G capabilities to provide them with access to online digital resources. Already, 68 percent of high school students say that their access to the Internet is through a mobile device. For today's students, learning is a 24/7 enterprise with the formalized school environment being only a small fraction of their day. Mobile devices with Internet connectivity is now a part of that learning enterprise.

**5. Aspirations of education stakeholders for digital learning and communications, and specifically the usage of digital content, tools and resources that will demand high capacity broadband**

District leaders have a clear idea as to how they would use the high capacity broadband if it was available and affordable. A majority of district administrators say that, with that level of connectivity, their schools could better utilize online curriculum, increase the use of multi-media content in the classrooms and increase the use of video resources.

Thinking on a broader scale, we asked administrators as well as parents to envision the ultimate school for today's students and to identify the technology components that would be essential in that ultimate school. Parents and administrators support many of the same tools and resources. Not surprisingly, these tools and resources are dependent upon high capacity bandwidth in the school to be effective and meaningful in a classroom environment.

Table 2: Wish list for the ultimate school – placing future new demands for high capacity connectivity

|   | Parents | District Administrators | Principals |
|---|---------|-------------------------|------------|
| Digital content such as videos, animations, simulations etc.                      | 50%     | 63%                     | 57%        |
| Laptops or tablets for every student to use                                       | 44%     | 50%                     | 52%        |
| Online textbooks that leverage a wide variety of digital tools                    | 56%     | 62%                     | 54%        |
| School portal and websites that are rich in information about student achievement | 51%     | 41%                     | 43%        |

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As noted above by their support of school portals and websites, parents are also particularly interested in how digital tools can enhance school to home communications. Besides face to face meetings with their child's teacher, parents would like teachers to use a variety of digital tools and resources to keep them updated on their child's achievement and progress in school. Their wish list for communications includes:

1. Emails (88 percent of parents)
2. School portal (48 percent)
3. Text messages to their mobile device (37 percent)

### **Conclusion**

Project Tomorrow is pleased to share this sampling of our Speak Up research to inform the work of the FCC and to stimulate new conversations within the education community on the importance of digital learning. Thank you for this opportunity to provide these comments.