



Washington Informal Science Education Consortium

*Providing learning experiences that
inspire and advance STEM knowledge and skills*

WISE Consortium Strategic Plan: 2014-2019

Draft

March 2014

Washington Informal Science Education Consortium



Burke Museum of Natural History and Culture

<http://www.burkemuseum.org/info/about>

The Burke Museum is responsible for Washington State collections of natural and cultural heritage and sharing the knowledge that makes them meaningful. The Burke welcomes a broad and diverse audience and provides a community gathering place that nurtures life-long learning and encourages respect, responsibility and reflection.



IslandWood

<http://islandwood.org/about>

IslandWood creates transformative environmental science learning experiences for students of all ages at our Bainbridge Island Campus, through our Homewaters programs in Seattle and at the Brightwater Center near Woodinville.



The Museum of Flight

<http://www.museumofflight.org/about-us>

The Museum of Flight exists to acquire, preserve, and exhibit historically significant air and space artifacts, which provide a foundation for scholarly research and lifelong learning programs that inspire an interest in and understanding of science, technology, and the humanities.



Pacific Science Center

<http://pacificsciencecenter.org/>

Pacific Science Center inspires a lifelong interest in science, math and technology by engaging diverse communities through interactive and innovative exhibits and programs.



Seattle Aquarium

<http://www.seattleaquarium.org/>

The Seattle Aquarium is the region's premier resource for hands-on marine experiences and conservation education. The Aquarium offers fun, exciting ways to discover more about the amazing Puget Sound and our world's one big ocean.



Woodland Park Zoo

<http://www.zoo.org/>

Woodland Park Zoo saves animals and their habitats through conservation leadership and engaging experiences, inspiring people to learn, care and act.



Dear WISE Consortium:

In 2014, when we were in elementary school, we were introduced to the theme of “sustainability.” Honestly, we didn’t even know what the word meant. But, after researching it, going on field trips every year, and talking to real experts, we presented what we discovered to our parents and members of the community. Then we generated questions to apply what we learned to action or research projects aimed at improving our community.

As we moved to the next grade, it became clear that the experiences we were getting in this program were different. Our entire school was focused on sustainability for the long-term. In our classes, we worked as teams. Each year we dug a little deeper into the subject and built upon what we learned from the last year. We also spent time recommending how we could improve our work.

The most inspiring parts of the program were the experiences we had associated with the zoo, the aquarium, the natural history museum, the flight museum, the science center and a nature school on Bainbridge Island. These opportunities to meet experts and learn about interesting resources, as well as participate in real-world science, opened doors of possibility. Many of us started to spend time after school or on weekends exploring some of these ideas in new ways. We joined clubs or spent our spare time thinking about things we could make or do.

Now, we’re finally in high school, and we know so much more than just what the word “sustainability” means. We also know how to apply what we have learned and how to make the world a better place. We are conducting authentic research projects. We have learned to think more critically and to examine issues from multiple perspectives. We believe we are better at solving problems and evaluating our own work. We have a much better understanding of what STEM really means - an acronym that stands for science, technology, engineering and math. Many of us feel we are prepared to use STEM in our lives and to find ways to improve our communities. Some of us have even been inspired to become WISE scholars and pursue a career in one of these fields.

Thank you for making a difference in our lives. We believe that the world is an open field for exploration. And we are equipped for the journey.

Sincerely,
The 9th Graders of Warner High School - 2019

A 2019 letter from freshmen high school students reflecting on their participation in the WISE Consortium program for five years.

Providing STEM learning experiences that inspire and advance knowledge and skills



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Executive Summary

Program Highlights

The WISE Consortium Strategic Plan for 2014-2019 represents the collective efforts of our six leading informal science education institutions to develop an ambitious vision, core values, measurable goals, and strategies, which are critical for transforming science, technology, engineering, and mathematics (STEM) learning for our youth, especially those who are underserved. By leveraging our expertise and resources, our STEM education programs represent new models of STEM learning that are bold and innovative. Our programs integrate formal and informal learning experiences during and after school. The formal learning STEM programs are enhanced by experiences and resources from our institutions and partners that will motivate learning and advance students' knowledge and skills. The strategic after-school components will enhance learning that takes place during school while inspiring and catalyzing creativity in open learning environments after school hours.

As a result of implementing our strategic plan, the majority of pre-K-12 students in Washington State, especially those representing underserved communities, will have access to comprehensive, coherent, and integrated programs of inquiry-based STEM learning experiences that take place both in and out of schools. We predict these effective and integrated experiences for our youth will positively impact their attitudes, academic performance, STEM literacy, and their pursuit of STEM technical and professional careers. Long-term we believe these programs will result in our students being able to contribute to our economy and the quality of life in their communities.

