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Brian L. Mitchell
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PUBLIC MEETING MINUTES

Name of Organization: STEAM Subcommittee

Date and Time of Meeting: Thursday, October 17, 2019 @ 3:00 PM

Place of Meeting: Nevada State Library & Archives (NSLA)
Governor's Office of Science, Innovation & Technology
100 N. Stewart St., Suite 220
Carson City, NV 89701

Please use the following numbers to join the Conference Call:
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1. Call to Order / Roll Call

Marisa Cooper

The STEAM Subcommittee was called to order by Chair Marisa Cooper at 3:00 P.M. on Thursday, October 17, 2019.

Members Present:

Alisha Kerlin

Andrew Snyder

Candy Schneider

Craig Rosen

Jeneane Harter

Laura Christian

Marisa Cooper

MaryJane Dorofachuk

Sue Dehart

Tia Flores

Members Absent:

Brian Mitchell

Candace Garlock

Jolene Mitchell

Mary Holsclaw

Meghan Schiedel

Sarah Gobbs-Hill

Staff Present:

Tracey Gaffney

Debra Petrelli

- 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.)
Marisa Cooper

There was no public comment.

- 3. Welcoming Remarks and Announcements** (For information only)
Marisa Cooper

Chair Cooper welcomed everyone to today's meeting after an ample break. She had no announcements, but is glad that everyone is back together and ready to get to work

- 4. Approval of the Minutes from the February 1, 2019, STEAM Subcommittee Meeting** (For possible action)
Marisa Cooper

Chair Cooper asked if there were any corrections or additions to the February 1, 2019 Minutes as written. Ms. Schneider pointed out on page 2, first paragraph under Item V, 5th line up from the bottom, should read, "workshop with Poet Laureate, Vogue Robinson, and the..." The correction was accepted by Chair Cooper and she asked for a motion to approve. Mr. Rosen made a motion to approve the Minutes of February 1, 2019 with the above correction. Ms. Harter seconded the motion. The motion passed unanimously.

- 5. Discussion and Updates on the NV STEAM Conference** (For possible action)
Marisa Cooper

Chair Cooper said because there had been no time to wind-down since hosting the NV STEAM Conference in Reno, the Southern Nevada STEAM Symposium in Las Vegas, and the Eastern Nevada STEAM Summit in Elko in October 2018, suggested a discussion and feedback from those who attended those events.

Chair Cooper pointed out that teacher feedback was consistently positive, and that the quality of the workshops for all three events went above and beyond what they have access to in other professional development arenas. She said their niche was the ability to craft thoughtful and well-developed standards-aligned workshops and she further suggested they continue to follow that path. She thanked everyone in the subcommittee for all their hard work and the success of every workshop. She added UNLV, the host in Las Vegas, was exceptional and went out of their way to provide all the resources necessary to make such a complicated event go smoothly. Mr. Rosen agreed that each event was a team effort.

Chair Cooper said these events worked because of the incredible collaboration involved and are now hearing from other groups across the state recognizing the depth of collaboration happening amongst all the institutions involved as well as this subcommittee. She said in looking forward to an excellent 2020, a couple of things of continued interest and focus for

this subcommittee are figuring out how to make resources stretch as far as possible and serving as many teachers as possible. She said the budget for the Nevada STEAM Conference 2020 is topping out at approximately \$140,000. She pointed out that funding is currently being raised and those efforts are continuing, which includes whether the State or any granting institution can help to support this cause. She said it is critical to make the funding last, and said she believes the best way to reach as many teachers as possible, is to change the format this year. She said the proposal for this year is having the NV STEAM Conference on Saturday, February 1, 2020 at the Nevada Museum of Art in Reno. She said it will provide an opportunity for teachers from across the state to request and sign up for additional workshops which will take place at their schools all over the state. For example, she said if two teachers from one school take a workshop and then believe their entire school could benefit, they can sign up to have that workshop presented in their school. She added this would ultimately reach many more teachers than if those workshops were only presented at the conference, ultimately reaching more teachers and being a much smarter way to use resources.

