STATE OF WASHINGTON
OFFICE OF THE GOVERNOR

WASHINGTON STUDENT ACHIEVEMENT COUNCIL
EDUCATION · OPPORTUNITY · RESULTS

STEM Education Innovation Alliance Meeting

November 29, 2016

Microsoft Conference Center
16070 NE 36th Way, Redmond, Washington 98052

Meeting Notes

Gene Sharratt welcomed the STEM Alliance members and led introductions. He also announced that *Jeff Charbonneau* and *Susan Enfield* will be participating in a Seattle Times LiveWire panel discussion at Town Hall on the evening of November 30, 2016, on *K-12 Visions and Outcomes: Solving the Education Problems Money Can't Fix.*

John Aultman presented an overview of recent progress in advancing apprenticeships in the state:

- Department of Labor grants – the state was awarded a $2.7 M grant to expand apprenticeships for youth, diversity and emerging fields.
- The Aerospace Joint Apprenticeship Committee has approved a set of standards for apprenticeships aimed at increasing the numbers of females and minorities in the aerospace and advanced manufacturing trades.
- The Apprenti program has been generating a lot of interest. *Michael Schutzler* noted a federal grant funded the original pilot, which is being ramped up nationwide.
    - The program collaborates with large employers such as Microsoft and AT&T.
    - It was designated as a national intermediary for apprenticeships across the country.

Eleni Papadakis gave an update on Washington's NGA Work-Based Learning Policy Academy project:

- Progress was made on several items addressing barriers to scale opportunities.
    - We now have a plan for tracking progress and performance assessment (kudos to *Daryl Monear* for development).
    - We are making progress in development of an online portal to connect students to industry and career connected learning experiences.

- We are in the process of taking a close look at 21 leading programs in the state as part of our Work-Based Learning Laboratories project, funded through the Governor's discretionary funds.
- The Governor's Summit on Work-Based Learning is scheduled for the end of May in Tacoma. We are reaching out to employers to participate and are partnering with WSU to provide virtual sites statewide and are looking for co-sponsors (*Jane BroomDavidson* noted that Microsoft is interested). *Nova Gattman* is lead on the event.

Jane Broom Davidson described her recent visit to Switzerland to learn about their apprenticeship model:

- The visit was coordinated by *Suzan LeVine*, US Ambassador to Switzerland and Liechtenstein. She also formerly worked for Microsoft as their Director of Strategic Partnerships for Student Developers and Director of Communications for Education. Jane visited with several others to observe and learn about Switzerland's innovative approach to supporting apprenticeships.
- Jane shared a paper she authored on career-connected learning, which presents an overview of Switzerland's system as well as Colorado's approach that was based on the Swiss model. In Switzerland, 70 percent of young people choose to pursue their education through the Vocational Education and Training (VET) apprenticeship pathway, with the remaining 30 percent choosing a more traditional university pathway. The VET program offers 230 occupational apprenticeship pathways that include further education leading to a credential but often also leading students to college or university degrees.
- Colorado has adopted parts of this model in the approach. They attended Switzerland's summer institute for strategic planning for ten days. Based on ideas gained from this experience, the Governor, the legislature, Bloomberg Philanthropies, JPMorgan Chase, the Markle Foundation and others committed $11M to start CareerWise to develop and implement a strategy and serve as the intermediary between businesses, educators, and students. The focus is on youth and pre-apprenticeships not registered apprenticeships. The goal is to start with 250 apprenticeships in three sectors and grow to over 20,000 apprenticeships by 2026, representing 10% of Colorado's high school juniors and seniors. – 23 apprentices in three sectors. In ten years will have 25,000 apprentices – 20% of juniors and seniors.
- Washington has much to learn from these approaches. The common theme is that education, workforce, and labor are making decisions collaboratively, maintaining quality and setting standards together, with an interest in a broad range of family wage jobs for our kids, not just in IT. *Maud Daudon* pointed out recent efforts by the Chamber to connect students through the pipeline in health care, computer tech, maritime and manufacturing and more. Apprenticeships is clearly an area needing more

attention. *Marcie Maxwell* noted *Suzi LeVine* will return to Washington and should be invited to share with the STEM Alliance.

Randy Spaulding presented an overview of the 2017 STEM Education Report Card draft:

- He noted that this year's Report Card was successfully reduced by *Daryl Monear* from the roughly 20 pages used in previous versions to about 4. The goal was to produce a Report Card that is simultaneously direct and easily readable with a more visual approach.
- The report focuses on highlighting key points and progress, indicators, and areas in need of improvement. In essence, it is a form of executive summary of STEM dashboard. At this point, we are looking for feedback to put together the final version to present to the Governor's office and legislators before session.
- *Jane Broom Davidson* asked to include recognition of capacity issues in higher education in the section outlining trends in degree production.
    - Randy noted that the higher cost of STEM degrees plays a part in this as well.
- *Vi Boyer* suggested we should mention the need to move from 30% to 70% in postsecondary degree credentialing, as specified in WSAC's Roadmap, and the need to highlight the role the State Need Grant plays.
- *Yolanda Watson Spiva* suggested moving the imperative to the first page.
- *Nancy Truitt Pierce* suggested the high cost of higher education needs to be addressed as well.
- *Ben Rarick* suggested including the importance of the High School and Beyond plan in the recommendations.
- *Caroline King* appreciated the document and called for emphasizing the need for providing regional incentives for employers to tackle the problem as an overarching recommendation.
- *Eleni Papadakis* thought the visuals were very good but noted the lack of one for kindergartener readiness. She also suggested that we include professional development as a category.
- *Dana Riley Black* asked why advanced manufacturing is not highlighted, since this is a sector that has serious workforce needs. Perhaps this is due to lack of data. Randy suggested a follow-up to identify the data availability.
- *Nova Gattman* would like to see more than computer science and references to other industries, especially in the policy recommendations.
- *Michael Schutzler* noted that the focus on computer science may be appropriate, since this field by far shows the largest mismatch between supply and demand. The non-CS jobs all together do not equal the CS jobs. A focus on CS provides focus for the legislature.

- *Kevin Wang* agreed, noting that computer science jobs are spread across industries and companies.
- *Alan Cohen* suggested that imagery in the section on early math would help to highlight its importance.
- *Jeff Charbonneau* would like to see photos of Washington State students with names rather than anonymous students from other places. Randy requested photos with releases.
- In the recommendations section, *Gil Mendoza* would like to broaden the language to make clear that we are including all classrooms that use computer science for learning (not just for computer courses specifically) and use "career" guidance to leverage systems and focus guidance on career development.
- *Randy Spaulding* added that we have recently received updates to some of the metrics in the draft, which will be included in the final version.
- *Gene Sharratt* requested that any additional suggestions for changes be provided to Randy.

- *Eleni Papadakis* introduced a motion to approve the Report Card. The Report Card, with further revisions to be added, was unanimously approved by the STEM Alliance members in attendance.

Gene Sharratt presented an overview of the STEM Alliance Strategic Plan:

- *Gene Sharratt* extended appreciation to *Janet Frost* and others on the committee for helping develop and improve the plan.
- *Caroline King* noted the plan will provide a Roadmap and checklist for policymakers. An inventory of current efforts in Washington and other states informed the development of the goals. The actions are not comprehensive but are targeted on the priorities to move the needle.
- There is a feedback form included to ensure all members can provide feedback to *Gene Sharratt* by Friday. *Ellen Matheny* will send two messages with directions.
- *Naria Santa Lucia* suggested the broad Strategic Action goals be included as an insert in the Report Card. Gene noted the two are intended to align.
- *Kevin Wang* asked whether rural schools should be called out with unique needs.
- *Brian Teppner* reminded the members that when the Alliance started there was agreement on including support for promoting skills in problem solving and critical thinking among the areas we should focus on. He agreed that in general the focus on computer science is justified but worries that we have lost those principles.
- *Heather Sisson* agreed and noted that the elementary perspective would be advanced as well with support for promoting problem solving and critical thinking.
- *Margaret Tudor* suggest that we also emphasize the need for environmental education.

- *Leah Hausman* noted that the need for support for early learning seems to be missing from the Action Plan.

Chadd Bennett presented an overview of new developments in the STEM Dashboard

- Several years ago work began on a dashboard to measure and evaluate STEM progress in the state. The WA STEM framework was used and the dashboard was developed. We are now working to take it to the next level using Tableau software. Several data providers are currently being used, including College Board, ERDC, ESD, OSPI, and WSAC. We are also working to develop more indicators to give a more complete picture of progress and gaps remaining. The site will include links to the Report Card and Strategic Action Plan. We are waiting for data from OSPI to update the first two AP measures, but they should be available before the launch in January. Next step for updates is to work with data providers on their preferences for contributing to the dashboard. Options include submitting precompiled statistics/narrative (method for original dashboard), having WSAC create dashboards from raw data files (current method), or having the providers create Tableau dashboards for us to integrate in.
- It is still on a development site for now but will be on stem.wa.gov soon.
- The new dashboard will provide the ability for viewers to dig deeper into specific areas of interest to them by hovering over the data. For example, viewers will be able to dive deeper into issues associated with gender and income inequities. This will add a key interactive element to the site. If anyone has feedback for usability, let Chadd know.
- Question: Are there efforts to include information on all courses, not just AP? Yes, that is in the works. Chadd said expansion of AP to include other STEM subjects already on the books for early 2017 release and other STEM courses can be discussed by the dashboard workgroup in 2017.
- *Caroline King* asked about data availability by region. Chadd said if the source data is collected at school/institution/local level, it can be rolled up, and can be assessed by the workgroup for 2017. For instance, much of the data from OSPI, ESD, IPEDS, and the WA-STEM survey can be cut different ways, but College Board is generally statewide. Randy said the regional analysis that we are currently working, which is broader than STEM, will provide a more nuanced look at economic and education needs.
- *Jeff Charbonneau* suggested that we include text that provides an interpretation of the data displayed to help viewers better understand what they are looking at. For example, we could include a headline under each one that explains both progress being made as well as the distance to our overall goals. Chadd explained that basic explanations are currently in subheaders above the charts but visibility could be improved. As the content was copied (nearly) verbatim from existing site, updating and aligning the contextual and interpretive narrative with the Report Card is pending the latter's finalization. Expanding/improving the text is a major point of the content review process, in the shared GoogleDoc and in the future. Body text can easily be modified by