Operating Highlights

Our goals and strategies for establishing, effectively managing, and sustaining the administration and management of the WISE Consortium have been defined. Over the next five years we plan to establish the Consortium as a leader in transforming STEM education for Washington State with stable and sustainable operations.

Financial Highlights

We have established ambitious goals and plans for obtaining a diverse portfolio of \$750,000 of annual financial resources needed to sustain the WISE Consortium's administration and management, and to support the long-term implementation of our STEM education programs for our underserved youth throughout Washington State. As a new partnership, we are making progress in accomplishing our financial goals and are seeking support from new investors.

Washington State's Need for Transforming STEM Education

The quality of life for all youth and citizens in Washington State is directly related to the quality of education, especially science, technology, engineering, and mathematics (STEM). During the 20th century, our education system and our scientific enterprise played a critical role in advancing our state's impressive economic growth and prosperity. For the next decade, it is imperative that we continue to compete globally, sustain a healthy and biodiverse environment, and maintain our democracy.



Today Washington State has a critical need for citizens who are scientifically and technologically literate who can contribute to our economy and improve the quality of life and the communities in which they live. We also have a demand for STEM talent that has stayed constant even through the recent economic downturn. While we have many excellent schools in our state, overall, our pre-K-12 education system is faced with significant challenges for improving programs to achieve these crucial needs. Dramatic and growing economic inequalities, shifting demographics, and the length of time it takes to develop talent, coupled with fierce competition from other states and countries, are among the systemic factors that need to be addressed to inspire and develop informed citizens and fuel a talent pipeline. These conditions have created a significant mismatch between our state's increasing demand for STEM-related employment opportunities and our supply of qualified STEM-literate individuals who can step into any career, including STEM technical and professional jobs. By 2017, local companies are predicted to experience 50,000 vacancies due to a lack of local qualified STEM candidates. If this happens, we will not only lose \$800M of tax revenue annually but also the opportunity for STEM employees who represent underserved communities to break the vicious cycle of poverty and all that comes with these circumstances. Sentence needs rework.

This situation presents us with an important choice: We can develop local talent or we can continue to import talent from outside our state borders. By creating a robust and sustainable pipeline of STEM knowledge and expertise, we can create STEM-literate citizens, increase innovation, break the cycle of poverty for underserved students and their families, and provide them with the opportunity to participate in our economy. Combined, these can improve the overall quality of life in Washington State today as well as for future generations.

In the past, we depended upon a small fraction of our student population to be STEM-literate and excel in STEM which was sufficient in meeting our needs. Our success in accomplishing our needs today will be measured by the ways STEM learning experiences not only advance knowledge and skills but also inspire and foster creativity for all pre-K-12 youth.

Washington State's Need for Transforming STEM Education

Strategies for Advancing STEM Learning

In order to address the challenges of the new STEM (science, technology, engineering, and mathematics) education landscape, we need a sustained investment of time and resources to develop a new model of learning – one that integrates effective STEM informal learning experiences with formal learning programs.

Critical to achieving this vision will be coherent programs designed to:

1. Motivate and inspire our youth to value and appreciate learning and the importance of STEM to the quality of their lives and their communities.
2. Develop individuals who can make informed and rational decisions about their health, careers, the environment, finances, and government.
3. Advance our understanding of ourselves, our planet, and the universe.
4. Contribute to the development of a 21st century workforce at all levels that can compete in a highly competitive global marketplace.
5. Increase the pool of innovators, especially those who are underrepresented, who will create the new ideas, new products, and entirely new industries of the 21st century.
6. Advance the scientific literacy of the public.

Source: The President's Council of Advisors on Science and Technology Executive Report, 2009



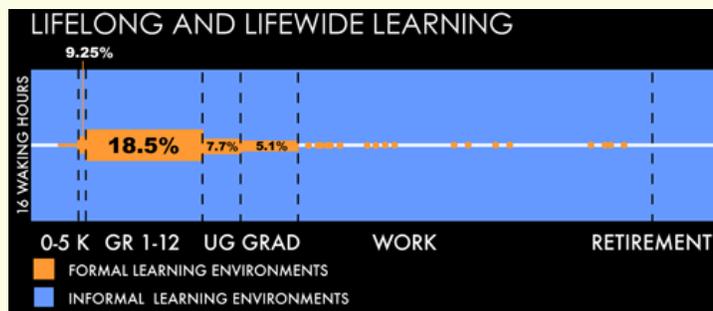
Important Role of Informal Learning in Improving STEM Education

