



Illinois State Board of Education

James T. Meeks, Chairman

Tony Smith, Ph.D., State Superintendent

Illinois Computer Science Task Force Meeting Minutes

Meeting Summary by Task Force Members

Monday, May 15, 2017

1:00 p.m.–4:00 p.m.

- Illinois State Board of Education, Videoconference Room (3rd Floor), 100 N. First St., Springfield, Illinois
- Illinois State Board of Education, Videoconference Room (14th Floor), 100 W. Randolph St., Suite 14-300, Chicago, Illinois

Attendees

Task Force Members

Chicago

Jake Baskin, Code.org

Ali Karbassi, CoderDojoChi

Steve Svetlik (chair), Computer Science Association

Brenda Wilkerson, Chicago Public Schools

Don Yanek, Computer Science Teachers Association

Wayne Bevis, Principal, Lindblom Math and Science Academy

Springfield

Jerry Weinberg, Southern Illinois University

Austin Betz, Illinois Federation of Teachers

Called In

Randy Swikle, Illinois Press Association

Illinois State Board of Education (ISBE) Staff

Brian Houser

Midwest Comprehensive Center Staff

Nicol Christie

Jeremy Rasmussen

Alicia Garcia

Meeting Objectives

- To reach consensus by voice vote on a working definition of computer science education
- To reach consensus by voice vote on all draft recommendations
- To review and craft sections of draft recommendations report

Computer Science Task Force Meeting

Mr. Brian Houser of the Illinois State Board of Education called the meeting to order. Members spent several minutes reviewing past meeting minutes.

A motion was put forward to approve the April 17 meeting minutes with no revisions. Mr. Swikle, attending virtually, made a motion to approve and Mr. Betz seconded. All were in favor and meeting minutes were approved.

A motion then was put forward to approve the May 5 meeting minutes. Mr. Betz motioned to approve minutes. Mr. Karbassi seconded. All were in favor.

Mr. Baskin briefly introduced himself as the proxy for Ms. Garcia from Code.org. He is the director of state government affairs at Code.org and a former Chicago Public Schools (CPS) teacher.

The task force then took a moment to review a revised version of the draft recommendations.

Mr. Houser stated that reaching consensus on the computer science (CS) definition should be a main focus for the meeting.

Members spent several minutes discussing elements of the draft CS definition. Mr. Yanek asked Mr. Baskin whether other states are satisfied with the Association for Computing Machinery (ACM) definition of CS. Mr. Baskin said other states have been working off the K-12 CS framework and feel that it is a good starting point.

Mr. Yanek asked whether a mathematics class that implements elements of CS would meet the proposed definition of CS.

Mr. Betz responded that a lot of different classes could hit on topics that are considered CS without being a CS course. The task force should consider what topics are CS and how much is required for a course to integrate those topics before it can be called a CS course.

Ms. Wilkerson said it is important to set parameters around what is considered CS. If those parameters are not clear, then what this task force believes to be important to CS might not be included.

Mr. Betz said it is critical to set parameters for task force fiscal recommendations on where schools might get money for offering CS classes, because the schools are going to want to access that money.

Mr. Yanek asked whether the task force is proposing that there be some type of audit process for school districts to check if their CS courses match the CS course current listing of code that

ISBE maintainings. He then asked whether that happens now. Mr. Houser responded that if schools are receiving some type of funding, then an audit process could be instituted.

Mr. Karbassi said the task force should keep in mind that any definition the task force creates may affect people trying to bring CS into the classroom. He said as long as there is a rule or CS definition, there is going to be someone who will try to fit his or her ideas into it. He said he feels the ACM definition is great and is leaning toward it.

Mr. Yanek said he agrees. He said one of the reasons he is leaning toward the ACM definition is because it is widely accepted.

Mr. Karbassi said perhaps the task force should put into the recommendation that after 2 years, the adopted ACM definition would be reviewed for salience.

Ms. Wilkerson said the field should acknowledge the history of how technology education has been approached so that people who might be in those paths (technology related but non-CS) can understand that we are trying to move CS away from those places. She worries about people who will interpret this definition in ways that conflict with what the task force intended. She said language is needed to distinguish the use of technology (non-CS) from the creation of it.

Mr. Houser said ethics could be a component of it, but any course that focuses solely on the use of technology would not be CS.

