Annual Report of the Connecticut Commission for Educational Technology

Calendar Year 2020

Submitted in Accordance with CGS § 61a, Sec. 4d-80(c)(8)

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Contents

Year in Review — and a Path Forward

The year 2020 marked a significant turning point for digital learning in Connecticut and across the world. The need for social distancing to protect against COVID-19 forced schools, colleges, and libraries to adopt flexible models of instruction and operation. These changes in turn led to the rapid adoption of and investment in technology to support online learning. As with education, nearly every aspect of daily life and society shifted and grew more dependent on broadband, devices, and digital literacy skills, from remote learning and healthcare to simply connecting with friends, loved ones, and members of the community. More than during any other year, 2020 saw technology become the foundation for modern society.

In many ways, the past year has seen tremendous progress in closing opportunity gaps for learning. Governor Lamont created the inter-agency Everybody Learns initiative to close the device and connectivity gaps among public-school students, investing $43.5M in CARES Act funding to accomplish this goal. He also dedicated funds for libraries to reopen safely to support patrons' research and learning needs, as well as to deploy through CEN more than 150 community wireless access points across the state.

The Commission enthusiastically backed this work, and its individual members played significant roles in making Connecticut the first state to address fully its digital divide. Universities, libraries, and schools received a total of more than $250M in relief, allowing institutions to invest in digital learning resources and training. The research and resources developed through the Commission's State Educational Technology Plan have informed these investments, helping to guide decisions around broadband access at home and in school, data privacy, educational software efficacy, open education resources, personalized learning, and competencies to ensure students and educators can fully leverage technology for learning.

Despite the availability of resources to support remote and blended learning, the constituents that the Commission represents continue to face enormous challenges. Many families have not completed the fulfillment steps to provide their children free Internet through Everybody Learns, bringing to light a host of cultural, experiential, and mindset barriers — human rather than technological — to closing the digital divide. Libraries and schools have demonstrated admirable creativity in supporting a diverse set of learning and research needs yet still struggle to provide the safe, physical spaces needed for full engagement. The pandemic has also revealed the serious need for continued training and professional development for educators at every level to provide high-quality online instruction and support.

The past year has brought to the forefront the issues that the Commission has championed for two decades. Lessons learned from this year will help inform the body's program and policy efforts, highlighting the innovative technologies and approaches that Connecticut should continue to leverage long after the pandemic ends.

14,000
Visits

To support the shift to remote learning, the Commission launched a robust set of Web-based resources for schools, colleges, and libraries. Educators from across the state, the U.S., and 34 other countries have visited the site more than 14,000 times.

→ See Support for Remote Learning, page 14

52,000⁺
Teachers

Funding secured in 2020 will allow the Commission to launch an open education resources (OER) portal for all teachers to share high-quality digital learning materials and to host State-approved curriculum.

→ See Open Education Resources, page 15

$43.5
Investment

Various Commission members contributed to the work of Governor Lamont's Everybody Learns initiative, with a $43M+ investment to purchase 80,000 computers and 57,000+ home Internet connections to close the digital divide in Connecticut.

→ See Digital Equity, page 18

500
Students

In the short time since its launch this fall, the Eduroam system has connected nearly 500 public school students in New Haven. This sustainable, community-based connectivity solution will serve as a model for other towns and cities in 2021 and beyond.

→ See Eduroam, page 19

80%
Increase

Districts can now use nearly 500 educational software titles listed as compliant in the Commission's Educational Software Hub, nearly doubling last year's total to support remote learning.

→ See [Privacy Compliance](#), page 20

$3M⁺
Cost Avoidance

Since its 2017 launch, the Commission's Educational Software Hub has saved districts an estimated 30,000 hours in staff time — not even including external legal fees — to comply with Connecticut's data privacy law. The Hub helps schools leverage innovative technology solutions that support personalized learning while remaining compliant with state statute.

→ See [Educational Software Hub](#), pages 20 – 21

$40M⁺
Savings

The Connecticut State Library continues to deliver exceptional value through researchIT, the digital library free to all Connecticut residents. This service delivered $42M in digital content subscriptions at a cost to the state of $1.5M.

→ See [researchIT CT](#), page 29

$30M
Cost Avoidance

The Connecticut Education Network (CEN), launched in 2000 through the Commission, delivers Internet connections, federally mandated content filtering, and cyber protection services to schools, colleges, libraries, towns, and open access members at a cost that saved these institutions more than $30M this year alone.

→ See [CEN 2020 Annual Report](#)

Introduction

The Connecticut Commission for Educational Technology ("the Commission") was established in 2000 by Public Act 00-187 to serve as the State's principal educational technology policy advisor. This document summarizes the Commission's progress in attaining its statewide technology goals during the past calendar year, in accordance with its governing statute (CGS § 4d-80). The report serves to inform and provide recommendations to the joint standing committee of the General Assembly having cognizance of matters relating to education, appropriations, and the budgets of state agencies; the State Board of Education; and the Board of Governors of Higher Education. Readers accessing this report online may use the embedded links to view minutes, watch recorded meetings, and review publications.

Background and Membership

Name and Position	Representing or Appointed By
Mark Raymond, CIO, Commission Chair	Department of Administrative Services
Michael Mundrane, UCONN Vice Provost and CIO, Commission Vice-Chair	University of Connecticut
Douglas Casey, Executive Director	Commission for Educational Technology
Colleen Bailie, Director, West Haven Public Library	CT Library Association
Nick Caruso, Senior Staff Associate	CT Association of Boards of Education
Burt Cohen, Staff Attorney, State Broadband Policy and Program Coordinator	Office of Consumer Counsel
Charles Dumais, Executive Director, Cooperative Educational Services	Governor's Office
Tom Dillon	Minority Leader of the House
John Elsesser, Town Manager, Town of Coventry	CT Council of Small Towns
Russell Feinmark, CT General Assembly	Speaker of the House
Ajit Gopalakrishnan, Chief Performance Officer	Connecticut State Department of Education
Dawn La Valle, Director, Division of Library Development	Connecticut State Library
Rich Mavrogeanes, President, Discover Video	President Pro Tem of the Senate
Maura Provencher, Vice President of Research and Administration	CT Conference of Independent Colleges
Bart Stanco, Vice President, Gartner	Governor's Office
Steve Stephanou, Deputy General Manager, Town of Manchester	CT Conference of Municipalities

Erin Stewart, Mayor, City of New Britain	Minority Leader of the Senate
John Vittner, Director of Information Technology Policy	Office of Policy and Management
Scott Zak, Senior Director of Learning Technologies	CT State Colleges and Universities

The Commission welcomed two new members in 2020. In February, Minority Leader of the Senate Len Fasano appointed New Britain Mayor Erin Stewart to serve as a chief elected official of a municipality, per statute. In July, Acting Consumer Counsel Rich Sobolewksi appointed Staff Attorney and Broadband Policy and Program Coordinator Burt Cohen to represent the Office of Consumer Counsel. Both Mayor Stewart and Counsel Cohen have been actively engaged in Commission meetings and initiatives, lending deep insights that represent the interests of their respective constituents.

