

**ACADEMIC STANDARDS COUNCIL**

**MEETING MINUTES**

August 23, 2013

Video Conference between:

Department of Education  
9890 South Maryland Pkwy  
Las Vegas, Nevada 89183  
Board Room

Department of Education  
700 East Fifth Street  
Carson City, Nevada 89701  
Board Room

**COUNCIL MEMBERS PRESENT:**

Kellie Crosby-Sturtz, Chair  
Evelyn Allred  
Sharon Beatty  
Senator Aaron Ford  
Steve Laden

**COUNCIL MEMBERS EXCUSED:**

Assemblyman David Bobzien  
Amy Carvalho

**DEPARTMENT STAFF PRESENT:**

Rorie Fitzpatrick, Interim Superintendent of Public Instruction  
Andre DeLeon, EPP, K-12 Health, Science, and World Language, APAC  
Christine Hull, EPP, Social Studies/Content Literacy Programs, APAC  
Laurie Thake, Administrative Assistant

**LEGAL COUNSEL:**

Carrie Parker, Deputy Attorney General

**INVITED GUESTS:**

Monica Lounsberry, Ph.D., University of Nevada, Las Vegas, Associate Vice Provost for Faculty, Policy and Research, Professor & Director, Physical Activity Policy Research Program Department of Kinesiology and Nutritional Sciences

Monica Morales, Nevada State Health Division, Bureau of Child, Family and Community Wellness, Chronic Disease Prevention and Health Promotion Program Development Manager

Shannon LaNeve, Clark County School District, K-12 Physical Education Project Facilitator

Janae Ballingham, Douglas County School District, Middle School Physical Education, National Board Certified, Executive Council Member of NASPE

Bret Sibley, K-12 Science Education Trainer, Southern Nevada RPDP

Dr. Dave Crowther, Executive Director of the Raggio Research Center for STEM Education and Professor Science Education, University of Nevada, Reno

Mary Pike, Director of K-12 Science, Health, Physical Education, Foreign Language, and Driver Education, SHPEFLDE, Curriculum & Professional Development Division, Clark County School District

#### **AUDIENCE IN ATTENDANCE:**

##### *Carson City:*

Kristen Gleissner, NWRPDP

Lou Loftin, NWRPDP

Brian Crosby, NWRPDP

Kelly Cannon, WCSD

##### *Las Vegas:*

Dave Miller, CCSD

Eileen Gilligan, CCSD

Beverly Lousignont, CCSD

Kristoffer Carroll, RPDP / NSSTA

Marty Gardner, CPD

Carl Jaryinsy, RPDP

Stacy Cohen, RPDP

Mark Newburn, SBE

#### **Call to Order; Roll Call; Pledge of Allegiance**

Chair Crosby-Sturtz called the meeting to order at 9:23 a.m., with attendance reflected above. It was determined a quorum was present.

Chair Crosby-Strutz led the pledge of allegiance.

#### **Public Comment**

There was no public comment.

#### **Approval of a Flexible Agenda**

**MOTION:** Member Laden moved to request a flexible agenda. Member Allred seconded. The motion passed unanimously.

#### **Presentation of and discussion about proposed revisions to and possible approval of the Nevada Physical Education Standards**

Christine Hull led the presentation and provided background on the development of the Physical Education (PE) Standards. The Office of Child Nutrition handled the initial revision, and then the Office of Assessment, Program Accountability and Curriculum (APAC) took over when Child Nutrition moved to

the Department of Agriculture. The composition of stakeholders involved on the committee, the process for review, including public survey, and the timeline was discussed. After the NDE received the results of the survey, the committee made some final edits prior to presenting to this Council.

Ms. Hull noted changes over the prior adopted standards included the role of overall physical activity, as well a shift to standards based instruction. Assessment was a problem with the previous standards as some of the standards did not apply to all disciplines. The changes were demonstrated in the bridge document which provided the prior 2008 standards, the nationally adopted standards, and the currently proposed standards. There were minor content changes, such as the removal of the dance standard, and some style changes, like vocabulary, which the committee felt would be better addressed in a language arts class. It was noted that on the public survey, the majority of respondents were classroom teachers. Over 74% of respondents thought the document was easy to navigate, while over 90 % agreed the standards were appropriate statewide standards. The committee did make some changes based on the public feedback.

Relative to the timeline, Ms. Hull stated that if the Council approved the standards as presented, they would then be presented to the State Board of Education (SBE) for adoption. We hope to have adopted standards moved forward to the districts this spring. Monica Morales with the Nevada State Health Division wrote a grant through the Centers for Disease Control (CDC). Part of the grant includes funds for the dissemination of PE standards.