Chair Cooper asked the subcommittee whether this was a model they liked, and whether institutional members feel this is something they personally would like to participate in by rolling out their workshops in different locations around the state. She also suggested that everyone consider a specific geographic region within the state they could service.

Ms. Schneider asked whether each organization/institution would be responsible to fund their own outreach of those workshops to the different locations. Chair Cooper said she is looking to secure separate funding for that package, which is not confirmed at this time, so currently, there is not funding for that package and it would be on each institution to fund. Chair Cooper also suggested those institutions already hosting other suites of programs, could possibly plug in their STEAM workshop somewhere else, thereby capturing those members for Nevada STEAM so to reflect how many people are getting access to that content. Ms. Schneider clarified that it may not be the exact workshop anticipated for the STEAM conference, but at least a STEAM workshop. Chair Cooper also suggested local institutions to partner up with others in different locations around the state who could also roll out their workshops to further limit travel time and expense for our local institutions.

Mr. Rosen said there are other ways to leverage resources. He said, for instance, contacting upcoming events such as the ConFABulation Conference or Science Teachers Association and request to present workshops in those forums under the Nevada STEAM guidelines.

Ms. Kerlin asked that with the many STEAM events planned and coming up for teachers, whether a date or time had been scheduled. Chair Cooper said with this new model and workshops being included, anything between February 1, 2020 and February of 2021.

Chair Cooper asked whether this model seemed more-or-less manageable than last year's conference. Ms. Flores pointed out that her organization's fiscal year ends July 1st along with grant funding for that year, which is already dictated to the end of June. She said they would have to wait to request funding until July 2020. Chair Cooper pointed out funding for a "mobile" workshop would basically consist of one person to travel to the location and spend the night plus materials for the workshop versus raising funds for a second conference. She said it seems to be much more manageable. Ms. Flores said it seems more feasible to

facilitate a workshop towards the end of the year rather than within a short timeframe of the original conference. Mr. Rosen reiterated it would give organizations from February 2020 to February 2021 for reporting STEAM events they participate in.

Mr. Rosen said it would be helpful to know the fiscal numbers being looked at per workshop in order to find funding and get a better idea of how many workshops can be produced. He suggested each organization submit their cost projection for a workshop. Chair Cooper pointed out those numbers would be radically different between organizations and some members might not feel comfortable sharing that information. The topic of collaboration was discussed. It was pointed out that organizations could share in a workshop, then share in those successes. Chair Cooper said much will depend on the interest of groups and what kind of sign up is received at the conference in February. She added if each organization within this subcommittee could commit to doing just one of these workshops during the 2020 year, just as many teachers would be affected as if a second and third conference took place. Mr. Rosen suggested contacting PTA groups at different schools who often pay for workshops, and present a “menu” of workshops they may be interested in. Chair Cooper agreed and said she would post a menu of workshops on the nvsteam.org website soliciting Nevada STEAM Workshops, along with in-person signups at the NV STEAM Conference in February. It was suggested that funding information also be posted on the website.

Ms. Flores asked whether feedback from the last conference included teachers requesting workshops take place in each of their own geographical areas and whether any specific areas were identified. Chair Cooper replied information was extrapolated by district and school, with over-whelming feedback, whether a teacher was rural or urban, that said, “*Everybody at my school needs to see this, my administrator needs to hear this.*” She said it was clear that teachers feel what is happening at these conferences should be happening for larger groups of teachers in the schools. She added that every teacher at every school cannot be accommodated, but if one workshop can go to a school, a much broader and diverse collection of teachers can be targeted. Ms. Dorofachuk asked how the Continuing Education Units (CEU) for these workshops will work. Chair Cooper responded that CEU’s, Professional Development (PD), license renews, or advancement credit would not be earned by teachers for these workshops. She added this is a two-hour workshop and would more likely satisfy teacher’s on-site hourly requirements or standard PLC time. Mr. Rosen, referring to a recent ordinance (July 1, 2019), clarified that teachers will no longer be required to receive in-service credits, but rather than renew their license they are now required to have 15 hours of PD every year, and certificates can now be issued by the hour. He added that DRI has become an approved provider for those credits.