Leadership

Mark Raymond, the Chief Information Officer for the State, continued his service as Chair of the Commission. Michael Mundrane, the University of Connecticut's Chief Information Officer and Vice Provost, serves as the Commission's Vice-Chair. Douglas Casey serves as the Commission's Executive Director, with responsibility for planning and activities as described on the Web sites of the Connecticut General Assembly (Chapter 61a) and Commission (www.CT.gov/CTEdTech).

In addition to its members, the Commission benefits from the insights of Advisory Council members. Ten Commission members and alternates as well as nearly 40 subject matter experts from across the state serve on these Advisory Councils, representing a broad diversity of constituents to help guide the Commission's priorities and programs. The list of Advisory Council members follows:

Digital Learning Advisory Council
- Nick Caruso (Chair)* — Senior Staff Associate for Field Service, Connecticut Association of Boards of Education (CABE)
- Katie Bauer — Director of Library Research Services & Collections, Trinity College
- Kevin Corcoran — Executive Director of Digital Learning, Connecticut State Colleges and Universities
- Jonathan Costa — Assistant Executive Director, EdAdvance
- Larry Covino — Director, Bristol Adult Education
- Andy DePalma — Director of Technology, EASTCONN
- Sarah Edson — Dean of Academic Technology and Innovation, Ethel Walker School
- Josh Elliott — Director of Educational Technology, Fairfield University Graduate School of Education and Allied Professions
- John Elsesser* — Town Manager, Town of Coventry

*Also serves as a Commission member or alternate.

- Barbara Johnson — Library Media Specialist, Colchester Public Schools and President, Connecticut Educators Computer Association (CECA) and Connecticut Association of School Librarians (CASL)
- Karen Kaplan — Technology and Communications Director, Hamden Public Schools
- Dawn La Valle* — Director, Division of Library Development, Connecticut State Library
- Shannon Marimón — Executive Director, ReadyCT
- Laura McCaffrey — Director of School Support and Academic Services, Hartford Archdiocese
- Greg Mcverry — Professor, Southern Connecticut State University
- James Mindek — Director of Technology & Operations, Connecticut Technical High School System
- Brandon Rush — Director of Technology, New Milford Public Schools
- Josh Smith — Superintendent, Region 15 Public Schools
- Karen Skudlarek — Educational Technologist, University of Connecticut
- Jim Spafford — Coordinator of Business Services and Partnerships, Manchester Adult Education
- Shelley Stedman — Past President, Connecticut Association of School Librarians
- Chinma Uche — Computer Science Teacher, CREC Academy of Aerospace and Engineering, and President, CT Computer Science Teachers Association
- Christopher Weiss — Principal, Riverside School (Greenwich)
- Jennifer Widness* — President, CT Conference of Independent Colleges
- Scott Zak* — Senior Director of Learning Technologies, CT State Colleges and Universities

Infrastructure Advisory Council
- Tom Dillon (Chair)*
- Colleen Bailie* — Library Director, West Haven Public Library
- Joe Campbell — Educational Technology Consultant, Connecticut Technical High School System
- George Claffey — Chief Information Officer, Central Connecticut State University
- Fred Kass — Director of Networking & Infrastructure Services, Trinity College
- Kerri Kearney — Supervisor of Instructional Technology, Manchester Public Schools
- Ryan Kocsondy — Director, Connecticut Education Network (CEN)
- Michael Mundrane* — Vice Provost and CIO, University of Connecticut
- Brandon Rush — Director of Technology, New Milford Public Schools
- Susan Shellard* — Chief Administrative Officer, Department of Economic and Community Development
- Sabina Sitaru — Interim Chief Operating Officer, New Haven Public Schools
- Rick Widlansky — System Manager, Libraries Online (LION)
- Rob Wilson — Director of Technology and Information Services, Somers Public Schools

*Also serves as a Commission member or alternate.

Meetings

The dates and agendas of the Commission and Advisory Council meetings appear below, with meeting minutes and all related materials available from the Commission Web site, www.CT.gov/CTEdTech.

Commission Meetings

Monday, March 2	
• Updated Strategic Initiatives • OER Funding ▤ Meeting Minutes	• Net Neutrality Legislation
Monday, June 1	
• Remote Learning and COVID-19 • Cellular Hotspot Guide ▤ Meeting Minutes	• State Technology Report • CARES Act Investments ❑ Video Archive
Monday, September 14	
• Home Broadband Access • K – 12 Student Laptops ▤ Meeting Minutes	• Teacher Training Needs ❑ Video Archive
Monday, December 7	
• Family Supports for Digital Inclusion • State OER Portal Design ▤ Meeting Minutes	• Technology Efficacy and Use • City of New Haven Eduroam Launch ❑ Video Archive

Advisory Council Meetings

Digital Learning Advisory Council

Wednesday, February 5

- Commission Strategic Initiative Review
- Libraries and the Digital Divide
- School Cybersecurity Needs
- Alternative Learning Days

📄 Meeting Minutes

Thursday, April 23

- Challenges in Remote Learning
- Priorities for Ed Tech Investments

📄 Meeting Minutes

Monday, August 10

- Devices and Home Broadband for Students
- Community Wireless
- Contact Tracing

📄 Meeting Minutes

Wednesday, November 4

- Lessons Learned from Remote Learning
- Closing the Digital Divide
- Open Education Resources
- Cybersecurity Maturity Model

📄 Meeting Minutes

Infrastructure Advisory Council

Thursday, April 30

- Challenges in Remote Learning
- Educator Training and Support
- Priorities for Ed Tech Investments

📄 Meeting Minutes

Thursday, August 6

- Computers and Connectivity for Students
- Public Wireless Solutions
- Contact Tracing

📄 Meeting Minutes

Monday, November 2

- Home Internet and Computers
- New Haven Eduroam Launch

📄 Meeting Minutes

State Educational Technology Goals and Plan

In 2017, the Commission released its five-year [State Educational Technology Goals and Plan](#), with the following Vision Statement:

THAT EVERY LEARNER AND EDUCATOR IN CONNECTICUT BENEFITS FROM THE FULL POTENTIAL OF TECHNOLOGY TO SUPPORT PERSONALIZED AND IMPACTFUL TEACHING, LEARNING, RESEARCH, AND ADVANCEMENT.

