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MINUTES

Name of Organization: **Computer Science Subcommittee**

Date and Time of Meeting: **October 30, 2017 at 3:00 P.M.**

Place of Meeting: Governor's Office of Science Innovation and
Technology (OSIT)
100 North Stewart Street, Suite 220
Carson City, NV 89701

Please use the following numbers to join the conference call:

North: 775-687-0999 or
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- I. Call to Order/Roll Call
Mark Newburn, Chair

Chair Newburn called the meeting to order at 3:00 P.M.

Members Present: Mark Newburn; Cindi Chang, Melissa Scott; Kimberly Moody; Kris Carroll, Dr. Pavel Solin; Frank Matthews

Members Excused: Dave Brancamp; Dr. Andreas Stefik; Rob Sidford; and Kindra Fox

Staff Present: Brian Mitchell; Debra Petrelli

A quorum was declared.

- II. **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.)

There was no public comment.

- III. **Welcoming Remarks**
Mark Newburn, Chair

Chair Newburn welcomed everyone after a very busy summer.

- IV. **Approval of the Minutes from the July 17, 2017 Meeting** (For possible action)
Mark Newburn, Chair

Ms. Moody made a motion to accept the July 17, 2017 Meeting Minutes. Cindi Chang seconded the motion. The motion passed unanimously.

- V. **Discussion on Computer Science Strategic Plan** (For information only)
Mark Newburn, Chair

Chair Newburn tabled this item until later in the meeting. There was no objection.

- VI. **Discussion and Possible Vote on Computer Science Teacher Licensing and Endorsement Requirements** (For possible action)
Mark Newburn, Chair

Chair Newburn suggested that Ms. Scott give an overview on the amendments to Nevada Administrative Code (NAC) 391.196 and NAC 391.202. Ms. Scott said there are currently three special endorsements; Computer Literacy, Computer Applications and Computer Programing. She pointed out that a repeal has been requested for Computer Literacy and changes to Computer Programing and Computer Applications. Computer Programming will be called Advanced Computer Science. To receive an endorsement to teach Advanced Computer Science, a person must have a valid high school special license or a valid license to teach special education and must complete: twelve semester hours of coursework consisting of at least: (a) Three semester hours of coursework in methods for teaching computer science, and (b) Nine semesters hours of coursework in computer science, which may include, without limitation, instruction in programing languages OR passage of specialty PRAXIS exam in Computer Science.

In accordance to NAC 391.202, Ms. Scott added that the current Computer Applications endorsement will be changed to Computer-based Technology and Computational Thinking. It will have the nine semester hours of coursework that cover: (a) Three semester hours of coursework in methods for teaching computer science; (b) A course of study on computer science concepts, and (c) Methods to teach computer applications, including: a) Word

processing and the use of spreadsheets; b) Communications and collaboration tools; c) Internet research tools; d) Internet safety, and e) Proper keyboarding techniques. She added that Methods for Teaching Computer Science and Computer Science Concepts courses are offered by the Regional Professional Development Program (RPDP).

Ms. Chang pointed out the Nevada Department of Education Office of Educator Licensure (Licensure) had indicated they do not want a licensing endorsement for the elementary level because they already teach all subject areas. Basically there is no specific endorsement the elementary school personnel has to obtain, however, if they desire, the only endorsement course available to them would be Technology-based Application and Computational Thinking. Ms. Scott reiterated that Licensure pointed out there would be a different teacher licensing for elementary, middle and high school, with the assumption that with an elementary school license, a teacher can teach anything. For elementary school teachers that are going to teach computer applications and need some further professional development (PD), the RPDP advises the Technology-based Application and Computational Thinking endorsement may be a good option for them. The subcommittee further discussed accountability measures and the implementation of K-12 computer science standards. The subcommittee further discussed the licensure requirements for teaching AP Computer Science Principles and what courses would be most appropriate. There were several questions on whether a teacher only teaching a Principles class would be required to get an endorsement. Ms. Moody pointed out there is a concern in the Clark County School District (CCSD) about the offering of computer science to all schools with access to all students, specifically the elementary school piece and how it is measured and how it will affect a schools accountability.