Dr. Weinberg said it gets a little murky with generalities like “the use of.” He said it would help to come up with some guiding examples.

Mr. Svetlik gauged the task force’s thoughts on whether it should define CS education instead of just CS. He referenced the Illinois civic education report, which defines civic education rather than civics itself. He qualified this with a statement that he likes the ACM definition and would be happy to go that route if coming up with a CS definition would be too time consuming.

Mr. Karbassi said that because there are only two meetings left, he proposed that members take the K-12 CS framework verbatim or reference it for this task force’s definition.

Mr. Svetlik made a motion that the task force adopt the ACM definition verbatim from the framework document (pages 13–14). ACM definition: “The study of computers and algorithm processes, including their principles, their hardware and software designs, their applications, and their impact on society.” This definition would be supplemented further with some examples of what would be CS and wouldn’t be CS pulled from the same document.

Mr. Karbassi proposed referencing pages 13–17 to be a little more in depth.

Mr. Svetlik said he would like to keep it succinct and brief, expanding as necessary to different stakeholder groups.

Mr. Betz seconded the motion.

All task force members voted to carry the motion in a voice vote.

The task force then moved on to the revision regarding the state data collection process for analyzing success of CS education programs around the state.

Mr. Karbassi said he remembers the suggestion of having the recommendation, then having the meat come later: When we are voting, are we only considering the main part and not the meat?

Mr. Houser responded affirmatively and stated that at the June meeting, the Task Force will fine-tune the additional information if needed.

Mr. Svetlik said he thinks there is clarity around the lack of timely informative data that can help us make decisions as a state with regard to CS education policy. Mr. Svetlik said he proposes that ISBE revise its process for collecting data in CS to ensure that every K–12 school, every course that is considered CS, the racial and gender identity background of every student, and the qualifications of the teachers defined by the licensure would be established. Ideally, we would have fiscal year (FY) 2017 data.

Mr. Karbassi suggested removing “analyze success of” so it would read as “revision of state data collection process for CS education programs around the state.” He said there, the task force can discuss what kind of data needs to be collected. Mr. Karbassi then motioned to vote on this revision.

Mr. Bevis seconded.

All task force members voted to carry the motion in a voice vote.

The task force then moved on to the revision of the CS licensure process. Mr. Svetlik said he would like to add “the revision of the licensure process for prospective, preservice, and inservice K–12 CS educators.”

Mr. Betz asked if the task force is going to recommend a specific path or licensure process, or are we going to say this is something that needs to be done and provide some options. He said he fears that the General Assembly might not like certain parts of this and throw out the whole recommendation because of it.

Dr. Weinberg said in the last meeting that they had discussed writing the recommendations as standalone items so the whole thing doesn’t get thrown out if they happen to dislike a recommendation.

Mr. Yanek said the task force should consider referencing the fact that Illinois State (University) graduates the most students with education degrees in Illinois and has developed a pathway for preservice and in-service teachers. He said there already is a foundation laid and something that can be referenced where a lot of this work already has been done. He also thinks it is important to state that these are not proposals that have to go into effect immediately, but are recommendations for a pathway to the future.

Mr. Baskin said in talking about a licensure process where it generally seems to focus on longer term endorsement or full certification, are there other short-term solutions the task force would want to recommend?

Mr. Karbassi said conversations about short-term solutions for licensure can be saved for when the task force discusses the details for each recommendation at the next meeting.

Mr. Svetlik motioned to approve the CS licensure process recommendation: “The revision of the licensure process for prospective, preservice, and inservice K–12 CS educators subject to our prior discussions going into more detail.”

Mr. Karbassi seconded the motion.

All task force members voted to carry the motion in a voice vote.

The task force then moved onto the next recommendation: student accesses and equity in CS.

Ms. Wilkerson said another bullet in the document talks about the lack of access and diversity in CS. She said that language needs to be included somewhere in this recommendation. Maybe add the same thing to this recommendation as the last one: “subject to our prior discussions going into more detail.”

Mr. Yanek said the word “access” is a word that seems too broad.

Mr. Houser said the task force might consider breaking this down into two separate recommendations, one that focuses on access and the other on equity.

