Digital Learning Advisory Council
Meeting Minutes
August 14, 2019

Attendees
- Katie Bauer — Trinity College
- Nick Caruso — CT Association of Boards of Education
- Doug Casey — Commission for Educational Technology
- Larry Covino — Connecticut Association for Adult and Continuing Education
- Josh Elliott — Fairfield University
- Karen Kaplan — Hamden Public Schools
- Dawn LaValle — Connecticut State Library
- Jim Mindek — Connecticut Technical High School System
- Karen Skudlarek — University of Connecticut
- Jim Spafford — Manchester Adult Education
- Scott Zak — Connecticut State Colleges and Universities

Agenda

- Open Education Resources
    - Preliminary Findings
    - Materials Budgeting in the Digital Age

- Impact of 5G on Teaching and Learning
    - Technology Overview
    - Implications

- Digital Equity Initiatives
    - Eduroam
    - Access Points

- Opportunities for Cost Savings in Technology

Meeting Notes

The issues and conversations summarized below represent an assimilation of ideas rather than a strict verbatim or chronological record of points shared.

Welcome

Nick Caruso of CABE and Chair of the Digital Learning Advisory Council called the meeting to order at 10:00 AM. He provided members a few minutes to introduce themselves and the roles they play at their respective institutions.

Open Education Resources

Doug opened a discussion around open education resources (OER) by highlighting the benefits of using open materials, including cost savings, flexibility, quality, and the opportunity to collaborate among authors. The Commission launched an awareness campaign early in the summer, with resources and video testimonials provided through www.GoOpenCT.org. The campaign's call to action was to respond to a brief survey (http://bit.ly/CT-OER-Survey) that Connecticut OER advocates helped design. The instrument asked respondents about their use of OER, willingness to share materials, and needs for future OER use (e.g., professional development, platform for sharing, etc.). In advance of the Advisory Council meeting, Doug shared preliminary results of that survey (see attached) and welcomed feedback on the data.

Karen Kaplan questioned whether the results might reflect more enthusiasm for the use of OER than a general population of educators would provide, given response bias. In other words, those people willing to take the time to respond to the survey probably favor the OER movement. Doug did note that while approximately 40 percent of K – 12 and 58 percent of higher education respondents use OER in some way, 59 percent of K – 12 and 42 percent of higher education respondents do not use OER.

Scott Zak underscored the importance of defining "OER," as some see open materials only including complete courses or textbooks, whereas others see OER as materials as granular as videos or individual lesson plans. On the GoOpenCT Web site and in the introduction to the survey, visitors see the following definition of OER, from Creative Commons: "Free and openly licensed educational materials that can be used for teaching, learning, research, and other purposes."

Katie Bauer underscored the importance of providing copyright training for OER use. She has seen a need for deeper understanding and mastery of what types of licenses to use in creating, sharing, and referencing open materials. Karen Kaplan acknowledged this need and noted the potential use of federal Every Student Succeeds Act (ESSA) funding under Title IIA to support teacher professional development around the use of OER.

Nick expressed enthusiasm for the potential of a statewide OER platform to house shared, standards-aligned curriculum materials, a long-time need among the state's K – 12 school systems and an area of enormous potential cost savings.

The group shifted to a discussion of how to operationalize and sustain an OER movement in the state. For example, several Advisory Council members expressed a need to ensure high quality and proper alignment of materials with national and Connecticut academic standards (e.g., Connecticut Core and Next Generation Science). Karen Kaplan suggested that involvement of the State Department of Education's Academic Office and a potential badge of approval from that body would support adoption. Doug mentioned that he has been working directly with the Academic Office to ensure alignment of goals and outcomes. Speaking to the professional development needs expressed by Katie and others, Jim Mindek pointed to the six regional education service centers (RESCs) as potentially having the staff and resources to support K – 12 schools.

The use of open materials holds strong potential for all of the stakeholder groups the Advisory Council members represent. For example, Larry Covino mentioned a Kentucky adult education model, which he shared with members of the organization he leads, the Connecticut Association for Adult and Continuing Education (CAACE). Karen Skudlarek commented on the growing rate of OER creation and adoption in higher education and wondered about the broader level of OER use in specific courses and institutions. Jim Spafford, who has served in K – 12 and adult education institutions, asked the group where broader use of OER in Connecticut might take place, that is, in K – 12, higher education, or both types of institutions. Representing the library community, Dawn LaValle saw success in a gradual adoption of OER over time, rather than schools and colleges imposing broad-based and immediate OER requirements on teaching staff.

