



Meeting Summary

Governor Jay Inslee's STEM Education Innovation Alliance

March 6, 2015

9:00 AM to 12:30 PM

Governor's Conference Room

Legislative Building, Olympia, Washington

PARTICIPANTS

Governor Jay Inslee was in attendance and addressed the members.

Legislators who attended to discuss STEM priorities with the Alliance:

Representative Drew Hanson (D), Chair of the House Higher Education Committee.

Representative Chad Magendanz (R), Ranking Minority Member on the House Education Committee and member of the Higher Education and Technology & Economic Development committees.

Senator Christine Rolfes (D), Senate minority floor leader and member of the Early Learning and K12 Education, Rules, and Ways and Means committees.

Alliance Members: Brian Bonlender (Washington State Department of Commerce); Violet Boyer (Independent Colleges of Washington); Maud Daudon (Seattle Metropolitan Chamber of Commerce); Susan Enfield (Highline School District); Caroline King (Washington STEM); Ed Lazowska (University of Washington Computer Science & Engineering); Marcie Maxwell (Governor Inslee's Legislative Affairs & Policy Office); Gil Mendoza (Office of Superintendent of Public Instruction); Gene Sharratt (Washington Student Achievement Council); Brian Teppner (Bellevue School District); Nancy Truitt Pierce (Monroe Public Schools); Sam Whiting (Thrive By Five Washington); Yale Wong (General Biodiesel).

Alliance Alternates: Jane Broom Davidson (Microsoft Corporation); Jeff Estes (Pacific Northwest National Laboratory).

Substitute: Marty Fortin (Association of Washington Principals) for Margaret Tutor (Pacific Education Institute)

NGA-STEM Project Operations and Management Team: Melissa Beard (Washington State Office of Financial Management); Mary Kay Dugan (Battelle); Ellen Matheny (Washington Student Achievement Council); Daryl Monear (Washington Student Achievement Council); Randy Spaulding (Washington Student Achievement Council); Jim Schmidt (Washington State Office of Financial Management).

WSAC Staff: Amy Buck, Tivoli Farler

Others: Juliette Schindler Kelly (College Success Foundation)

Summary of Discussion

The meeting began with introductions, a summary of past work, and a brief overview of relevant legislative activity in the early part of the session. Since the last meeting in December Governor Inslee introduced his budget. The Governor has been working with the legislature on outreach to advocate for STEM education. Budget highlights were briefly discussed.

Washington Voter Survey on STEM Education

The survey polled voters on their attitudes and basic understanding of STEM education. The data indicated strong support across the state. Among respondents, 94% agreed that every child should have access to a high-quality STEM education in Washington's K-12 public schools, and 92% agreed the next generation of Washingtonians will have more opportunities if they have strong STEM skills. Eighty-six percent agree STEM education is needed in K-12 basic education to ensure students are given the knowledge and skills they need to succeed in the 21st century and support increasing the numbers of college students graduating with a degree in a STEM field.

This data should help make our case in the legislature. Voters are supportive and feel this will contribute to growth. The data was consistent across Eastern and Western parts of the state. These survey results could help inform and drive decision-making on STEM-related legislation.

The Governor's Budget

The Governor's budget is broader but includes many STEM Initiatives. He is still advocating for the original budget. However, it is still early in the process and there could be some changes to come. There is opportunity for progress and the legislature wants to hear new ideas. We only have one biennium to get McCleary levels through, so a main focus will need to be on the mandated changes. In addition, provisions for guidance counseling in Math and Science, teacher mentoring and principal leadership are included.

Several Alliance members agreed that the marginal cost to prepare teachers in computer science is low when compared to meeting teacher salaries and other larger items driving the budget. Others emphasized the need for full-day kindergarten vs. partial day kindergarten, to better prepare our children for later schooling.

Governor Inslee's Conversation with the STEM Alliance

The Governor touched on a number of exciting developments related to STEM that are ongoing in various regions of the state. Recently, he visited SPIE (International Society for Optics and Photonics) in Bellingham and was very impressed with the cutting edge research going on there. He mentioned recent developments in the cutting-edge field of quantum computers. People are interested and both Microsoft and Google are working on this concept.

Government investments in research have been decreasing in recent years so private companies are now increasing their investments in technology research and development.