There was further discussion on the STEAM crediting of a program when there is collaboration between organizations for STEAM presentations outside of the STEAM conference. Chair Cooper said programs outside of the STEAM Conference still need to be reviewed and validated as STEAM by the STEAM subcommittee. She pointed out the subcommittee will be discussing a possible Nevada STEAM Seal for that type of approval and clarified the seal and the conference are two separate items.

Chair Cooper asked whether members are willing to provide her with a breakdown of costs to offer a workshop within the organization’s city, a workshop within a ½ day for a one-day trip, and an overnight trip.

Chair Cooper said for the NV STEAM Conference 2020, the theme this year will be “Exploring the Intersection of Art and Technology,” and can sustain a maximum attendance of 265. She said early stages of talking about workshops has begun and asked any members not already contacted to be sure to connect with her. She said the key-note speaker currently lined up is Linda Liukas, who is based in the Netherlands, and has written a series of books called *Hello Ruby*. She has been on a global speaking tour including several pep-talks. She pointed out that her work is focused on the idea that coding is a language of creativity and by investing in all students in the language of computers as a possible place for experimentation and exploration, wonder and curiosity, we will change the way students understand computer technology, computer science, AI, and coding specifically. She added that Ms. Liukas is very interested in not only the key-note speaking, but also providing a workshop. She added the museum is pursuing the possibility of her providing a copy of the *Hello Ruby* book series for everybody.

Chair Cooper suggested continued conversation on this item be tabled for today and added to the next meeting of the subcommittee.

6. Discussion on Developing STEAM Policy Recommendations for Nevada (For possible action)

Marisa Cooper

Chair Cooper said there is a need for the subcommittee to start looking at what is and is not STEAM in the state. She said it is time to provide an approval system where people can submit a program, a workshop or even a paper on Nevada STEAM and the subcommittee can make the determination as to whether or whether not it meets Nevada STEAM standards.

Ms. Gaffney referring to the handout from the Arts Education Partnership, pointed out in the document titled, *Policy Considerations for STEAM Education*, said this is an example of something this subcommittee may be interested in putting together, possibly recommendations or guidelines for a STEAM program to include a STEAM definition, background need, or possibly highlight different STEAM programs, including resources for teachers. She asked whether the subcommittee would be interested in putting something like that together for Nevada specifically. Chair Cooper asked what format Ms. Gaffney was suggesting. Ms. Gaffney said perhaps a guide that is easily accessible to teachers that could be used like a toolkit. Chair Cooper pointed out this sounds very much like the white-paper the subcommittee already produced in terms of definition and providers, etc. She said maybe it is time to revisit the white-paper and turn it into a more instructive piece for the State. Ms. Schneider pointed out it was never intended from the beginning for the white paper to create a curriculum. Referring to the handout, *Preparing Students for Learning, Work and Life Through STEM Education*, she said this document describes school certification and diploma endorsement and is not a curriculum outline. She said they are relying on teachers and the inspiration they gain from attending professional development and/or conferences to make that intersection to be rich with STEAM. She further discussed a recent Arts Education Partnership meeting she attended which included much of this conversation, with some panels specifically aimed at STEAM, because of the release of this policy brief. She said that meeting was very interesting and suggested inviting one of the panel members from that

meeting, Nettrice Gaskin from FAB Foundation, as another key-note speaker or engage her in some way at the NV STEM Conference 2020.

