Delivering on the Promise of Digital Learning:

Unprecedented Collaboration between State Government and Public Schools

Category: Cross-Boundary Collaboration & Partnerships

Commonwealth of Massachusetts

Legislative and Executive Branch Leaders
Executive Office of Education
Department of Elementary & Secondary Education
Massachusetts Office of Information Technology
Forty-Seven Public Schools across Seventeen School Districts

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Executive Summary

In a world gone digital, it is imperative that our public schools have access to the vast opportunities made possible by technology in order to prepare today's students for the higher education and jobs of tomorrow. While Massachusetts is known for its strong focus on education, like other states, it is also home to many schools that struggle to leverage technology in meaningful ways for our teachers and students.

To fill that gap and bridge the digital divide that exists in some schools across the Commonwealth, state leaders created a competitive, matching grant program to facilitate schools' access to high-speed broadband and/or wireless Internet connectivity. This critical policy decision has secured Massachusetts's path toward meeting our goal of enabling digital learning and teaching for all of our students and teachers by 2019.

While funding is critical to this endeavor, the true value to constituents – and opportunity for other states to learn from our work – is made possible by the unprecedented level of collaboration that education, policy, and technology leaders from across state government have engaged in to deliver meaningful results.

The state's Executive Office of Education, through its Department of Elementary and Secondary Education (ESE) and Office of Digital Learning, engages with school administrators and teachers to help drive adoption of digital teaching skills and methods. MassIT, the state's technology agency, leverages the capacity and buying power of the Commonwealth to help schools upgrade their infrastructure, while expediting the flow of $1.7 million in federal funds back to schools.

Schools across the state are taking full advantage of the skills, resources, and funding made available to them. Approximately a quarter of the state's school districts applied in the first phase; seventeen districts, representing a mix of urban, suburban, and rural schools were selected. By the end of 2015, 1,800 teachers and 25,000 students across 47 schools had gained an unprecedented level of access to technology, skills, and new ways of teaching and learning. At the same time, thanks to economies of scale, expanded reimbursement opportunities, and an increase in matching funds at the local, state, and federal levels, we are more than doubling our investment of tax dollars.

Key tenets of the Digital Connections Partnership School Grant (Digital Connections) program include rethinking the structure and delivery of learning, building a more student-centered educational system, and creating the next generation of grade K–12 learning environments, while also preparing schools for a future that includes online assessments. The program streamlines delivery of technology to communities, significantly reduces administrative burden and overhead at the local level, and makes effective, efficient use of multiple funding streams.

The collaborative model Massachusetts has created is having a meaningful impact in enabling students and teachers across the state to benefit from dramatically enhanced opportunities for digital learning and teaching.

For a short, friendly introduction to and explanation of the program in under two minutes, check out this video (https://www.youtube.com/watch?v=RlAXzolyv8I).

Exemplar

The state covers schools' technology infrastructure installation costs and manages the implementation process, applies for federal reimbursements on schools' behalf, and leverages economies of scale to garner much more favorable pricing and higher levels of service for communities than they could otherwise achieve.

Schools use local funds and resources freed up by the state's implementation and administrative work to provide professional development for teachers, devices of the district's choosing for teachers and students, and access for students with disabilities.

The state's proactive yet hands-off approach delivers both value and autonomy for schools, giving them both the freedom to decide how to best support their communities and the ability to do so.

Delivering on the Promise of Digital Learning

As a result of the state's work, schools are able to focus on their core mission: education. Investment of local matching funds is directed to professional development for educators and devices for students, which means that instead of choosing tablets or teaching expertise – as happens all too often in other places – the Digital Connections schools gain both.

Beyond return on investment, the true value of this work is that students and teachers gain a clear path and a sustainable way to reap the benefits made possible by digital learning and teaching. By expanding access to superior education, the Digital Connections program successfully addresses an important public need.

Concept

An advisory committee with broad representation from state government, local school districts, and professional associations established the core principles that guide the program:

- State agencies alleviate the administrative burden at the local level and promote cost savings for communities.
- Communities propose projects that meet their local context and needs.
- Communities are incented to propose projects in areas that have limited or no broadband or projects that are part of larger, integrated plans to connect other municipal buildings (e.g., libraries or community centers) to broadband.
- Funds are available to all types of communities – urban, suburban, and rural – and all communities have the opportunity to apply.
- More funds shall be available to communities with fewer resources than others.