Informal Science Learning Research

Our efforts to improve STEM education frequently focus on the importance of the disciplinary content and how people come to understand the concepts, principles, and established facts. We have evidence from research studies in the science of learning field on cognition and development that sophisticated learning only results from concerted effort and sustained practice that primarily takes place in formal learning environments. However, a recent synthesis of the research by the National Research Council (NRC) clearly indicates that informal learning environments represent an important component of our society's educational infrastructure for STEM education. The NRC report of this research, *Learning Science in Informal Environments - People, Places, and Pursuits*, provides an impressive review of the impact of informal learning and highlights the importance of the complementary role of schooling and informal learning environments in STEM learning. We need to recognize and understand how such learning and expertise gets supported and cultivated across settings and pursuits in a person's life. Also of critical importance is an understanding of the cumulative effects of STEM learning as it occurs across formal and informal learning environments which have been identified by federal agencies as a high-priority for future research.

Time We Spend in Formal and Informal Learning

The Learning in Informal and Formal Environments (LIFE) Center at the University of Washington developed a representation (Figure 1 below) to provide a visualization of the amount of time people have for learning in formal and informal learning environments. The diagram depicts the division of time that individuals spend between formal and informal learning environments over their life span – what is referred to as life-long learning. At many developmental ages most of our learning occurs in informal settings. Most young children from birth to 5 years of age learn primarily in informal settings; and as adults, we learn in informal workplace environments. School-aged children spend about 19% of their time in formal settings such as school, and the remaining 81% time in informal settings. Much of human learning is done in informal learning environments—in the "sea of blue."



Learning in Informal Environments

Virtually all people of all ages and backgrounds engage in informal STEM learning in the course of daily life. Informal environments can stimulate STEM interest, build learners' knowledge and skills, and—perhaps most importantly—help them learn to be more comfortable and confident in their relationship with STEM. Most notably among informal learning environments are designed spaces that include science and technology centers, zoos, aquariums, botanical gardens, environmental centers, and museums. These places are rich with real-world phenomena and objects, and provide unique learning experiences as well as access to STEM expertise. These are places where people can pursue and develop interests, engage in inquiry, and reflect on their experiences through sense-making conversations.

Important Role of Informal Learning in Improving STEM Education

Educational programs organized in informal settings that are focused on STEM learning take place in schools and community-based and science-rich organizations and include sustained, self-organized activities of enthusiasts. Such programs are growing in number, with the support of significant federal and local funding, and there is mounting evidence that structured, non-school science programs can feed or stimulate the STEM-specific interests of youth and adults, are positively influencing academic achievement for students, and can expand participants' sense of future STEM career options.

Informal Learning and Underserved Youth

Studies suggest that informal environments for science learning may be particularly effective for youth from historically non-dominant groups with limited social and political status in society who are often marginalized in educational experiences. For example, evaluations of museum-based and after-school programs suggest that these experiences can support academic gains for children and youth from historically non-dominant groups. These successes often draw on local issues and the prior interests of participants—for instance, by integrating science learning and service to the community. Similarly, case studies of community science programs targeting participation of youth from historically non-dominant groups—such as children in Native American or recent immigrant communities—document participants' sustained, sophisticated engagement with science and sustained influence on school science course selection and career choices. In these programs, children and youth play an active role in shaping the subject and process of inquiry, which may include local health or environmental issues about which they subsequently educate the community. Equally interesting in these contexts is the cross-generational learning—the ways in which informal learning opportunities help connect children, parents, grandparents, and other community elders.

Many designers in informal science learning are making efforts to address inequity and wish to partner with members of diverse communities. Effective strategies for organizing partnerships include identifying shared goals; designing experiences around issues of local relevance; taking the everyday patterns of participation of learners into account; and designing experiences that satisfy the values and norms and reflect the practices of all partners. These efforts merit replication and further study, including analysis of how science-rich institutions can collaborate with and serve community-based organizations and how these programs support and sustain participants' engagement.

STEM Learning Across Formal and Informal Environments

Although it is important to understand the impact of informal environments, a more important question may be how STEM learning occurs across the range of formal and informal environments. The science learning literatures and fields are segmented (e.g., into school learning, informal education) in ways that are at odds with how people routinely traverse and engage in learning activities across settings. Thus, research should attempt to explore learners' longer-term, cross-cutting (or “life-wide”) learning experiences. Further work should increase understanding of the connections or barriers in learning between more formal and more informal science learning environments.

