

Educational Technology Assumes Robust Broadband

What homework gap? Educational technology vendors now assume all schools and students have plenty of broadband available. Maybe the assumption will prove to be self-fulfilling.

By Rollie Cole / *Sagamore Institute for Policy Research*

Once again this March, the South by Southwest organization held its four-day conference on all things new and exciting in the world of education. The coverage extended from pre-kindergarten through K–12 and higher education to lifelong adult education. I attend each year on behalf of **BROADBAND COMMUNITIES** to see what developments might increase the demand for broadband in homes and educational institutions. This year, I was struck by three principles that edtech vendors seem to be following.

1. ASSUME “REASONABLE BROADBAND” EVERYWHERE.

About nine of 10 contestants in the student and adult startup competitions just assumed that broadband connectivity would exist, at least at a level adequate to stream video on a smartphone. The same was true of more than half the 200-plus firms exhibiting in the convention hall. These firms had no plans for rural areas or poor urban areas where that assumption was not valid.

In earlier years, many firms had online and offline versions of their software; not this year.

The only purported “OFFline solution” I saw was a battery-powered pen for marking multiple-choice tests on paper. The pen needed a docking station with an internet connection to allow its stored results to be extracted (Anoto, caieducation.com).

A more typical example was Care2Rock (care2rock.com), which uses an internet connection and a standard laptop with microphone, camera and speakers to allow one-on-one remote music instruction. The firm just assumed every potential student already had both such a laptop (which could be a Chromebook) and a “reasonable” internet connection.

Another example was Literal (literalapp.com), which “chatifies” classic literature, such as “Alice in Wonderland”; that is, it turns the original text into chat posts to encourage students to absorb literature in bite-size pieces if pages and pages of words on paper are too overwhelming for them.

2. PUT AI TO USE.

In earlier years, panels of experts speculated about the future uses of artificial intelligence (AI) in education. The one panel of that kind this year discussed how to teach AI principles to K–12 students.

This year, machine learning and other AI techniques were used in many of the applications shown. Some used AI to develop an application or device. Some used AI to have the application or device respond to a student as the student used it. Some used AI to help make continuous improvement in the application or device itself. In every case, the AI database and the AI algorithms were *not* at the point of use but somewhere remote. The “assume reasonable



Virtual reality in the SXSWedu Expo. Photo by Marilyn Garcia.

broadband everywhere” principle was in use all the time.

One example was Amira Learning (www.amiralearning.com), which uses AI to listen to beginning readers trying to read out loud and intervenes with videos of teachers saying the words that give the students difficulty.

3. LEARNIFY GAMING.

Several sessions discussed how to add learning experiences to video game play, largely by treating multiplayer games as if they were college-level club sports. A national organization, the North American Scholastic Esports Federation (www.esportsfed.org), has sprung up to do this. The association holds various competitions, but the learning comes largely from the club aspect of the events. Unlike traditional major sports at the K–12 and college levels, the students do all the work of running events, including holding contests for best logo, best mascot, best event organization and so forth. Similar organizations are springing up at the college level.

Neither the National Federation of High School Associations nor the National Collegiate Athletic Association has stepped in. Both appear to be

waiting to see how long the fad lasts.

Again, the assumption of a robust pipe appears. The organization and those involved simply assume that sufficient broadband already exists somewhere (remember, speed and latency really, really matter in multiplayer games, almost as much as in electronic stock trading). The panels included one passing discussion of finding a venue with enough computers but assumed that if a venue had computers, it had the required broadband.

IS BROADBAND A DISTRACTION?

FCC commissioners have used the term “homework gap” since 2014, if not earlier. Yet I learned today of a Columbia University professor, a former FCC staffer, who claimed never to have heard the term. He and others wondered out loud (OK, in an email list) about whether broadband was just a distraction from reading and student-teacher interaction.

Some of us in the discussion questioned whether the same concerns about student distraction applied to the invention of printing (why attend lectures when one could just read

the book?) and of the electric light (remembering those places in third-world countries where students do their homework in lighted parking lots because they have no lights in their homes).

The educational world has moved well beyond such concerns about distraction. Broadband is used for administrative functions – enrollment, attendance, submitting homework and posting grades – and for instruction, and in both areas, the use of broadband and the amount and quality of broadband required are growing rapidly. The vendors have simply assumed away any “homework gap” problem, starting with the announcement three years ago that the only official preparation for the Scholastic Aptitude Test – which is less renowned than it once was but is still taken by one-third of U.S. high school students – was available online and only online.

I suspect the pressure is building to recognize broadband as an essential utility, at least for education. ❖

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