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**PUBLIC MEETING MINUTES**

Name of Organization: Computer Science Subcommittee  
Date and Time of Meeting: Wednesday, August 24, 2022, at 2:00 P.M. (PST)  
Place of Meeting: Join Zoom Meeting at:

<https://us02web.zoom.us/j/83341852175?pwd=tcx5g27L6rdB6ajW4sPvuWOjNVKKjT.1>  
Meeting ID: 833 4185 2175  
Passcode: 251134  
Dial In: +1 669 900 9128 US

**1. Call to Order / Roll Call**  
Chair Mark Newburn

The Computer Science Subcommittee was called to order by Chair Mark Newburn at 3:00 P.M. on Wednesday, August 24, 2022, on the above Zoom Meeting.

**Members Present**  
Andreas Stefik  
Cindi Chang  
Dave Brancamp  
Jaci McCune  
Kendra Fox  
Mark Newburn

**Members Absent**  
Pavel Solin  
  
**Staff Present**  
Lis Dzminiski  
Debra Petrelli

A quorum was declared

**2. Public Comment** (No action may be taken upon a matter raised under public comment period unless the matter itself has been specifically included on an agenda as an action item.)  
Chair Mark Newburn

There was no public comment.

**3. Welcoming Remarks and Announcements** (For information only)  
Chair Mark Newburn

Chair Newburn welcomed everyone back after about two years due to Covid-19.

**4. Approval of the Minutes from the July 15, 2020, Computer Science Subcommittee Meeting** (For possible action)

Chair Mark Newburn

Chair Newburn asked if there are any changes or corrections to the July 15, 2020, Minutes as written. None were made. Chair Newburn asked for a motion. Mr. Brancamp made a motion to approve the July 15, 2020, Minutes as written. Ms. Chang seconded the motion. There was no opposition. The motion passed unanimously.

**5. Discussion on Middle School Computer Science Course Requirements** (For possible action)

Chair Mark Newburn

Jaci McCune

Ms. McCune commented on NRS 389.072, which outlines computer education and what the technology requirements are. It currently explains that all students before the 6<sup>th</sup> grade must receive computing education, inclusive of computer science. She said the second part of that NRS talks about high school requirements. She pointed out this leaves a gap, middle school, which is not addressed. She added that many middle schools within the state do not offer any type of computer science courses outside of the half-credit course that goes towards high school graduation.

Ms. McCune said she would like to open a discussion on whether there is a need to put something in the NRS at some point to move this forward, or whether it is not necessary. Ms. Chang said the middle school standards are basically not being taught. She pointed out that even if they address the half-credit course towards graduation, those are high school standards. She said there is a gap from the 5<sup>th</sup> grade standards being taught then jumping to the 9<sup>th</sup> grade standards being taught. This is because, she said, middle school standards are not being required to be taught.

Ms. Dziminski said the standards as currently being taught are not being reported on the K-5 report card. She was not sure whether the middle and high schools have that requirement. She added that many teachers believe if it is not on the report card, then it is not taught. Ms. McCune said the NRS does not specifically say the course must be listed on a report card, but it must be taught. She agreed that if a course is not on the report card, teachers tend not to have it as a focus to teach. She said there is no verbiage in this NRS dictating what should or should not be on a report card.

Ms. Chang said there are some schools that have computer science courses on their report cards, most are rural schools, however, Clark County School District (CCSD) is currently working on getting it on the report card as well. Ms. Fox pointed out that it is currently on Washoe County School District (WCSD) report cards for elementary schools, and depending on what class is taken, on some middle school report cards. She added that she believes it is more than just computer science not being taught, but also a health class, financial literacy, and science. She thinks the state is lacking in middle school

requirements overall. She pointed out, from a curriculum standpoint, middle school students are only getting courses in math, science, social studies, English language arts (ELA) and an elective or two.

Chair Newburn pointed out that in middle school there are computer science standards that have been approved by the State Board of Education and legislation. He said it sounds like the issue is teachers are supposed to be teaching computer science, as well as other courses. He asked what the mechanism is for making sure computer science gets taught. For instance, in high school there are graduation requirements. Mr. Brancamp commented that one big area is the one and one-half credit requirement for math and English language arts (ELA), which often causes problems because students take a part of the credit in middle school and the rest in high school. This would be an area, he said, that could address the requirements of middle school before high school. He added that currently if a student does not have those middle school credits going into high school, then remediation would occur to make up those credits in high school.

