Practices Advisory Council
Meeting Minutes
November 28, 2016

Attendees

- Nick Caruso — CABE
- Doug Casey — CET
- Jonathan Costa — EdAdvance
- Josh Elliott — Fairfield University
- Jason Jones — Trinity College
- Greg McVerry — Southern Connecticut State University
- Josh Smith — New Milford Public Schools
- Shelley Stedman — New Fairfield Public Schools, CASL
- Chinma Uche — CREC Academy of Aerospace and Engineering, CTCSTA

Agenda

- Technology Standards

    o   Student Standards – Update

    o   Teacher Standards – Draft Review

- Library Media Framework

- Computer Science Education

Meeting Notes
The points below represent an assimilation of ideas rather than a verbatim or chronological record of points shared.

Technology Standards
Doug began the meeting with an update on the endorsement of the ISTE Student Technology Standards. The Practices Advisory Council endorsed these standards at the August meeting, followed by an endorsement by the full Commission membership on September 12. By statute, endorsement of these standards requires support from the State Board of Education (SBE). In a conversation last week, Commissioner Wentzell advised Doug to work with Deputy Commissioner Ellen Cohn to move this process forward. Likely steps will include internal review, discussion among members of the SBE

Standards and Assessment Committee, and final endorsement by the SBE members. Doug has since reached out to Ellen Cohn to discuss next steps. Part of the discussion with Commissioner Wentzell addressed the process of integrating the ISTE standards into the teacher Evidence Guides, the thoughtful recommendation of Shannon Marimón, work that would first require SBE endorsement of the standards. Obviously, the Commission will continue to support the refresh of these standards and efforts to make them relevant to and embedded into current teaching and learning.

The group reviewed the draft teacher standards, embargoed through February but shared in confidence by Sarah Stoeckl of ISTE. These standards follow the same structure as the student standards, with the following descriptors as practice areas:

- Empowered Educator
    - Learner
    - Leader
    - Citizen

- Learning Catalyst
    - Collaborator
    - Designer
    - Facilitator
    - Analyst

Readers can view the current draft teacher "refresh" standards at http://bit.ly/ISTE_TR. ISTE welcomes input into the standards via http://www.surveymonkey.com/r/TRefresh1B.

Jonathan Costa suggested that while the student and teacher standards, and even the Evidence Guide integration, are great frameworks, they only point to examples of best practices. He suggested that perhaps a separate guide to digital integration would benefit Connecticut educators and students. Real progress would take place through the "demand" side, a goal such as developing a technology-rich, high school capstone project with defined exit criteria. He also pointed to work through Skills21 out of EdAdvance, tapping into student perspectives on how secondary education needs to change to provide authentic learning experiences ("reimagining secondary education"). This work is taking form through the RESC Alliance, details of which Jonathan offered to share soon under separate cover. Josh Smith expressed the importance of teacher voice, especially that of CEA and AFT, in these redesign efforts to build support.

Greg McVerry pointed to the Future Ready framework of the U.S. Department of Education, and Doug indicated that at least one district in the state had interest in adopting this set of guidelines.

Jonathan offered to share this discussion with the other members of the SEED board, which makes recommendations regarding educator effectiveness and professional

learning (see www.connecticutseed.com). This group now oversees the TEAM and teacher preparation initiatives. Josh Smith underscored, and Josh Elliott echoed, the importance of teacher preparation to include the effective and authentic integration of digital tools and approaches ("the evolution of teacher prep").

Library Media Framework
This topic came about from an inquiry through a regional council for library media specialists (LMS). Sarah Miller of CREC requested input from the Commission on standards and resources from the State Department of Education, which led to some exploration of current standard sets, which include the following:

- SDE Information and Technology Literacy Framework: http://www.sde.ct.gov/sde/lib/sde/pdf/Curriculum/itf.pdf
- Future Ready LMS Framework: http://futureready.org/about-the-effort/librarians/
- American Association of School Librarians (AASL) Standards (coming fall 2017)
- International Literacy Association (ILA): www.literacyworldwide.org

Shelley Stedman indicated that recent news, such as a study of Stanford University students indicating that many had trouble judging the credibility of online information, may be driving this initiative. The New England School Library Association has provided useful crosswalks among standard sets that address digital literacy skills. Greg McVerry pointed to excellent standards from ILA that support the development of digital literacy skills.

Shelley pointed to work in other states to support information gathering about the LMS role in schools and equity of access to library materials, resources, and staff across school districts. In Massachusetts, legislation compelled school leaders to participate in a survey to gauge needs, with a focus on equity. Connecticut could engage in a similar effort, with possible assistance from Carol Gordon of Rutgers, one of the key authors of the Massachusetts survey instrument. Shelley agreed to provide this group with additional background on these types of surveys and exemplars from other states.

A discussion followed regarding surveys of different types of technology resources and usage. Josh Smith brought up the CAPSS Technology Futures effort led by Ken Dipietro of Plainfield, a Delphi study to look at likely future trends in the state around educational technology. Doug shared the current Speak Up survey of digital resources (e.g., bandwidth and devices) among families outside of school. Data from Education Superhighway provides reliable school-level broadband access data, derived from eRate filings.

