

**REMARKS OF
COMMISSIONER JESSICA ROSENWORCEL
LATINO 2.0: LATINOS IN TECH INNOVATION & SOCIAL MEDIA
NEW YORK, NEW YORK
SEPTEMBER 16, 2014**

AS PREPARED FOR DELIVERY

Good afternoon. Thank you to Ana Roca Castro and LATISM for having me here today to discuss technology, education, entrepreneurship—and what it means for Latinos in the digital age. What a big topic. But I want to start small. I want to start by telling you a story.

So imagine Phoenix, with Camelback Mountain in the distance. In the middle of the last century developers built small and inexpensive homes in West Phoenix, just outside the city. Over the years, the population changed. As the city itself spread further and further out to new patches of dry land in the north, immigrants from Mexico and other Latin American countries moved in. They made West Phoenix their own.

So by a decade ago the high school students in West Phoenix were predominantly the Spanish-speaking children of immigrants. They poured in and out of Carl Hayden Community High School on West Roosevelt Avenue every day, making their way past school security forces. The school itself was a drab set of mid-century buildings—the kind of civic architecture that does little to inspire.

But appearances can be deceiving. Because something inspiring happened in these halls. It started when two science teachers posted flyers around the school offering to sponsor students in a national underwater robotics competition.

Four students showed up for the first meeting. They were not necessarily honors students. English was their second language. At home, they lived in trailers, sheds, and rooms without electricity. But they showed up, four teenagers looking for something to do after school.

With the help of their teachers, they got to work. They studied. They called experts. But their budget was small—and so were expectations. They built a robot with PVC pipe, joysticks from video games, and a battery system in a waterproof case. They held key parts of it together using rubber glue from the hardware store. In fact, the fumes from the glue were so strong, when the robot needed a name, they decided to christen it “Stinky.”

The students practiced with their robot in a scuba training pool in downtown Phoenix. In time their design could buzz through the water and respond effectively to commands. Their teachers were proud, but more than a little unsure how the team from West Phoenix would fare against teams from across the country. So they crossed their fingers, laid the robot in the back of a truck, and drove seven hours with the students to Santa Barbara, where the national competition was held.

So let's review. We have four Mexican-American teenagers from Arizona. English is not their first language. They showed up in a truck, decked out wearing a bit of bling—and sporting wispy, adolescent mustaches. They had a robot named Stinky. Stinky was built with PVC pipe from Home Depot.

Their competition? Well-funded collegiate teams with sleek, expertly-welded metal robots. The team from MIT, for instance, had a corporate sponsor—Exxon Mobile. Other teams had power point presentations. They had extensive backgrounds in STEM—science, technology, engineering, and math. The team from Carl Hayden had *ánimo*.

One by one, the teams lowered their robots into the pool. They performed a series of tasks and were grilled by engineering experts. But in the end no team could match Stinky's agility. So after three days of competition, the students from Carl Hayden won the grand prize. They beat students from schools across the country. They beat MIT. They were four teenagers who were looking for something safe to do after school in West Phoenix—and they proved to be among the smartest young engineers in the country.

I like this story, which I first found in an account by Joshua Davis in *Wired*. It was the subject of a documentary released this past Summer called *Underwater Dreams*. It's a story that reminds us of the potential our students have, no matter who they are, where they live, or where they go to school.

So let's keep that idea in mind and consider some statistics. Across the country, one in four public elementary students is Latino. And this number is growing. The Census Bureau projects that, in about two decades, Latinos will be one-third of the nation's school-aged children.

These numbers matter because we have to close what educators term the Latino “achievement gap.” In fact, according to the Department of Education, Latino students on average lag roughly two grade levels behind their counterparts in reading and math exams. Their graduation rates lag in all but two states. And this gap is even greater for Latino students that are English-language learners.

This gap is a big reason why the students from West Phoenix surprise and delight. But we need to close this gap. Because it flat-out should not be unusual that a group of students like this win robotics competitions. Just like it shouldn't be unusual for the entrepreneurs behind the latest start-up to be Latino.

That's not just a matter of equity, it's a matter of our global competitiveness. Because as knowledge, jobs, and capital migrate to places where workers have digital age skills, especially those in STEM fields, we need to prepare our students to compete. Already, 50 percent of jobs today require some digital skills. By the end of the decade, that number is going to be 77 percent. Yet, we have a shortage of American students graduating in STEM fields. And among Latino students, that shortage is even more acute.

It comes down to this. If we leave broad swaths of our nation's students behind, if we fail to harness their human capital, we are going into a global economic fight with one hand tied behind our back.

So what can we do about it? We have to start somewhere. And I think we should start by bringing high-speed broadband to all of our schools. It can tie technology and education together. It can create new possibilities for educational content, new ways to invigorate student learning, new opportunities for STEM instruction, and new ways to close the achievement gap.

Let's be honest. A teacher standing before a blackboard lecturing to students can be compelling. But this industrial era model is not the only way to learn. In schools that are increasingly diverse, we should be more creative. Because there is no reason for our classrooms, educational materials, and instruction to be limited to the four corners of a room, paper textbooks, or discussion dependent only on students who speak up and raise hands. Technology is changing every aspect of our lives—and learning should be no exception. Especially not when students will graduate into a fast-paced economy where they will need digital skills to compete.