Chair Newburn suggested that the State Board of Education ask for evidence that these required courses are being taught, and what classes are they being taught in. Ms. Fox said when students take a course in middle school that is in computer science, when offered, they do absolutely learn the computer science standard, but if they do not take that class and take something else, they do not have access to the computer science standards. It depends on their course selection in middle school. Ms. McCune said there is a requirement now that all elementary schools teach computer science, and all high schools have to offer computer science, but no requirement in middle school to teach computer science, where we currently only reach those students that enroll in computer science as an elective. She asked whether that is what is wanted. Dr. Stefik asked why bother having standards if they are not being taught. He suggested there be something basic that says teachers in middle schools have to offer computer science. Chair Newburn asked if it can be interpreted that middle schools have to offer a computer science class; to demonstrate teaching standards, all middle schools must offer a computer science class.

Ms. Chang said she is concerned with “offering” computer science and whether inequities are inadvertently being reinforced. She said this raises concerns, all students need to be hit with the standards. Ms. McCune agreed. She said high schools are now supposed to be making a concerted effort to increase enrollment in computer science courses with a more diverse population of students. She asked how high schools are supposed to if middle schools don’t even have the entry point to expose students to computer science. She said if the group recommends a requirement that all middle schools offer computer science courses, it should be in addition to the half-credit course, because there are kids looking for that opportunity to go beyond that half-credit requirement. Ms. Chang said to be clear, those are high school standards for the half-credit course, they still do not touch on middle school standards.

Dr. Stefik said instead of asking middle schools to offer computer science courses, perhaps a recommendation to the legislature to put computer science on the grading system, i.e. report cards. He added if the course shows up on a student’s report card there is an implicit target. Ms. Dziminski said from her experience, she believes teachers will

not teach computer science unless it is on the report card. Mr. Brancamp pointed out they need to be careful with the wording regarding the high school half-credit so not to miss the target of middle school standards again. Ms. Fox stated she is unsure how to add it to a report card without attaching a class to it.

Chair Newburn suggested taking this in two steps; first step: all schools must offer computer science, otherwise they cannot possibly demonstrate that standards are being met, and second step: computer science courses need to be offered equitably. He said he believes the Nevada Department of Education (NDE) could make that interpretation, that if a class is not being taught in computer science, the standards are not being met. He added this could be done in the current framework. He said he would like to see what can be done now without creating a new law. Ms. McCune agreed that starting with these two steps would be best and then later move into the reporting piece. She said if this were to all come out at once, it may be too challenging or even a burden for school districts. She pointed out this will have a domino effect on other content areas and subjects.

Ms. Chang asked whether they should be looking at a specific Nevada Revised Statute (NRS) or Nevada Administrative Code (NAC) that prescribes ELA, math, etc. must appear on report cards. She said if so, then computer science could just be added in. Mr. Brancamp replied that the verbiage does not call out that it must appear on a given report card, it is not there. Chair Newborn suggested doing some research on the issue. He said he believes it is reasonable that if a computer science class is not being offered at a middle school, that school is not meeting the standards. He said it is expected that every school offer the class and offer it equitably. He added there would need to be a time allowance for schools to comply. Chair Newburn pointed out this is in conjunction with current instructor shortages and may add a burden to the school districts. He suggested that to support the school districts, having those courses available on <sup>1</sup>Canvas could be an alternate. Ms. Fox agreed this recommendation could create a struggle for school districts, online resources would be necessary.

Chair Newburn asked Ms. Fox what sort of leeway in framing would be needed, as it sounds like this cannot be done suddenly, even though school districts need to start moving in this direction. Ms. Fox said the more leeway the better, at least a year if not more, as well as more online resources. She pointed out the other conversation is whether computer science courses for middle school will be “offered” or “required.” Chair Newburn suggested it be offered to start with. Ms. McCune said it would be difficult to get a good solid list of resources and professional development put together in order to implement by next year. She proposed by the school year 2024-2025, the requirement be that all middle schools offer computer science with a strategy to offer an equitable opportunity for all students. Ms. Chang said perhaps next year school districts look at identifying teachers on middle school campuses who need training ahead of the requirement, in order to set them up with the required Regional Professional Development Program (RPDP) training.

