



STEM Education Innovation Alliance

March 1, 2017

Meeting Location: Washington State Capitol Campus - John L. Cherberg Building, 298 15th Avenue SW, Olympia, Washington 98504

MEETING NOTES

STEM Alliance Co-Chair Gene Sharratt welcomed directors and representatives from Washington STEM Networks, coming from ten different regions across the state.

Paul Francis mentioned a recent newspaper article, an initiative by Lieutenant Governor Cyrus Habib, on raising private funds to cover fees for advanced placement tests [*The Seattle Times*, February 15, 2017, "Group aims to cover cost of test fees for students"].

The [STEM Dashboard](#) and [2017 STEM Education Report Card](#) are available online.

Youth Apprenticeships and Career Connected Learning

Learning from the Swiss about Apprenticeship

Suzi LeVine, *Former United States Ambassador to Switzerland and Liechtenstein*

Eric LeVine, *CEO, CellarTracker*

- Vision for 20 years of 100% lifelong career readiness
- Washington state and Switzerland are similar in size of population, gross domestic product, political structure - with slight differences in hydroelectric power energy mix and key industries
- Unemployment in Switzerland is 3% and is lower for youth, in part due to apprenticeships. Two-thirds of students go into apprenticeship training instead of 10th grade. Companies start apprenticeships with students after the 9th grade, and companies start recruiting while students are in the 7th grade.
 - 3-4 days in job and 1-2 days in academic setting
 - Apprenticeships are 3-4 years
 - Project-based learning with compensation
 - Students work with adults, get a paycheck, develop products and are part of the workforce
- Keys to success for the Swiss:
 - Diversity: Have 250 federally registered apprenticeships, from white to blue collar

- Permeability: Can do vocational track or more academic – permeability – lots of on- and off-ramps
- Certification for transferable “currency”
- Prestige – many CEOs started as an apprentice – not “those kids” but “all kids”
- Business must lead on this – and business benefits greatly from it
 - Collaborate to reach critical mass; contribute majority; participate in associations
 - Receive portion of investment returns; evaluate trainees and gain skilled workers
 - Investing into each apprentice works as all businesses participate
- Currently 5.8 million jobs unfilled in the US
 - Several Swiss businesses with facilities in US started apprenticeship programs in collaboration with community colleges
 - Established Swiss-US agreements and partnered with 30 companies that committed to bringing this model to US
 - Typically post-high school in partnership with the community and technical colleges
 - Some are returnees or re-trainees to update skills
 - Colorado is first state with Swiss model
 - Started with a boot camp in June, 2015 that inspired a key US business leader.
 - Key business leaders put together a delegation to go to Switzerland in January 2016 (Colorado’s Governor, CEOs, heads of public schools, labor, and philanthropists)
 - Set up nonprofit organization CareerWise Colorado via public/private partnership.
 - LinkedIn Youth Apprenticeship Marketplace - launching a pilot project with 50 companies who will offer over 175 apprenticeships
 - Starts in 11th and 12th grade
 - Goal to grow to 20,000 apprenticeships by 2027 (10% of high school juniors and seniors in Colorado)
 - Gives Colorado a competitive advantage in its workforce development opportunities; China and Brazil looking at model
- How do we mobilize in Washington state?
 - If you suspend reality and apply the Swiss investment and savings metrics to Washington, because an apprentice in Switzerland is 40% cheaper than a high school student and because Swiss companies invest 1% of GDP into apprenticeship, Washington could save an estimated \$668 million if two thirds of all high school students participated, with an investment of \$4.2 billion (1% of GDP) in apprenticeships by companies in Washington state.
 - Some benefits:
 - Washingtonians being lifelong career ready

