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STATE OF NEVADA  
**GOVERNOR'S OFFICE OF SCIENCE, INNOVATION AND TECHNOLOGY**

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Name of Organization: Informal STEM Learning Environments Subcommittee of  
the Science, Technology, Engineering and Mathematics  
(STEM) Advisory Council

Date and Time of Meeting: March 2, 2017, 9:00 a.m.

Place(s) of Meeting: Desert Research Institute (DRI)  
Room Rogers 352  
755 E. Flamingo Rd  
Las Vegas, NV 89119

OR

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  
South: 702-486-5260

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**MINUTES**

- I. Call to Order/Roll Call  
Amy Page, Co-Chair  
Aaron Leifheit, Co-Chair

Co-Chair Page called the meeting to order at 9:02 a.m.

Members Present: Andy Hart, Southern Nevada Nature Conservancy (SNNC); Jessica Snaman, Nevada Outdoor School (NOS); Amy Page, Las Vegas Natural History Museum (LVNHM); Craig Rosen, Desert Research Institute (DRI); Kris Carroll, Regional Planning Development Program (RPDP); Sean Hill, Sierra Nevada Journeys (SNJ); Aaron Leifheit, Outside Las Vegas Foundation (OLVF); John Gardner, Desert Institute Research DRI (STEM Coalition)

Members Excused: Judy Kraus, Clark County School District, Member of Governor's STEM Advisory Council

Staff Present: Governor's Office of Science Innovation and Technology (OSIT)  
Brian Mitchell, Director  
Debra Petrelli, Administrative Assistant

- 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  
Amy Page, Co-Chair  
Aaron Leifheit, Co-Chair

Co-Chair Leifheit welcomed everyone to the first meeting of the Informal STEM Learning Environment Subcommittee.

- IV. Updates  
Amy Page (Co-Chair)  
Aaron Leifheit (Co-Chair)  
Brian Mitchell (OSIT)

- a.) New Members:

Jessica Snaman, Nevada Outdoor Schools (NOS) – classically trained formal educator from North Carolina.

Sean Hill, Sierra Nevada Journeys (SNJ) – former high school science teacher. Interested in exploring the possibility of advocating for legislature to get all kids in Nevada to have experiences in the outdoors. Oregon just passed something similar. Washington also has a similar statute.

- b.) This is the first meeting of this subcommittee under the Governor's STEM Advisory Council umbrella. Mr. Carroll pointed out this Subcommittee grew out of the STEM Coalition. Originally looked at the link between connecting to the place where people live as a catalyst for people being

more likely to stay in that place. Important factors of education include: exposure to resource and place and context in exposure. These thoughts grew into a “formal” informal group under the STEM Coalition. Originally, they pulled together a pretty large group across the state to see how informal learning can have a larger role in the State’s STEM plan. Concept paper developed in 2014, other steps towards best practices fell flat or were challenging, etc. Mr. Carroll, Board Member of the Nevada State Science Teachers Association together with Camille Stegman, President of the Nevada State Science Teachers Association is working on how the Nevada STEM Coalition and Governor’s STEM Advisory Council might relate to each other, especially during the Coalition’s transition period. In the meantime, we have been looking at how the Nevada Academic Content Standards for Science (NVACCS) might help guide us.

Mr. Gardner said the active part of the STEM Coalition remains as the Ambassador Program. He also suggests this Subcommittee take a look at the “B.E. Engaged” event, possibly for communication in 2018.

c.) Other STEM Subcommittees under the Governor’s STEM Advisory Council include:

- Computer Science
- STEMworks
- Integrating Arts and Culture into STEM
- Community Partnership
- Governor’s STEM School Evaluation

Mr. Mitchell said he was thrilled to have this Subcommittee in place. The Strategic Plan has many ties to informal learning. It will be important to have us onboard and have a more permanent home with a forum to present our recommendations. We are welcome to have agenda items included into the STEM Advisory Council’s meetings. Also, we are welcome to come to the meetings. Under this Subcommittee, it is important we follow the Open Meeting Laws within the State of Nevada in preparing agenda’s, posting them in a timely manner and preparing minutes.

Mr. Hill inquired further about STEMworks. Mr. Mitchell explained it is an innovative rubric that rates different STEM curricula. Evidence based.

Developed by “Change the Equation.” The STEMworks rubric is located: <http://changetheequation.org/sites/default/files/CTEqDesignPrinciplesRubric.pdf>

Additionally, there is a wealth of information on the STEMworks site regarding the process, current programs, intent, etc. Mr. Mitchell asked the Subcommittee to give them a quick review at the following website:

<http://changetheequation.org/stemworks>

Nevada is currently working on this rubric by adding Nevada specifics. (Mr. Carroll is on this subcommittee.) Programs can be submitted to be rated, and ultimately a list of rated programs will be created. It was asked whether the list would be inclusive of informal STEM programs. Mr. Carroll and Mr. Hill discussed that yes it would, it should fold in both formal and informal STEM, not exclusive of any one type of program. It was asked where the Subcommittee can look at this rubric. Mr. Carroll provided a link to the rubric. (See above.) Dialogue ensued about how Informal STEM will work with STEMworks.