To support that vision, the following Mission Statement defines the strategies and activities of the Commission:

DESIGN, STEWARD, AND PROMOTE POLICY, PROGRAMS, INSIGHTS, AND RESOURCES THAT SUPPORT THE EFFECTIVE USE OF TECHNOLOGY FOR ALL LEARNERS AND EDUCATIONAL ORGANIZATIONS IN CONNECTICUT.

In the past year, the Commission has faithfully stewarded, promoted, and enlisted assistance to deliver upon the initiatives defined in the Goals and Plan. That blueprint for educational technology in our state addresses eight broad initiatives falling under three focus areas: Digital Learning, Infrastructure, and Data and Privacy.

Digital Learning
> Open Education Resources
> Student-Centered Learning
> Technology Proficiency Standards

Infrastructure
> Digital Equity
> Educational Technology Standards and Best Practices
> E-rate Maximization

Data and Privacy
> Privacy Best Practices
> Privacy Compliance
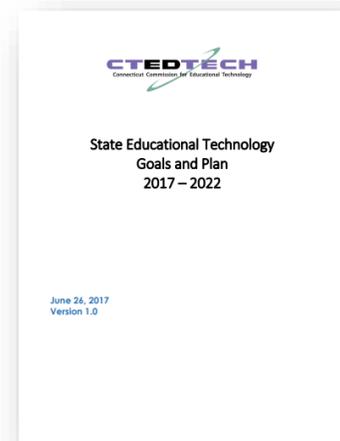
At all quarterly meetings, Director Casey provides members with an update on progress made against the Goals and Plan, reflecting the insights and efforts of the Commission members, Advisory Council members, and other subject-matter experts enlisted to support this work. The following page provides a high-level summary of these efforts.

2020 State Educational Technology Goals and Plan — Progress

Objective	Status
Digital Learning	
Open Education Resources	
Obtain GoOpen Status	Completed (June 2017)
Launch Go Open CT Site and Resources	Completed (May 2019)
Secure Funding for and Begin OER Portal Design	Completed (November 2020)
"Frontiers in Personalized Learning" Report	Completed (November 2017)
Student, Teacher, and Administrator Standards	
Commission Endorsement of Student Standards	Completed (September 2016)
Commission Endorsement of Teacher Standards	Completed (September 2017)
State Board Adoption of Student Standards	Completed (June 2018)
Adoption of Administrator Standards	Completed (December 2018)
Curation of Educator and Leader PD Supports	In Progress and Ongoing
Infrastructure	
E-rate Maximization	
Statewide Survey Design and Feedback	Completed (July 2018)
Statewide E-rate Report	Completed (April 2019)
Digital Equity	
Digital Equity Toolkit	Completed (December 2018)
Address K – 12 Digital Divide ("Everybody Learns")	Ongoing (Launched July 2020)
Data and Privacy	
Educational Software Hub Design and Launch	Completed (August 2017)
Promotion of Privacy and Security Best Practices	In Progress and Ongoing

In early 2020, Director Casey developed and shared a [list of current and potential initiatives](#) to inform the Commission's work. The document includes a brief description of each project and identifies potential contributors and measures of impact. The Commission and its partners made significant progress against many of these initiatives, even those not included in the five-year state plan, spurred by the need to support high-quality, remote learning. These include the use of strategic planning resources to promote digital learning, data collection to identify gaps in technology access, and the promotion of libraries as centers of digital inclusion.

The following sections provide details on each of the above initiatives, as well as other related activities of the Commission and its Advisory Councils to ensure the effective use of technology in Connecticut schools, libraries, and institutions of higher education.

Digital Learning

Support for Remote Learning

In the early spring of 2020, schools, colleges, and libraries closed their physical buildings and shifted to distance learning as part of national and statewide social distancing measures to contain the spread of the Coronavirus. In a matter of days, this shift put into stark relief the "digital divide" between students equipped with computers and home Internet connections and those without. And regardless of how equipped students, teachers, and leaders were with home technology resources, no school, college, or library went into the pandemic equipped to replace in-person learning with remote tools and approaches.

Resources for Schools, Colleges, and Libraries

In response to the needs of educators and leaders, in March the Commission curated and published a set of Remote Learning resources (https://bit.ly/CET-Remote) across five key areas of concern:

- Guiding Considerations: High-level issues to address the online learning needs of staff, students, and families that fully leverage the existing resources within a given college or school district.
- Planning Frameworks and Checklists: Existing and tested guidelines for quickly designing, implementing, and supporting remote learning programs.
- Connecting Students Outside School: Free and low-cost programs to provide families with high-speed, broadband access to the Internet to support remote learning, work, and research.
- Free or Reduced-Price Software: Digital learning tools for consideration by district leaders and educators, vetted by Connecticut's State Department of Education and national organizations such as the International Society for Technology in Education (ISTE), Digital Promise, and others.
- Free and Open Educational Resources: Repositories of standards-aligned lesson plans, unit plans, and other digital learning materials provided through the Commission's open education resources (OER) site, GoOpenCT.org.

Throughout the spring and fall semesters of 2020, Director Casey continued to add resources to this page, accessed more than 14,000 times to date by visitors from Connecticut, the United States, and 34 other countries. He also shared these and other materials through social media posts using the campaign hashtag #KeepCTLearning.