Chair Cooper concluded that any proposal would need to be backed up by a very specific, thoughtful list of attributes to include what makes STEAM. She suggested continued conversation on this item be tabled for today and added to the next meeting of the subcommittee.

7. Discussion on Designated STEAM School Program Similar to the Governor's Designated STEM School Program (For possible action)

Marissa Cooper

Ms. Gaffney pointed out the discussion on this item comes from the STEM School Designation process wherein each year schools apply for Governor Designation. A team from the Governor's STEM Advisory Council reviews schools against the Nevada STEM framework and make the designation determinations. She said in the last few years, schools have had a lot of interest in STEAM designation. OSIT is considering adding a section to the framework for STEAM with STEAM attributes and what a STEAM school would demonstrate. She said schools interested in that designation could indicate so and the review team visits could include looking at those particular attributes for determination. She pointed out that OSIT wanted to put this idea out to the subcommittee to see if there is interest in identifying and developing what those STEAM attributes would be and then add it to the framework. She said there has been a lot of interest from schools in becoming a STEAM school versus a STEM school.

Ms. Flores asked who is currently determining STEAM schools. Ms. Gaffney said the one of the selling points for the Governor designation is those schools have gone through this rigorous process and have proven they meet these different qualifications. She said often schools apply that have deemed themselves as a STEM or STEAM school and realize they do not meet the State's standards to be designated. She added that a school can name themselves anything they want whereas a Governor Designated STEM School has actually met the qualifications and standards for the State of Nevada.

Chair Cooper said as she understands it, OSIT is proposing to include STEAM in the existing STEM process and not committing to a separate program. She asked whether programs would need to meet both the STEM qualifications as well as the attributes for STEAM as determined by this subcommittee. Ms. Gaffney responded they could start with the STEM framework, which is only missing the Arts Integration piece. She said it makes most sense to add to an existing program versus starting from scratch.

Mr. Rosen said he has participated in the STEM School Designation process for several years and feels it would be extremely beneficial to include the Arts component for schools that want to be designated as STEAM. Chair Cooper suggested workshopping this idea at the NV STEAM Conference 2020 with teachers and presenting it in a similar way the subcommittee presented the white-paper, with a member of the subcommittee moderating, by using the STEM School Designation framework and collectively building upon it, the attributes needed for a STEAM school designation. She added the subcommittee could then filter through that information. Mr. Rosen agreed.

Chair Cooper said, with reference to a STEAM seal, different from the Governor's STEM Designation, it would be for those schools who want to be designated as a STEAM school but may not be able to meet the STEM framework, and we need to consider whether that designation would require a formal government process.

Mr. Rosen said he is hearing two different things here; one is the school designation, and then there is the informal piece. He asked how the informal programs, such as most of the members on this subcommittee have, get designated as a STEAM program.

Ms. Schneider commented that too much bureaucracy may not work here. Mr. Rosen said perhaps guidelines of what a STEAM program looks like is different than what a school STEAM program would be.

Chair Cooper suggested continued conversation on this item be tabled for today and added to the next meeting of the subcommittee.

8. STEAM Subcommittee Member General Announcements (For information only)

Marisa Cooper

Ms. Kerlin with UNLV Department of Arts and the Barrick Museum of Art, commented on "Connective Tissue," which is currently on view at the museum which is a sole-exhibition by a neuroscientist-turned-artist Amanda Phingbodhipakkiya. She said Amanda has done some pep-talks in which she tells her story about her project called "Beyond Curie." She said her exhibit is up until February 22, 2020, which is interactive, featuring colorful murals discussing science, from neurons to quantum physics, with lots of text involved that links to research women innovators have done. She said 50 middle school girls are being brought at a time to visit the exhibition every Tuesday, Thursday and some Fridays for a total of 1,950 middle schoolers, with another 30 busloads of K-12 to the museum. She said the teachers come, the students look at the show, and students from the science and art departments at UNLV interact and talk with them. She said a workshop is conducted at the end with pocket microscopes the museum purchased for each student to use. Ms. Kerlin added that before Amanda was a neuroscientist, she studied dance at Columbia University, and after an accident while in school, it led her to her other love, science. She said in full circle she worked for an entire week with the dance department at UNLV where they performed a piece called *January is a Girl*, about synesthesia.