Monica Lounsberry, UNLV, stated that past standards were written very broadly so that almost anything could fit under any standard. We have learned that, to optimize PE time and achieve the health related outcomes we desire, the standards need to be more highly focused. We have the challenge of sedentary living, as well as a different type of energy expenditure in daily living. Primary evidence based research has shown that promotion of physical education is a major health strategy. Today children have very few opportunities to be vigorously physically activity. Households have multiple cars, kids almost never ride bikes or walk, and they do not get PE every day. It is important to take measures to strengthen PE and make clear the important role of physical activity in daily living. To be effective, 50% of class time should be devoted to moderate to vigorous activity.

Additionally, we have had curriculum issues in the past. Things like character education and social responsibility are important, but will not produce the moderate to physical activity our students need. Given the challenges we have from a public health perspective, our curriculum should be focused on achieving healthy outcomes, and a great deal of emphasis on health related outcomes was placed in these standards.

Monica Morales, Division of Public and Behavioral Health, stated it was no surprise that obesity in Nevada has increased. Children who are overweight tend to be overweight as adults, and many studies indicate 80% of chronic diseases are related to obesity or tobacco use. One of the grants through the CDC is to combat diabetes and obesity. The grant strives to increase physical activity among children and youth and calls for collaboration between the NDE and public health. We received \$30,000 through this grant to train administrators and provide assistance to teachers to promote physical activity. Once the standards are approved, we will mobilize the same committee to get the information out to stakeholders.

Shannon LeNeve, CCSD, provided the revised PE standards will allow districts to develop standards based curriculum in K-12 education, which will lead to more objective grading in PE across the state.

Too often grading in PE classes is subjective. We need to move to a more standards-based, objective grading structure. Standards based grading will promote accountability for students and teachers.

Janae Ballingham, past president of PE Association, and Douglas County Teacher of the Year, stated standards based grading gives real meaning to an A and takes bias and distortion out of grading. Assessment is a critical component in reaching set standards and educators need standards to guide instruction and assessment. Administrators need to know there are standards in PE and hold teacher accountable for teaching them. Parents need to know it is not just time for recess or play time. This process will lead to quality physical education, which is what we want for our students.

Member Beatty questioned the vagueness of the standards and whether the developed curriculum would help clarify the standards. Ms. Hull clarified that each district developed its own curriculum. The NDE does not produce curriculum for districts. The committee discussed district collaboration on the creation of curriculum and performance level indicators. Members and presenters discussed the need to keep standards brief, which allowed the districts to create a curriculum and performance indicators which best accommodate their teaching staff, facilities, and varying PE schedules. It was stressed that, when developing the standards, the committee considered all of the variables which occur in PE throughout the state. Teachers from both rural and urban districts participated on the committee to show the depth and breadth of all the things happening in Nevada. It was determined that more detailed standards would create a hardship for those schools that did not have a dedicated PE teacher.

Member Beatty also expressed concerns relative to the terminology used. If individual teachers are unclear as to the meaning of terms like manipulative skills, loco motor, and non-loco motor skills; then any coordination of teachers following the same standards would be negated. Ms. Hull clarified that a glossary of terms was provided at the end of the document. There was concern if you called out a specific skill, first the list would be incredibly long; and second, putting them in the standard would then potentially put them into the regulation. That would require teachers to teach that specific skill. With the varying ways in which PE is taught in Nevada, it seemed that it would be inappropriate to list specific examples in the standards. These revised standards allow the glossary of common terminology to be smaller and more specific so our teachers will know what to look for in general terms with very tangible skills.

Members discussed the concept of competency. How will teachers be able to determine if a student was competent, and how would a student with disabilities be impacted. Ms. Ballingham provided that competency and physical disabilities are two different things. Competency is the understanding of a certain concept or movement form. Disabilities are graded in a different way. Dr. Lounsberry added that competency is usually defined as 80% or better. We could include in the glossary a general definition of the term competency.

Member Allred questioned whether there was a typographical error on page 6. She indicated on the end of page 6 it stated "end of grade 2", and queried whether it should say grades 5, 8, and 12 instead. Ms. Hull stated it was a typographical error and would be corrected.

Member Beatty questioned the removal of character education from the standards. The panel provided that in PE, character education and cooperation was inherent throughout the coursework. Often times, if you put character as a standard, then teachers want to grade students on behavior and we are moving away from that type of grading. Districts often have a separate citizenship grade and that is where a standard for character belongs. Additionally, character is not a standard for any other class. Certainly

we expect our students to follow the rules for those classes, but to specifically dictate the rules for PE felt very inappropriate.