V. Review and Set Goals

Amy Page (Co-Chair)

Aaron Leifheit (Co-Chair)

a.) Concept Paper: Co-Chair Page advocated for Google Doc review and re-write. Mr. Hart had strong feelings about such and thinks we should cast a slightly wider net for review before it is final. Mr. Carroll suggested we look at it with the Strategic Plan and Nevada Academic Content Standards for Science (NVACCS). He will put it on Google Doc and Co-Chair Page will send it out, and will suggest re-write.

b.) NVACSS: Implementation plan for new science standards. Informal group has a voice in the science implementation plan. Co-Chair Leifheit suggested they align to NVACCS. There are four (4) general goals for informal education as it pertains to the implementation of science standards and the support of science standards in Nevada.

Four (4) goals center on the following:

- Statewide capacity,
- Professional learning,
- Instructional practices,
- Instructional materials and curriculum.

Mr. Rosen said Informal Education is bigger than place-based. Should we try to cast a more inclusive net? We will never get everyone but we can try to communicate to a larger group so others can see where they might benefit.

VI. Review and Discuss State of Nevada STEM Strategic Plan; Suggest Ties

Amy Page (Co-Chair)

Aaron Leifheit (Co-Chair)

Mr. Mitchell informed the Subcommittee that the Strategic Plan is essentially final. The STEM Advisory Council will vote on the Strategic Plan in April. Mr. Hill was able to provide comment for the Strategic Plan on behalf of the Informal community. Mr. Mitchell would like us to identify best practices and guidelines. He discussed that the State of Iowa uses a model with state

funding for informal STEM programs in which those programs that meet the standard are funded and those that do not, would not be funded. Iowa's Scale-Up Program: <http://www.iowastem.gov/Scale-Up>. Mr. Mitchell would like the Subcommittee to add more details to the Strategic Plan to make it better or more complete. He pointed out that the Subcommittee for evaluating STEM schools is doing something similar.

It was discussed that rigor scares a lot of informal education. Co-Chair Page asked how we measure informal STEM education. Mr. Hill asked whether logic models should be created for our state, identifying the outcomes of informal education/STEM education. What are the impacts, outcomes, and outputs? Mr. Mitchell said he might have access to similar logic models and some examples. Mr. Hill said maybe we should consider and/or tweak a model for Informal STEM experiences.

<http://www.outdoorschoolforall.org/>  
<http://www.rco.wa.gov/grants/ncli.shtml>  
<http://sdc.wastateleg.org/ranker/2017/02/03/sen-rankers-outdoor-early-learning-pilot-program-heard-in-committee/>

VII. Discuss and Agree on Communication Strategies to Other Informal Education Organizations in Nevada

Amy Page (Co-Chair)

Aaron Leifheit (Co-Chair)

We need a plan for communicating to other Informal providers. Co-Chair Page suggested Google Doc to grab groups of informal educators and possibly begin a list to serve as a way to communicate to informal educators in the State. Mr. Gardner suggested the "B.E. Engaged" alliance as a communication tool. Mr. Mitchell said the OSIT website will set up a page for this Subcommittee. He will set it up to include a sign up area for potential members. OSIT Website: <http://osit.nv.gov/>

It was suggested this Subcommittee might want to start looking into developing its own strategic plan. Mr. Mitchell would like for the Subcommittee to set a goal to identify informal education programs that yield results, as part of a strategic plan. This will help get state funding for a pilot program to achieve eventual further funding. Mr. Mitchell suggested that his office (OSIT) request the funding, and this Subcommittee would help "score" applications for funding.

VIII. Consider Agenda Items for the Next Meeting

Amy Page (Co-Chair)

Aaron Leifheit (Co-Chair)

By next meeting we want to have a final "White Paper." Co-Chair Page asked the Subcommittee to please provide comments on the link below:

<https://docs.google.com/document/d/1xZrOhumOP2pJIAw34JUrlCdQ6MdXITZVhTUdmAbehTo/edit?usp=sharing>

- 1) A Google Doc for dropping names of other Informal STEM Learning (ISL) groups.
- 2) Discussion about the “Best Practices” route to take and possible strategic plan.

Subcommittee GOALS:

- Concept paper
- Best practices
- Communication piece
- Funding

IX. Next Meeting Date

The next meeting for the Informal STEM Learning Environments Subcommittee will be Tuesday, May 9, 2017 at 9:00 a.m.

- X. 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.

XI. Adjournment

Co-Chair Page adjourned the meeting at 10:30 a.m.