

**STATEMENT OF
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**HEARING ON “E-RATE 2.0: CONNECTING EVERY CHILD TO THE
TRANSFORMATIVE POWER OF TECHNOLOGY”**

**BEFORE THE U.S. SENATE COMMITTEE ON
COMMERCE, SCIENCE AND TRANSPORTATION**

JULY 17, 2013

INTRODUCTION

Chairman Rockefeller, Ranking Member Thune, Members of the Committee, thank you for the opportunity to speak with you today on this important national issue.

My name is Jim Coulter and I am a father of three, a career businessman, an entrepreneur, and an American deeply passionate about our education system.

I want to begin by recognizing the extraordinary bipartisan leadership that Congress showed nearly 20 years ago in passing and implementing the E-Rate program. It was under the leadership of Chairman Rockefeller, former-Senator Snowe, then-Congressman Markey and others that the decision was made to initially invest in technology in our schools and libraries. It is widely acknowledged that E-Rate has been a monumental success: from 1996, when E-Rate was first implemented, to 2004, schools connected to the internet increased from 14 percent to more than 95 percent.ⁱ This Committee’s support of the E-Rate program has provided tremendous benefits for rural and urban schools, public and private.

However, just as technology marches on, so does the need for technological support for our schools. Today, modern teaching methods utilizing digital tools are poised to revolutionize education around the world. Initially, technology was only in the principal's office; now it is on the teacher's desk and is moving into the hands of students. We are increasing our bandwidth users from five million teachers and administrators to 55 million students. Sadly, in spite of E-Rate's success, today fewer than 25 percent of our nation's schools have the high-speed bandwidth necessary to support this technology evolution.ⁱⁱ

I am here today to urge you in the strongest terms to support an expanded and strengthened E-Rate program. I believe expanding and strengthening E-Rate is a critical component for providing current and future generations the education and skills they need to compete in today's global and technologically-enabled economy.

LEAD COMMISSION FINDINGS

I was invited to appear before you today as one of the four co-chairs of a bipartisan commission, Leading Education by Advancing Digital, or "LEAD". The LEAD Commission is also chaired by Lee Bollinger, President of Columbia University, Margaret Spellings, former Secretary of Education, and Jim Steyer, founder of Common Sense Media. LEAD was formed over 16 months ago to answer a challenge from the FCC and the Department of Education to create a national roadmap for the adoption of educational technology. We released the LEAD Commission recommendations four weeks ago.ⁱⁱⁱ

The LEAD Commission's work involved hundreds of interviews and product demonstrations, school visits, and travels throughout the United States and around the world. We spoke with a broad cross-section of teachers, parents, students, government officials, school administrators, and educational technology industry leaders. This extensive work has made it clear to me that we are at a critical, transformative moment

for our nation's education system, a moment fraught with both opportunity and risk. Allow me to share four observations.

LEAD's First Observation: Other countries have moved rapidly and decisively to make educational technology a national priority.

I have met with Education Ministers in Singapore and South Korea who report 100 percent broadband wiring of their schools. South Korea is eliminating paper textbooks in 2016. One hundred percent of Singaporean teachers are technology trained.^{iv} Over the last few months, Turkey's Prime Minister has been on a tour to identify a technology provider that will supply 10 million tablets to Turkish students by 2015.^v Thailand's "One Tablet Per Child" policy aims to reduce the education gap between the nation's urban rich and rural poor. By the end of 2014, the Thai government will have distributed handheld computers to 13 million school children.^{vi}

These countries believe the earlier they put technology in the hands of students and make it an active part of their education the better prepared those students will be to participate in an increasingly tech savvy work force.

In 1957, the Soviet Union launched the first satellite, "Sputnik", into space, striking fear in Americans that we could lose the space race and nationally spurring us into action. LEAD's observation of initiatives around the world has led us to believe today is a "Sputnik Moment" for education in this country. Our country already does not perform well on international tests, ranking 31st in math, 23rd in science and 17th in reading.^{vii} If we do not find the national will to move forward with technology in the classroom, we risk falling further behind and creating a challenge to our long-term competitiveness. The E-Rate program we are discussing today can and should play a vital role in meeting this challenge.