Support for remote learning became the focal point of most 2020 Commission and Advisory Council meetings (see details on pages 9 – 10), informing the development and curation of additional resources. One discussion brought to light the need for guidance on the purchase of cellular access points, which many schools, colleges, and libraries had procured to connect students to the Internet. With the input of Infrastructure Advisory Council members, Director Casey developed the Commission's Cellular Hotspot Guide (http://bit.ly/CT_Hotspot_Guide), assisting leaders in the review of the often confusing array of services and features offered from different providers. The Hotspot Guide addresses the specific topics that colleges, schools, and libraries should consider when purchasing or leasing these devices for research and education use:

- Availability: Current inventory of devices to meet the needs of a given school or library
- Content and Filtering: Adherence to net neutrality rules and options to filter content in compliance with federal education law
- Costs: Expense of purchasing or leasing, from unit cost to monthly service fees and overages
- Coverage: Likely speeds to support connectivity in a given geographic region
- Data and Service: Individual and aggregate data limits, if any
- Device Management: Ability to track and manage hotspots
- Privacy: Adherence to federal and state end-user privacy laws (e.g., FERPA)
- Technology: Ability to connect via 5G, 4G, and other types of network protocols

Statewide School Technology Report

To inform the urgent needs of schools in assessing current availability of technology and planned investments to support remote learning, the Commission conducted a statewide survey and analysis issued in April, "School Technology: Current and Planned Investments to Support Remote Learning" (www.bit.ly/20_CT_K-12_Tech). The document includes responses from 105 districts representing 355,782 students, with the following insights:

- Homework Gap: Only 60% of districts had an accurate measure of student home Internet connectivity, and nearly 83% would favor a statewide "homework gap" survey (pages 3 – 5)
- Digital Divide: The least connected students also tend to face the largest socioeconomic challenges (page 4)
- 1:1 Computing Programs: Prior to the shift to remote learning, 56 districts ran 1:1 computing programs at the high school level, and 54 provided students with dedicated devices at the middle school level (page 6)
- Technology Staffing Levels: Most districts provide one technician per 350 – 500 students, and some have one per ~1,000 students; only four districts have committed to augmenting staffing levels to support significant increases in devices, software, and professional development needs (pages 8 and 11)
- Future Technology Commitments: Three-quarters of schools have made technology investment plans to support remote learning across devices, home Internet, software, and professional development (pages 9 – 12)
- Purchasing Efficiencies: 80% of respondents expressed interest in volume or cooperative purchasing of technology-related products and services (page 12)

The report provided a baseline on districts' ability to support remote learning, helped identify common needs across schools, and offered peer insights on ways to leverage technology to support continuity of learning. The document informed district investment of local funds as well as the collective $100M+ awards that public schools received through the Coronavirus Aid, Relief, and Economic Security (CARES) Act. District device and connectivity data from the report also assisted in assessing needs that Governor Lamont's Everybody Learns initiative addressed beginning in July (see Digital Equity, page 18).

Open Education Resources

The Commission continued in 2020 to champion the use of open education resources (OER) in schools and universities to provide educators and students with a host of benefits including cost savings, flexibility, equity of access, and relevancy of materials. Efforts around OER directly support the Commission's statewide Educational Technology Goals and Plan and its statutory charge of "providing access for all public schools, public libraries, and libraries at institutions of higher education to a core set of online, full-text resources"[CGS § 4d-80(c)(2)(C)].

This past year, the Commission secured funding to design and launch a statewide portal to host the collective OER assets in Connecticut. In early 2020, Director Casey submitted an application to support this work through the Public Utilities Regulatory Authority (PURA) Public, Educational and Governmental Programming and Educational Technology Investment Account (PEGPETIA) program. Administrators at PURA awarded the maximum allocation to the Commission for this work, which still fell short of the funds necessary to meet the project budget. Director Casey appealed to and received the balance of funding from the Connecticut State Department of Education (CSDE) through the State's CARES Act

award. The platform will provide the following benefits and features free to all Connecticut schools, colleges, and libraries:

- Authoring: Digital tools to enable the creation, revision, remixing, publishing, and licensing of educational materials, with the ability to publish in alignment with international Creative Commons copyright standards
- Workflow: Ability of school and university administrators to review materials for quality and determine which to share across local and state lines
- Content Migration: Services and tools to enable district and college administrators to prepare, import, and share existing content collections
- Standards Alignment: Import of K – 12 educational standards (e.g., Common Core, Next-Generation Science, etc.) into the platform, with the ability of educators to tag materials with one or more of these standards and use them as filters for conducting advanced content searches
- State Curriculum Support: Addresses the needs of the CSDE and State Education Resource Center to host standard curriculum materials, such as the forthcoming Black and Latino Studies course, eliminating the need for a separate site for such publishing needs and providing a centralized location for all curriculum materials
- Access to Other States' Materials: Search results to provide direct access to materials from other states sharing the same academic and quality standards to provide access to a national content collection
- Reporting and Analytics: Ability for administrators at the institutional level as well as educators at the course or classroom level to view detailed materials usage and impact reports

In the coming months, Director Casey will coordinate the portal's design, testing, and launch, leveraging the insights of school, library, and higher education OER experts.

Technology Proficiency Standards

In a year when online learning became the primary means of instruction, providing clear and attainable standards for using technology proved an essential support for the educational community. The Commission's adoption of the International Society for Technology in Education (ISTE) Standards for Students, Educators, and Education Leaders over the past several years provided these benchmarks as Connecticut entered into full-time remote learning in the spring. Throughout the year, visitors continued to leverage the resources posted on the Commission's site (www.CT.gov/ISTE) to improve practice and adopt policies that support effective online instruction.

Throughout 2020, Director Casey reinforced the value of the standards, especially those for teachers, given the challenge of rapidly equipping educators with the skills to support remote and blended learning for students of all ages. In the absence of in-person supervision, teachers needed to be able to design authentic and personalized learning activities that would engage students at home. The ISTE Standards define and provide resources to strengthen these instructional design competencies as well as other skills including online collaboration, digital citizenship, and effective communication with families.

Promotion of these standards and the resources to put them into practice came through a number of successful collaborations. Director Casey worked with the CSDE Academic Office, under the leadership of Chief Academic Officer Irene Parisi, to share these resources as well as in partnership with the Commission's Advisory Council members.

To effect longer term change, the Commission put forth recommendations designed with the input of Advisory Council members for the State to leverage CARES Act funds to provide ISTE certification for teachers. Recognizing the need for deep mindset and competency changes to support remote learning, the Commission's proposal to fund a cohort of 600 teachers would help develop a cadre of online learning experts who could help build capacity for high-quality, digital instruction statewide.

Director Casey was also able to share the Commission's work in promoting the adoption of digital learning best practices into teacher preparation programs. The brief, "Addressing Pre-Service Capacity in Ed Tech: How Can States Reimagine Educator Preparation?" through the Education Commission of the States and in partnership with ISTE highlights progress in Connecticut. The article highlights the Commission's work in adopting the Standards as well as advocacy through groups such as the Connecticut Association of Public School Superintendents (CAPSS) to bolster digital skills in teacher preparation programs. The brief also underscores the significant progress through Advisory Council member Josh Elliott of Fairfield University to integrate the standards into teacher preparation and graduate programs. Fairfield is one of only three institutions of higher education nationwide approved by ISTE to provide the ISTE teacher certification program.