- Washington state becomes first choice for business investment because of quality and quantity of labor workforce
 - Reduced recruitment costs to businesses because local talent is now homegrown
 - Decline in crime rates as people are skilled and employed
- Questions
 - What are fixed costs and long-term return on investment? loyalty – one example 50-80% retention after apprentices leave (civil service requirement); going into system but not necessarily in one place – salary to apprentice; mentorship; training
 - Colorado provided \$11 M as seed funding (combo – national philanthropies, local philanthropies, State & DOD).
 - In North Carolina group established “Apprenticeship 2000” – state just committed to fund community college aspect for registered apprenticeships
 - LeVine suggests not about tax credits to companies but about education credits via funding to institutions – US Department of Labor has site with examples
 - Regarding adult reengagement - can do apprenticeships through age 48 in Switzerland though emphasis is on youth apprenticeship – relevance in US for older apprentices is greater. Each state has career advising offices.
 - Biggest hurdles are credential consistency; prestige; creating full ecosystem for permeability; critical mass; need more than one business to avoid poaching
- Chris Reykdal – *Washington State Superintendent of Public Instruction*
 - Washington ends up reverting to our known systems and policy frameworks
 - Switzerland invests early – world language at early age rather than secondary system
 - Consider pathways – torn with 20 year ago and 100 year ago versions (seat time; high stakes exit exams; tracking)
 - Switzerland also develops braided pathways and a prestige
 - What are incentives for districts and how do we reward besides on-time graduation – do we have the courage to reward for technical pathways?
 - The framework needs to land on a policy platform that will work
- Washington State Department of Labor & Industries
 - Youth registered apprenticeship –
 - Piloting youth apprenticeships – Aerospace Joint Apprenticeship Council – Lincoln High School has 17 production technicians; culinary program in Spokane and expanding to Yakima community and technical education classes
- Glenn Malone – Puyallup School District
 - Q: 2/3 not going to 10th grade - \$3 M – how is Colorado thinking about funding?

- A: Cherry Creek Public Schools (Greenwood Village, Colorado) invested in mechanical training center
- Michael Schutzler – Washington Technology Industry Association
 - Learning on the job needs to consistently yield college credit; job certifications in tech needs to establish prestige
 - Need to help receiving institutions map demonstrated competencies to credentials
 - Need to help tech employers develop consistent competencies and standards for jobs
 - A successful adult apprenticeship program will drive tech employers to develop access for youth apprenticeships

National Governors Association - Policy Academy on Work-Based Learning Update

Eleni Papadakis, *Executive Director, Workforce Training and Education Coordinating Board*

- 70 organizations participating in grant to expand work-based learning experiences and some pilots
 - Historically, Washington has invested in pilots but has not been able to bring high quality programs to scale
 - Where program exist, underserved populations participate at lower rates
 - The Policy Academy’s activities over the past year or so have included:
 - Define quality work-based learning
 - Developed framework and environmental scan
 - Identified programs to serve as learning labs – 22 across the state
 - Working on cultivating and nurturing relationships with businesses as co-investors
 - Developing an e-harmony type system – deeper understanding of compatibility – WorkSource Washington (<https://worksourcewa.com/>), which is designed for unemployed or underemployed to find jobs, will be likely hub
 - Governor’s Summit on Career Connected Learning on May 31, 2017, will simultaneously connect 29 sites, including the meeting location at Microsoft in Redmond, and will reach about 900 people from across the state and across all stakeholder groups. Via WSU Extension Rural Economic Development Program – virtual dialogue with Governor Inslee on policy framework

STEM Regional Networks Update

Lee Lambert, *Regional Networks Director, Washington STEM*

- Works in computer science, career connected learning, early math and science & engineering
- Aspire to a Future Ready Washington – many partners – 10 regional STEM networks

- Partners with Washington Opportunity Scholarship and over 3,000 applications many from STEM Network regions
- Karen Borders – *Director, West Sound STEM Network (Bremerton)*
 - Want students to be globally competitive and cooperative
 - Leverage funding to scale work and provide experiences to teachers – example is Olympia STEM Pathways Partnership targeting teachers for application in classroom and leadership – 35 teachers and 18 districts – 3 year cohort – industry level technology to investigate local phenomena – K12, business, county, institutions, etc.
- Sue Kane – *Director, Apple STEM Network (Wenatchee)*
 - 3 separate cohorts of Networks – sharing learnings and best practices and foundation
 - Week-long series of events aimed at different audiences to explain needs in STEM education – example North Central Washington College & Career Expo – 9th and 11th graders – business partners meeting their future workforce
 - Legislative forum educating candidates and solicit opinions
 - Regional field trip exploring industry partners and school initiatives