The group agreed that while we need data to assess the current state of information literacy, materials and broadband access, and other educational supports, schools and families may face multiple survey requests throughout the year. It remains difficult to get leaders' and families' time to respond to these surveys, so any instrument this group designs should remain brief and cover multiple areas of interest for efficiency.

Nick Caruso pointed out that this discussion touches on concerns of other Advisory Councils, such as bandwidth provision in the Infrastructure Advisory Council. We agreed to review the materials Shelley shares and look to develop a straightforward but comprehensive survey of issues.

Computer Science Education

Chinma Uche shared some background of the Connecticut Computer Science Teachers Association (CTCSTA, ctcsta.org) and national progress in supporting computer science (CS) education. Formed in 2004, CTCSTA became a chapter of the national Computer Science Teachers Association in 2009. The group has advocated for equity and resources behind CS on a state and national level.

Some milestones in promoting CS include the passage of Connecticut Public Act 15-94, which calls for public schools to offer CS instruction as well as the federal STEM Education Act of 2015, sponsored by Representative Elizabeth Esty. More recently, President Obama launched the CS for All initiative, which channels $4B to states and $100M to districts to support CS teacher training and curriculum development. The National Science Foundation (NSF) plans to award $135M to CS programs that support teacher and program development.

Through the CTCSTA and as part of the State Department of Education's Computer Science Advisory Group (CSAG), Chinma noted several efforts to gather data on CS programs in Connecticut schools. Two separate surveys were not successful in garnering adequate responses, and the CSAG is now gathering data from the Teacher Course Schedule (TCS) report, which provides course catalog and schedule data from all Connecticut public schools, as a means of identifying high school CS classes. The intent remains to identify gaps in the provision of CS instruction by school and district, then to address inequities of instructional resources.

The group discussed CS certification, which some believe may pose an impediment to expanding CS instruction or even quash effective instruction taking place now by non-CS (e.g., math, social studies, etc.) teachers. Greg McVerry suggested a possible workaround in cross-certification, to help ensure quality of instruction without stifling existing CS teaching, especially as it is woven into non-CS classes (e.g., data analytics in business classes, demographics in social studies, Web programming in communications classes, etc.). The possible development of a Praxis exam for aspiring CS teachers remains one option to pursue. Chinma shared that such an exam exists in Texas but has problems. Certification remains a challenge in all states.

The issue of certification ties into the ability of schools to allow students to obtain credits toward their mathematics graduation requirement by completing CS courses. Josh Smith noted that districts can define mastery and assign credit for coursework. To do so, districts need to have a certified secondary math educator teach the CS course. The same would apply to students receiving science credits toward graduation through a CS course (i.e., requires an educator certified in secondary science). On a national

level, 32 states currently allow CS to count for high school graduation (see www.code.org/action for details).

Strong industry support exists for CS instruction, primarily from large technology companies such as Google and Microsoft. Chinma expressed a need for more Connecticut-based companies to get involved in supporting CS teaching. The Commission's efforts to develop an educational technology cluster within the state could help to make these connections between educators and technology companies, as well as relationships between other organizations such as the Connecticut Technology Council.

The NSF, Code.org, and the K – 12 CS initiative (k12cs.org) have all released CS frameworks and curriculum materials. As Chinma noted, there is no lack of such resources on a national and international level. She hopes to get more teachers prepared to teach CS, with resources available from the NSF, which has funded approximately 80% of the applications it receives for CS instruction. In Connecticut, 48 teachers through Trinity College have completed the Mobile CSP (Android) course to enable them to teach this course. Each receives $1,000 per week as a stipend during the summer to complete the course. Jonathan Costa noted that the NSF has funded EdAdvance's Skills21 initiative (Skills21.org) a number of times, and the program will release research on computational thinking outcomes among its students in April 2017.

Nick learned about the CTCSTA conference last week and efforts to promote teacher and student standards. Gary Mala, the superintendent of Avon Public Schools, has advocated for these efforts on the state and national level. The group asked Chinma how we could support ongoing CS efforts in the state. She asked for general assistance in making it easier to teach CS, whether through increased awareness in our circles of influence, supporting national funding, or pursuing state-level policy and legislation. Her simple goal remains to get CS into every classroom in a meaningful way. One easy way to do this is in promoting Computer Science Education Week, December 5 – 9 (csedweek.org).

Connecting the CS discussion to earlier topics, Doug suggested that a continuum exists in technology-related learning, from the broad-based "computational thinker" standard of ISTE to advanced computational thinking and practice in CS, for example. Greg McVerry noted that if there is a line of demarcation between general technology proficiency and CS practice, it exists between the simple accumulation of skills and the advanced application of those abilities, to deeper applied learning. Josh Smith brought up the recurring theme of "coherence," of tying together complementary standards, training, and instructional methods to support an integrated educational experience for learners. From general student and teacher technology proficiency standards (ISTE) to related LMS standards as well as CS standards and certifications, there are more commonalities across these realms than differences. Leaders need to ensure that this concept of coherence moves beyond the district mission and vision level to application in every classroom.