Along the same lines, Senator Ford requested information relative to the proposed 2013 standards not including diversity, multicultural education, and tolerance. He requested the rationale for including them in the PE standard in the first place, and now the rationale for removing them. Ms. Hull indicated she was unsure of why it was included in as a standard for PE; however, the decision to remove was very similar to character education. It did not seem appropriate for the PE teachers to be the only individuals assigned to teach these concepts. This standard does not exist in math, but we certainly expect math students to respect diversity. Diversity would be more of a school based policy or rule. It should not be called out only in PE, and I think that is why the committee chose to take the standard out.

Senator Ford stated he was not certain that the inclusion of diversity, multicultural education, and tolerance was compatible to the citizenship grade. There is another spot for character, so it makes more sense that it was removed from the standard. The fact that no other course has this as part of their curriculum seems to me to be a non-issue because different curricula and different topics need to have different standards. If this standard is taken out of PE, where should it be included? The panel discussed with members that diversity, multicultural education, and tolerance may have been included in PE as part of the dance standard. Currently, this strand was not in the national standards for PE. Everyone agreed that diversity, multicultural appreciation, and tolerance were important to be successful teachers because it shows that we value each student. However, is it appropriate as a PE standard? Senator Ford stated the fact it was an important issue seemed to lean toward leaving a standard at a state level. Dr. Lounsberry agreed with Senator Ford to a large extent; however, a PE standard implies that it is a curricular issue for one area and not all areas. I think we need to have a broader statement as to what schools should be providing in this area. As a content standard, we have to think about the content and how are we going to evaluate outcomes. Cultural competency, tolerance, and diversity should be an outcome in all curricular areas.

Senator Ford stated he was open to that type of resolution as it makes sense. Clearly from a state perspective this is an important topic. I would be interested in knowing the history before I make my mind up. If we remove this standard from the PE curriculum, where will it be picked up? Interim Superintendent Fitzpatrick added that social studies often taught those particular elements. With regard to providing appropriate instruction to all students, the Nevada Educator Performance Framework (NEFP) Instructional Practice standard has specific indicators targeted at embracing diversity in the classroom.

Member Laden stated he wanted to see the bar raised in Nevada in terms of standards, and we are accomplishing that here. Additionally, I would like to see clear measurable assessments, and again I think we are moving in that direction. I have a concern in the broader sense relative to implementation. Implementing a given set of standards across the state is going to be very difficult. Would someone please comment on how this is going to be implemented effectively across the spectrum? Ms. Morales stated that standards act as a road map and that is critical for us right now because we know districts are at different stages of curriculum development, and now can provide some structure and vision. To have nothing in place would hurt us in the long run. Senator Ford added that he heard the same thing in the last legislative session. We have to set standards and we need to lay out what our requirements are. It is part and parcel of funding education properly. From a legislative perspective, we will continue to fight for the necessary funding. We will continue this discussion and explain why this is important to our communities.

Chair Crosby-Sturtz asked for public comment in both Carson City and Las Vegas. In Carson City comment was provided. John Sturtz, student, stated that he heard the panel talking about teachers and budget issues for physical education activities. He questioned whether there were plans for volunteers that would teach physical education and/or marching after school and during lunch? Dr. Lounsberry responded that she appreciated this question, as it is something that the group which writes national standards is already thinking about. It is the notion of comprehensive school physical activity, and PE is the focus and center of that. There will also be a new qualification for PE teachers, called physical activity leaders, and we think that some of what you mentioned will happen there.

Senator Ford questioned if a motion could be held in abeyance relative to receiving answers to the questions he had on the diversity and multicultural component. He stated he would not be able to support recommending this curriculum change absent that information. Deputy District Attorney Parker clarified that it would be fine if the Council chose not to take action, and could place this item on the next agenda. Members discussed whether the item should be tabled until the next meeting. Members agreed with Senator Ford's concerns, but believed this topic should be looked at on a broad state mandate, as opposed to a course specific issue. The process of upgrading our standards in all curriculum areas and courses needs to be continued, so we ought to move these standards forward to the SBE for adoption.

Member Allred added, for the benefit of new members, that we are not actually the approvers of the standards, we are the recommenders. The SBE approves the standards to become statewide. She provided that, as a school principal, I know that teachers embed diversity and tolerance in instruction, and schools have multicultural events. To single out one curriculum area to be in charge of tolerance and diversity is probably not the best way to approach the topic. Ms. Fitzpatrick provided clarification to the standards adoption process stating that if the council approves the PE standards today, the standards move forward with a recommendation for adoption to the SBE. At the next SBE meeting on September 4, 2013, I would anticipate the President will call an agenda item for a workshop. In Nevada, there is a 2 tier process; a public workshop, and then a public hearing. The purpose of the workshop is further discussion of the topic, and then in no sooner than 30 days, there will be a public hearing. There are at least two more opportunities to influence the PE standards. By moving these standards forward, you have not closed the opportunity for changes. Additionally, the SBE can, at its discretion, send the standards back to Council for clarification. The Council can then make changes and send back to the SBE for adoption.

