

Governor's Council on Women and Girls

Subcommittee on Education & STEAM

MEETING MINUTES

Wednesday, June 14th, 2023 | 3:00 p.m.

Microsoft TEAMs Virtual Meeting

I. Welcome remarks/introductions

Christine Jean-Louis begins the discussion by introducing the new Co-Chairs that had joined the Education and STEAM Subcommittee, SDE Commissioner Charlene Russell Tucker, and Chief Manufacturing Officer Paul Lavoie.

Members of the Subcommittee introduced themselves and their positions.

II. Lt. Governor's Computing Challenge Presentation/De-Brief

Jean-Louis goes on to introduce the first presentation which consist of a quick debriefing of the Lt. Governor's Computing Challenge presented by Jennifer Michalek of SDE.

Michalek begins the presentation:

- a. She showed this year's computing challenge number of submissions – 214 total submissions across the state (109 concept challenge, 38 prototype challenge, 67 development challenge), 84 different schools participated, and 8 alliance districts participated. Submissions are counted by either an individual student or a team of up to 5 students. Grades 3 through 12 can participate in the challenge.
- b. She moves on to show the numbers from their partnership with CodeJoy – 2553 students attended a student session, 133 teachers had their students participate in a student session, 22 schools participated in student sessions, 54 educators engaged in professional learning, and 27 schools attended a school meeting. Through the funding of Infosys Foundation, they were able to partner with CodeJoy which offers sessions to students to engage interest in computer science.
- c. She presented data comparisons between the challenge and computer science coursework provided in schools. Through the data, it shows that they are reaching more females, especially in the prototype and concept challenges.
- d. Another variable she presented was the diversity within the challenge. By the data, it shows Asian students being overrepresented in the prototype, development, and coursework (related to computer science) compared to the overall population in the state, white students are representative to their overall population in the state, and an underrepresentation in the Hispanic and Latino population. She raises the question of how to engage the target students to participate in the challenge.

- e. Michalek discusses their Recognition Event – an in-person event that was held on June 9, 2023, at Infosys Digital Innovation Center with over 100 people in attendance. They were able to highlight 33 submissions (14 were from young women and girls). Within the submissions, 8 were Concept challenge, 8 prototype (2 submissions received the Jackson Laboratory Achievement Award), and 17 for development (one submission received the Jackson Laboratory Achievement Award, while another received the Bridgeport Prospers Award). They were able to give recognition to 16 different districts and had an interactive session with CodeJoy. She gave recognition to their Sponsors and Partners that helped with the Recognition event – i.e., Amazon, Infosys Foundation USA, Comcast NBCUniversal, AT&T Connecticut, ReadyCT, EdAdvance, Connecticut State Department of Education, UConn Werth Institute, Girl scouts, and LEGO.
- f. Beyond the data, Michalek discusses the obstacles the challenge faced – allocation of time, funding (subscriptions, professional training, hardware/software), and training (finding qualified staff, implementation support).
- g. Michalek explains their hopes for Computer Science moving forward:
 - i. Secure Funding for...
 - 1. Teacher professional learning
 - 2. District incentives/grants
 - 3. Project management for Lt. Governor’s Challenge
 - ii. Implementations
 - 1. Model Curricula
 - 2. Connections between CodeJoy and submission
 - iii. Prioritization
 - 1. Marketing
 - 2. Cross-sector support
- h. She ends her presentation by asking members to pose questions regarding the challenge, computer science initiatives, the CSCT Steering Committee, or from the State Department of Education.

Jean-Louis adds that her and Michalek had a call with Google to hopefully finalize some of the data privacy forms for SDE to have more access to additional tools they can share with districts to bring computing into their schools. Google provides a plethora of databases of free services that schools can utilize for Google Education. Students have said they preferred JavaScript because of it being more technical and gets them into coding, which is a lot of the resources Google provides. They are also working on having Google provide their professional certifications for free to help incentivize districts, teachers, and high schoolers to utilize these certifications for potential future employees. Jean-Louis also poses the idea of utilizing the retirement force within engineering and manufacturing spaces to help with teacher certification.

