The New Network Podcast
Global Frontiers in E-Learning: Education Success Stories
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There is a famine underway that has far-reaching implications for the global economy. This famine has nothing to do with available health care or the spread of communicable disease or drought or crop failure. Rather, it’s a knowledge famine: 143 million kids around the world who don’t have access to education, at a cost of over $100 billion per year in lost economic opportunity.

And why is this? Well, a variety of reasons, but the most common is geography. Many kids in both the developed and developing world simply don’t live close enough to a school to be able to attend. It’s as simple as that. Or they live in rural areas where the cost of running a school is prohibitively expensive because there isn’t a large enough population of students in the area to support it. Or it may be too dangerous for them to walk from their village to the school in the neighboring town.

But what if the school could be taken to the kids rather than the kids having to go to a school? In many areas, that’s exactly what’s happening. Thanks to innovative educators and the growing availability of high-speed networks, children in the most rural parts of the world—including right here in the United States, by the way—now have access to rich and sophisticated learning options that don’t require a physical classroom and that were only dreamed of a decade ago.

The impact of this evolution is remarkable. Take the example of the nongovernmental organization TOSTAN and their Mobile Phone for Literacy and Development Project, operating in West Africa. Using a combination of both fixed and wireless network connectivity, they began sending electronic reading lessons to a population of largely illiterate students. After four months, 73 percent of the people in the program were able to read the text messages they received—up from 9 percent at the start of the project. That’s what education is about.

But it’s not just the developing world that needs attention. Even the most sophisticated schools are reeling from the impact of electronic media: online learning environments such as Massive Online Open Classrooms, or MOOCs, electronic textbooks, and a new generation of kids who arrive in the classroom with a plethora of devices that are as much a part of their lives as the clothes they wear—and who, by the way, want to access rich media-based educational content using those devices. Teachers sometimes struggle to integrate technology into the classroom but, in the final analysis, the impact is always positive and highly profound.
So I’d like to take a few minutes to talk about some of the remarkable ways in which networking technologies are revolutionizing the world of education.

Perhaps the biggest area of impact falls under the general heading of collaboration. High-speed networks provide access to the global Internet, which in turn provides both students and teachers the ability to collaborate live with other classrooms, anywhere in the world. Online content provides enrichment opportunities, such as the live video feeds from the National Oceanic and Atmospheric Administration as they explore the deepest trenches of the Atlantic with remotely-operated submersibles. Virtual tutors are there for students who need a little additional help. And, of course, MOOCs make available hundreds of hours of online content from the world’s most famous universities—absolutely free of charge.

For teachers and administrators, access to cloud-based services over high-speed networks provides a dynamic and flexible way to not only archive student and teaching records, but to also perform sophisticated analytics on archived data as a way to guide the strategic direction of teaching methodologies and curriculum evolution.

This innovative approach to analysis is called Big Data and it is changing the way curriculum is created. By selecting content and analyzing its learning effectiveness during every step of the student learning experience, schools and universities can create and deliver customized modules, individualized assignments, provide real-time feedback to enhance learning, and create a positive, learner-centric classroom. This technology combination also makes it possible for educators to collaborate globally, creating on-demand communities of interest. And thanks to the newest technological arrival, Big Data, educators can assess the specific requirements of students and build targeted curricula that meet their needs perfectly, resulting in just-in-time and on-target education.

Another area where networking shines has to do with diverse learning styles. Some students fare well in a traditional classroom environment, while others need a different level of engagement to internalize content. Still others require hands-on experiences or an iterative learning experience. All of this can be done by a network-based learning as a supplement to the traditional classroom, and that is precisely what is happening in schools led by innovative, forward-thinking teachers all over the world.

But there is, of course, a cost; and that cost is measured in bandwidth. These network-based learning modules work extremely well, but the reason they work so well is that they are media rich, providing an immersive experience that can’t be realistically delivered any other way other than at great cost. But for these services to work well, they must be made available over a high-bandwidth network.

The good news for the U.S. is that the federal E-Rate Program is designed to offset the cost of access to the all-important broadband network that makes this all possible. E-Rate refers to the Schools and Libraries Programs of the FCC’s Universal Service Fund, which offers discounts to schools and libraries in the U.S. as a way to gain access to affordable telecom services,
including broadband Internet access, which is the backbone of the services described earlier. This program views schools and libraries as anchor institutions from which Internet access and other economically important telecom services can extend into the community. And while schools and libraries that apply for E-Rate discounts must provide the computers and telephones that connect to the broadband network, as well as software and professional development services for teachers and administrators, as much as 90 percent of the network is funded by E-Rate.

But here’s what we know to be true: education is going through a wrenching evolution at the moment as it reinvents itself to remain relevant in a world dominated by globalized business, rich multimedia content, diverse learning styles, a mix of real and virtual classrooms, and educators dedicated to making a difference for their students. Fundamental to the success of this potpourri of educational elements is high-speed access to the global network, including the Internet. Twenty-first century education is like nothing we’ve ever seen before, and it succeeds on the basis of a partnership between education and technology.

For Time Warner Cable Business Class, I’m Steve Shepard. Thank you for listening.