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Recommended CARES Act Investments to Support Connecticut Education

With the rapid and statewide shift to online learning — and unprecedented levels of funding that will arrive soon from the U.S. Department of Education — Connecticut stands poised to make historic investments in teaching and learning for all students. This brief provides recommendations on behalf of the Commission for Educational Technology in its role as the State's education technology policy advisor. The following initiatives would help ensure equitable access to digital learning in the short term and provide significant returns over time as schools and universities phase back into "blended" — in-person and online — learning models over the coming months.

We appreciate thoughtful consideration of these recommendations and welcome engagement on more detailed plans among state stakeholder groups.

Open Education Resources Repository

Investment Request: $99,800

Beneficiaries: Students and educators in all K – 12 schools and institutions of higher education

This initiative will provide a searchable database of State-developed and open education resources (OER) — from lesson plans and unit plans to complete curriculum sets, textbooks, videos, and even assessments. The site would allow the Connecticut State Department of Education (CSDE), teachers, and professors to create, share, and find materials by grade level, subject, and national standard (e.g., Connecticut Core, NGSS, Social Studies, etc.). Connecticut's OER site, like similar portals such as www.GoOpenMichigan.org, would allow district leaders to control publishing rights as wide (all of Connecticut) or narrow (their own district, building, or department) as they choose. Now more than ever, the ability to create and share high-quality resources across schools and districts will bolster online and blended learning practices.

The CSDE's Academic Office has already expressed support for the OER site and plans to roll out an all-digital curriculum across literacy, numeracy, and the sciences; the Commission's Digital Learning Advisory Council has assisted with the design of the solution; and state leadership organizations including CABE, CAPSS, and the RESC Alliance have endorsed the initiative. The Commission received $64,700 through a recent PURA grant (the PEGPETIA fund), leaving a $99,800 shortfall in startup costs.

Educator Professional Development and Credentialing

Investment Request: $1,433,660 (year-1 startup costs)

Beneficiaries: 600 K – 12 teachers (phase 1)

National research and our collective experiences over the past several weeks have demonstrated that educators are under-prepared to support digital learning. No rigorous digital learning standards exist in teacher preparation programs, and our state certifications and in-service professional development focus heavily on subject-matter expertise and in-person (rather than blended or remote) teaching approaches. Connecticut's educators — and the students they teach — require a tested framework to support effective practices in digital instruction.

We propose a statewide teacher credentialing initiative based on the international benchmark ISTE Educator Certificate. A coordinated program co-designed by the CSDE, RESC Alliance, CAPSS, and other leadership organizations would provide significant and long-lasting benefits to our teachers and students in current and future blended learning environments.

Connecticut Education Network

Investment Request: $16,196,604

Beneficiaries: All public school students, educators, and administrators

For the past 20 years, the Connecticut Education Network (CEN) has provided our state's schools, colleges, universities, libraries, and research centers with the high-speed, secure Internet connections they require for learning in the 21st century. CEN's services ensure high-quality and equitable access to Internet-based resources across the Connecticut, enable state-mandated online testing, and extend beyond just connectivity to cybersecurity protections and federally mandated content filtering.

Monies from the Partnership for Connecticut as well as the CARES Act will support 1:1 initiatives at schools across the state, putting laptops and other mobile devices in each student's hands for online learning. Results from a recent statewide survey indicate that Connecticut's schools plan to invest in more bandwidth-intensive devices, and national per-student connectivity standards have recently increased significantly (SETDA 2019). The CSDE plans to develop a digital curriculum portal, which will further increase demand and dependency on the Network. In light of these planned initiatives, CEN's network capacity must increase to ensure adequate bandwidth when students and teachers return — with tens of thousands of new devices — to our schools. The Network will also need to expand federally mandated content-filtering services for these new student devices.

With funding cut to CEN in FY17 and reductions in the State's capital bond investments, the Network faces a necessary hardware refresh without adequate resources to do so. In order to ensure continued service to our students and teachers for fundamental components of blended learning and assessment, the Network will require a one-time investment to offset the cost of core switches, routers, and support licensing.