Mr. Mitchell suggested that the subcommittee create a frequently asked questions (FAQ) document with proposed questions and answers and then circulate it throughout the broader community allowing for edits and proposed new questions be added to the document.

Ms. Scott pointed out to keep in mind the math and science credit piece is for Advanced Computer Science courses, therefore the Principles course would not fit that criteria. Second, a list needs to be generated with what constitutes this advanced level computer science course that is going to count for those math or science credits, then presented to the State Board of Education. Chair Newburn stated that SB 200 spells out all this information.

There was a group discussion on how grandfathering would come into play with licensing endorsements and how the two options of either allowing the College Board training and Technology-based Applications and Computational Thinking endorsement qualify a teacher for AP Computer Science Principles or just have the College Board training qualify a teacher. There was also a discussion on whether new regulations need to be written.

It was agreed they need to nail down who can teach Computer Science Principles. Ms. Moody pointed out that clarity is needed within the next thirty days, due to teachers already planning for next year and they need to know which of the computer science courses will count as an additional math and science credit. The subcommittee continued their conversation on RPDP training with Code.org and College Board and their methods and concepts requirements.

Chair Newburn suggested they table this topic for a later date to further discuss changes that need to be made to revise licensing requirements.

VII. Update on K-12 Computer Science Standards (For information only)
Cindi Chang

Ms. Chang updated the subcommittee on the K-12 Computer Science Standards writing team, consisting of 26 people, who met in Las Vegas for three days last August. They were educators from elementary, middle and high school levels from around the state with representation from many of our school districts. She discussed how the new computer science standards were based on the Computer Science Teachers Association (CSTA), nationally recognized standards, and were developed off of the K-12 Computer Science Framework. She said currently ADA compliance issues are being reviewed on the document and we hope to have it up on the Department of Education's website for a 30-day public review beginning on November 1, 2017.

She said after the review period, depending on what feedback they receive from the public, the writing team may need to meet again to incorporate the feedback and comments into the current K-12 Computer Science Standards document. They are looking at taking it before the commission in January, 2018 for approval, and then to the school board. If all goes well, they anticipate its completion in late winter or early spring 2018, for the complete acceptance of the K-12 Computer Science Standards and then be ready for implementation by school districts for the 2018 -2019 school year.

Chair Newburn commented that a \$25,000 Expanding Computing Education Pathways (ECEP) grant was used for travel expenses for the writing team to come together in Las Vegas for those three days. He added Nevada was the first state that was able to work off of the approved Computer Science Teachers Association (CSTA) standards. He asked Ms. Chang to send notice to the subcommittee members once the standards go out for public review.

Ms. Chang added she owes a lot to RPDP for their assistance with the standards. She said it was important to the writing team, because these standards are so new. RPDP looked at each of the K-12 Computer Science

Standards and did a connection to either math, science, social studies, or english-language arts (ELA) to make sure our teachers can see when you satisfy the computer science standards you may also be covering a science, math or ELA standard. This will be a great benefit to our teachers.

VIII. Update on K-12 Computer Science Professional Development (For information only)
Cindi Chang and Frank Matthews

Mr. Matthews with the RPDP commented they are recruiting for new classes being offered and are implementing computer science fundamental workshops in elementary schools. The fundamentals in the elementary area will be held as workshops along with week-long discoveries. He said they are also offering other PD classes in computer science for teachers.

Ms. Chang commented that recently Mr. Matthews had a meeting at the Innevation Center at SWITCH in Las Vegas with the Clark County School District (CCSD) to include principals, counselors and teachers to speak about the AP Computer Science Principles course and how to bring it to high schools. Mr. Matthews said they have also met with and traveled to all rural schools in Elko County and are planning more travel, as well. They are also piloting a training program with remote individuals who cannot travel due to bad weather, therefore they have been working remotely with them in the training in providing ways to interact with the entire class, wherever they are. Ms. Chang added that Code.org has reached out to her with interest on this program and that it may be a model program to base the rest of the nation on for reaching rural areas on computer science education.