Mr. Betz said he doesn’t think they need to remove the word “access” from this recommendation. He said the word “access” can be explained more clearly in the detailed section. He asked whether the task force is coming up with a plan to improve access or if that is something we are recommending someone else do.

Mr. Svetlik said reading some of the comments around this and looking at what other states have done, a short-term and a long-term goal for access. Some growing programs statewide ensure we are building on the success of those programs and having a keen eye on an eventual mandate.

Mr. Svetlik said he realizes a mandate may cause problems regarding capacity to teach (not enough CS teachers). He said if they state x number of years a mandate will be implemented might make it more palatable.

Mr. Baskin said he likes the “x number of years” idea, but was nervous about setting that goal too soon and forcing CS to become something we don’t want it to be. He said one thing that some states have done is required that every school at least offer CS, which would meet the task force’s goal of student access.

Mr. Bevis asked whether they can say something in terms of access and enrollment around schools reflects the demographics of their schools.

Mr. Baskin said he thinks that is a great goal.

Mr. Betz said he thinks access and enrollment need to be two separate recommendations.

Dr. Weinberg said changing the culture in a way that would reflect the demographics is a difficult thing, otherwise we wouldn’t be here at this task force.

Ms. Wilkerson agrees with separating the two, but feel that they both still need to be addressed. By saying CS is at least in every school, districts that didn't have CS before will at least have it now.

Mr. Yanek said that by saying every school should have CS, you might create situations where only one demographic ends up in that course. He said the task force should consider a recommendation that would make CS a high school graduation requirement.

Mr. Svetlik said he came up with another distinct recommendation: "Every Illinois K–12 public school achieve the mirroring of the demographics of the school to which they attend in 10 or x number of years."

Mr. Karbassi said he thinks what Mr. Yanek is getting at is that we should say in x years there should be a graduation requirement with pathway examples from other states. He said that rather than having it required in 10 years, have it revisited in 5 years instead.

Mr. Yanek said the CS advisory board could be tasked with developing a timeline and pathway to a graduation requirement without specifying the number of years.

Mr. Karbassi said he recommends stating that there be another task force formed in the next two years that would focus solely on creating a pathway toward a CS graduation requirement.

Ms. Wilkerson said by recommending an eventual task force for a pathway toward a CS graduation requirement, we have given ourselves an on-ramp to achieve this in x number of years. She said we are making the recommendation that CS exists in every school, and that—after a certain period of time—the demographics at the school be mirrored, which will set the trajectory for this goal.

Mr. Yanek asked whether it would be better to say that the creation of the new task force in 3 years would produce a plan for creating a pathway to a CS graduation requirement.

Ms. Wilkerson said the current task force also should make sure to say "ensuring access to CS education in all areas of the state." She asked if they should add x number of years to that as well.

Mr. Svetlik said he liked the idea of 3 years for the CS graduation requirement task force.

Ms. Wilkerson said there is an equally important need to have school-based personnel understand what CS is as well, and that a 3-year time frame can help allow for that.

Mr. Baskin said the recommendation currently states K–12. He asked what it would mean to require CS at the elementary level.

The task force changed this recommendation to secondary.

Mr. Betz said only a handful places south of Joliet offer CS. For some schools, it is difficult to find teachers that are CS literate. He said it could take more than three years just to make it offered at schools.

Mr. Svetlik said there should be some type of buffer between the point at which this task force is created and the point at which things need to happen.

Mr. Karbassi then clarified the three points under this recommendation as they have been discussed so far. He said the first point states that schools need to offer access to a CS course for secondary students within three years. The second point states that within x years, schools ensure that the course matches demographics. The third point states there needs to be a task force appointed within three years to approve a pathway for a CS graduation requirement.

Ms. Wilkerson clarified that they (as a task force) would recommend having CS as a graduation requirement, but the details of that requirement would be left to the new task force in three years to come up with a plan.

Mr. Baskin said one way of achieving the second point is through a graduation requirement. He suggested omitting the second point since it would already be built into the third point.

Mr. Svetlik said calling out demographics in the second point is important, even if it is redundant with the third point.

Mr. Baskin said the second point sounds too aspirational and not enough like a recommendation. He suggested the following language: “rethinking data collection processes to include at a minimum a comparison of the demographics of CS course to the demographics of each school within the state.