Impact of 5G on Teaching and Learning
Shifting to a topic discussed in previous Advisory Council meetings and initially raised by Jonathan Costa, Nick provided a brief overview of the Commission's meeting with Verizon on July 18 around 5G technology. He opened the discussion by posing the key question of how education might change when students and teachers have access to high-speed mobile Internet through their cell phones and other mobile computing devices. A number of Commission and Advisory Council members were able to attend the meeting with Verizon, including Katie, Nick, Dawn, and Jim Spafford.

Doug shared some of the benefits that Sanjay Udani, Verizon's Vice President of Public Policy, shared on July 18. In addition to providing speeds up to 10 Gbps, 5G technology offers improvements in reliability (99.999% uptime), volume of data transfer (10 Tbps per KM^2), density of coverage (1 Mbps per KM^2), and latency (5 ms).

The ability to provide a high capacity of coverage for heavily populated areas (e.g., schools, universities, and libraries) may make the physical campuses of learning institutions even more relevant upon the rollout of 5G. However, the heavy capital and operational investments needed for 5G may mean that larger cities and towns will see coverage before more suburban and rural communities, potentially furthering the broadband divide. Karen Kaplan expressed her concern that, as with other new or

improved forms of technology, 5G could become another point of separation between the haves and have-nots, especially in preparing students for college and career. On the other hand, Jim Spafford pointed to the opportunity to assist traditionally underserved urban learners by leveraging 5G for educational purposes in areas such as New Haven and Stamford.

Dawn noted that, based on the Verizon briefing, older technologies (e.g., 4G and 3G) will co-exist with 5G to accommodate for legacy devices. As speeds increase and thereby improve the ability to transfer large amounts of video data, Katie noted her concerns for the broadening of surveillance technologies and loss of privacy. Scott Zak also noted the likely expansion of broadband-intensive applications that leverage virtual and augmented reality.

Doug closed the 5G conversation by referring Advisory Council members to the upcoming release of Verizon's 5G Education Technology Challenge grants (www.5gedtechchallenge.com), with applications opening this fall. The program will award innovative proposals to support teaching and learning using next-generation networks.

Digital Equity Initiatives
Eduroam
Many schools, libraries, and universities have undertaken measures to ensure that students have access to the Internet outside their institutions. One approach that the Commission has endorsed is Eduroam (www.eduroam.org). Doug provided a brief overview of this technology for connecting students through a global authentication network. Logging onto any wireless access point with an "eduroam" service set identifier (SSID), learners pass their credentials to their home school or college. This way of accessing wireless networks provides a single set of credentials that allows students to get online anywhere the "eduroam" SSID exists. The framework also provides data on where and by whom the Eduroam technology is used.

In addition to the pilot locations that Doug shared (see Infrastructure Advisory Council minutes from August 7, 2019), he welcomed members of the Digital Learning Advisory Council to suggest other communities that might have interest in using Eduroam in their cities or towns. Karen Kaplan expressed interest in a pilot for Hamden, and Doug encouraged other members to learn more about Eduroam for their own cities and towns.

Access Points
Another means of connecting students to the Internet comes through providing them with mobile access points or hotspots. Dawn shared that 80 libraries offer such loaner programs through the Connecticut Library Consortium (CLC, www.ctlibrarians.org). She suggested that just as the Connecticut State Library runs its inter-library loan program, the potential exists to loan hotspots across libraries as well, based on need.

At the K – 12 level, Jim Mindek shared some details of the hotspot program within the Connecticut Technical High School System. Students serving at-home detentions use access points to stay current with assignments. Jim has seen abuse of the devices, used for unauthorized purposes, and noted the challenge of managing the loaner program. Karen Kaplan's team provides hotspots to students in Hamden, but she noted that most students require Internet access on a sustained basis, not just for an occasional night or two. This need points to having dedicated connectivity for students. In the coming school year, Karen Kaplan plans to extend the reach of hotspot coverage by planning for students in multi-family dwellings to take them home, offering connections to multiple learners.