U.S. Governors and Washington State STEM

The National Governors Association (NGA) and Washington State, along with many other organizations, have recognized the important role informal institutions and informal learning can play in advancing STEM education. The NGA issued a brief about *The Role of Informal Science in the State Education Agenda*. They recommended that states: (1) explicitly include informal science education as a key part of an action agenda to improve STEM literacy and proficiency among the state's youth; (2) continue to support quality informal science programs such as those offered by museums and science centers; and (3) encourage districts to support more project-based STEM learning in afterschool environments. Washington STEM also completed the WA STEM Framework that included in and out of school programs as a high-impact strategy along with policies to incentivize informal learning.

1. Source: Philip Bell, Professor, Life Center, University of Washington Testimony for Beyond The Classroom: Informal STEM Education, Hearing before The Subcommittee on Research and Science Education, Committee on Science and Technology, House of Representatives, One Hundred Eleventh Congress, February 26, 2009.
2. National Governors Association: <http://www.nga.org/files/live/sites/NGA/files/pdf/1203INFORMALSCIENCEBRIEF.PDF>

Washington State Landscape Analysis: Challenges and Opportunities

Context

Washington State

Washington State has a population of 6.9 million people (2012 estimate). A language other than English is spoken at home 18% of the time with 13% of this population living below the poverty level.

Washington State has 2,354 elementary and secondary schools organized into 295 local districts and nine intermediate districts, serving nearly 1.1 million students and 54,000 teachers. The pupil/teacher ratio is 19 for K-12 schools. At the postsecondary level, there are 85 institutions (total Title IV degree-granting). Transforming education in the state, especially STEM education has become a priority. On January 5, 2012, the State Supreme Court ruled in *McCleary v. Washington* that Washington State is not amply funding basic education under the State Constitution. The State must amply provide for the education of all Washington children as the State's first and highest priority before any other State programs or operations. Education means "the basic knowledge and skills needed to compete in today's economy and meaningfully participate in this state's democracy."

STEM Literacy and Washington State's Workforce

Many of tomorrow's most interesting and well-paying jobs are likely—if not more likely—to require STEM literacy. Workers who are STEM literate and who also have STEM degrees command higher wages, earning 26% more than their non-STEM counterparts. In general, STEM-degree holders enjoy these higher earnings, regardless of whether they work in a STEM-based field.

Information technology, renewable energy, and global health are three of the top drivers of Washington State's economy. Nationwide, Washington State ranks number one in the concentration of STEM jobs. The four-county Puget Sound region is home to a mix of mature and emerging industry clusters which are explicitly STEM-based, including aerospace and advanced manufacturing, clean technology and emerging technology, information technology, and life sciences and global health.

STEM occupations are amongst the fastest-growing, best-paid in King County. In 2011, seven STEM-related industry clusters employed over 350,000 residents in over 11,000 establishments. According to the Prosperity Partnership, in the next decade business/financial sales, health care, and computer sciences are expected to add between 18,000 and 23,000 jobs each in the Puget Sound region. By 2018, we will see a 24% increase in STEM jobs, seven points above the national average. Currently there are 23,000 unfilled STEM jobs in Washington State as a result of the job skills gap. The gap is projected to continue to grow to 45,000 jobs in three years – 2017 (Source: Washington STEM, 2014).

Washington State Landscape Analysis: Challenges and Opportunities

Challenges

Students. They lack access to a comprehensive, coherent, and integrated program of inquiry-based science, technology, engineering and mathematics (STEM) learning experiences both in and out of schools. They also lack exposure to STEM role models. For many, this is reflected in negative attitudes, poor academic performance, and a lack of STEM literacy. Without this foundation, it is challenging to achieve their professional and personal dreams.

Families. Families, especially those in underserved communities, are challenged by work schedules, finances, English language proficiency, transportation, competing priorities, lack of time, and lack of basic exposure to STEM-related experiences and professional learning opportunities.

Teachers. They are overtaxed with the demands of large class sizes, meeting standards and assessments, and capacity issues. Most have not received professional development in project-based learning and are more familiar with traditional pedagogical approaches. There is also high turnover in underserved communities.

Teachers and Administrators. These education leaders have to navigate a fragmented, frequently changing educational system. They contend with shrinking budgets, changing program priorities, and lack funding for transportation for field trips.