So I think the time has come to reinvigorate and reboot a program known as E-Rate, which is run by the agency where I work, the FCC.

If you don't already know, E-Rate is the nation's largest educational technology program. It helps connect all of our schools and libraries to modern communications and the Internet. Support from the E-Rate program is based on need. More E-Rate funding is available to schools and libraries that serve low-income students and rural areas.

Thanks to the support of the E-Rate program, more than 95 percent of public schools in this country are connected to the Internet.

That sounds good. It might sound like the job is done. But nothing could be further from the truth. Because the challenge today is not connection—it's capacity.

Too many of our schools that rely on E-Rate access the Internet at speeds as low as 3 Megabits. That is lower than the speed of the average American home. But in many cases, those schools have 200 times as many users!

Think about what that means. It means that too many schools do not have the capacity to offer high-definition streaming video. It means that too many schools are unable to take advantage of the most innovative teaching tools. It means that learning digital age skills for the most part will only happen when students like those from West Phoenix step up and press forward against the odds.

But what if we reimagined the E-Rate program, by putting a premium on broadband to schools—and Wi-Fi in every classroom? It's within our reach. Because it's possible to do this under existing law. Better yet, if we do it right, we can stimulate new kinds of digital learning everywhere—in every school.

Here's the really good news. In July, the FCC adopted policies updating its E-Rate program. We put in place a new focus on supporting Wi-Fi in all of our schools—which should help usher in new possibilities for one-to-one device learning in schools everywhere. It's the start of something really important—updating the E-Rate program to reflect the technology and possibilities of the digital age in all of our schools.

We also put in place—for the first time—goals for high-speed service to all of our schools. We conclude that in the near term we want to have 100 Megabits per 1000 students to all of our schools. In the long term, we want to have 1 Gigabit per 1000 students to all of our schools. By adopting these capacity goals, I think we send a strong signal to educational markets. Because by making more bandwidth available at nationwide scale we can foster new opportunities for creative content, services, teaching tools, and devices—everywhere.

Plus, the spillover effect from bringing broadband at these speeds to anchor institutions like schools and libraries is huge. Because simply bringing these kinds of speeds to schools makes it incrementally less expensive to deploy higher-speed broadband to the homes and businesses nearby.

In July, the FCC also adopted changes that simplify the E-Rate program. Simply put, it's too complicated. This should be a program all about blazing a path for broadband in the digital age. But—cue the sighs—it has a long and messy paper trail. So the good news is that the FCC made an effort to reduce the bureaucracy associated with this program. We put in place a streamlined application process for multiyear contracts, committed to speeding review of consortia applications, and eliminated unnecessary requirements.

But this alone is not enough. Because we need to do more than focus on speed and simplifying the program. We also need to spend smarter. We have done some of that already by putting in place better accounting practices, which free up more dollars for updated services. But the bigger problem is that the E-Rate fund—which provides \$2.4 billion a year in support—has barely been adjusted for inflation since the program began. That's cruel. It has cut down the purchasing power of schools by roughly \$1 billion per year, cutting short the good that an updated E-Rate can do. We need to fix this—because we can't expect to out educate and out innovate the world if we do it on a budget frozen in the age of dial-up.

So I feel some urgency about this. And, again, the good news is that with our work on E-Rate in July we have taken a terrific step forward. But expanding opportunity goes beyond just school. We cannot forget that in a world where students rely on online resources and digital content in the classroom, they also need access to broadband when they go home.

Today, roughly seven in ten teachers assigns homework that requires access to broadband. But nearly one in three Americans do not subscribe to broadband services at any speed—citing lack of affordability, lack of relevance, or lack of interest. For Latinos, that number is even greater with nearly half lacking access to broadband at home.

This is another gap that needs our attention—what I call the “homework gap.” Think about what it means to be a student in one of these households—typically low-income and often

rural. It means just getting schoolwork done is hard. It means applying for a scholarship is challenging. While Latinos are adopting smartphones with Internet access at high rates, let me submit to you right now a phone is not how you want to research and type a paper, apply for jobs, or further your education.

So if we want to think big—about changing the face of digital age content creation in this country, about changing the range of services available in the applications economy, about bringing a more diverse community into the innovation economy, we are going to have to think hard about policies that support broadband for students not only in school—but at home.

The good news is that there are innovative programs in place around the country. We need to learn from them. At the same time, we need to take another program at the FCC—our Lifeline program—and update it for the broadband age. Lifeline is a program that supports telephone access in 14 million low-income households. We need to modernize it so it provides households with the opportunity to instead apply that support to broadband service. This is going to take time—but it is conversation we need to start now.

Now let me end by going back to those students from West Phoenix. What if we were able to infuse their school and schools like it across the country with new broadband-based opportunities for digital learning? What if we were able to expand STEM curriculum so it reaches everyone more effectively? What if we could rethink paper textbooks and introduce bilingual digital alternatives? What if a group of Latinos or girls or anyone else not yet on the frontlines in the technology economy won robotics competitions *all the time*? I think that would really be something. And as policymaker and a parent—I think that is something worth fighting for.

Thank you.