Ms. Christian from the Discover Children's Museum commented they had partnered with the Las Vegas Clark County Library District Foundation who is sponsoring families with children, a family four-pack of free passes to the Museum. She said they are offering free museum passes to anyone with a library card and can check out a Family Adventure Pass for up to 4 to come to the museum. She said family members will receive free entry with a pass that can be checked out, like a book, at any of the Library District's 25 branches. She said the pass is good for 20 days and there are 335 passes to be divided between the 25 library locations. She said in the first week all 335 were checked out with another 190 on a waiting list.

Ms. Flores with the Sierra Arts Foundation said they just kicked off the debut of one of their programs called “Teen Empowerment Through the Arts” geared towards middle school students. She said a community health-impact study was done and it was recognized that Washoe County ranks as one of the highest in teen self-harm and teen suicide across the entire nation. She pointed out the arts are a good way to deal with this problem, which led Sierra Arts Foundation to partner with a Title 1 middle school, working with all 6th graders, approximately 225 students, and collaborating with social studies teachers. She said through this collaboration with the social studies teachers they are connecting this as an arts and integration program in bringing three different arts disciplines to help bring those lessons to life. She said it focuses on the inclusion of helping students to build self-confidence, coping skills, etc. She added that on this leg of the program they have partnered with Nevada Humanities.

Ms. Schneider with The Smith Center for the Performing Arts commented that during their ConFABulation Event, a summer arts institute that trains educators in arts-based teaching methods, hosted an artist who introduced Claymation and greenscreen technology, as well as building digital escape rooms. She said it was well received and the comments were strong in the evaluations. She said they are bringing her back to do workshops and go into classrooms to do demonstration teaching and currently have well over 60 teachers confirmed for each of those professional.

Mr. Rosen with Desert Research Institute (DRI) commented on a newly acquired grant in which DRI purchased a virtual reality (VR) program, which will allow them to take individuals on a virtual reality journey of NASA sites. He added that when the grant is done, DRI will own the system and will be able to use it for other VR experiences throughout the state.

Ms. Dorofachuk with the Nevada Arts Council commented she is preparing handouts for an upcoming meeting on Tuesday, October 22, 2019 which is an Arts Education Stakeholder’s meeting in Las Vegas and Carson City with the Nevada Arts Council, Senator Joyce Woodhouse and a consultant from the Education Commission of the States and the National Endowment for the Arts to talk about accomplishments and possibly moving forward with a Strategic Plan for arts education statewide.

Ms. Kerlin commented on an upcoming Arts Education meeting at UNLV’s Barrick Museum on November 1, 2019, in which they are hosting a gathering focusing on art education in the community. She said all are welcome and the event is free. She added it is in partnership with the Department of Teaching and Learning, Barrick Museum, Smith Center, Clark County School District, School Community Partnership Program and Art Educators of Nevada. She said they have art resident Chet Scott and Dr. Meryl Goldberg facilitating the discussion. The meeting is 4:00 pm to 8:00 pm and they are expecting at least 80 teachers.

9. Consider Future Agenda Items for the Next Meeting (For possible action)

Marisa Cooper

Chair Cooper suggested the following agenda items for the next meeting:

1. Discussion and Updates on the NV STEAM Conference
2. Discussion on Developing STEAM Policy Recommendations for Nevada

3. Discussion on Designated STEAM School Program Similar to the Governor's Designated STEM School Program

10. 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.)
Marisa Cooper

There was no public comment.

11. Adjournment
Marisa Cooper

Chair Cooper adjourned the meeting at 4:07 p.m