STEM Non-Profit Organizations. They represent a crowded field of dedicated organizations working to solve the challenges related to transforming STEM learning for our youth. However, collectively their approach is fragmented.

STEM Experts and the Business Sector. They want to participate and contribute. However, there is no formal system for their involvement.

Opportunities

New STEM Learning Model and Standards Implementation. We can demonstrate how six leading informal science education institutions with a shared vision and collective resources can work together strategically with schools and other partners to transform STEM education programs. In doing so, we can create a new STEM learning model that (1) aligns with the Next Generations Science Standards and the Common Core Standards; (2) improves teacher quality; and (3) inspires and advances STEM learning for underserved youth through access to real-world experiences and experts.

Partnerships. We can use best practices to strategically focus and coordinate STEM resources to achieve our goals by collaborating with organizations such as KCTS9, Washington STEM, MESA, the Washington State Academy of Sciences as well as other organizations working to advance STEM learning.

Momentum. The time to address STEM education reform is excellent. Leaders in education, government and business sectors collectively have reached consensus that pre-K-12 STEM education reform is a priority. Today we have new federal and state policies and standards, the WA STEM Framework for Action and Accountability has been developed and validated, and the number of organizations interested in working together to address our critical STEM issues is growing.



Washington Informal Science Education Consortium

The WISE Consortium A Bold Strategy

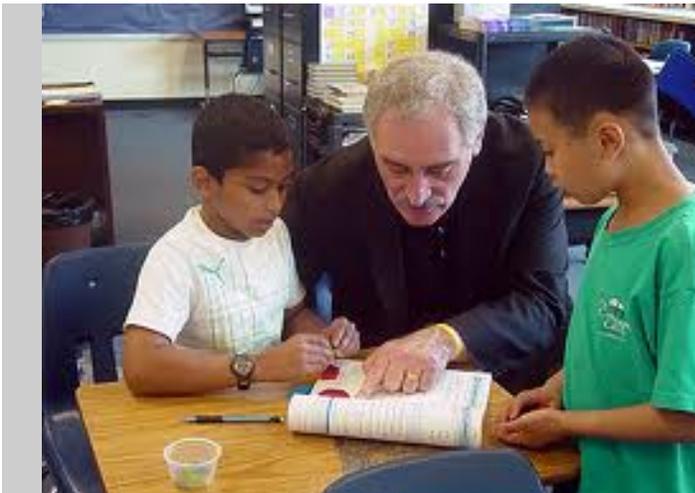
To help achieve this vision, we took a bold step. We forged a new partnership: the Washington Informal Science Education (WISE) Consortium, which is comprised of the Burke Museum of Natural History and Culture at the University of Washington, IslandWood, The Museum of Flight, Pacific Science Center, Seattle Aquarium, and Woodland Park Zoo.

As informal scientific organizations, we are committed to leveraging our expertise and resources to advance STEM learning and teaching in Washington State. We are developing innovative programs for pre-K-12 youth, creating a new model of learning by demonstrating how informal institutions can partner effectively with pre-K-12 schools, districts, universities, businesses, and other non-profit organizations to advance STEM learning and teaching.

WISE Consortium Mission



Inspire Washington State students to pursue and engage in scientific inquiry and engineering to understand and participate in solving our world's most challenging problems.



WISE Consortium Vision for the Future



Our Youth

- Annually acquiring the knowledge, skills, and habits of mind for becoming scientifically literate and life-long learners.
- Actively participating in solving our region's STEM problems.
- Pursuing technical and professional STEM careers.

WISE Consortium and Partners

- Developing shared knowledge and learning experiences for contributing to a larger aggregate public value through our collective programs.
- Achieving goals for advancing STEM learning and literacy in our communities that reach beyond our individual brands and resource competition to leverage our individual strengths.
- Enhancing delivery and extending reach of programs through state-of-the-art technology.
- Making data-driven decisions to ensure effective practices and programs.
- Attracting inspirational leaders and new members to provide continuity and ensure long-term viability.
- Building professional development programs that increase capacity with current and future generations of STEM leaders, especially pre-K-12 teachers.
- Forging diverse and committed partnerships that leverage programs and resources for the region and state.
- Serving as a model for collaboration for Washington and other states.
- Securing stable funding from varied sources.
- Sustaining operations through effective leadership, governance and infrastructure.

WISE Consortium Unique Contributions to STEM Learning



We represent six prestigious, credible, and accomplished cultural institutions that reach millions of people of all ages annually. Collectively we are unique in the ways we will provide inspirational and cognitively demanding experiences for advancing STEM learning. Together we offer.....