AAP staff or invited editors using the in the WordPress "what-you-see is what-you-get" (WYSIWYG) interface, which has version control and review workflow. This was one major reason the text is natively in WordPress rather than embedded into Tableau (accessibility and mobile responsiveness were the other considerations)

Announcements

- WOSP application opens January 22 and will provide scholarships and mentoring for 1,850 students.
- Seattle University recently received a $2.3M National Science Foundation grant to diversify faculty and leadership in STEM disciplines.
- *Dana Riley Black* noted the Everett school district recently received Board of Distinction and Superintendent of the Year awards

Next Steps

Please send any further thoughts you might have on the STEM Education Report Card to Randy Spaulding or on the Strategic Action Plan to Gene Sharratt by Friday, December 2nd.

We will need to arrive at final drafts of these documents soon in order to have them ready for final formatting and submission to the legislature in January.

Meeting Notes summarized by staff at Washington Student Achievement Council.

Meeting Attendees:

STEM EDUCATION INNOVATION ALLIANCE - November 29, 2016

MEMBERS

First Name	Last Name	Position Title	Organization
John	Aultman	Executive Policy Advisor for Higher Education and Workforce Development	Washington State Office of the Governor
Violet	Boyer	President and CEO	Independent Colleges of Washington
Jeff	Charbonneau	2013 National Teacher of the Year	Zillah High School
Alan	Cohen	President & CEO	Thrive Washington
Maud	Daudon	Director & CEO	Seattle Metropolitan Chamber of Commerce
James	Dorsey	Executive Director	Washington Mathematics Engineering and Science Achievement (MESA)
Susan	Enfield	Superintendent	Highline School District
Jeff	Estes	Director, Office of STEM Education	Pacific Northwest National Laboratory
Janet	Frost	Director	WSU Spokane Health Science STEM Education Research Center
Caroline	King	Chief Policy Officer	Washington STEM
Glenn	Malone	Executive Director	Puyallup School District - Assessment, Accountability & Student Success
Marcie	Maxwell	Citizen Member	Former State Representative
Eleni	Papadakis	Executive Director	Workforce Training and Education Coordinating Board
Dana	Riley Black	Executive Director STEM, Legislation & Partnerships	Everett Public Schools
Naria	Santa Lucia	Executive Director	Washington State Opportunity Scholarship
Michael	Schutzler	CEO	Washington Technology Industry Association
Rachelle	Sharpe	Interim Executive Director	Washington Student Achievement Council
Gene	Sharratt	Executive Director, OSPI/AESD Professional Learning Network	Office of Superintendent of Public Instruction/Association of Educational Service Districts Network
Ron	Sisson	Director of Principal Support and Elementary Programs	Association of Washington School Principals
Brian	Teppner	Principal, McKnight Middle School	Renton School District
Nancy	Truitt Pierce	Director, School Board	Monroe Public Schools
Margaret	Tudor	Executive Director	Pacific Education Institute
Yolanda	Watson Spiva	President & CEO	College Success Foundation

ALTERNATE MEMBERS

First Name	Last Name	Position Title	Organization
Jane	Broom Davidson	Community Affairs Director	Microsoft Corporation
Amy	Hirotaka	Director, State Government Affairs	Code.org
Gil	Mendoza	Deputy Superintendent	Office of Superintendent of Public Instruction
Randy	Spaulding	Director, Academic Affairs & Policy	Washington Student Achievement Council

OTHERS

First Name	Last Name	Position Title	Organization
Chadd	Bennett	Asst. Director, Digital Information	Washington Student Achievement Council
Nova	Gattman	Legislative Director	Workforce Training and Education Coordinating Board
Leah	Hausman	Director of Fund Development	Thrive Washington
Ellen	Matheny	Assistant Director of Operations, Policy Planning & Research Division	Washington Student Achievement Council
Daryl	Monear	Associate Director for Academic Affairs and Policy	Washington Student Achievement Council
Ben	Rarick	Executive Director	Washington State Board of Education
Juliette	Schindler Kelly	Director, Government Relations and Advocacy	College Success Foundation
Heather	Sisson	Elementary Science Instructional Specialist	North Thurston Public Schools
Kevin	Wang	Founder && Ringleader	Technology Education and Literacy in Schools