PAVING A PATH FORWARD

FOR DIGITAL LEARNING IN THE UNITED STATES

This is a transformative moment for our nation's education system. While technology fundamentally improves nearly every aspect of our lives, it plays a minor role in education. Meanwhile, the international community is quickly deploying technology (much of which comes from U.S.-based companies) in its schools, and expanding an already unacceptable achievement gap versus our children. It is time for government, private industry, non-profits, teachers, parents and students to prioritize the advancement of digital learning in our classrooms.

The Leading Education by Advancing Digital (LEAD) Commission was created in March 2012 and is co-chaired by Lee Bollinger (President of Columbia University), Jim Coulter (Co-Founder of TPG Capital), Margaret Spellings (Former Secretary of Education) and Jim Steyer (CEO of Common Sense Media). The Commission's goal is to research the state of technology in American schools and answer two key questions: "*Why is the adoption of technology happening so slowly?*" and more importantly, "*What can we as a country do about it?*"

Working closely with Department of Education and the Federal Communications Commission, and in collaboration with more than 300 thought-leaders in the field, LEAD is proposing a five-point plan with specific actions to accelerate the equitable adoption of digital learning across American schools, in order to improve student outcomes and equip them with 21st century skills. Five years ago this plan would have been prohibitively expensive with $1,000 work-stations, shrink-wrapped sub-par software and torn-up walls to wire school buildings. Today the plummeting costs of Wi-Fi enabled digital learning devices as well as innovative cloud-based software allow for this initiative to be far more affordable. LEAD's plan is ambitious but achievable, and an imperative for our schools, our students, the creation of a technology-savvy workforce and in turn, our economy.

LEAD'S NATIONAL EDUCATION TECHNOLOGY INITIATIVE – A FIVE-POINT PLAN

1. SOLVE THE INFRASTRUCTURE CHALLENGE BY UPGRADING THE WIRING OF OUR SCHOOLS

The most immediate and expensive barrier to implementing technology in education is inadequate high-speed Internet connectivity in the classrooms. While today's schools are wired, they generally do not have the bandwidth they need to meet the demands of 21st century learning. According to EducationSuperHighway and FCC data, 80% of K-12 schools do not have sufficient broadband and 83% have outdated Wi-Fi networks. Our study indicates that schools will require 100 Mbps of bandwidth for every 1,000 students/staff members by the 2014-2015 school year. By 2017-2018, the required bandwidth increases to 1Gpbs. Proper technology infrastructure in schools is the 21st century equivalent of "heat and electricity."

The centerpiece of solving the infrastructure challenge is E-Rate. Founded in 1996, the Federal E-Rate program has been an enormous success in bringing affordable telephony and basic broadband connectivity to K-12 classrooms. But in the era of tablets and digital educational content, the connectivity provided under the current E-Rate framework is no longer sufficient. By modernizing the program, E-Rate can provide the funding necessary to migrate our schools from the current inadequate bandwidth to high-speed broadband in a timely, efficient manner. The effort to modernize E-Rate and build the necessary infrastructure will take many years, and must begin immediately.

2. BUILD A NATIONAL EFFORT TO DEPLOY DEVICES

Many State Departments of Education and school districts throughout the country have started implementing device programs. It's time to build on those successes by comprehensively delivering learning devices and courseware to our students. Device deployment will have derivative benefits to the content market—once iPhones were deployed, the applications market blossomed; likewise, once devices achieve large scale deployment in classrooms, educational content development will dramatically accelerate. This, in turn, will create additional demand in the marketplace for educational digital products. An increase in demand will stimulate innovation and reduce costs, allowing for broader adoption in K-12 schools over time.

LEAD is calling for a national initiative to have devices in the hands of all students by 2020. The suggested path forward is to: (i) initially prioritize devices for the 12 million middle school students, as a means to create a "wedge" into the system from which the program can spread; (ii) leverage public and private efforts to aggregate purchasing; (iii) call on device manufacturers to develop more aggressive programs to make devices affordable to schools and available to families on an equitable basis; and (iv) collaborate with state leaders to move from print resources to digital learning offerings. To raise student achievement, the LEAD Commission believes that strong implementation plans are critical in ensuring that device programs are successful. Focusing initially on middle school students will help inspire student interest in science, technology, engineering and mathematics education, as well as encourage positive digital citizenship at a formative stage in a student's life.