Seattle Regional Partnership

Maud Daudon, *President & CEO, Metropolitan Seattle Chamber of Commerce*

- Bend our thought process to career connected learning and we will hit our 70% attainment goals
- SRP is a number of partners in Seattle
- Jobs, people leaving plus new jobs and a total of 3.9 M jobs in 2021
- Today employers are struggling to fill despite a lot of people not participating in workforce
- Boston Consulting Group – nonprofits and governmental; education & training; building connections; growing jobs – but not a system; some partnerships in place
 - Job seekers or employers are challenged
- Seek a region where residents can benefit from economic growth and employers have talent they need
- Bring employers together more effectively – they are eager
- SRP will convene employers to inform pipeline
- Bringing largest employers in certain sectors; workforce development by sector (health care) – review pain points, talent recruitment efforts and thoughts on developing an ecosystem and inform and improve career connected learning, mentoring, internships, apprenticeships and career pathway awareness
- Finish with sectors of healthcare, technology and manufacturing and maritime – then construction and trade

- On April 27, 2017 – Education Workshop – Seattle Metro Chamber will convene CEOs and human resources executives for a half-day of robust discussion about how to ensure that kids who grow up here are aware of, and ready for, the career pathways local employers offer.

Legislative Update

Maddy Thompson, *Government Affairs Director, Washington Student Achievement Council*

- March 8, 2017 is deadline for passing bills out of House of origin
- Governor’s proposal:
 - \$6 M career connected learning
 - \$6 M computer science
 - expansion of MESA in community and technical colleges
 - expansion of WSOS for professional technical students
 - State Need Grant
 - tuition freeze
- Caroline King noted Washington STEM will provide 1 to 1 match
- Paul Francis noted there are capital requests related to STEM

The Honorable State of Washington Governor Jay Inslee

- More pathways for careers - a lot of support and interest
- Setting the stage for transformative change
- Engaging the business community and leaders – prepare our students for the 740,000+ new jobs projected over the next five years
- Message is constant regardless of industry; critical thinking and teamwork always required
- STEM starts in preschool
- Basic funding package is necessary first
- AJAC beginning registered youth apprenticeship in Tacoma and Yakima – we have initiatives but can learn from Colorado
- Community and technical education dual credit programs provides seamlessness
- \$6 M required
- Small task force of Alliance members and others to advise Career Connect Washington - will advise Governor on career and connected learning – big task but huge opportunity to develop a new model
- When looking at Switzerland and Colorado – we need to develop a Washington plan that builds on our initiatives and culture

John Aultman – Office of Governor Inslee

- Placed a youth apprenticeship at the Department of Labor & Industries with the Washington State Apprenticeship and Training Council

- Expanded learning labs
- Announcements at Governor's Summit on Career Connected Learning should be good for regional components
- WSU Pathways to Prosperity hosting 27 regional sites in conjunction with Governor's Summit on Career Connected Learning
- Let John know if you are interested in taskforce
- Here is a link to Washington's new Youth Apprentice Signing Day video:
<https://youtu.be/AqmLBE7apsI>