**MOTION:** Member Laden moved that the Physical Education Standards, as proposed today, be recommended to the State Board of Education for adoption. Member Allred seconded. Chair Crosby-Sturtz, Member Allred, and Member Laden approved. Member Beatty and Member Ford opposed. The motion carried on a 3 to 2 vote.

*Council members took a break from 10:50 a.m. to 11:02 a.m.*

### **Presentation of and discussion about proposed revisions to and possible approval of the Nevada Science Standards**

Andre DeLeon, NDE, stated Nevada educators came together to review our science standards and look at the best of what they offered. We made revisions with an emphasis on improving science education

in Nevada. Our presenters today will provide details on how this took place. Today's presenters represent a statewide effort to improve Nevada's science standards.

Brett Sibley, Southern RDP, stated the National Science Education Standards of 1996 gave guidance to learning and instruction, and our current Nevada science standards were revised to reflect that model. What we are proposing today is a revision of the current state standards to the Next Generation Science Standards (NGSS). Building Capacity for State Science Education is a group put together by the Council of State Science Supervisors and represents a grass roots effort, with representatives in all 50 states, to advance changes in science education. These advancements center on how students learn and understand evidence, and how they best receive science related information. The architecture and organization of the proposed new science standards center around three dimensions of division in the framework. It takes core ideas and science concepts and integrates the practices of scientists and engineers. Also, Nevada has adopted the Common Core State Standards (CCSS) for ELA and mathematics, and there is clear correlation between the initiatives in the NGSS to both ELA and mathematics. Additionally, our current science standards include the areas of life, earth, and physical science. The NGSS adds a fourth area, engineering technology and its impact on science. Mr. Sibley read two slides from the presentation into the record.

#### Conceptual Shifts in the NGSS:

1. K-12 science education should reflect the interconnected nature of science as it is practiced and experienced in the real world.
2. The NGSS are student performance expectations not curriculum.
3. Science concepts build coherently across K-12.
4. The NGSS focus on deeper understanding of content as well as application of content.
5. Science and engineering are integrated in the NGSS, from K-12.
6. The NGSS are designed to prepare students for college, career, and citizenship.
7. The NGSS and Common core State Standards (English Language Arts and Mathematics) are aligned.

#### Role of "New" Standards:

- To update previous content and practices.
- To increase depth of knowledge over breadth.
- To include cognitive research developed over the past 20 years.
- To increase problem solving and critical thinking.
- To develop 21<sup>st</sup> century skills.
- To help children become career or college ready.
- To show natural connections between content areas.

Mary Pike, CCSD, stated stakeholders from around Nevada participated collaboratively in the NGSS review. Challenges such as the development of resources and the geographic isolation of educators in some of the most rural counties were noted. There has been a collaboration with state-level science program professionals from 46 state and territories, which has not occurred in the past. Conversations in Nevada have been around science and STEM education. Revisions to the current academic science education standards will support the goals of improved science education as these goals focus on critical thinking and problem solving skills. As skills improve, students will show increased achievement in other content areas as well. We do know that large scale assessments will have to take place and we will need to determine how these goals will be measured.

Dr. Crowther, UNR, noted that science is more than content. When we talk about science, we speak of it as a verb and a noun. The noun consists of all the facts. The verb is the application of those facts. Our current standards, like many across the country, are a mile wide and an inch deep. This was one of the reasons for the science revisions. Some of the themes in these content areas are very important and it is better for students to master fewer of those concepts with more depth and understanding. Our current state standards were very confusing to some teachers because they were done by grade band. The NGSS does have separate standards for K, 1<sup>st</sup>, 2<sup>nd</sup>, and 3<sup>rd</sup> 4<sup>th</sup> and 5<sup>th</sup> grades. The NGSS also adds engineering technology to science, which allows teachers to do many more things with the content. Colleagues in engineering are thrilled to be at the table in a formal way.

Additionally, one of the nice parts about the new standards is the additional information for teachers. The crosscutting concepts show teachers where a particular concept fits into the big picture. It contextualizes all of the different parts of science into a statement that teachers can clearly understand and utilize in instruction. The piece that I get excited about is the connection to the CCSS in both ELA and mathematics. In each and every page of the standards, you will find a direct connection to the CCSS. This allows for interdisciplinary teaching and collaboration, which was not possible in the current standards. If we look at all of the parts coming together, there is a lot of interdisciplinary teaching we can do. So will this be harder or easier on teachers? With the overlap, I think teachers will find they can actually teach more with all of the standards coming together instead of teaching individually as we have done in the past.

Finally, we really want our students to obtain a deep level of knowledge and understanding. For children to truly get the depth of knowledge, they need to do something to obtain first hand data, and then interpret that data and communicate those results. To do that it will take the CCSS and the NGSS.