3. ACCELERATE THE ADOPTION OF DIGITAL CURRICULUM

There are an ever-increasing number of innovative products in the education marketplace. Products such as online adaptive courseware, student data aggregators, and standards-based digital content are uniquely capable of personalizing the teaching and learning process for each student, while preparing our children to succeed in the 21st century work force.

Unfortunately, adoption of these products in the K-12 system has been slow. One reason is the natural risk aversion amongst administrators, educators and parents to trying new things unless and until they have been deemed "safe." Another is most products in the marketplace solve for specific needs, but few offer comprehensive curricular solutions. A third reason is that our decentralized education system of district and school leaders rely on multiple decision makers, who have limited resources to help them navigate these complicated purchasing decisions.

We must develop safe, effective and efficient ways for teachers, school principals, school districts and state leaders to evaluate and purchase comprehensive, high quality digital learning products. To foster that acceleration, the LEAD Commission recommends the following:

- **Evolve State and District Purchasing Cycles to the Digital Age:** Currently, many states and districts live with multi-year purchasing cycles dictated by the traditional textbook "edition" model. In a world of constantly changing digital delivery, states and districts need to adopt more flexible, timely procurement processes.
- **Create an Independent Certification Program:** The education market needs an independent, non-governmental certification program that identifies approved, high-quality curriculum and content solutions. It would help support a safe purchasing process and incentivize school districts to lean forward with the transition to digital learning.
- **Increase Innovation and Research Funds:** The marketplace would benefit from the availability of capital to fuel both new innovations and research to better understand and verify the effectiveness of new advances. Capital targeting entrepreneurs, businesses and researchers would not only help bring new, more effective products to market, but also foster greater competition. We have seen variations of this model work successfully with the NIH, InQTel and DARPA...why not in education?

4. EMBRACE AND ENCOURAGE MODEL SCHOOLS

Terrific examples of digital learning implementations are sprouting around the country, including Mooresville, LAUSD, New York City's iZone, Maine, Rocketship Academy and KIPP Empower Academy, among others. These examples provide powerful reinforcement and display of the future of technology in education, but they are relatively few in number and not yet having sufficient influence. On the other hand, international leaders in digital learning, such as Singapore and South Korea, have nationally funded pools of technology-enabled model schools as a means to demonstrating the future of education. We need our private, public and philanthropic sectors to commit to fund model schools to create Petri dishes of innovation.

LEAD seeks to shine a bright light on the work being done by existing model schools, and to foster the development of new model schools. By working with The League of Innovative Schools and Silicon Schools Fund, among several others, LEAD hopes to see over 200 model schools around the country by 2016. It will be critical for these model schools to broadly share and disseminate best practices and coordinate amongst funding sources, which LEAD can help facilitate

5. INVEST IN HUMAN CAPITAL

Digital learning is not about "one to one" learning between a student and a device; it is about "one to one to one" learning between a teacher, a student and a device. A common perception is that teachers are anti-technology, but LEAD's polling shows that 96% of teachers believe that the integration of technology in teaching and learning is important to the education of America's students. Yet only 18% of teachers believe they are receiving the necessary training to use technology to its fullest potential in the classroom. For technology to be properly deployed, teachers need to be empowered to embrace and use it effectively in the classroom.

The LEAD Commission strongly recommends establishing a program to empower 100% of teachers on use of information and communications technology over the next three years. The creation of "master teachers" to help train other teachers in best practices could be crucial to scaling this program (a practice used successfully in other countries). Funding for teachers' professional development would utilize portions of existing federal dollars available for teacher training.

Just as the nation once came together to build the interstate highway system, today we must come together to connect and enable a revolution in learning. We have affordable education technology at our fingertips. Under LEAD's five-point plan, we can quickly deploy that technology, and set our children and in-turn our nation on a more prosperous path.