Beyond teacher preparation, the Commission's advocacy for effective online learning standards has influenced workforce preparation efforts. In October, the Governor's Workforce Council released its strategic plan, addressing business leadership, skills development, equity, and impact measurement. The plan also calls for the integration of the ISTE Standards into the public-school curriculum, helping to ensure that students attain digital literacy competencies as they prepare for higher education and employment.

In the fall, the Digital Learning Advisory Council and Commission meetings addressed the need to provide timely professional development for teachers to support remote learning. Public school educators must currently complete 80 hours of training annually, making it difficult to schedule time for additional professional development. Advisory Council and Commission members expressed interest in flexibilities for teachers in the current and 2021 – 22 school years around mandated trainings in order to afford educators more time to improve online instructional skills. Further discussions with members of the State Professional Development Task Force and leaders from the CSDE may help to streamline annual training requirements to provide educators with much-needed time to develop digital teaching competencies.

Infrastructure

Digital Equity

More than in any other year, teaching and learning in 2020 demanded that all students have access to a computer and broadband for remote learning. The Commission has remained committed to closing the digital equity gap, part of its statutory charge (see CGS § 61a, Sec. 4d-80). When schools, universities, and libraries closed in March, many communities leveraged the resources in the Digital Equity Toolkit, which includes components that contributed to statewide efforts to equip students for online learning. The Commission also issued a call for districts to indicate their current levels of technology resources to support remote learning and planned investment of federal relief funds (see report, pages 14 – 15).

Everybody Learns

Rather than leaving this challenge to individual communities to address, in the early spring Governor Lamont convened leaders from multiple agencies to undertake a statewide effort to bridge the digital divide among public school students. The resulting Everybody Learns initiative provided more than $43M in federal CARES Act funding for computers, home Internet access, and community wireless solutions — the largest statewide per-pupil investment of its kind. The team designing and implementing the program includes current and past members of the Commission: Ajit Gopalakrishnan (CSDE), Doug Casey (Commission), Burt Cohen (Office of Consumer Counsel), Ryan Kocsondy (CEN), and Rob Vietzke (Internet2, formerly CEN).

By the close of 2020, the initiative had delivered more than 80,000 computers to students across the state — under Chief Gopalakrishnan's direction — adding to the earlier donation of 60,000 devices through the Dalio Foundation. These investments met the expressed needs provided by local school districts to ensure that all students in the state have a computer for remote learning. Chief Gopalakrishnan also oversaw the deployment of nearly 14,000 cellular hotspots, devices that allow students to connect to the Internet using the same technology that mobile phones provide.

The Everybody Learns initiative also accommodated for more than 40,000 home broadband connections, reflecting the number of disconnected students that district leaders identified in May. These connections came through the five major cable Internet providers in the state, ensuring that any student needing a home broadband connection could receive one. Director Casey leads this effort, establishing fulfillment programs with each of the state's five cable Internet providers — and in close partnership with local schools — to help families get online.

Through CEN and under the direction of Director Kocsondy, Everybody Learns also funded the deployment of community wireless solutions across the state. At libraries, schools, and universities in the 20 least-connected communities in Connecticut, the CEN team will install wireless extenders to allow access to the Internet by patrons within close proximity to the

building. Governor Lamont also awarded [$2.6M to Connecticut libraries](#) in the fall to help these institutions make safety enhancements to accommodate higher numbers of patrons for in-person visits. Libraries also used these awards to build out and upgrade their wireless networks to help residents get online for learning and general research purposes.

Eduroam

As a complement to the Everybody Learns initiative, which provides short-term solutions to connect students outside of school, Eduroam (www.eduroam.org) offers a longer term, community-based approach. The Eduroam authentication framework allows learners to log into wireless hotspots worldwide using the credentials (i.e., user name and password) issued by their local school or university. The system has proven highly successful among institutions of higher education, allowing faculty and students to get online at any participating college or university worldwide.

In the fall of 2020, the city of New Haven became the first community in Connecticut to launch Eduroam across schools and universities. The initiative reflects strong partnerships across the K – 12 and higher education communities. Commission member Tom Dillon provided strong support for the work, spearheaded by Advisory Council member Sabina Sitaru, who served as interim Chief Information Officer (CIO) for New Haven Public Schools (NHPS) this year. Chief Sitaru collaborated with members of her team, Southern Connecticut State University (SCSU) CIO Dennis Reiman, and Director Kocsondy of CEN to ensure access to Eduroam throughout the NHPS network.

Students in NHPS can now get online safely through hundreds of high-speed wireless access points provided by SCSU, Yale, and other institutions in New Haven that leverage the Eduroam system. As a point of reference, in less than two months since the New Haven launch, 469 NHPS students got online using Eduroam through SCSU's network. Conversations are underway for Eduroam deployments in other communities where strong partnerships exist across K – 12, higher education, libraries, and other anchor institutions.

E-rate Maximization

Efforts continued in 2020 to encourage schools and libraries to participate in the federal E-rate program, following the Commission's 2019 report, "[E-rate in Connecticut: Survey Results and Opportunities for Schools and Libraries](#)." Director Casey shared the results with leaders in groups such as the Connecticut Association of Boards of Education (CABE) and CAPSS.

Given the shift to remote learning in 2020, the Commission also engaged in advocacy efforts to expand E-rate. The program's allocations to physical buildings — schools and libraries — reflects a past reality in which learners connected only through these institutions. E-rate needs to support increasing bandwidth needs resulting from a spike in digital learning, with the expansion of educational technology software, a statewide 1:1 computer initiative, and the use of blended instructional approaches. The Commission, along with national leadership groups, has argued that E-rate also needs to support connections to students outside of school. In April, Chair Raymond sent a [letter](#) to the office of Senator Richard Blumenthal (D – CT), who serves on the Senate Committee on Commerce, Science,

and Transportation that oversees E-rate, to provide at least $2 billion in initial emergency funding to the E-rate program, and to provide E-rate program administrators with the flexibility to pay for student and educator home connections. Director Casey participated in similar advocacy efforts in his role as a board member of both the Schools, Health, and Libraries Broadband Coalition (SHLB) and the State Educational Technology Directors Association (SETDA). Similar efforts will continue in 2021 to encourage federal policy and program leaders to fund broadband for students of all ages.