LEAD's Second Observation: There is evidence that we are at a technological and teaching practice tipping point that will allow the long-held promise of educational technology to become a transformative and affordable reality.

Five years ago, the national implementation of educational technology in a large-scale fashion would have been prohibitively expensive with \$1,000 work-stations, shrink-wrapped sub-par software and torn up walls to wire school buildings. Today, thanks to the plummeting costs of tablet computers, innovative cloud-based software and enterprise WiFi technology, implementation is affordable and achievable.

Mooresville, North Carolina, a community outside of Charlotte, has risen as an example of the power of a digitally enabled school district. Walk into any classroom in Mooresville and you will find a student with a laptop working with a teacher equipped and trained to use the latest online tools to provide students with a personalized interactive learning experience. One of North Carolina's poorer school districts, Mooresville has risen to become one of its most effective and efficient. Since making the digital transition three years ago, the district pass rate on state tests in reading, math and science has increased from 73 percent to 88 percent.^{viii} In addition, Mooresville ranks 100th out of 115 districts in North Carolina in terms of dollars spent per student, but is now third in test scores and second in graduation rates.^{viii} Mooresville and numerous other innovative school districts are showing us the technology exists, teachers are deploying it with vigor and creativity, and learning environments are being transformed for the better with measurable improvement in student achievement.

LEAD's Third Observation: While the US remains a hub of educational innovation, we face the risk of falling far behind in the deployment of digital learning technologies.

We are uncoordinated and lack a clear national plan for digital education. We currently approach the challenge as 16,000 independent school districts. Absent a national plan

and collaborative action, we bear the risk of further exacerbating the digital divide that troubles the nation's poor and rural communities.

The primary reason for this national risk is that our school technology infrastructure is inadequate to meet the demands of 21st century learning. In today's world, where we expect fast Wi-Fi access with our coffee, it is troubling how many of our schools rely on slow and outdated internet connections. According to EducationSuperHighway, a highly-respected non-profit focused on removing the roadblocks to high-speed Internet in our schools, only 23 percent of schools are sufficiently wired for today's broadband demands and less than 10 percent are wired with the broadband that will be needed in 2017.^{ix}

Four weeks ago, LEAD released a five-point national blueprint to accelerate the positive deployment of digital learning. The plan is both ambitious and attainable, offering significant long-term gains for our children. We have included the blueprint as an addendum to this statement. In summary, our five points are:

- Broaden School Broadband
- Deploy Devices Nationally by 2020
- Accelerate Digital Curriculum Adoption
- Fund and Celebrate Model Schools
- Train Teachers for Digital teaching

It is no accident that our first and perhaps most critical point is a call for a national effort to broaden the total broadband available in our schools. According to EducationSuperHighway, broadband availability in our schools must increase from two and a half terabits today to 55 terabits by 2017.^x In other words, we need to move the average school from 20 megabytes, or enough bandwidth for a handful of students to stream a single video, to one gigabyte, or enough for all students in the school to take advantage of digital learning. In the last century, it would have been unimaginable to send our children to schools without heat and electricity. Broadband will be the “heat

and electricity” of 21st century learning solutions. It is imperative that we unlock the promise of digital learning: broadband is the key.

America is known world-wide as the home of information technology and the birthplace of tomorrow’s innovations. However, our connectivity limitations and our lack of national coordination on this issue will have a direct impact on learning outcomes, the education ecosystem and our nation’s ability to prepare current and future generations for a highly competitive global workforce. If we don’t act now, we risk losing our position as the global leader.

LEAD’s Fourth Observation: E-Rate provides an invaluable tool for addressing the nation’s educational technology infrastructure challenges. It is time for a coherent, collective effort to modernize E-Rate and to implement the digital learning technology essential for 21st century schools.