- Inspiring environments and experiences that transport people of all ages to new places, disrupt familiar routines, open minds, and provide new ways of looking at the world.
- Impressive breadth and depth of STEM programs and expertise that advance STEM learning and teaching and align with research and best practices.
- Real-world informal STEM education experiences that develop interest, motivation, skills, and conceptual knowledge.
- Collective resources and expertise that will transform STEM learning and teaching when integrated with pre-K-12 formal learning programs.
- Access to staff and numerous networks of local, state, national and international professionals working in diverse STEM fields.
- Opportunities for educators and other leaders to have a single point of contact to access STEM resources online and at our institutions.

Our Values



Visionary Leadership

- Strategic, results-driven leaders with bold visions for a better future.
- Trusted experts and entrepreneurs who catalyze positive changes.
- Innovative leaders with approaches to transform STEM learning.

Focused on Impact

- Use research and data to drive excellence.
- Deliver relevant, high-quality programs and resources.
- Accountable for achieving positive and sustainable outcomes.
- Develop awareness with diverse stakeholder groups of the important role that informal organizations play in advancing pre-K-12 STEM learning.

Committed to Collaboration

- Committed to building an effective and sustainable model of collaboration.
- Build strong partnerships across a broad, diverse set of stakeholders.
- Have a robust and sustainable consortium that serves as a model to other cultural institutions and states about the value of collaboration.

Governance and Members' Roles and Responsibilities

Beginning in 2009, the six leading informal science education institutions in Washington State united to form the Washington Informal Science Education (WISE) Consortium to advance pre-K-12 Science, Technology, Engineering and Math (STEM) education in Washington State. Our primary focus is to work with underserved youth.

The Washington Informal Science Education (WISE) Consortium is managed by an Executive Director and governed by a seven-member Board that meets monthly. The Board is led by a Chair who is a distinguished retired business leader representing the community. The other six Board members are the CEOs/Presidents or Directors of each member institution. The Board's primary purpose is to set the strategic direction, provide general oversight, and work with the Executive Director to secure funding to sustain the Consortium, including its operations and program initiatives. Members do not receive compensation for their involvement. Below is a list of the current Board members.

WISE Consortium Board Chair

John Warner, Chair, WISE Consortium Board

Board Members

Robert W. Davidson, President and CEO, Seattle Aquarium

Deborah Jensen, President and CEO, Woodland Park Zoo

Douglas King, President and CEO, The Museum of Flight

Ben Klasky, President and CEO, IslandWood

R. Bryce Seidl, President and CEO, Pacific Science Center

Julie K. Stein, Director, Burke Museum of Natural History and Culture at University of Washington

Consortium Executive Director (Ex-officio member)

Sally Goetz Shuler, Executive Director, WISE Consortium

Governance and Members' Roles and Responsibilities

In addition to the CEOs, education directors from each member institution attend monthly Board meetings. They meet independently to plan and execute program initiatives. A list of the current education directors follows.

WISE Consortium Education Directors

Jamie Creola, Vice President of Education, Woodland Park Zoo

John Haskin, Senior Vice President for Education, IslandWood

Jacob Clark Blickenstaff, Washington State LASER Program Director, Pacific Science Center

Seth Margolis, Director of Education Programs, The Museum of Flight

Diane E. Quinn, Director of Education, Burke Museum of Natural History and Culture

Jim Wharton, Director of Conservation and Education, Seattle Aquarium

As members of the Consortium, each member is accountable for fulfillment of the roles and responsibilities defined in the WISE Consortium's Memorandum of Understanding (MOU). The MOU provides the guidelines for addressing critical areas associated with collaboration such as ownership of intellectual property and equitable fund disbursement. Independent of the Consortium, each institution conducts its own separate business operations that are accountable to separate boards and the communities they serve.

For Consortium program initiatives, the members work together strategically to leverage their collective resources and expertise. For example, the Consortium members are developing a coherent portfolio of pre-K-12 STEM education field trips that both complement and reinforce STEM programs in schools.

To become sustainable and achieve our mission, we need to secure significant financial support for both operations and program initiatives. To this end, the Consortium coordinates these strategies to prevent duplication or competition for sources of support. Currently, Woodland Park Zoo is serving as the Consortium's fiscal sponsor.

Customers

Initially, we will focus our programmatic efforts on pre-K through 12th grade students from populations that are historically underrepresented and underserved. This includes Alaska Natives, Native Americans, Blacks or African Americans, Latinos, Hispanics, and Pacific Islanders, as well as students with disabilities.