We need to help teachers prepare students for early learning, transition to postsecondary education, and integration into the workforce. He mentioned the Tesla STEM High School in Redmond and talked about an 18 year old student who recently applied for intellectual property protection for an innovative multiple- motor project that could potentially revolutionize the automobile industry.

He is very impressed with new methods of teaching that engage students to solve problems in teams. We need to do more to promote recognition for teaching excellence in this area and support its wider use. He said we need to help teachers to prepare students for early learning and integration into the workforce.

Legislatively, we are in a good place with bipartisan support for STEM bills. The big challenge is funding. Both parties are working on it. Computer Science is becoming a basic education standard but we don't see the revenue that will pay for it. He sees people who want to do a lot or things for education but no one is suggesting ways to pay for it. If we are going to succeed in this we need to have more voices speaking up in support.

The Governor asked for comments on recent developments that could help us improve STEM education in Washington:

- We need to keep identified "prodigies" in WA, once they are identified in early education, to encourage them to develop business and create jobs for our state.
- There has been recent work on measurement scales (Renzulli Scales) that can help evaluate where young children are at in regards to gifted programs with assessing or harming the children's ego.
- We need a resource base to pay for STEM. We do not have enough resources for basic education much less revenue to add to STEM. We must encourage everyone to come to the table. Its hard work but we must remember that there is progress being made.

Discussion with Legislators

STEM Alliance members decided to emphasize the following issues in their discussion with legislators:

1. The priorities should be on McCleary, higher education, and early learning.
2. Access, Capacity, Affordability, and Quality:
 - Full-day Kindergarten
 - College Bound Scholarship
 - Sufficient support for postsecondary education to stabilize tuition levels
3. A focus on:
 - Broad-based support for postsecondary STEM education
 - Increased funding
 - Critical needs in key areas showing gaps between trends in degree production and employer demand, including computer science

Senator Christine Rolfes (D), Senate minority floor leader and member of the Early Learning and K12 Education, Rules, and Ways and Means committees

Senator Rolfes' Perspective:

- She is interested in several broad areas related to STEM and Washington's tech-based economy:
 - Aerospace
 - Green industries
 - Biotech
 - Marine trades
- The concepts of STEM need to be emphasized in elementary school curricula.
- Women are under-represented. We need to encourage girls to be interested in STEM careers.
- We need to think long term and focus on broad definition of STEM with priorities on current industry/student demand.
- The higher education sector needs to understand changing trends in student demand. Computer science and K-8 STEM – we need to look ahead 20 years and compile and track results. Plan for higher demand in computer science in the next 5-10 years.
- Support for early education is also important for preparing students for rigorous school work and encouraging creative thinkers.

Representative Drew Hanson (D), Chair of the House Higher Education Committee

Representative Hanson's Perspective:

- The STEM education issue, of course, is broader, but the #1 priority in higher education should be in the area of computer science. In this regard, we need to narrow and not broaden the scope of our work.

- We need more revenue. There is “no new money.” We need to narrow and not broaden the scope of our work. We do not want to get sanctioned by the Supreme Court – this is the reality.
- We need to think beyond McCleary. He would like Washington to be the nation’s leader in higher education investment in computer science. This should be a bipartisan effort.
- How can the Alliance help the House Budget proposal? Focus on key elements. Reach out to elected officials to ask for specific investments.

Representative Chad Magendanz (R), Ranking Minority Member on the House Education Committee and member of the Higher Education and Technology & Economic Development committees

- He went into politics because he saw a gap between what kids were being taught and what they needed to know.
- It is important to not go head to head with McCleary. We need to align our focus with McCleary and think of long term goals.
- We need a strategically-balanced budget this year that will cover key higher education financial needs.
- To accomplish that we will need to find a new revenue source or cut the budget in a different way than we have in past years. That is where the legislators need help – with new ideas.

General Discussion: Governor's STEM Alliance

Survey Results

Alliance members' views of Governor Inslee's 2015-17 education budget:

- Alliance members awarded postsecondary issues their highest priority rankings, followed by K-12 and then early learning.
- A majority of respondents prioritized two proposals:
 - Expanding advance computer science and engineering programs at the research universities
 - Providing more instructional training for K-8 math and science teachers; developing K-12 environmental science curricula, and increasing the number of teachers endorsed in secondary-level computer science.
- A majority stressed that the Alliance should focus on communicating the need for STEM education and plan a strong advocacy role during the legislative session.