Strategic Focus and Goals

The program is guided by four areas of strategic focus – interagency collaboration in support of municipalities, cost-effectiveness, economies of scale, and local capacity and sustainability – and works toward realizing these four goals:

1. Maximize taxpayer value, student access to information technology and information technology preparedness;
2. Provide student access to individualized and rigorous digital learning experiences;
3. Ensure that educators and administrators have the knowledge and skills to implement digital learning curricula; and
4. Maximize access to broadband and strengthen teaching and learning across the state in keeping with twenty-first century standards.

Significance

The significance and value of this program to one of our state's most important populations – our public school teachers and students – is hard to overstate.

In the first year of the program alone, the state received proposals from 247 schools across 98 school districts, representing approximately a quarter of our school districts. Not surprisingly, demand outstripped supply in the first round.

The Digital Connections interactive map shows details regarding each school's application. The forty-seven schools across seventeen districts – representing a cross-section of schools from urban, suburban, and rural districts – received a total of $3.6 million in state funding in the program's first round. Communities matched that state funding with $2 million of their own, secured through local, private, and federal sources.

Proposals were reviewed by teams of staff members from MassIT and the Department of Elementary and Secondary Education (ESE). Each team was assigned a group of suburban, rural, or urban applicants to review, with staff from ESE's Office of Digital Learning working across teams to ensure consistency in scoring. Proposals were also rank-ordered by score within each community type to ensure a mix of types.

It is worth noting that a number of schools that did not apply in the first round indicated significant interest and their intent to apply in a future round. To meet this demand, subsequent rounds of work are underway, with more planned for the coming years.

The program's robust framework and immediate success are perpetuating ongoing cycles of success. With help from the state, schools are:

- Giving educators access to training and tools to provide digital learning curricula.
- Allowing students access to personalized learning experiences supported by technology.
- Providing accessibility features for students with disabilities.
- Bringing students up-to-date with technical skills and digital literacy, making them more competitive when applying for college and jobs in the future.

Impact

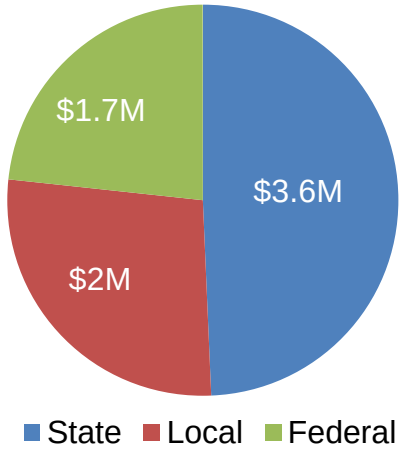
Massachusetts's Digital Connections program has already led to substantial and measurable change for students and teachers across the Commonwealth. It illustrates the incredible power of collaboration – and the meaningful results that can be created –

when state and local governments engage in hands-on work with communities of every size and shape to improve the quality of life for constituents.

By the end of 2015 – when the first round of work was completed – ~25,000 students and 1,800 teachers across 47 schools had gained an unprecedented level of access to technology, skills, and new ways of teaching and learning.

More than Doubling the State's Investment

We achieved those impressive results at 84% of the original estimated cost, or $3.6M. School districts have matched this investment with $2.0M in local funding, and have garnered a further $1.73M for investment via federal reimbursement applied for by MassIT on behalf of the districts. The ultimate result is investment in school technology of more than double the state's investment.



Lower Cost and Greater Value

The value of the state acting as purchasing agent on behalf of many, small school entities is hard to overstate. In the past, the pricing in vendors' bids to schools varied widely – and schools had virtually no way to know if they were getting a good deal or not. Once vendors began dealing with the state, however, overcharging individual schools was not an option.

One community – West Springfield – provides an excellent example of the purchasing power of the state versus that of the community. In that one municipality, by working together on the procurement of networking equipment and installation services, state and local officials saved taxpayers $80,000 over the pricing in vendors' bids directly to the school district.

At the same time, vendors appreciate the greater volume of business available to them by working directly with the state. Instead of several small projects, worth perhaps $30,000 for one district, winning vendors can instead focus on a $1 million, multi-district bid being managed by the state.

Finally, the larger scale of MassIT's work has also helped address challenges that districts faced in the recent past with regard to obtaining high-quality, high-speed internet connections, and has provided opportunities for simple procurement avenues for device purchasing and professional development.

Technology Expertise and Improved Service

The vast majority of schools in the program struggle with a lack of readily available technology expertise on the ground. With MassIT engaged, however, the weight of that challenge drops precipitously. By being familiar with and actively involved in addressing a school's technology needs, the relevant MassIT resource becomes an indispensable source of professional IT knowledge and advice, as well as a strong ally with regard to vendor management, at no cost to the school.