NEXT MEETING

Wednesday, May 31, 2017

1:10 to 2:10 PM

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

Meeting held in concert with Governor's Summit on Career Connected Learning

MEETING ATTENDEES

STEM EDUCATION INNOVATION ALLIANCE - March 1, 2017 Meeting Attendees		
STEM ALLIANCE MEMBERS		
First Name	Last Name	Organization
John	Aultman	Washington State Office of the Governor
Marty	Brown	State Board for Community and Technical Colleges
Maud	Daudon	Seattle Metropolitan Chamber of Commerce
James	Dorsey	Washington Mathematics Engineering and Science Achievement (MESA)
Paul	Francis	Council of Presidents
Janet	Frost	WSU Spokane Health Science STEM Education Research Center
Evangelina	Galvan Shreeve	Pacific Northwest National Laboratory
Caroline	King	Washington STEM
Kathryn	Kurtz	Pacific Education Institute
Glenn	Malone	Puyallup School District - Assessment, Accountability & Student Success
Mike	Meotti	Washington Student Achievement Council
Rai Nauman	Mumtaz	Student Representative
Eleni	Papadakis	Workforce Training and Education Coordinating Board
Ben	Rarick	Washington State Board of Education
Chris	Reykdal	Office of Superintendent of Public Instruction
Dana	Riley Black	Everett Public Schools
Joel	Sacks	Washington State Labor & Industries
Naria	Santa Lucia	Washington State Opportunity Scholarship
Michael	Schutzler	Washington Technology Industry Association
Gene	Sharratt	Office of Superintendent of Public Instruction/Association of Educational Service Districts Network
Brian	Teppner	Renton School District
Nancy	Truitt Pierce	Monroe Public Schools
Kevin	Wang	Technology Education and Literacy in Schools (TEALS) / Microsoft Philanthropies
Yale	Wong	General Biodiesel
STEM ALLIANCE MEMBER ALTERNATES		
First Name	Last Name	Organization
Jane	Broom Davidson	Microsoft Corporation
Nova	Gattman	Workforce Training and Education Coordinating Board
Nimisha	Ghosh Roy	Code.org
Michaela	Miller	Office of Superintendent of Public Instruction
Tim	Probst	Washington State Employment Security Department
Juliet	Schindler Kelly	College Success Foundation
Randy	Spaulding	Washington Student Achievement Council

OTHERS		
First Name	Last Name	Organization
Jamie	Allwine	Capital Region STEM Network
Cindy	Arnold	Southwest STEM Network
Kandace	Barnes	Snohomish STEM Network
Melissa	Beard	Washington State Office of Financial Management
Alisha	Benson	Spokane STEM Network
Vicki	Bogenberger	Mid-Columbia STEM Network
Breann	Boggs	Washington State Office of Financial Management
Kareen	Borders	West Sound STEM Network
Deb	Bowen	Mid-Columbia STEM Network
Mark	Cheney	South Central STEM Network
Christina	Chesnut	Capital Region STEM Network
Kat	Cirar	Tacoma STEM Network
Dennis	Conger	Apple STEM Network
Matt	Cronin	Washington STEM
Pat	Cusack	Capital Region STEM Network
Patrick	D'Amelio	Washington STEM
Angela	Dorsey	West Sound STEM Network
Doug	Dowell	West Sound STEM Network
Jack	Eaton	Apple STEM Network
Ryan	Eddy	Pacific Northwest National Laboratory
Amanda	Fankhauser	Washington STEM
Ted	Feller	Southwest STEM Network
Tom	Fitzsimmons	Independent Colleges of Washington
Krista	Galloway	Snohomish STEM Network
Dru	Garson	Capital Region STEM Network
Jesse	Gilliam	Washington STEM
Kristi	Grassman	Aerospace Joint Apprenticeship Committee
Doreen	Harden-Cato	Capital Region STEM Network
Renee	Hartman	Apple STEM Network
Lisa	Heaman	West Sound STEM Network
Vickei	Hrdina	Southwest STEM Network
Derek	Jaques	Southwest STEM Network
Alex	Johnston	Washington STEM
Michelle	Judson	Skagit STEM Network
Sue	Kane	Apple STEM Network
Lee	Lambert	Washington STEM
Eric	LeVine	CellarTracker
Suzi	LeVine	Former Ambassador to Switzerland and Liechtenstein
Meg	Lindsay	Spokane STEM Network
Ellen	Matheny	Washington Student Achievement Council
Luke	Matlack	South Central STEM Network
Daryl	Monear	Washington Student Achievement Council
Tana	Peterman	Washington STEM
Ric	Pilgrim	South Central STEM Network
Wes	Pruitt	Capital Region STEM Network
Kyle	Roffler	Tacoma STEM Network
Jenny	Rojanasthien	Apple STEM Network
Mike	Schweigert	Skagit STEM Network
Rachelle	Sharpe	Washington Student Achievement Council
Andy	Shouse	Washington STEM
Elizabeth	Smith	Washington State Labor & Industries
Nick	Streuli	Washington State Employment Security Department
Lynn	Strickland	Aerospace Joint Apprenticeship Committee
Maddy	Thompson	Washington Student Achievement Council
Margaret	Tudor	Pacific Education Institute
Gilda	Wheeler	Washington STEM