Ms. Pike stated the NGSS offers a clear vision of rigorous science standards across K-12 grade levels. With implementation of the NGSS, all students have the opportunity to be college and career ready. We need to make sure students can choose college, or choose a career, depending upon their needs and desires. We live in a very complex and an informed citizenry is necessary. NGSS offers great learning opportunities that will ensure Nevada students can be competitive in the college admissions process and the job market across the nation. In Nevada, we know that the connection between curriculum, instruction, and assessment, along with effective pre-service teacher programs and teacher professional development, will be essential for effective implementation. The NGSS focus is on what the students of Nevada will know. Students will better understand how to take responsibility for their own learning.

Mr. Sibley added that, as a proactive approach to the initiatives, this group developed a website to provide information as a resource warehouse to provide classroom teachers with the potential changes to science content and strategies. This also creates a network of invested stakeholders knowledgeable about the changes coming to science education. In the first 5 months from February to July we gained 282 active contacts who have signed up with the sight. About 250 of those were teachers. Today, 20 days later, 2300 have visited the sight and 322 people have joined the network. Teachers are just starting to return to school this week, so I expect that number to grow as we begin advertising the network.

Ms. Pike stated the last slide of the presentation provides an overview of the proposed timeline, should these standards be adopted. We have also provided a list of resources in the event you are interested in reading further. Additionally, there is a web address for the NGSS website for appendices A-M. We

have asked our teachers to make sure they read the appendices before they read the standards because they provide essential information about standards, student case studies, as well as model course maps.

Member Allred asked the panel to explain differences between the initial roll out and the full roll out. Ms. Pike stated I can speak for CCSD. After the revised state standards come out, CCSD will work to revise the scope and goals for our secondary documents. It will then go to the curriculum commission for approval and work on curriculum directives. Our initial implementation will likely be at the secondary level. We need to assist the elementary teachers with integration of science into math and ELA instruction. We anticipate full integration by the year 2016.

Member Beatty stated there are a number of positive things in the standards. There is a nice structured development and progression in the standards from K to 12. The addition of technology in science is absolutely necessary and that addition is appreciated. Teachers really do appreciate fewer topics with greater depth. She expressed concern about the complexity of the standards, teacher preparedness for the standards, and assessment. Most of our elementary teachers are not science people, they are generic. I am also concerned about the secondary teachers because many have single credentials and the standards contain cross-curricular information, particularly at the middle school level.

Dr. Crowther responded that at UNR, the teachers we certify in our K-8 program come out of that program with a broader training than if they came out of the secondary training program. It will be imperative that teachers understand the basic structure and how it works because it does look a little intimidating when you just look at a page for the first time. When you realize that most of that page is support for teaching that individual standard and it is there for the teacher, then they will find it much easier to use. We piloted a class this summer so we could see how pre-service teachers do with NGSS. They did a comparison between the current standards to the NGSS and teachers liked the NGSS better. They thought the standards were more specific and they did not have to look as many places to find needed information.

Ms. Pike clarified that the NGSS are performance expectations. They are very clear as to where the student should be at the end of instruction; they are not curriculum. Because CCSD does have a curriculum and professional development department, we would be happy to share with other districts across the state, and RPDPs will be integral in assisting with that process. As far as licensure goes, most of our middle school teachers are K-8 certified, and there has been a big push in Clark County schools to work on the content knowledge of our K-8 teachers. As I indicated earlier, this has been a collaborative process. We have had conversations with business and higher education that have not happened in the past. Ms. Pike agreed that at first glance the standard maybe a little tough to understand, but when you sort by topic and scaffold by grade, you can start to build the necessary vocabulary. With the integration of the CCSS you have students not only doing science, but reading and writing on science as well. Again, I want to emphasize these standards are all about what a student is able to do when they finish a grade band.

Member Laden stated, as a member of the task force that just finished writing the college and career readiness standards, thank you so much for the work you have done. I think we are moving in the right direction and the incorporation of CCSS concepts into your presentation was outstanding. I will just reiterate what I said during physical education testimony, and that is that I am extremely concerned about resources. Textbooks funds are different now. RPDP support is different. I am not asking for a response necessarily, but I am hoping we can include my concerns and the board's concerns as we write the minutes and push them up the chain to the school board and to our legislators. When we put these

things on paper they look fabulous and I am all for raising the bar, but we need to provide the resources. I was thrilled to hear Senator Ford's comment earlier in support of increasing resources.

To take a different direction, and I view this with a little trepidation, but as a public board we need to ask questions representative of all members of the public. When we dive into science, there are a couple of issues that get political or theological in nature. When we look at high school standards and talk about teaching evolution, I am curious about the discussion your group had relative to evolution versus creationism, as well as the new political topic of global warming and human impact. I am curious about the discussions and conclusions you have come to and how you want to take those issues to the public, as well as to teachers and students.