Initially we plan to work in South King County, specifically a subset of an area referred to as “The Road Map Region.” The Road Map Project (RMP) is a group of seven area school districts aimed at improving student achievement. It was awarded a \$40 million grant from the U.S Department of Education's "Race to the Top" competition. This area includes seven school districts, comprising more than 10% of Washington State public schools and nearly half the students in King County. The Road Map Region serves over 261 schools, and 150,000 students. Of those 150,000 students, 36,000 are considered high-need students. Some characteristics of this population are:

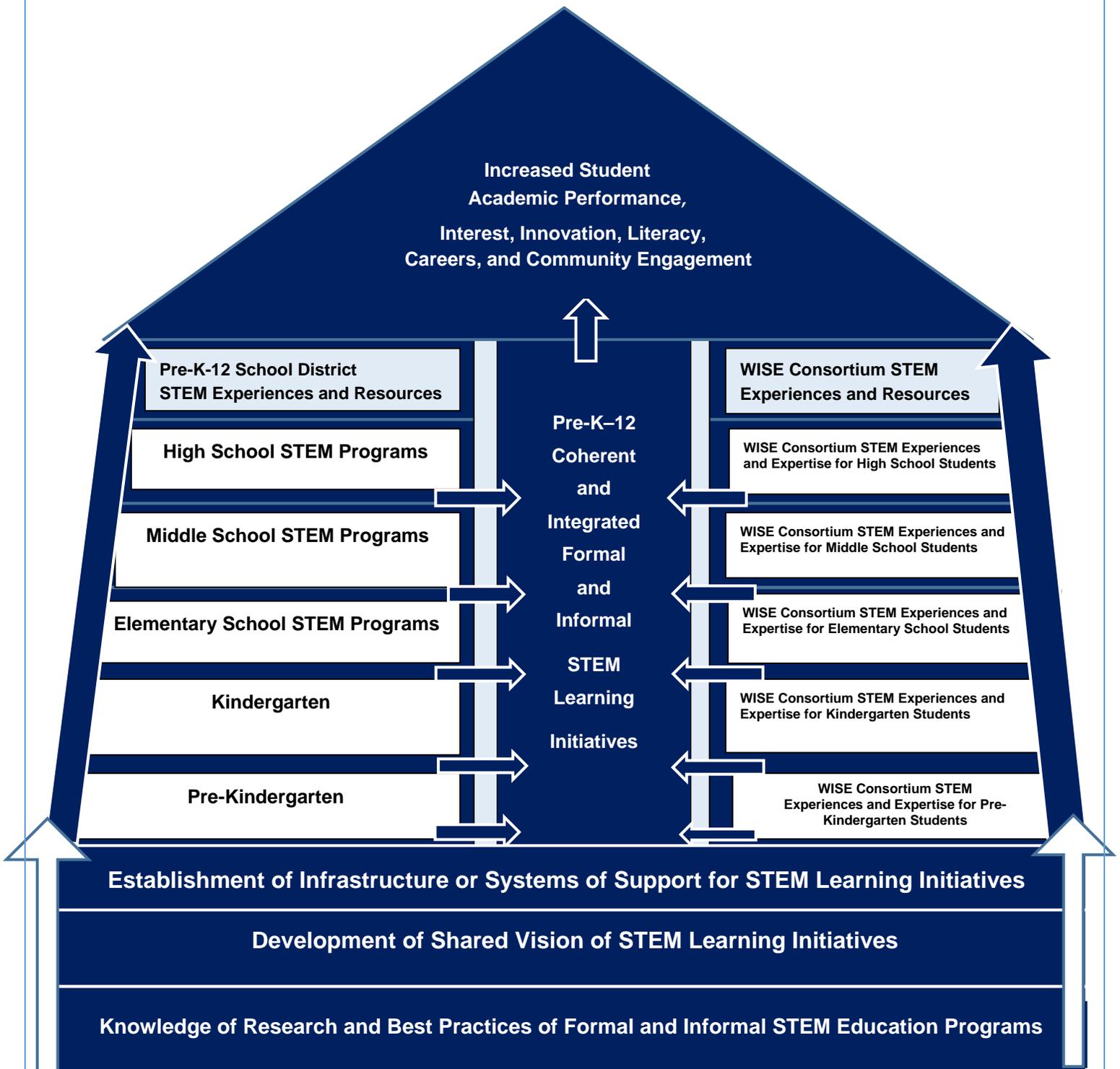
- 58% low-income
- 66% students of color
- 16% English Language Learners, representing more than 160 primary languages
- Only 20% complete a college degree or even a one-year postsecondary credential program
- Fewer than 5% of the STEM postsecondary degrees awarded in Washington are earned by students of color

Federal Way and Highline Districts have indicated preliminary interest in participating, and individual WISE Consortium members already have established partnerships with some schools in these districts. Other districts in The Road Map Region include Auburn, Kent, Renton and Tukwila.