We are fortunate as a country that Senator Rockefeller and others saw fit to lead the nation’s schools and libraries into the digital era with E-Rate in the 1990s. Likewise, the country will be well served if this committee supports the efforts to upgrade and modernize E-Rate currently in front of the FCC. We would hope E-Rate modernization would reflect the following objectives.

First, E-Rate has already successfully addressed the issue of access; E-Rate must now address the problem of capacity and speed. We recommend E-Rate update its goals to focus on Internet infrastructure. Curriculum development will lag and private sector investment will languish if the infrastructure remains inadequate. It will simply be less attractive for educators and businesspeople to drive educational technology innovations if only 10 to 20 percent of schools are wired to use them.

Second, we need to enable districts to invest in fiber connections to their schools. E-Rate currently supports operating expenditures but does not incentivize long-term investment

in fiber. Businesses regularly make the decision to invest upfront capital in order to significantly lower ongoing operating expenses. We must empower schools to do the same in order to get them the bandwidth they need while maintaining a reasonable E-Rate budget.

Third, we hope modernization of the program will increase transparency, simplicity and accountability. We need an E-Rate that encourages broadband adoption because it is easy to use. We need an E-Rate that makes data and pooled purchasing available to schools, allowing them to drive down costs.

This country has a long and successful history of federal action to aid infrastructure development and ensure universal access to communication technologies. Just as America needed the Federal Aid Highway Act of 1956 to widen our roads, we need federal action today to widen broadband in our schools. If America can invest tens of billions of dollars a year to reduce traffic jams on our roads, shouldn't we invest a fraction of that to reduce traffic jams in our schools?^{xi} E-Rate is the key. It worked to solve the problem of access. We can call on it again to solve the educational broadband needs of our country.

CONCLUSION

While technology is not a panacea, it transforms almost every industry it touches. In my day job as an investor I realize that it would be long-term economic suicide not to provide our companies with the technological infrastructure and tools to compete in an increasingly global and competitive marketplace. Likewise, it would create substantial long-term risks to our national competitiveness if we fail to make a national investment in educational technology infrastructure. Fortunately, E-Rate gives us an affordable and effective path to make sure we give schools and teachers the digital learning tools they need to prepare our children and our country for the future.

We Americans pride ourselves on always being solution seekers, no matter how difficult the problem. Yes, our US education system faces significant tests and tough international competition, but just like after the Sputnik launch, we as a nation can rise to the challenge. Today, we are facing a “Sputnik Moment” in education. It is time for our country to collectively say “modernizing our schools is a national priority.”

Thank you for the opportunity to testify today, and I look forward to responding to any questions.

For more information, please visit the LEAD Commission website:

<http://www.leadcommission.org/>

ⁱ Rosenworcel, Jessica. “Remarks of Commissioner Jessica Rosenworcel.” Washington Education Technology Policy Summit. Washington, D.C.. 11 Apr 2013. Address.

ⁱⁱ EducationSuperHighway, *Internet Infrastructure for America's K-12 Students*, 2012.

ⁱⁱⁱ <http://www.leadcommission.org/>

^{iv} Digital Trends, *South Korean school textbooks will be all digital by 2015*, July 5, 2011

^v <http://www.invest.gov.tr/en-US/infocenter/news/Pages/200513-turkey-fatih-project-tender-process-start.aspx>

^{vi} <http://www.japantimes.co.jp/news/2013/06/19/asia-pacific/tablet-computers-thrust-thailand-classrooms-into-digital-era/#.UeQtk5zfLKc>

^{vii} OECD Program for International Student Assessment. “What Students Know and Can Do: Student Performance in Reading, Mathematics and Science.” 2009 Database.

<http://www.oecd.org/pisa/46643496.pdf>

^{viii} Mooresville Graded School District’s Digital Conversion Report, April 2011.

^{ix} EducationSuperHighway, *Internet Infrastructure for America's K-12 Students*, 2012.

^x EducationSuperHighway, *Internet Infrastructure for America's K-12 Students*, 2012.

^{xi} <http://www.artba.org/faqs/#7>