The list below provides estimated expenses across highly interrelated categories of network hardware and services (installation included):

$7,419,500	K – 12 Edge Devices (220 Devices Across All Districts)
$2,953,500	Hub/Aggregation Site Augmentation
$2,066,900	Network Core Augmentation
$3,756,704	Optical Line System Upgrades

$16,196,604 Total

Home Access — Digital Equity

Investment Request: $300,000 (two-year startup costs)

Beneficiaries: Estimated 40,000 public school students

An estimated 40,000 students in Connecticut do not have home Internet access (U.S. Census and Pew Research). Those who do may compete with parents and siblings for insufficient broadband and devices to provide the same learning experience they have in school. The Commission has already undertaken efforts to address these shortfalls — what FCC Commissioner and West Hartford native Jessica Rosenworcel coined the "homework gap" — through our Digital Equity Toolkit and lobbying efforts through Congress, the FCC, and national leadership organizations.

In addition to this guidance and advocacy, the Commission is engaged in pilots of the Eduroam system to connect students to the Internet via a global wireless network. Widely used in higher education already, the Eduroam platform will enable all students to connect through community anchors such as libraries, colleges, and community centers once social distancing directives ease. We have also engaged with commercial providers to make this free access available through the millions of access points across the state that they manage.

The Commission has already begun the design of a statewide digital equity survey to provide local data to district leaders on where gaps exist so that they can address these inequities. This local data is essential, as the homework gap occurs home by home. The results of this annual survey will inform cooperative purchasing that CEN — governed by the Commission — will undertake to offer districts cost-effective agreements to purchase devices and cellular hot spots that students can use off campus.

The Commission proposes the creation of a statewide Digital Equity Coordinator to lead the Eduroam work, data collection around digital equity, and cooperative and volume purchasing of home connectivity services. This position aligns directly with State statute (CGS § 61a) empowering the Commission to connect students and educators to the Internet.

Technology Efficacy, Efficiencies, and Compliance

Investment Request: $237,775

Beneficiaries: All Connecticut public school teachers and administrators

The use of educational software, already widespread before the COVID-19 shutdowns, will continue to expand in Connecticut's schools and colleges. One recent study shows that districts use on average more than 700 ed tech products per month. Over the past three years, the Commission has introduced significant efficiencies in the procurement of compliant software across our state's schools through the launch and operation of the Educational Software Hub, hosted on LearnPlatform, and the opportunity exists to maximize further the effectiveness of educational technology investments.

The State can leverage data collected through the Hub and implement efficacy tools to identify those products that have the greatest impact on student learning. Relatively low-cost investments in the LearnPlatform system would provide anonymized data on ed tech use, by district, allowing the State to identify opportunities in volume purchasing. Tying this data to teacher product reviews would allow for more informed selection of products that have brought about positive results for students.

A second tier of investment would provide a rapid-cycle evaluation (RCE) engine for all districts to use. Rather than invest in costly, third-party research into product pilots — beyond the means of smaller and economically disadvantaged schools — districts could use the IMPACT engine within LearnPlatform to conduct their own efficacy studies. Such studies would provide insights into and more efficient spending of the time and money that go into educational technology. The CSDE could align these studies with its own work around student achievement and district performance.

Educational Software Hub Optimization	Rapid-Cycle Evaluation Engine
• District-Level Usage Data Collection • Advanced Usage Reporting • Enhanced Teacher Review Forms • Product Profile Expansion • Library Search Enhancements for Improved Decision-Making $39,275	• Outcome Analysis Across GLE, School, Subject, and Products • ESSA Alignment (Evidence Tiers I – IV) • District and State ROI and Dashboards • Implementation Services • Onboarding and Training $198,500

Year 1 Total: $237,775 ($0.43 per student)
Year 2 Total: $159,500 ($0.29 per student)