The town of Millis provides a useful example: a local leader was at her wit's end with a technology challenge and was not getting the support she needed from her vendor. After one call to MassIT, the challenge was clarified, the vendor responded promptly, and the issue was resolved within a day.

At the same time, MassIT does not dictate what vendors or equipment schools use; those decisions are entirely up to schools. However, when schools need help, we provide objective, independent advice. Because MassIT wrote the documentation that frames each school's engagement with their vendor of choice, the level of service each school receives is both ensured and consistent across communities. Vendors must meet specific, quantitative metrics before each project is deemed complete. MassIT enforces those requirements, asks the right questions, and ensures that the work is done properly and thoroughly.

An example of the enhanced level of service MassIT engenders – and that delivers significant value – is the simple addition of a full load test when installation is complete. At MassIT's insistence, vendors must test the network with a school full of students, downloading learning materials simultaneously. While one company balked at first, MassIT persisted, and this is now a standard practice across installations.

At the end of each installation, post-implementation testing in the key areas of throughput, coverage, and performance ensures that project requirements have been met. Vendors must address any remaining issues or concerns before the project is deemed complete. After completion, schools own the infrastructure, but they are no longer "on their own" in the way had previously been. The relationships established with MassIT and other communities going through the program live on.

Community of Resources and Support

Thanks to the close engagement among state and local stakeholders – from the initial kick-off meeting in each community, to weekly conference calls during roll-out of each installation, through implementation and beyond – a new community of ongoing support has been created. Community participants and state resources gather to share feedback, best practices, and learnings from their experiences. This relationship-building has been so welcome at the local level that teachers and parents have become active, engaged participants and advocates for the program.

Participating schools have literally opened their doors to encourage cross-visitation with fellow participants and other schools that are considering applying to the program. Through a Google calendar, they share dates when visitors are welcome to walk their halls, observe classrooms, see demos, and talk with students and teachers. Interested communities can learn about what to expect, how to get involved, and plan for success in their home districts.

But Don't Take Our Word for It…

The state has received incredibly positive feedback from the schools. This two-minute video (https://www.youtube.com/watch?v=HJyhlj-zABQ) highlights results achieved in one school district; feedback includes:

- We are "creating knowledge, as opposed to teachers delivering knowledge."

- "We do need to be globally competitive; we do need to prepare our students for college and career-readiness."
- "With computers in the class it allows me to expand the class room more than 48 minutes... [and students] don't necessarily have to just listen to me lecture…"
- "A lot of students are shy, and in every class there are three or four students that raise their hand constantly…. Other students… get pushed out…when you have collaboration software... students can now have back channels during lectures."
- "Outside of the classroom [the students]… spend a good part of their world in technology…[we are] trying to harness that and bring that into the classroom in ways that are meaningful and purposeful and connected to curriculum and connected to teaching and learning in ways that get kids to think critically."
- "[Another] ...benefit is how excited teachers are now coming back to school in September knowing that our building was going to be wireless."
- "Behavior is also a whole lot better. And I think when they have to share technology or work together a group using technology, it only benefits them down the road."

Building on Our Success

To further support professional development of teachers at the local level, early this year, through a relatively small investment, the Commonwealth engaged a top-notch consultant to provide several days of face-to-face training for educators in the program.

We are now funding school districts that were runners-up in the first round of applicants – and doing so at a cost lower than previously imagined possible due to the significant economies of scale we have gained. When the school year starts this fall, an additional 28 schools will have benefited, bringing the total to 75 schools across 27 districts.

This second phase of work was initially estimated at $1.12 million; we anticipate completing it at a cost of $819,000. As a result, we have relinquished several hundred thousand dollars back to the state's coffers for the current fiscal year.

Thanks to the positive impact we have already achieved through our collaborative work across the state, we have also gained additional, unexpected support from beyond our state borders.

- Massachusetts is one of only six states to be approved by the Universal Service Administration Company, which manages the Federal Communications Commission's E-Rate program, for an additional 10% funding match for special construction costs for schools that will participate in the program in the coming fiscal year. This unprecedented level of financial support from the federal government will go a long way toward filling the fiber gap some of our school districts still face.
- Our first phase of work has led directly to an exciting and promising new relationship with the EducationSuperHighway (ESH), a national non-profit organization that focuses on improving broadband access in schools across the country. Work is underway with ESH to further expand connectivity for schools across Massachusetts.