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<sup>1</sup> The Canvas Learning Management System (LMS) is the online classroom software used by school districts. It's where teachers can post content, discussion, and assessments. It's where students can extend their learning outside of the normal classroom and school day. Parents can create an observer account to see what their child is learning as well

Chair Newburn pointed out, as K-5 computer science advisors of the state, this subcommittee is looking at the laws as a whole for the adoption of standards and it is our interpretation that in order to demonstrate the teaching of standards, all middle schools must at least offer computer science with a strategy to offer it equitably by a certain number of years. This subcommittee will offer its recommendation and opinion to the NDE. Ms. Fox suggested 3 years with a gradual implementation. Ms. Dziminski agreed. She pointed out that having check points identifying the process of accountability along the way should be included. Chair Newburn said after the recommendation is made to the NDE, then they can determine the intermediate goals. Ms. McCune agreed that by having checkpoints along the way identifying processes will make implementation easier for school districts. She said by identifying teachers that need professional development (PD) and providing it to teachers either through RPDP, NDE or from an outside entity, and develop resources in Canvas, even build courses in Canvas that teachers could use, then making it ready to go in either 2 or 3 years. Ms. Chang pointed out those Canvas courses have already started with a digital learning process in computer science, there are already some resources in place. Mr. Brancamp recommended 2 years, so not to fall behind before that next legislative session. Ms. Fox said she believes WCSD would be fine as they have many resources available in addition to the Canvas resources. Ms. Dziminski said she believes CCSD would also be fine but thinks rural school districts might have a more difficult time without as many resources.

Chair Newburn made a motion: In the opinion of the STEM Advisory Council's Computer Science subcommittee, in order to demonstrate that computer science academic standards are being taught, all middle schools must offer a course in computer science with a strategy to offer it equitably which should occur within the next two (2) years and the school districts should be taking the intermediate steps within the next year identifying teachers and curriculum.

Ms. McCune seconded the motion. There was no opposition. The motion passed unanimously.

**6. Discussion on the High School Half-Credit CS Course Requirement Language (For possible action)**

Chair Mark Newburn  
Jaci McCune

Ms. McCune said all students that graduate currently from a Nevada high school are required to have a one-half credit course in computing education which is 50% computational thinking, 50% integrated technology and there are prescribed standards outlined that must be covered in this course. She pointed out in the Nevada Administrative Code (NAC), when this was rolled out it was written that the course could be taught in 6<sup>th</sup>, 7<sup>th</sup> or 8<sup>th</sup> grade as a bridge between the implementation of computer science in elementary school. What we are faced with now, she added, students who took the course in 6<sup>th</sup> grade had a high fail rate or the correct standards were not taught, because they are high school standards. She said there has been discussion from different school districts about the requirement in 8<sup>th</sup> grade. She said 8<sup>th</sup> graders tend to have a better ability to understand the high school standards and do what is expected of them,

especially in the programming aspect, and it fits well with some other courses that are typically taught in the 8<sup>th</sup> grade. The discussion has been on revising the language in NAC so to eliminate, at the very least the 6<sup>th</sup> grade and possibly even 7<sup>th</sup> grade, so the course is taught 8<sup>th</sup> grade or higher. She pointed out that middle schools teaching the course can still offer it to 8<sup>th</sup> graders and school districts with high schools offering it can still offer the course in high school. Ms. Fox said that is fine for WCSD since they already stopped allowing it to count for the high school requirement. She added middle schools now requires taking a credit by exam at the end of 8<sup>th</sup> grade.

Chair Newburn said this sounds like another request to the NDE to change the NAC to remove 6<sup>th</sup> and 7<sup>th</sup> grade from the language. Ms. McCune added that prior to this past year, licensing was a concern, but since there is now an Introductory to Computer Science endorsement where all teachers with a K-8 license with that endorsement allows them to teach the course in 8<sup>th</sup> grade for that high school credit, thereby mitigating the issue of not having licensed teachers to teach the course.

Chair Newburn made a motion: The STEM Advisory Council's Computer Science subcommittee, recommends that the Nevada Department of Education and State Board of Education modify NAC 390.430 to remove the ability of 6<sup>th</sup> and 7<sup>th</sup> grade students to take the computer science course for one-half credit towards high school graduation requirement.

Mr. Brancamp seconded the motion. There was no opposition. The motion passed unanimously.