Doug concluded the discussion by mentioning that two national hotspot providers have approached the Commission, offering state-level discounts to their devices and the tools to manage their use. He asked the Advisory Council members about the potential value of a statewide initiative. Most agreed that exploring such a program across Connecticut schools and libraries holds strong potential to connect students and save these institutions in the cost of providing devices.

Opportunities for Cost Savings in Technology
With just a few minutes at the end of the meeting, Nick offered an invitation for ideas around technology cost sharing for schools, libraries, and universities. He mentioned the Connecticut Education Network (CEN) and researchIT, the Connecticut State Library's digital library, as examples of efficiencies in service and content delivery. He also solicited feedback on ways the Commission could remove impediments to collective technology purchasing or service delivery.

Jim Spafford noted past success in procuring virtual courses that multiple K – 12 and adult education programs could leverage. Dawn expressed a need among libraries for shared technology staff, and Katie pointed to the potential of volume purchasing in technology hardware. Because of the virtual monopoly of the student information system PowerSchool in Connecticut districts, Karen Kaplan suggested there could be cost savings in licensing or support for that software.

Adjournment
Nick thanked the group for their time and input and concluded the meeting at approximately 12:00 PM.

Preliminary Open Education Resources Survey Results

http://bit.ly/CT-OER-Survey

In what type of institution do you work?

Institution Type	Count	Percent
K – 12	185	61.3%
Higher Education	117	38.7%

How aware are you of open education resource (OER) materials?

Awareness	K – 12	Higher Education
Use some OER as part of my (or my staff's) teaching	38.9%	42.9%
Heard of them but have not used	31.5%	34.3%
Not aware of OER and do not use	27.5%	7.6%
Use most or all OER in my (or may staff's) instruction	2.0%	15.2%

If you have interest in or currently use OER materials, how important are the following reasons for doing so?

	Quality	Currency	Cost Savings	Adaptability	Integration	Collaboration
Very Important	85.0%	71.5%	65.7%	57.1%	45.9%	31.5%
Important	12.8%	25.5%	27.1%	32.9%	40.3%	39.7%
Somewhat Important	1.7%	1.7%	6.4%	7.4%	10.4%	20.3%
Not Important	0.4%	1.3%	0.8%	2.6%	3.5%	8.6%

Would you be willing to share your materials with a wider audience?

	K – 12	Higher Education
Yes	81.1%	77.1%
No	18.9%	22.9%

If you are using OER, why?

Reason	Percent
Cost savings to students - equity of access	44.4%
Flexibility of materials - ability to remix and reuse	40.4%
Cost savings to my institution	30.7%
Opportunity to collaborate with other educators and researchers	27.4%
Higher quality of materials	23.7%
Lack of commercial materials in my subject	12.5%
Other	4.3%

In what areas do you need support for OER use?

Need	Percent
Discovery and vetting of high-quality materials	38.6%
Support on copyright (Creative Commons, use and publishing my materials)	28.9%
Technology platform for authoring and sharing	28.6%
Open pedagogy (developing OER-based lessons)	26.7%
Combining or remixing different materials	25.5%
Support in developing accessible (e.g., ADA) materials	24.6%
Certification (e.g., Creative Commons)	21.3%
Funding	19.8%
Other	5.5%

What concerns or challenges do you face regarding the use of OER?

Concern	Percent
Time to find and vet high-quality materials	46.2%
Guarantee of high quality	41.3%
Time to develop materials	40.7%
Guidance on sharing and copyright issues	29.2%
Limited materials for my grade or subject	17.6%
Technical skill to develop and share my materials	13.7%
Leadership support	11.6%

If the State were to provide a technology platform for sharing OER across schools, colleges, and libraries, what features would you need?

Feature	Percent
Access control (i.e., ability to control sharing privileges)	48.3%
Curation across OER collections (e.g., indexing across other schools, universities, and libraries)	41.0%
Standards alignment (e.g., Common Core, NGSS, etc.)	40.1%
Rich authoring tools	28.9%
Other	7.6%