Data and Privacy

Privacy Compliance

The Commission's role in supporting student data privacy expanded in 2020, with the significant growth of educational software use to support remote learning. With schools depending more heavily on existing platforms such as the Google for Education suite of applications and the adoption of new tools such as Zoom for video conferencing, the footprint of student data shared with third parties grew by as much as 30 percent over the past year (LearnPlatform, November 2020). While some education stakeholders requested flexibilities in the use of educational software under Connecticut statute (CGS §§10-234aa-dd), others called for greater restrictions. Work of the Commission in 2020 helped to support the effective use of learning tools while at the same time reducing exposure of student data to third parties.

Flexibilities in the Use of Educational Software

In March, Governor Lamont issued Executive Order 7I, which enabled Commissioner of Education Miguel Cardona the ability to provide compliance flexibilities in Connecticut's data privacy law. Shortly thereafter, Chief Gopalakrishnan and Director Casey provided Commissioner Cardona with the language for guidance surrounding these flexibilities. The memo to superintendents pointed them to the Commission's Educational Software Hub (LearnPlatform) as the clearinghouse of compliant software. The guidance underscored that Connecticut statute remains intact, and that districts did not need to pursue individual contracts with vendors.

Educational Software Hub

The Commissioner's guidance and previous endorsements of the Hub significantly increased the value of this solution to schools and educational software providers in 2020. The directive to providers to signify their compliance through LearnPlatform resulted in a significant increase in the products listed therein. In the course of the last year, the number of Connecticut-compliant educational software titles in the Hub nearly doubled from 275 to 493. Director Casey also engaged with dozens of vendors to assist with their compliance efforts. Companies he worked with include Zoom, Epic, and others that districts identified as essential to supporting remote learning.

Use of the Hub has resulted in significant time savings, reduction of risk, and efficiencies for educational providers serving the needs of Connecticut schools. Conservative statewide estimates point to nearly 10,000 staff hours ($1M indirect) saved annually from the review of data privacy and terms of service agreements with vendors who have registered their products on the Hub. Other agencies benefit from the use of the Hub as well, including the CSDE. In quickly responding to the needs of educators and leaders this spring, the CSDE posted dozens of software titles that teachers could use for remote learning. Members of the CSDE Academic Office leveraged the Hub and insights from Director Casey to identify compliant software titles for inclusion on the Office's list of recommended apps.

In the fall of 2020, the Commission leveraged CARES Act funding through the CSDE to expand the capabilities of LearnPlatform for Connecticut schools. The investment made possible the ability of individual districts to see in real time the software applications that their teachers and students use. These analytics tools — free for all Connecticut schools to use — provide multiple benefits. The dashboards enable leaders to initiate conversations around what apps are most effective in addressing specific learning goals. They can also help identify software licenses that districts purchase but that go unused so that leaders can minimize future spend. Director Casey reached out in November to all Connecticut schools to encourage use of these new features and to provide them with a brief tutorial on how to set up the new analytics features. Approximately 35 percent of all districts now leverage these dashboards, with continued outreach to schools planned for 2021.
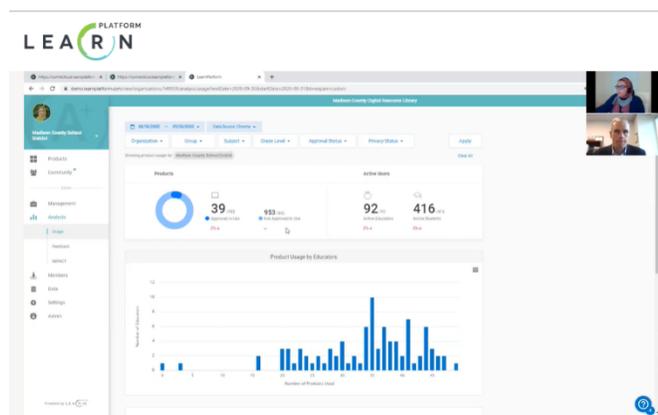
Exemption Reporting

As in 2019, Director Casey collected data from public school districts on their use of exemptions defined in Public Act 18-125 to support individualized education plans (IEPs) and student accommodations under Section 504 of the Rehabilitation Act of 1973. Districts who used the exemption provided details about each software title, its provider, and assurances that the district made reasonable efforts to comply with all other aspects of state and federal privacy statute.

Director Casey partnered with the CSDE's Special Education team as well as CONNCASE, CAPSS, CABE, and other leadership groups to communicate the requirements of and deadline for reporting, as well as the previous year's results.

In September 2020, Director Casey provided members of the Connecticut General Assembly's Education Committee detailed reporting and data sets on the IEP and 504 reporting, available through the Connecticut Open Data portal (https://data.ct.gov), with these highlights:

- Partial Response to Mandate: As with the prior school year, nearly half of districts and charter schools *did not* submit a report on their use of the exemption (43% in the 18 - 19 school year, 49% in the 19 - 20 school year). Despite outreach through the CSDE and partner organization such as CONNCASE and CAPSS, the reporting rate remains low.

- Decreased but Narrow Use of the Exemption: Of those districts reporting for the 19 – 20 school year, 14% (15 of 105 reporters) indicate that they used the exemption, down from 22% (26 of 115 reporters) in the 18 – 19 school year. Of the districts that use the exemption, two-thirds do so with just a single piece of educational software. Heavy use of the exemption concentrates among a small number of districts.

- Shrinking List of Software: The total number of software titles used under the exemption in the 19 – 20 school year (37) decreased from the previous year's total (81). The overall decrease in districts using the exemption as well as unique titles used may have resulted in part because of the increased number of software titles now listed as compliant through the Commission's Educational Software Hub (80% increase in compliant titles since last year's report). Software listed on that portal complies with Connecticut's data privacy law, obviating the need for districts to include those titles in their exemption reports.

Data collection and reporting will continue in 2021, though to date the Commission has not received any feedback or inquiries into the exemption reporting for the 18 – 19 and 19 – 20 school years.

Privacy and Security Best Practices

The Commission's efforts have helped schools to leverage data-driven, personalized learning approaches with the need to ensure student privacy. This work, especially with the expanded use of remote learning solutions, continues to garner state and national attention. Director Casey shared the statutory flexibilities in Connecticut and technical supports provided through the Commission across multiple venues, from articles in publications such as Bloomberg Law and EdTech Magazine to presentations at national conferences and local leadership meetings (see Communications and Outreach, following page).