Dr. Crowther responded that these were not new concerns. They have been well documented in the media for some time. Evolution: If we look at why we have the ability to feed everyone in the United States, part of that is the ability to improve agriculture through science. Additionally, if we look at medicine and the need to develop new antibiotics, that is because the bacteria keep changing. If they did not change we would not need new antibiotics. If disease did not change, we would only have one disease and we would be able to treat it consistently. Evolution is a fact within science. Science is built upon a certain set of rules, and within those rules, science asks very specific and testable questions. These questions science labels as "falsifiable"; they have to be answered as true or false. There are questions that come up in science which are not falsifiable. If the question is not falsifiable, then it probably is not science. It is not a judgment statement, it simply states that if it does not fit the rules of science, then it cannot be taught as science. We want our children to become citizens that are knowledgeable and can make informed decisions in an educated way.

That leads us to the climate change piece. Recently, a report came out that said 97% of climate scientists agree that not only is the climate warming, but it is due to human activities. The question we need to both ask and answer is how we become responsible to our planet. That is a citizenry question more than a science question. Our goal in science is to give our children the skills to gather information so they learn how to make informed decisions and participate as informed citizens.

Ms. Pike added that it is important to explain that science is not a belief, and evolution is an underlying biological principle and theory. It is also important for students to have a complete and accurate understanding of evolution as a 21<sup>st</sup> century citizen. It is important that we provide students with tools, and try not to instill a belief. The term global warming was not used in the framework or the standards. It is called climate change and relates to the impacts humans have on our environment. How we transfer those performance objectives into our curriculum makes it very important that we get a clear and consistent message across. Member Laden thanked the panel for their answers and was pleased to hear the group actively engaged in those discussions.

Member Allred expressed concern relative to the timeline. Teachers are very overwhelmed right now with CCSS and SBAC assessments. I am concerned about having just one year to get everyone trained. Senator Ford added, with the budget cuts we have had to endure with personnel and professional development, I am not sure we can get all the teachers trained by next fall and have them implementing the framework with fidelity.

Ms. Pike stated that it will take 3 – 4 years after the implementation of the NGSS for the assessments to catch up. At the secondary level, building administrators have already been asking science to align to ELA and math, so I think implementation of the NGSS will enhance and not hurt. At the elementary

level, integrating science shows teachers a way to teach concepts in math and ELA. I know that teachers are overwhelmed at this point and it is our goal to help them. I think 2015-16 is the earliest implementation would take place in Clark County, with full implementation in 2016-17.

Dr. Crowther stated the process of reviewing these documents brought higher education and K-12 education together in a new way. I see a level of commitment from all the major training institutions and everyone wants to make this happen. We have worked with Washoe, through their TIFF grant, to share professional development between the RPDP, WCSD, and the university in a collaborative effort. The timeline was developed by this committee and all participants felt the timeline was reasonable.

Chair Crosby-Sturtz questioned if the new NGSS would help prepare students for the 5<sup>th</sup> grade state science assessment. Ms. Pike, speaking for CCSD, stated that part of the issue was the lack of science instruction at the K-5 level. We are working hard with academic managers to convey the importance of K-5 instruction in science. Statewide we know that scaffolding instruction is important and teaching science should not be optional; it is in NAC and NRS and it should be required.

Mr. Deleon added this applies not only for 5<sup>th</sup> grade, but for 8<sup>th</sup> grade and high school assessments as well. These standards outline the instruction that need to take place for students to be successful on these assessments. Preparation for these assessments needs to be ongoing.

Member Beatty stated that building on K-5 experience has always been a dilemma for us when rolling out new standards. How do we do roll out the NGSS so upper grades are not penalized for instruction which did not occur in the elementary grades.

Ms. Pike stated this will be an issue no matter when we start. There will be a huge effort to help students to catch up. At this point in time we can no longer say that we will just wait for them to catch-up, we have to start having quality rigorous science instruction from kindergarten up. It will be a battle, but I have confidence that our teachers will be able to assess their students' needs. It will be a struggle, I do not want to pretend that it will not be, but I think we need to give our teachers as much professional development as we can relative to how to address that and differentiate instruction for students. Mr. Deleon added that assessments are a gradual process. We will not just start using a new assessment. If you do that, then you render all of the data you have gathered useless. There is going to be a process of gathering and reviewing data. This will take time, just like it will take time to get everyone onboard with the process.