7. **Discussion on the K-8 Teaching Licensing Requirements Related to Computer Science and Technology** (For possible action)

Chair Mark Newburn  
Jaci McCune

Ms. McCune said the current language for a teacher to obtain an Elementary (K-8) teaching license in Nevada, in addition to the core content areas (ELA, Math, Science and Social Studies), is the requirement of 6 hours of credit in one of 7 different content areas. She proposed a change in language from "technology" to "computer science and technology." She pointed out that elementary teachers in Nevada are required to teach computer science, but if they do not have the service preparation they will struggle and be required to take additional PD and higher education may not take notice. Dr. Stefik asked why not change the wording from "technology" to "computer science." Ms. McCune replied that integrated technology support is still needed, like productivity tools. Ms. Chang pointed out that if teachers are asked by law to teach these standards, professional learning is provided for them once they are in the classroom. However, if teachers coming out of their higher education institutions having already taken at least one three-hour course in computer science and technology, it would help them when they get into the classroom. Ms. Dziminski agreed. Ms. Chang agreed and pointed out just using the language "Technology" is more ed-tech, which is important, however does not achieve what teachers need in the classroom as a requirement to teach these standards.

Ms. Fox didn't think there would be any pushback from WCSD. She added that they would work with their partners at University of Nevada, Reno (UNR) and University of Nevada, Las Vegas (UNLV). Dr. Stefik asked what else was needed. Ms. Chang pointed out there are already mandates for all teachers in individual programs and they should already be learning computer science and technology, which was from a previous legislative bill in 2017.

Ms. McCune made a motion: The STEM Advisory Council's Computer Science subcommittee, recommends that the Nevada Department of Education and State Board of Education revise NAC 391.095, Section 1(d) line (3), to read "Computer Science and Technology" instead of only "Technology."

Mr. Brancamp seconded the motion. There was no opposition. The motion passed unanimously.

Mr. Brancamp and Ms. Fox left the meeting at 3:00 pm.

**8. Discussion on Nevada's ECEP State Strategic Plan (For possible action)**

Chair Mark Newburn  
Jaci McCune  
Cindi Chang

Ms. McCune referring to the current Nevada Expanding Computing Education Pathways' (ECEP) State Strategic Plan, said it is a 5-year plan and was drafted in 2017. She said we are at the point of writing a new plan or possibly updating it. She asked the group to review its content for possible updates or changes. She said if anyone is interested in a workgroup for making revisions to let her know if you would like to take part. Chair Newburn asked whether there is a deadline on this document. Ms. McCune said there is no deadline. She did point out there is an upcoming grant opportunity that could cover costs associated with bringing a working group of individuals together to work on developing the strategic plan, becoming available in the fall of 2022. She pointed out that much has changed since 2017. Ms. Chang said the document technically expires in December of 2022.

Chair Newburn asked who in the group is going to CSEdCon (a Global Computer Science Education conference) on September 20 -22, 2022 in Fort Lauderdale, Florida, and asked whether it makes sense to roll this item out at CSEdCon when everyone is excited about the current state of the art, and recruit folks from the conference. Ms. McCune said there will be 14 people in attendance representing Nevada and suggested they could have discussions during the state breakout session at the conference. Chair Newburn suggested that would be a good starting place to begin the update to the strategic plan.

**9. Review and Discussion on Nevada's Computer Science Equity and Diversity Guide (For possible action)**

Chair Mark Newburn  
Jaci McCune  
Cindi Chang

Ms. McCune said the Nevada's Computer Science Equity and Diversity guide has not yet been fully drafted and cannot be reviewed at this time. She said the guide will focus on equity and diversity in computer science education K-12. She noted the State Multicultural Task Force was contacted and she and Ms. Chang attended 2 of their meetings in which the task force, as a group who are not necessarily tied to computer science, provided great insight to items they would like to see in the guide. She said the guide would ultimately be reviewed by a diverse group of individuals who can provide feedback and give additional input.

Dr. Stefik asked that before finalizing the guide, allow him to present it to CSforALL who works to increase the participation of students with disabilities in computer science, so it can be reviewed for those students as well. Ms. Chang agreed. She said eventually this will move into a training for administrators so they can have a clear understanding and bring it to their teachers and ultimately have it in play in their schools. It will be a component in equity and diversity when teaching computer science to students.

