The Pandemic, Education and Broadband: Lessons From SXSW EDU

Students, teachers and parents see the value robust broadband can bring to education.

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Note: See all videos mentioned in this article on the SXSW EDU YouTube channel: www.youtube.com/user/SXSWEDU/videos.

Education, health care and entertainment are the three biggest drivers of demand for robust, universal broadband. And optical fiber networks that reach all the way to end users are, for most situations, the best technology for robust broadband – now and in the next few decades. SXSW EDU, the education-focused smaller sibling of the huge SXSW (South by Southwest) conference held in Austin, Texas, each year, offered a number of insights about the role of broadband in education at the 2021 show. Here's a look.

LESSON 1: A Huge Boost in Demand for Robust Broadband

The biggest lesson from the 2021 conference is the massive jump in the number of students, teachers, parents and other stakeholders who now see the value robust broadband brings to education. Online education jumped five or 10 years' worth almost overnight when school closures and lockdowns started because of the pandemic. Conference speakers predicted that even after a "return to normal," significant online activity that did not exist before the pandemic would remain. Congratulations to the suppliers and other players installing fiber in various communities; the pandemic has given your sales efforts a huge boost.

LESSON 2: More Complete Understanding of the Digital Divide

A session involving public schools in Fairfax County, Virginia, (see the video "Building a Home-School Connection: Lessons Learned") focused on the three components of the digital divide, which the pandemic made glaringly obvious:

- **Broadband Access:** The U.S. is full of rural and urban areas where robust broadband is not available or affordable. According to one estimate, 16 million K–12 students were offline during stay-at-home orders (see the videos "Tackling the Digital Divide" and "Offline & Left Behind: The Lost Generation"). In addition, many higher education students who were sent home went back to places and homes that were offline.

  A twist to understanding access is the growing importance of upstream speeds. Working from home and remote education spread out the timing of heavy use among home end users; it was no longer concentrated in the early evening, so networks, for the most part, were already scaled to handle it. But they were not scaled to handle the large increase in uploads of student and employee work and the real-time demands of online conferencing via Zoom and other products. Often, two or

more students or employees had to be online from the same home at the same time, adding to the increased load.

- **Knowledge:** Many teachers, students, parents and other people lacked knowledge about getting online and what being online could do for them. The closure of schools made the "what" clear: no education except online. Therefore, everyone scrambled to get online and learn how to operate once there. Teachers and faculty everywhere frantically created online versions of lesson plans (see the videos "Enrollment Surge! Surviving & Thriving in COVID-19" and "Tectonic Mergers: Frictions in Music Education"). Students scrambled to learn how to get by (or even thrive) in the new world (see the videos "Zooming in on CS When You're All Zoom'd Out" and "Connecting T(w)eens in Virtual Communities").

  One silver lining was the discovery that for a significant percentage of both students and teachers, online was better than in-class. SXSW EDU presenters predicted that some remote arrangements were almost certain to continue once part-time and full-time in-person classes resume for most students.

A third element of knowledge concerned the role of parents and other caregivers. The pandemic drove home how key parental involvement in education is, yet I found no programs or technology to help keep parents involved in their children's online learning. I'm hopeful this will change.

Three years ago at the 2018 SXSW EDU conference, I asked every vendor of educational technology whether they had thought about the role of parents/caregivers and developed any special features on interfaces for this role. Only one, out of several dozen, had given the topic any thought at all, and that vendor was the only one with special features for parents/caregivers. A review of the launch competition for 2021 (all 10 finalists) suggests things have not improved (see: "SXSW EDU Online 2021 Launch Competition"). A few offerings were so focused on students that they did not even consider the role of teachers.

- **Devices:** About 95 percent of the population has online access through a smartphone or its equivalent. But these devices, with small screens, small keyboards and limited access to peripherals such as printers, were not adequate for educational purposes. Education activities required something with a "large-enough" screen and a "large-enough" keyboard, such as a mid-sized tablet, a Chromebook or a full computer. Students who lacked ready access to such a device, preferably at home, struggled, even if they had a sufficiently robust connection and knew how to use it.

LESSON 3: Robust Broadband Is Not a Cure-All

In several sessions, discussion focused on issues that broadband can affect only marginally. As the digital divide shows, even if you build it, they may not come because they lack knowledge and devices. But even a system with everyone online will still have issues with discrimination, social and emotional needs, choice of content, learning styles, teaching styles and more (see the video "A Trauma-Engaged, Culturally Responsive District").

Being online can help solve many problems, but offers no guarantees. For instance, one session focused on how to address discrimination through educational technology design (see the video "Can We Design Bias Out of EdTech?"). Consider the example of voice recognition, which can be a huge help for people learning to read. One vendor is adding children's voices to the recognition engine; others stressed the importance of handling accents, dialects and variations in syntax. Another example is student-by-student personalization. To be most effective, personalization needs to apply to cognitive learning styles *and* many other social and emotional attributes of the whole person, including attention to a student's family and community situation.

Another non-broadband issue covered was nontraditional students, especially at the higher-education level but also often at the secondary-school level (see the video "The 'Kids' Aren't Alright: Reinventing Higher Ed"). Students today may be any age – even seniors sometimes go back to get a high school diploma or college degree. They may work part-time or full-time, including students in secondary school. Some students aren't academic in the traditional sense, and instead seek training in how to do something, not how to study it (see the video "Skills-based Hiring: Paradigm Shift for Educators). Students may have no interest in a degree per se, but intense interest in credible proof they mastered a particular subject or skill (see the videos "Upskilling for the Future," "How Universities Can Power the Future of Work" and "Standing Out in Today's College Admissions Process").

Again, being online can help with this – but offers no guarantees. The internet can offer access to many new content elements. One session concerned the efforts to introduce students to real public officials facing real public problems – both passively, by watching other students interview them, and actively, by giving the students involved a chance to submit their own questions (see the video "Connected in Class: A Starting Point & Close Up").

This suggests that education's job is not done when everyone is online with robust broadband and an adequate device. The opportunities have increased, but the students, teachers and system as a whole still must act on those opportunities. ❖

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