Members questioned which states were using the NGSS successfully at this time. Additionally, of the 4 states which did not participate, was there a reason? Mr. Deleon provided that the standards reached their final form on April 10, 2013, so data on their use is very limited. We have already had 5 states adopt, 21 other states are going through the process of adopting, and 46 states came together to create the process to revise their standards. Capacity is an issue in state level science departments as many have only 1 person. Dr. Crowther added that the 4 states which did not participate felt as though they already had strong enough state standards. Of those who have adopted or are in the adoption process, none have turned back. Some have slowed their timeline due to a capacity issues, but he majority are on track to implement in the next couple of years.

Mr. Deleon provided information for the states which did not participate:

- New Mexico: the only reason they have not been at the table is that they do not have a science professional at the state level. However, they have peripherally participated through their

university professors and curriculum developers in the state. They are interested and just hired a science person, so I anticipate they will get up to speed soon.

- Texas: while they have made it clear that they are not going to adopt these standards, they have sent education staff to meetings and their university representatives have been part of the process.
- Minnesota: purely a cycle issue. They just adopted science standards the year before, but they have been a part of this process.
- Mississippi: I do not know why. I have talked to people from other states on their issues, and Mississippi is the one I have not heard back from.
- District of Columbia: they just lost their science person. Capacity has been the main issue to states not adopting.
- Massachusetts: has been a big part of this process. Again, it is more an issue of timing; it is not if they will adopt, but when they will adopt.

Member Beatty questioned if Nevada had the capacity to effectively roll out these standards. Ms. Pike responded with an emphatic yes. If you asked that question 10 years ago, I would have said no. For the first time, we have had a collaborative process across the state. This is the time to come together and do something powerful for our students. I think CCSD, with the help of RPDP, can assist some of the rural districts. We do not want to push our curriculum, but we can make our professional development available to anyone who would like to use it.

Chair Crosby-Sturtz opened the floor to public comment; time limit is 3 minutes per speaker.

Present in Las Vegas: Mark Newburn, SBE. I am a 30 year STEM industry veteran and a very active member of our local high technology community. I am here to support the adoption of the NGSS. As a member of the technology committee, these are very strong standards to us and we like the crosscutting concepts, as well as the interdisciplinary nature of the new standards. These represent what we are looking for in the 21<sup>st</sup> century. I would like to comment, we did have Michael Sentance, the former education secretary for Massachusetts at our last meeting and he indicated that their turning point in STEM education is when they added engineering to science. We are very excited about adding engineering and technology into science standards. In addition, we are very excited about the addition of practices. I believe in giving kids the chance to do, because in industry we do, we do not take tests, we do projects. I feel this is going to be an important factor in expanding our pipeline for STEM workers. I strongly support the NGSS. Thank you.

Present in Carson City: Lou Loftin, K-12 science trainer for the NWRPDP. I have quite a bit of experience working with the NGSS, and I do see the need for them. We fully support them. I have done some initial training with teachers and have modeled what this would look like with the integration of ELA and math. The teachers are excited to see the way these concepts integrate together. I spent a day working with 3<sup>rd</sup> grade teachers so they could understand what these standards meant. After explaining the standards, the teachers felt they could handle them after just a little training. They became very familiar with the verbiage and what it represents. If you are using the NGSS and pull up the online version, it is all interactive. You can scroll over a topic and it explains a lot of the standards, so the teachers were

very happy to see that. The need for these standards is right now, and some of the teachers feel we need to start rolling out the NGSS. Teachers are developing units of study now with CCSS math and ELA. The NGSS is an avenue for teachers to really make sense of the CCSS math and ELA for their students. It answers the “why do I need to know this stuff” question. It is through the science standards that students get a conceptual understanding of why I need to know math and ELA. If teachers develop these units, and two years later we tell them they have to develop new units for science; that is where it is going to become really irritating for teachers. Right now, teachers are excited. Now is better than latter with NGSS, we do not want to have to redo training again. Now they can see the purpose and it also gives the administrators and teachers more power in teaching the science standards. The speaker reached the three minute time limit and Chair Crosby-Sturtz moved to the next public speaker.

Present in Las Vegas: Chris Carol: Nevada State Science Teacher Association. I am pleased to be here on behalf of our membership and in full support of the adoption of the NGSS as the Nevada state content standards. A recent survey of our members and guiding boards spoke loudly and clearly in favor of adopting the NGSS without modification. We strongly believe the NGSS support a research based vision which strongly supports all Nevada students. They are grounded in a large body of science education research, chiefly represented in a framework for K-12 science education practices, crosscutting concepts, and disciplinary core ideas. The NGSS correlates with CCSS in math and ELA, which were adopted as the Nevada state content standards in June 2010. Adopting a comprehensive and integrated set of standards, including the NGSS, provides a relevant link to CCSS and affords an opportunity for teachers and students to more effectively break down the silos in education. This will result in more well-rounded students and a more capable workforce. We recognize the new NGSS are not enough to change the course of science education in Nevada; however, full adoption of NGSS represents a first step in this changed process. They provide equitable access to rigorous standards for all students in Nevada. The Nevada Science Teachers Association fully supports the adoption of the NGSS as the Nevada state science content standards. Thank you.