Chair Newburn asked whether originally, there had been a summit planned on this topic. Ms. Chang confirmed that originally a summit was planned, but it was prior to the Covid-19 pandemic. Chair Newburn asked whether there was intended grant funding for that summit and whether that funding was now lost. Ms. Chang replied they didn't necessarily lose that grant funding but rather it morphed into a possible on-line presentation, then during Covid-19 it was determine it could be part of a teaching and learning series, and administrator training, however it is still open to suggestions. She mentioned that the annual Nevada Computer Science Conference is coming up in February 2023, maybe it could be used for pre-conference training there.

Chair Newburn asked what the timeframe is on the draft document. Ms. McCune replied she would like to see a draft of at least some of the sections by the end of September 2022. Chair Newburn asked if it would be too ambitious to have a draft to hand out at CSEdCon in September 2022. Ms. McCune said it may not be a full draft, but something with bullet points might be possible. Ms. Chang agreed.

**10. Update on Tuition Reimbursement for Teachers Adding CS Endorsement to Current License (For possible action)**

Chair Mark Newburn  
Jaci McCune

Ms. McCune gave an update on tuition reimbursements for teachers adding a Computer Science endorsement to their current license. She said since June 26, 2022, partial reimbursements have been given out, unfortunately there is not enough funding to give full reimbursements to each teacher. She said everyone will get a flat amount, which depending on who the course was taken from, covers a large portion of what they paid for their courses and definitely covers the fee for the endorsement itself. She said there is approximately \$5,500 remaining in the first round of funding, and a second round of \$10,000 is still expected from code.org. She pointed out it is technically TESLA funding but was funneled through code.org and was always allocated for this project. She said this will be addressed on the Department of Education's website with a link where



teachers can submit for their reimbursement, which are reviewed the first of every month then submitted to the department's fiscal agent to pay the teachers. She said this will continue until they run out of funding, after which they intend to apply for more funding with hopes to continue this program.

**11. Discussion on Subcommittee Members List (For possible action)**

Chair Mark Newburn

Jaci McCune

Ms. McCune said this item is two-fold in addressing members of the Computer Science subcommittee. She said, first, it is possible the STEM Advisory Council will be sunset during the next legislative session in which this subcommittee would no longer exist, as this is a subcommittee of the STEM Advisory Council. She added, secondly, it would be ideal if there was membership in the Computer Science subcommittee from more school districts including rural, along with higher education and the Department of Education. Chair Newburn commented that the Computer Science Subcommittee has its own statutory authority. He pointed out that to sunset the STEM Advisory Council, it will need to go through as a bill in the upcoming legislative session. He pointed out that the worst-case scenario would be this subcommittee becomes a body that could meet under the Nevada Department of Education, as a collection of experts to give their opinions and recommendations on computer science. He said at this point, we need to wait and see what the legislature decides.

Chair Newburn pointed out that currently voices from rural areas of Nevada are needed on this subcommittee. Ms. McCune mentioned that several folks have expressed interest who will be attending the CSEdCon in September. She added that having a teacher's voice on the subcommittee would also be beneficial. She mentioned recently starting a teacher advisory group, an informal group to provide input and have discussions with computer science teachers and could invite one of them if the subcommittee is interested. Chair Newburn agreed. Ms. Chang suggested reaching out to the CSTA Silver State chapter to check for volunteers that might be interested. Chair Newburn agreed. Dr. Stefik suggested recruiting another member from UNR. Ms. McCune said she has a possible recruit from Western Nevada College (WNC) in Carson City and pointed out that WNC is interested in offering computer science courses for teachers, like programming languages and courses on the endorsement, at a very low cost.

**12. Consider Future Agenda Items for Next Meeting (For possible action)**

Chair Mark Newburn

Chair Newburn said he expects follow up on some of the items from this meeting and asked for any new information or topics.

Ms. Chang said word should be coming soon, hopefully in the fall, whether our national SCED codes (a 5-digit course code that provides a basic structure for classifying course content) for K-5 have been approved. She added there will be a working group that will start on the middle school SCED codes. She said that will also help the districts if they can code properly when asked, for data purposes, for these courses.

- 13. Public Comment** (No action may be taken upon a matter raised under public comment period unless the matter itself has been specifically included on an agenda as an action item.)

Chair Mark Newburn

There was no public comment.

- 14. Adjournment**

Chair Mark Newburn

Chair Mark Newburn adjourned the meeting at 3:25 p.m.

DRAFT