Michalek adds on that her agency provides teacher certification around computer science and how they are open to alternatives and suggestions.

Lavoie asks a question regarding the need for funding and resources for the Lt. Governor’s Computing Challenge – What kind of funding/resources are we looking at?

- a. Michalek responds by saying, they are open to any monies and anyway they can get them. She discusses a law that passed in 2019 that set up a Computer Science Education Account where industry partners, philanthropic partners, etc., were able to donate for computer science; however, because of the pandemic, not much has happened regarding the account.
- b. Jean-Louis addresses the two computer science methods used by the State: Lt. Governor's Computing Science (non-government driven) and Computer Science for CT (state driven steering committee). She emphasizes the goal of reprioritizing things in 2019 that were put on hold because of COVID-19.

Dr. Heidi Gold-Dworkin poses a question regarding a connection between CodeJoy and the submissions.

- a. Michalek answers by saying they are still going through data, and they are beginning to look more closely at that data. The initial findings are they would like to see a tighter fit which has to do with creating a better timeline within the challenge (as a whole).

Commissioner Russell-Tucker highlights a few things such as teacher certifications and what they are doing in terms of everything.

- a. She addresses how they are in a similar process on certification and how they are trying to modernize the work. She addresses how they need a holistic conversation to strengthen the pipeline, but not lose the quality of what they've discussed. She believes not having the conversation in isolation can be beneficial and addresses the importance of students having equity of access to every path that's available.
- b. Jean-Louis acknowledges the importance of aligning and not working in isolation.

Melanie Hoben comments working with AARP Executive Director Nora Duncan to increase instructors in the manufacturing industry.

Michalek recognizes this year being the best year in terms of collaboration among the Lt. Governor's Office, the SDE, and their other partners regarding the Computing Challenge, with the leadership of Jean-Louis.

III. Million Women Mentor/Internship Toolkit Update

Jean-Louis updates on Carolyn Alessi for Million Women Mentors stepping down as the State Leader, and the new State Leader being Colleen Bielitz (Associate Vice President for Strategic Initiatives and Outreach at Southern Connecticut State University). She acknowledges Million Women Mentors work on bringing more women into leadership in STEM and finding ways to mentor women into the field.

She acknowledges Janice Floyd (formerly with DMV; currently at DOC) continuing the work on the Internship Toolkit and providing access to employers in the state with resources they might need to have for a successful internship.

IV. CS-Plan/Code.org Presentation

Jean-Louis announces the last presentation about CS Planning and Code.org by Susan Auchincloss (with Sacred Heart University). Auchincloss presents:

- a. She notes existing programs they have available:
 - i. Federal Education Innovation Research Grant (aka., Project FUTURE) – where they are developing curriculum aids, modules, and units for elementary school teachers to integrate computer science into their classrooms.
 - ii. Code.org Regional Partner – They were awarded a contract from the State Department of Education to establish CS plan as a K-12 computer science education hub.
 - iii. Pathway for Computer Science Cross Endorsement for Educators
- b. She notes EdSight Data to inform about the CS-PLAN. She also provides the two-pronged approaches for scaling computer science for high school students that many states use – Graduation Requirement and Creating a K-12 CS Pathway to foster interest. Their goal is to have students take the classes because they want to take them and want to reach girls and underrepresented students in a positive way.
- c. Their program offers many services:
 - i. CSforALL SCRIPT Workshops, K-12 CS Pathway Planning Tool – a tool school districts can utilize to learn how to scale their own K-12 computer science education program.
 - ii. Train-the Trainer program for K-5 – this is training provided for elementary school teachers.
 - iii. Comprehensive teacher professional learning for middle and high school teachers
 - iv. Community program for administrators
 - v. Cross-endorsement options for teachers
- d. Auchincloss discusses process and challenges faced and moves on to discuss characteristics of participating districts – Bridgeport, Hartford, New Britain, Litchfield, RSD 6, and Stamford:
 - i. Readiness for K-12 CS Implementation
 - ii. Serves and underrepresented/rural community.
 - iii. Ability to add computer science courses at the middle school and high school levels.
 - iv. A commitment to have an elementary CS specialist train teachers to integrate CS into core K-6 courses.
 - v. A willingness to implement the State Computer Science Plan.
- e. She readdresses SCRIPT and their goals, and then addresses their CS-PLAN Summer Programming where they offer Elementary Master CS Teacher Academy, Code.org Computer Science Discoveries, Code.org Computer Science Principles and CSA, Robotics and IoT, and Integrating Data Science.
- f. She goes into more depth about their Elementary Master Computer Science Teacher program, which establishes 1-2 Master Teachers per Elementary School, teachers learn to use a variety of computer science tools (plugged/unplugged, integrate into core curriculum, Code.org CS Fundamentals, Robotics), and teachers develop PD to be delivered at their schools to peers.

- g. She provided raw number of teachers answering the question “Do you think that there is a place for Computer Science lessons for your students?” – 20 were uncertain, 2 answered no, and 118 answered yes. She also showed raw numbers of teachers answering if they use connections between Computer Science and core content areas, which resulted in 125 answering yes, 2 no, and 13 answered uncertain.
 - i. She presented two more raw number pie charts that show teachers interest in computer science, which the majority answering yes or likely
- h. Auchincloss took a few minutes to talk about Code.org, which is a nonprofit organization dedicated to expanding the access to computer science in schools and increasing participation in young women and underrepresented groups. They are the most broadly used curriculum in the world and 10% of students in the world participate in their hour of code. She also goes into detail of things that go along with being a regional partner with Code.org (i.e., Hour of Code, Vertically Aligned K-12 Curriculum, stand-alone modules with cross curricular connections, Teach AI, Virtual Lab, CS Leaders Prizes, and Commitment to free curriculum and open-source technology). Their Vertically Aligned Curriculum provides their resources in 20 languages, they have complete teacher guides with video examples of lessons being taught, lessons employ hands-on-learning and/or pair programming, teacher community support system, all lessons include mapping to standards, and they have a strong commitment to equity and providing CS to ALL students.
- i. She provided data from their phase one evaluation with CS-PLAN regarding Commitment to Equity. It showed that majority agreed. She also further elaborated on what teachers received with their CS-PLAN
 - i. 5-9 days of professional learning
 - ii. Check in opportunities with mentors.
 - iii. Option to pursue 3 credits towards cross endorsement in CS.
 - iv. Ability to host CSD and Elementary Master Teacher Academy onsite.
 - v. Elementary Teachers receive a stipend for delivering PD at their school.
- j. She expressed the challenges – keeping up with rapid changes in the field, funding/timing of funding, administrative and teacher turnover, meaningful engaging curriculum that solidifies student learning, and teachers unwilling to participate in summer PD.
- k. Lastly, she shares a Brookings article 6 pillars on how to successfully scale Computer Science Education.

Auchincloss asks if any members had any questions regarding what she had presented. Commissioner Russell-Tucker readdresses the issue of students not taking advantage of the resources and courses offered to them. She expresses the importance of data for it can be utilized from families, communities, and educators.

Michalek readdresses the importance of the Subcommittee being aware of the changing fields within Computer Science, and embedding new technologies as needed throughout.

V. Upcoming ED & STEAM Subcommittee meetings

Jean-Louis thanks Auchincloss for her presentation and announces the next two Subcommittee meetings (August 23 and the last will be in November). She thanks all the members in attendance and adjourns the meeting.

VI. Adjournment – Meeting adjourned at 4:00 p.m.