Mr. Bevis said that by making these individual points, the General Assembly may accept some and reject others. If the General Assembly rejects the graduation requirement (point three), then the demographic part dies with it.

Mr. Svetlik said some General Assembly members looking at these recommendations might ask, are these funded or unfunded mandates, and how is this going to affect my constituency? He said it might be a good idea to name somewhere in the recommendation list something consistent with our diversity belief statement.

Mr. Karbassi said if the General Assembly doesn’t accept point three, the second point around demographics on its own still could have an effect.

Mr. Svetlik motioned to recommend to the General Assembly the first point: “ensuring access to CS education statewide by requiring every secondary school to offer at least one CS course within three school years.”

Mr. Karbassi suggested using a specific date instead of years.

Mr. Betz said by the time these recommendations go through the General Assembly, it could affect the timeline of using a specific date.

Mr. Svetlik suggested “within three years of adoption of this recommendation.” He then restated the recommendation: “ensuring access to CS education statewide by requiring every secondary school to offer at least one CS course within three school years.”

Ms. Wilkerson asked whether the task force sees the necessity of saying “annually.” The language could be interpreted as requiring a CS course for only 1 year after the 3-year mark.

Mr. Svetlik added the word “sustained” to say the following: “ensuring sustained access to CS education statewide by requiring every secondary school to offer at least one CS course within three school years.” He then motioned to approve this recommendation.

Mr. Karbassi seconded.

All task force members voted to carry the motion in a voice vote.

The task force then moved on to the second point.

Mr. Karbassi said it’s great to have a CS class, but teachers also are needed who are able to effectively teach CS. He suggested schools be required to have at least one CS teacher who has gone through the CS licensure process. He said having a separate bullet point around this might be a good idea.

Mr. Betz asked whether they are going to include a plan or specific guidelines for how demographic data are measured. He asked, what is the state going to do if they don’t meet this requirement?

Mr. Bevis suggested noncompliant schools could be flagged on the school report card.

The task force liked Mr. Bevis’s idea.

Ms. Wilkerson: Do we want it on the report card within 10 years, or start having them listing it as over time, which would show their progression toward mirroring?

Mr. Svetlik liked Ms. Wilkerson’s latter thought, and said the recommendation could be added to the report post-haste to start showing that progression.

Mr. Betz: For schools to meet this requirement, are they going to start limiting white males from taking CS?

Mr. Svetlik asked if gender identity should be included in the demographics.

Mr. Karbassi suggested leaving the included part in the detailed section. He said they could say in the paragraph “including gender identified.”

Mr. Baskin suggested adding the phrase “traditionally underrepresented groups in CS.”

There was then a short discussion on the type of data they want to collect (regarding demographics) that might not be typically reflected on a school report card.

Mr. Karbassi said what kind of data is collected and what is on (or should be on) the report card seem like two separate points.

Mr. Svetlik motioned that they recommend to the General Assembly the following point: “In order to place a focus on equitable access to CS education, include comparison to gender and

race/ethnicity demographics of CS courses to the overall school demographics on the state report card starting in 2018, with the goal of CS enrollment reflecting each school's demographics within 10 years.”

Mr. Karbassi seconded.

All task force members voted to carry the motion in a voice vote.

Mr. Svetlik then motioned for a third point to recommend to the General Assembly: “that there be a CS graduation requirement and that a task force be created within three years with the express purpose of producing a plan for creating a pathway to a CS graduation requirement.”

Dr. Weinberg thought they were going to put in the phrase “three years after the adoption.”

Mr. Betz said that could be clarified later, that any time frame is from the adoption of each recommendation.

Mr. Houser said the task force could include a disclaimer.

Dr. Weinberg said the question is whether there would be a disclaimer for all the years mentioned in each of the three points (for each point) as opposed to changing a single point to reflect that.

Mr. Karbassi feels that there is a word missing before “be.”

There was then a short discussion on the recommendation in its current form that makes it sound like a CS graduation requirement should be established right away, which is incongruous with the rest of the recommendation.

Mr. Svetlik suggested having two points for this recommendation: one that recommends “a CS graduation requirement be implemented across the state of Illinois,” and another that says “to support the aforementioned, a Task Force shall be created within three years with the express purpose, etc.”