This is the starting point of the discussion. What is being left out? What do you want to see more of?

- Educator professional development
- Increased computer science capacity and capital funds to make it happen

- A focus on higher education affordability
- More funding for State Need Grant
- STEM is not a stand-alone issue in postsecondary education. We need to do a better job of communicating the link between preK-12 and postsecondary learning?

Formation of Workgroups

- Workgroup meetings will be aligned with STEM Alliance meetings.
- Workgroups will communicate regularly with the broader Alliance membership on their findings and progress.
- The full STEM Alliance membership will have ample opportunities for input and final approval authority over Workgroup recommendations.

Metrics Workgroup

This group will work on refining the measures outlined in the Framework for Action and Accountability measures to arrive at a set of specific indicators for gauging progress going forward. For example, this will require agreeing on criteria to operationalize the definition of STEM fields that will guide decisions about which specific degree majors are to be counted as STEM or STEM-related. This refinement of the measures to be used will be necessary before incorporating them into the Data Dashboard.

Members indicating interest in participating:

- Vi Boyer (may nominate a staff person as well)
- Ed Lazowska
- Nancy Truitt Pierce
- Yolanda Watson Spiva (may recommend staff person as well)
- Brian Teppner

Industry-Education Partnerships Workgroup

This group will define criteria for effective industry-education partnerships and develop strategies for sustaining partnerships over time.

Members indicating interest in participating:

- Vi Boyer
- Marcie Maxwell

Additional nominations

- *Jacob Blickenhoff, LASER*
- *Robin Callahan, Issaquah Schools Foundation*
- *Lisa Wellman, WA Business Alliance*
- *Dave Gering, Manufacturing Industry Council*
- *Maura Little, Dept. of Commerce, Bio-Sciences Sector*
- Yolanda Watson Spiva (may recommend staff person as well)
- Brian Teppner

Communication

Communication to the Governor's Office will be the responsibility of WSAC. Information will be sent out frequently to allow for effective communication.

Issues and Questions for Further Discussion

- Is meeting quarterly enough? There is a lot of material to do and move forward.
- Workgroups are still open if you decide you would like to participate.
- Advocacy for STEM is a key issue. We are deeply committed to making progress, but we need to ensure that the group does not lose momentum.
- Legislators are busy so we need to help them to understand how STEM, early learning, K12 and post-secondary are all linked. We need to keep it simple, quick and help them to understand what they can do this session.
- Our mission needs to be results oriented. We should be ambitious with our goals. They should be not just to improve STEM education but to make the Washington the best state for STEM education in the nation.
- Is there more work to be done in defining the problem in STEM alignment? Without sufficiently defining the problem it makes it hard to define the appropriate tactics. We need to figure this out before moving forward.
- Can we nudge other systems to assist with the effort? Are we investing the right amount of dollars to grow kids in STEM? There has to be some recognition that things may not get funded. Where can we add the most value?
- STEM is not a stand-alone issue in postsecondary education. How can we link preK-12 and postsecondary learning? For example, how do we best show that early learning is a STEM issue and how science fits into full-day kindergarten?
- Basic Education, if done right, should involve STEM at the core. What do we need to be doing that is not happening currently?
- We need to focus on maintaining higher education affordability through all available avenues: e.g., scholarship opportunities, State Need Grant, College Bound Scholarships, Work Study programs, and College in the High School. What other kinds of investments could support this effort?
- Capacity, Access, Cost, and Quality all need to be considered as integral aspects of the issue.
- We should keep sight of the fact that at the end of the day STEM education should result in a job. We need to show how business, the economy and higher education all relate to one another?

NEXT MEETING: Industry Sector Visit at Institute for Systems Biology

All STEM Alliance members are encouraged to attend.

May 6, 2015 (11:30 AM – 4:00 PM)

Institute for Systems Biology

401 Terry Avenue North
Seattle, WA 98109-5263

This will be an opportunity for STEM Alliance members to tour the Institute for Systems Biology (ISB) facilities. ISB is a leading nonprofit biomedical center focusing on advanced scientific research at the intersection of biology and technology. Alliance members will have an opportunity to meet Dr. Leroy Hood and learn about ISB's educational outreach efforts.