IX. Discussion on the Nevada K-12 Computer Science Summit (For information only)
Cindi Chang

Ms. Chang said it has been discussed how we get the word out to administrators, counselors, K-12 educators, and higher education about K-12 Computer Science initiatives. She has asked how she can get industry involved and how they can help this movement. Getting everyone in one place to have these panel discussions, she came up with the idea of have a statewide K-12 computer science summit. She said because we are a part of the ECEP Alliance, we have resources available to us to get key-note speakers and others as needed. Ms. Chang put in a supplemental request for grant funding from ECEP, which is currently under review to help put on a summit. She said she has spoken with the Innevation Center at SWITCH in Las Vegas on logistics and they were very excited about possibly holding the summit there.

Ms. Chang said this two-day conference would then lead into the summer PD opportunities for educators. She asked for other suggestions from the subcommittee. Chair Newburn suggested that more information on the summit be sent to each member of the subcommittee. We still need to wait

for approval of the funding of \$15,000. If approved, planning will commence. Ms. Chang said they are anticipating this event in the second or third week of June, 2018, and would need to have the funding spent by the end of July, 2018. She added this \$15,000 funding is in addition to the existing ECEP grant we already have for the Computer Science Standards writing team, it is a supplement. It was suggested to plan for what needs to happen after the summit. The summit is an element of the Strategic Plan. It was agreed that the subcommittee needs to have clear steps with a final goal in the entire process before, during and after the summit. Chair Newburn stated the summit is an element of the Strategic Plan. Ms. Moody suggested that if the summit occurs, one of the major benefits would be that it will be able to answer stakeholders concerns about computer science and the direction the state is going.

X. Update on SB 200 Status (For information only)
Cindi Chang and Mark Newburn, Chair

Chair Newburn said the big step with SB 200 was the computer science standards. He referred the subcommittee to the Nevada K-12 Computer Science Initiative presentation and its description of what SB 200 does, which includes:

1. Creates Computer Science Sub-Committee of the Nevada STEM Advisory Council
2. Adds K-12 Academic Content Standards in Computer Science
3. Starts basic computer literacy in elementary school
4. Computer Science can count as a 4th math or 3rd science credit
5. All high schools must offer an approved Computer Science course
6. High school Computer Technology graduation requirement will contain Computer Science.

Chair Newburn suggested the subcommittee utilize this presentation to help address questions for a formal Frequently Asked Questions (FAQ) document. We need to know questions that are coming from the field, so we can assemble them into the FAQ. He pointed out we need to assemble as much information as possible for questions and answers that are not found in the Nevada K-12 Computer Science Initiative presentation. Then use the FAQ to help us develop our next steps with SB 200. Mr. Mitchell said the Office of Science Information and Technology (OSIT) would be happy to circulate the presentation as well as post it on the OSIT website. He agreed that the presentation should be circulated with Career Technology Education (CTE) coordinators, district curriculum directors, principals, educators, counselors, parents, and anyone who will be impacted by SB 200, and get as much input as possible to help develop the FAQ. Chair Newburn said for parents, we could target the Parent Teacher Association (PTA) or the group Honoring Our Public Education (HOPE). Ms. Chang requested that any changes to the Nevada K-12 Computer Science Initiative presentation be completed and

returned to her by Friday, November 3, 2017. Once a final copy has been sent to OSIT it will be distributed via email and placed on the OSIT website.

- XI. Consider Future Agenda Items for the Next Meeting (For information only)
Mark Newburn, Chair

Chair Newburn suggested for the next meeting agenda items should include 1) Updated version of proposed licensing addressing AP Computer Science Principles; 2) A draft set of questions to be collected on SB 200; 3) An update on the summit and funding; 4) and Discussion on course approval needed in amendments of the NAC 391.196 and NAC 391.202.

- XII. Next Meeting Date will be determined at this meeting. (For possible action)
Mark Newburn, Chair

Chair Newburn said the next meeting of the Computer Science Subcommittee will be on hold until something develops with licensing or in the initial set of FAQ's we need to address. Currently we are looking for those items in order to move forward.

- XIII. 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.)

There was no public comment.

- XIV. Adjournment

Chair Newburn adjourned the meeting at 4:30 P.M.