Mr. Karbassi said if we have two bullet points, the General Assembly could take one and leave the other. In order for it to have bite, it should be one point.

Mr. Baskin suggested: “We recommend that CS becomes a graduation requirement and that a Task Force is created in three years to determine the timeline to implement this graduation requirement.”

Mr. Svetlik withdrew his prior motion and motioned to approve: “We recommend that CS becomes a graduation requirement, and that a task force is created in three years to determine the timeline to implement this graduation requirement.”

Mr. Karbassi suggested “within” instead of “in.”

“We recommend that CS becomes a graduation requirement, and that a Task Force is created within three years to determine the timeline to implement this graduation requirement.”

Mr. Yanek asked if they should specify high school.

Mr. Betz said it sounds like the task force's only job is to establish a timeline and not plan a pathway.

"We recommend that CS becomes a secondary graduation requirement, and that a task force is created within three years to determine the timeline and plan to implement this graduation requirement."

Mr. Karbassi seconded.

All task force members voted to carry the motion in a voice vote.

The task force then moved on to the topic of funding.

Mr. Svetlik said he thinks funding should be its own point. If not, he said, they strive to encompass the idea of funding—specifically, how the idea of funding would be played out within the substance of each bullet point.

Mr. Karbassi said the idea of a CS requirement is great, but if schools don't have the money, then it's a moot point. He said they should include at least what they think it would cost for a school to bring on one to three CS teachers.

Ms. Wilkerson said she is afraid that if they have CS and funding together, the General Assembly might strike the whole thing. She said she would rather get CS in the schools and then allow those schools to search for their own funding.

Mr. Svetlik said he understand the importance of what Ms. Wilkerson is saying, but still believes it is important to include the notion of funding as an individual point. He then asked the task force to come up with some language around this point.

Mr. Bevis said in his experience from a school level, the cost of CS wasn't that great, and that it was the cost of professional development for CS that was big. He said students are shifting out of the fine arts and world languages and into CS. Because of this, they have been reallocating funding from fine arts into CS.

Ms. Wilkerson said it would be helpful if there was money from the state for teachers to go back and get their CS credential.

Mr. Karbassi said maybe not every point needs to have funding included in the recommendation, and that they should only focus on certain ones.

Dr. Weinberg said a lot of rural areas might need additional funds just to get a reasonable internet connection.

Due to time, the task force tabled the discussion on CS funding and moved on to the recommendation of having a CS office of education headed by a principal consultant.

Mr. Yanek asked whether this is something that will be funded by the General Assembly or ISBE.

Mr. House suggested just recommending that ISBE have a principal consultant in CS at a minimum.

Mr. Svetlik said he wants to shoot big and motion to approve the recommendation as it currently is: “the creation of and committed ongoing funding of a standalone office of CS education headed by a principal consultant of CS education.”

Mr. Bevis seconded.

All task force members voted to carry the motion in a voice vote.

Public Comment

Martha Eldredge Stark, EFE #20 System Director said high schools most often function in silos (e.g. English, mathematics, etc.). Yet this is not how the mind works. She said research makes it clear that the mind is constantly searching for meaning and connections. She said there have been strides to integrate all four areas of STEM, within which career technical education (CTE) is contained. She said one of the programs for which her organization is accountable is the integration of core academics into CTE. She said her organization has seen students gain a deeper understanding of mathematics and science when they are given real-world applications in their project-based learning in pre-engineering classes. She said all nine of the high schools she works with offer this series of pre-engineering classes. She said recently that several of her schools have adopted Project Lead the Way’s CS sequence of core classes, which is aligned to both Advanced Placement science principles and CS. She said some of these classes are taught by CTE business teachers, CTE applied tech teachers, or mathematics teachers. She said all Project Lead the Way classes require extensive professional development. She said there is a tremendous need for students to be literate in CS, which will precipitate a high demand for teachers. Many teachers already possess the skills to handle these classes or could gain them from professional development without necessarily requiring additional college credits. Perhaps just passing a revised CS exam to make sure they have those skills would suffice. She asked the task force to think outside the box by (1) not creating an additional silo and to work on making CS integrated into STEM education and (2) realizing that many teachers already possess these skills, and if they are given the opportunities to collaborate across departments, the students will be the beneficiary.

Meeting adjourned at 4:03 p.m.