We will select feeder schools in which students advance sequentially from elementary to middle to high school with the goals of creating a continuous experience and whole-school transformation using a project-based learning approach.

As we work with these students, it will be critical that we apply a race and equity lens to our policies, practices and strategies. By providing exposure to STEM and laying a STEM foundation for this population, the potential gains are vast. We can broaden their choices, strengthen their ability to earn a living wage and place them on their desired career path. This, in turn, will strengthen our state economically and improve our quality of life.

WISE Consortium Theory of Action for STEM Learning



Strategic Goals



Our Goals for the Next Five Years

Over the next five years, the WISE Consortium will establish itself as a vibrant and effective consortium by establishing:

- Goal 1:** Strategic portfolio of tested, high-impact programs for our youth.
- Goal 2:** Diverse, vibrant and sustainable Consortium with professional learning network of active members, partners, and leaders who demonstrate the value of collaboration.
- Goal 3:** Robust communications program to promote the general value of STEM, publicize the WISE Consortium and its programs, and increase engagement among target audiences and stakeholders.
- Goal 4:** Stable funding of \$750,000 annually from diverse sources for core operations and programs.

Key Performance Indicators and Strategies

Goal 1: Deliver strategic portfolio of tested, high-impact programs for our youth

Key Performance Indicators

- Successful delivery of high-priority programs for underserved youth to advance STEM learning while demonstrating the value of the WISE Consortium and its partners
- Professional development for professionals developing and delivering services
- Strategic access to/dissemination of WISE Consortium resources and those of other partners
- Evaluation program conducted for informing continuous improvement and measuring impact
- Creation of new pathways and elimination of barriers to broaden participation

Strategies

- Catalogue and assess existing programs to determine which ones to leverage and contextualize under a common programmatic framework
- Identify where Consortium can have greatest value/impact for existing/new programs
- Identify new opportunities for development of new resources and experiences for achieving current and new program goals
- Organize/develop professional development programs with ongoing support
- Implement plans to conduct external evaluation of current and new programs
- Utilize technology to extend impact/reach

Goal 2: Build a diverse, vibrant and sustainable Consortium with professional learning network of active members, partners, and leaders

Key Performance Indicators

- Governance structure that supports variety of members and partnerships
- Advisory Board providing strategic direction and fundraising support
- Pipeline of emerging leaders and members to ensure long-term sustainability
- Clearly articulated value proposition and robust programs with impact data to attract/retain members and funders
- Engaged leaders of each of the individual organizations

Strategies

- Define and document governance structure
- Develop membership criteria and categories
- Define value proposition
- Define the right mix of people/skill sets for Board/Advisory Board Members

Key Performance Indicators and Strategies

Goal 3: Develop robust communications program to promote the general value of STEM, publicize the WISE Consortium and its programs, and increase engagement among target audiences and stakeholders.

Key Performance Indicators

- Increased awareness of the importance of STEM learning in general
- Increased awareness of the WISE Consortium and its critical role in advancing STEM
- Increased awareness of the resources the WISE Consortium offers to students, teachers, families and communities
- Increased engagement by STEM target audiences and stakeholders

Strategies

- Construct a messaging platform to ensure consistency
- Leverage digital media to share resources and connect with target audiences and stakeholders
- Develop regular content and incorporate the art of storytelling
- Host STEM- related events at member sites and have a presence at events hosted by other groups
- Cultivate thought leaders to stimulate ideas and sustain the conversation

Goal 4: Achieve stable funding from diverse sources for operations and programs

Key Performance Indicators

- \$750,000 per year for next 3 years for “start-up” period to support both operations and programs
- Grow funding over time to extend reach
- Diversified portfolio – public and private sources at Federal/national, state and local levels

Strategies

- Develop a prospect list
- Develop the message – What is the value proposition? What is the impact?
- Create a robust business plan/prospectus
- Establish a fundraising group
- Obtain venture capital to create an endowment for sustaining operations
- Package/“sell” activities in terms of expected outcomes that resonate with funders