Present in Carson City: Brian Crosby, NWRPDP STEM facilitator and trainer. Based on things you have already heard, I want to point out the documents are overwhelming. I would suggest you pull a grade level at random and pretend you were going to become familiar with that and the fact that you are not looking at 8 pages of standards. You are just focusing on your grade level. We talked about looking at the year before and the year after to see where they come together. Many of our schools and teachers haven't been teaching science, so let's get them on board now with these standards instead of having them address the old standards, and then learn the new over again. It is just as easy to take on the new standards. Also they have rewritten the performance standards and they are easier to determine what students are supposed to be taught. I would really push us to consider those. I have letters of support, one from Storey County, which was signed by their superintendent and a number of teachers; I would like to read it into the record:

“Building the talent pool for our nation and our companies requires the development and adoption in every state of internationally-benchmarked standards for student success. We support the Next Generation Science Standards, based on the National Research Council's Framework for K-12 Science Education. These standards will provide all students with a coherent and content-rich science education that will prepare them for college and careers. Education and training in science, technology, engineering, and mathematics (STEM) stands as our most important tool for ensuring individual and national prosperity. According to the Department of Commerce, from 2000 to 2010, jobs in STEM fields grew at three times the rate of any other field. Through 2018, jobs in STEM fields are expected to

increase by 17 percent, nearly double the projected growth rate of other jobs. The numbers speak for themselves. A strong foundation of mathematics and science learning at every level of the workforce is more important than ever. As teachers, we fully understand the cause and effect relationship that exists between talent and innovation. Put simply, the availability of a creative and highly skilled workforce across America's cities, regions and states stimulates innovation and results in economic prosperity. The future of our state is dependent upon such high-skilled talent. That's why we stand ready to support the development and implementation of the Next Generation Science Standards in the state of Nevada. We are confident that the Next Generation Science Standards will provide an important foundation to help restore America as the world's leader in the production of mathematics and science talent." The speaker reached the three minute time limit and Chair Crosby-Sturtz moved to the next public speaker.

Present in Las Vegas: Carl Jardim, I am a recently retired Nevada science teacher and want to speak in support of standards, which they say are NGSS, but are really nothing new. They are the core concepts I taught for 34 years in Nevada and elsewhere. Teachers have always taught many of these things. The key thing is that they have finally focused on what are the most important topics in those 4 subject areas. They are not broad and an inch deep, but a narrow and a mile deep with greater understanding. By starting out at the kindergarten level and working all the way to the 12<sup>th</sup> grade level, they develop a deeper understanding. We are teaching in a new way and integrating math, ELA, and science together as one topic. Thank you for letting me speak.

Present in Carson City: Kelly Cannon, K-12 Science Coordinator, WCSD. I have permission to come here today and say that the Washoe County School District fully supports adopting the NGSS. Relative to the concerns mentioned earlier about the elementary teachers; starting Monday I have a semester long class for K-2 science teachers. It filled up at 50 before the school year ended last year and it has a waiting list of 25. These teachers are interested and excited. Thank you.

Present in Carson City: Kirsten Gleissner, NWRPDP. I am here to lend support to my colleagues in supporting the NGSS. Thank you.

**MOTION:** Member Beatty moved that the Next Generation Science Standards (NGSS), as provided, be recommended to the State Board of Education for adoption. Member Ford seconded. The motion carried unanimously.

### **Future meeting and agenda items**

Chair Crosby-Sturtz queried as to the next standards coming forward to the council for presentation. Dave Brancamp, NDE, stated World Languages will be coming up next, but the team has not started to meet yet. Chair Crosby-Sturtz concluded that at this point there are no additional meetings scheduled. We will wait for the World Languages group to contact us.

### **Additional council member comments**

Member Laden stated I applaud those who participated in building both of the presentations today. This was a lot of work and I admire the fact that we are raising the bar, which is so badly needed in this state. My hat is also off to the RPDPs ahead of time as you have a lot of work before you. I, for one, will be a voice in the wilderness advocating for more resources for teacher training and the materials that

need to go into the classrooms to make these things happen. But again, to all of you who have prepared the work and who will move forward, we support you and all of your efforts.

Member Allred stated I just want to say welcome to Senator Ford. I too will be side-by-side in advocating for more support and resources.

Senator Ford thanked Member Allred for the welcome. I look forward to working with everyone.

**Meeting adjournment**

The meeting adjourned at 1:04 p.m.

DRAFT -- PENDING COUNCIL APPROVAL