Communications and Outreach

To raise awareness of its work and gather feedback from its diverse constituents, the Commission leverages several online media channels, including the Commission Web site, Twitter account, and e-mail listserv. Director Casey continues to present at state and national events, produce research and publications, submit news to educational media outlets, and participate actively in several professional and advocacy groups. The following sections provide highlights of these communication and outreach efforts.

Online Media

- Web: In the spring of 2019, Director Casey migrated and expanded the Commission's Web site, www.CT.gov/CTEdTech, to the State's new content-management system. Site traffic more than doubled in the past year, from 17,000 to 40,000 visits by teachers, education leaders, policymakers, and researchers.

- Twitter: The Commission's Twitter account, @CTEdTech, serves as a means of communicating important research and policy updates to 620 followers, up from 500 over the last year.

- Statewide Listserv: In early 2016, the Commission launched a statewide e-mail listserv to share research, best practices, and announcements with the K – 12 education community. Since that time, the list has grown to include approximately 400 members, including school technology leaders from nearly every Connecticut public school district. In the past year, contributors have submitted more than 3,000 posts that include event announcements, requests for recommendations on software and hardware solutions, and time-sensitive security alerts. Comments from district technology leaders indicate that the service provides an easy and powerful means of quickly communicating with and sharing best practices among members of the Connecticut educational technology community.

Presentations

Director Casey and other members shared the Commission's work statewide and nationally in 2020. The following list summarizes these presentations.

Organizer – Audience	Topic(s)	Date
CT Center for School Change	Open Education Resources	Jan 9
ACES	Distance Learning and Privacy Guidance	Mar 25
CECA	Distance Learning and Privacy Guidance	Apr 1
LearnPlatform	Data Privacy Best Practices in Remote Learning (with Amelia Vance and Mark Finstrom)	Apr 15
CABE	Technology Budgeting for Remote Learning	May 7
SETDA	State Data Privacy Framework	Jun 17
Office of the Governor	Everybody Learns Launch (Press Conference)	Jul 28
CAS	Panel Discussion on Connecting and Engaging Students	Sep 17
Office of the Governor	Everybody Learns Library Announcement (Press Conference)	Oct 7
CAPSS	CAPSS Technology Committee Updates	Oct 20
Pullman & Comley	Digital Learning Updates to Superintendents	Nov 12
Eastern Connecticut Superintendents Association	Digital Learning Updates to Superintendents	Nov 13
CAPSS	CAPSS Technology Committee Updates	Nov 17
Office of the Governor	Everybody Learns Equity Announcement (Press Conference)	Dec 2
CABE	CABE Member Chair Updates	Dec 3
ISTE	COVID-19 Education Coalition: Safety, Privacy, and Digital Citizenship	Dec 3
C.E.S.	C.E.S. Technology Council	Dec 4

Media Coverage

Outreach campaigns and publishing opportunities promoted the work of the Commission and resulted in coverage across a number of media channels this year. The following table lists stories, interviews, and publications that highlight the Commission's efforts and impact.

Outlet – Publisher	Title	Date
SETDA	Framing the Evidence: Democratizing Educational Technology	Mar 2
CTETL	Coronavirus and Health Emergencies	Mar 9
ISTE	Addressing Pre-Service Capacity in Ed Tech	Mar 25
Bloomberg Law	'Explosion' in Distance-Learning Tech Sparks Privacy Worries	Apr 6
EdTech Focus On K-12	How to Address Data Privacy During Remote Learning	Apr 8
ISTE	COVID-19: Support Urgent Federal Funding for Effective Ed Tech Use	May 19
Hartford Courant	Connecticut Launches $43.5M Initiative to Boost Access to Internet and Technology	Jul 29
NBC Connecticut	Governor Lamont: Support for Libraries	Oct 7
CABE	Equipping All Students for Remote and Blended Learning	Nov 2
94.3 WYBC	Discussion with Juan Castillo re. Everybody Learns	Nov 23
NBC Connecticut	Interview with Scott Haney and Renee Dinino re. Everybody Learns	Dec 11
EdSurge	Connecticut Gives Every Student a Computer and Home Internet to Close the Digital Divide	Dec 16
CDT	CDT Tech Tales: Advancing Equitable Internet Access in Connecticut	Dec 16
KISS 95-7	Radio Interview with Renee Dinino re. Broadband Access for Students	Dec 21
EdSurge	What to Know About Miguel Cardona, Biden's Pick for Education Secretary	Dec 22
edscoop	Biden's education Secretary Pick an Experienced Educator, Education Technology Advocate	Dec 23

Professional and Advocacy Groups

To garner support for Commission initiatives, deepen understanding of constituent needs, and identify funding opportunities, Director Casey actively participates in the following groups:

- Connecticut Association of Public School Superintendents (CAPSS) Technology Committee: Monthly Commission updates to state superintendents
- Connecticut Educational Technology Leaders (CTETL) Board: Partnership efforts to build awareness of best practices and assess district needs
- Connecticut State Department of Education (SDE) Computer Science Advisory Committee: Assistance in establishing curriculum frameworks, teacher certification standards, and talent pipeline initiatives
- Office of the Governor Everybody Learns Task Force: Design and implement home broadband program to support remote learning as well as general broadband policy guidance
- International Society for Technology in Education (ISTE) COVID-19 Coalition (www.learningkeepsgoing.org): Service on Privacy and Security Committee to cull and share best practices with local, state, and national leaders
- ISTE Policy Advisory: Input on digital learning policy at the national, state, and local levels
- Schools, Health, and Libraries Broadband Coalition (SHLB) Board of Directors: Advocates for national policy and funding to connect community anchor institutions
- Skills21 Board: Support to EdAdvance (one of six state Regional Education Service Centers) that provides technology-based curriculum and programming in STEM subjects
- State Educational Technology Directors Association (SETDA) Board of Directors: Chair-elect, service through national affinity group, access to federal agencies and lawmakers, and platform to promote Connecticut's exemplary programs
- U.S. Department of Education and Council of Chief State School Officers (CCSSO) State GoOpen Leaders: Monthly discussions sharing best practices on the design and governance of state-level OER programs

Connecticut State Library

researchIT CT

Administered by the Connecticut State Library, researchIT CT (www.researchitct.org) provides all Connecticut residents with online access to essential library and information resources, including licensed databases. These resources support the Division of Library Development's effort around the seven literacies, including Digital Literacy, Health Literacy, Financial Literacy, Legal Literacy, Civic/Social Literacy, Basic Literacy, and Early Literacy. In addition, college students and faculty have access to specialized research information. The researchIT CT service also includes a collection of downloadable eAudios and eBooks for access on mobile devices such as smartphones and tablets.

In 2020, The COVID-19 crisis created access issues for many students and residents in Connecticut. In response to the pandemic and the remote learning challenges it presented, The Division of Library Development worked with database vendors to temporarily provide remote access to researchIT databases without requiring library card authentication. EBSCO created a list of temporary links that can be used by patrons and students who do not have a library card.

Additionally, The CT State Library received IMLS LSTA CARES Act funds to help CT libraries in a number of areas including jobs and career resources related to economic development, as a result of the COVID19 pandemic. The CT State Library was able to purchase an 18-month subscription to EBSCO's *Learning Express Job and Career Accelerator*, for public libraries in CT to run from July 2020 through December 2021.

Goals of researchIT CT are as follows:

- Ensure universal access to a core level of library and information resources for every resident of Connecticut through their public library, school, and college and from home
- Provide necessary information resources to every school in Connecticut so that all students are prepared to function in an information society
- Provide information resources to the increasing number of students taking advantage of online courses at Connecticut's colleges and universities
- Support the information needs of all Connecticut residents

Budget

In the spring of 2019, the Division of Library Development coordinated a Request for Proposal (RFP) process for the databases that comprise researchIT CT. After three years of stable pricing, the resulting proposals included some increases that pushed the cost to maintain all current offerings beyond the Division of Library Development's budget. After carefully evaluating usage and costs, researchIT subscriptions to *HeritageQuest* and the *Business Market Research Collection* from ProQuest were canceled. Other ProQuest offerings remain the same. Access to EBSCO eBook collections (Public Library, High School, K – 8, and *Cricket* collections) were ended. The Division of Library Development also negotiated access to the following three additional EBSCO resources: *Health Source: Consumer Edition*, *MagillOnLiterature Plus*, and the *Small Business Reference Center*. Other EBSCO offerings in researchIT remain the same.

Annual Savings / Cost Avoidance (FY 2020)

The value of all researchIT CT databases to local communities exceeds $42 million in one year, while the cost to provide those databases was in excess of $1.5 million. This represents a cost avoidance of more than $40 million. For more details, see the following publication:

[Cost Benefit: What researchIT CT Saves the State's Libraries and Municipalities](#)

Usage (FY 2020)

For researchIT CT's licensed full-text databases, there were a total of 4,683,960 page views (a measure of when search results are actually viewed), with 265,864 or 5.7% from public library patrons; 726,919 or 15.5% from school library patrons; and 3,691,357 or 78.8% from academic library patrons. The total number of page views represents a 12% decrease compared to activity during the previous fiscal year. In addition, public libraries viewed Connecticut State Library Collections in Ancestry.com 12,608,612 times in FY 2020.

findIT CT

findIT CT, Connecticut's statewide library catalog, went live in May 2016 and now contains the holdings of 333 libraries in Connecticut, with more libraries being added on an ongoing basis. As of July 2020, findIT CT contained 20 million records and 22 million items.

requestIT CT

Connecticut's interlibrary loan service, requestIT CT, began in September 2017, and as of July 2020, 131 libraries in Connecticut participate in the service. Librarians can easily place requests on behalf of patrons, update requests, and track the status of requests as they make their way through the interlibrary loan process. Participating libraries filled 9,405 Interlibrary Loan requests during FY2020 using the fulfillment system.

Digital Collections

The *Treasures of Connecticut* Libraries digital collection, which began in 2008, remains available and had 7,282 item views in FY 2020. It contains 1,869 objects from 51 libraries and their partnering institutions. The Treasures collection can be accessed at:

https://cslib.contentdm.oclc.org/digital/collection/p128501coll0

The State Library added the first issues of the *Newspapers of Connecticut* digital collection in 2011. This collection on the ContentDM platform includes 7,359 newspaper issues from 95+ newspaper titles. The collection had 12,447 item views in FY2020, and has been moved to the Connecticut Digital Archive (CTDA, see www.ctdigitalarchive.org) for preservation. During FY 2020, the Connecticut State Library added more newspapers to the CTDA, bringing the new total to 106 newspapers. The number of page views for FY 2020 through the CTDA was 4,954. In September 2018 the CTDA became a service hub for the Digital Public Library of America (DPLA, www.dp.la), so the newspapers are also discoverable through the DPLA. The Newspapers of CT collection can be accessed at:

http://hdl.handle.net/11134/30002:newspapers

eGO and the SimplyE app

The eGO CT program addresses the acquisition of digital content, such as eBooks and eAudio, and makes it available to users statewide, primarily through the SimplyE app. SimplyE is an open source app available for Android and iOS devices. Library users can download the app and use it to easily discover, read, or listen to digital content such as eBooks and eAudio. The app includes content that is available in the statewide collection from the Connecticut State Library as well as local library collections.

The Division of Library Development began offering eGO information sessions at locations around the state and online beginning in November 2019 and as of November 2020 has provided a total of 11 sessions for 146 attendees.

Launched to the public in February 2020, SimplyE makes it possible for Connecticut public library patrons to access eBook titles from their local public library, a parent regional library system, the DPLA Open Bookshelf, the New York Public Library SimplyE Collection, the DPLA Content Exchange collection, and the Axis 360 collection, all in one intuitive, easy-to-use mobile app for iOS or Android. The service includes downloadable audiobooks as well as eBooks.

Content

As of December 2020, and since its rollout to patrons statewide in February of this year, the SimplyE eAudio and eBook collection includes the following:

- Baker & Taylor Axis 360: 2,091 items
- DPLA Exchange: 4,351 items
- DPLA Open Bookshelf: 9,076 eBooks
- NYPL Instant Classics: 6,473 eBooks
- RBdigital: 4,348 items
  Note: The RBdigital Web site and app were shut down in December 2020 and migrated for hosting by DPLA Exchange

Usage (FY 2020)

Because the digital collections are available through a self-service model, Connecticut State Library staff have no role in the circulation process and are responsible only for collection development and licensing. Usage statistics show that the statewide RBdigital collection of downloadable books and audiobooks includes 4,348 titles that were checked out 50,200 times in fiscal year 2020, a 33% increase over activity during the last fiscal year. SimplyE does not currently provide usage statistics.