STEM Alliance
2022 *Draft* Legislative Recommendations

Legislative Recommendations Leadership Team

Bish Paul, Ph.D., *Policy Director*, Washington STEM
Marc Webster, *Director of External Affairs*, Washington Student Achievement Council
Juliet Schindler, *Director, Public Affairs and Strategic Partnerships*, College Success Foundation

STEM Alliance Co-Chairs

John Aultman, *Senior Policy Advisor, Higher Education & Workforce Development*, Office of Governor
James Dorsey, *CEO and President*, College Success Foundation

STEM Alliance
2022 Legislative Recommendations Workgroup

Timeline:

recommendations for review by September 2021.

 Full Alliance meeting scheduled Sep 29th

 Meetings 1 & 2: Idea generation and exploration

 Meeting 3: Prioritization and refinement

Structure:

up to 10 members; led by WSAC, WA STEM, & CSF.

Request for membership:

with emphasis on geographic, sector, & racial diversity.

Time commitment:

meet approx. 1 hour per month June – September 2021.

Goals for today

‣ Review recommendations & process

‣ Provide feedback on refinement of proposals by Oct 6th

STEM Alliance
2022 Legislative Recommendations Workgroup
Organizations & Members

Juliet	Schindler	*College Success Foundation*
Ruben	Flores	*Council of Presidents*
Cassidy	Peterson	*Greater Spokane Inc.*
Jodi	Brant	*Greater Spokane Inc. (alternate)*
Jolenta	Coleman-Bush	*Microsoft Philanthropies*
Karma	Hugo	*OSPI (Early Learning)*
Becky	Wallace	*OSPI (Workforce)*
Evangelina	Galvan Shreeve	*Pacific Northwest National Laboratory*
Dan	Grossman	*University of Washington Computer Science & Engineering*
J. Lee	Schultz	*Washington State Board of Education*
Bish	Paul	*Washington STEM*
Marc	Webster	*Washington Student Achievement Council*
Karina	Vega Villa	*Wenatchee Valley College*
James	Dorsey	*College Success Foundation*
John	Aultman	*Office of Governor Inslee*

STEM Alliance
2022 Legislative Recommendations Workgroup Advisors

▸ Aliza Yair, **DCYF**

▸ Genevieve Stokes, **DCYF**

▸ Michelle Roberts & Angela Abrams, **DCYF**

▸ Kim Reykdal, **OSPI**

▸ Ellen Ebert, **OSPI**

▸ Sarah Clifthorne, **SDC**

▸ Patrick O'Steen, **Microsoft**

▸ Charles Knutson, **Amazon**

▸ Vickie Hrdina, **Career Connect Southwest**

▸ Mark Cheney, **South Central STEM Network**

▸ Sue Kane, **Apple STEM Network**

▸ Kareen Borders, **West Sound STEM Network**

▸ Lorie Thompson, **Capital STEM Network**

▸ Alex Manuel, **PESB**

▸ KO Wilson, **Seattle Public Schools**

▸ Jody Robins, **LNI**

▸ Sezi Fleming, **UW MESA**

▸ Joe Holliday, **SBCTC**
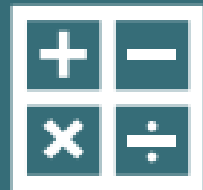
2022 Legislative Recommendations Workgroup
built on the work of the STEM Alliance from past years

Policy topic areas or "buckets"

- ‣ EARLY STEM / EARLY MATH
- ‣ STEM TEACHER PIPELINE
- ‣ STEM CAREER READINESS

Strengthening STEM educator recruitment, development, and retention	**Developing early math skills among young learners**	**Improving workforce readiness and career connected learning**

Strengthening STEM educator recruitment, development, and retention	Developing early math skills among young learners	Improving workforce readiness and career connected learning

1. Provisos for the Educator Conditional Scholarship Program and Teacher Academies *(STEM educator recruitment)*

2. Early STEM Systems Improvements: measurement & equitable investment + professional development + STEM pathways development *(Early STEM)*

3. Fund access to outdoor learning in preschool and the early grades *(Early STEM)*

4. Community based outreach & engagement in STEM programs *(Career Readiness)*

5. Increase access to Computer Science by regional implementation leads *(Career Readiness)*

6. *Support* expanding Dual Credit articulation systems statewide to increase equitable access *(Career Readiness)*

7. *Support* Apprenticeships & Related Experiential Learning *(Career Readiness)*

Prioritization Questions
## adapted from the Black Joy Consortium for Reimaging Education Policy Analysis Framework

▸ 2. Will the issue bring real improvements to the educational outcomes of Black and brown students? Will it alter the relations of power? *Will the issue result in measurable reductions in racial disparities?*

▸ 4. *Is there evidence and research that suggests that addressing this topic/issue will have the intended impact?* Has the issue been addressed before and what was the outcome? Do we need to develop evidence? Does existing evidence conflict with other anecdotal information and/or the lived experiences of those most impacted?

▸ 6. Can we recommend an *ongoing feedback loop* (e.g., publicly available data, reports to legislature, reports to communities impacted)?

▸ 9. Is this proposal *viable in the upcoming session*? Does it have bipartisan and bicameral support? Are there legislative or other agency actor champions? How do we make it viable? Are there active legislative opponents or competing proposals we should be aware of?

▸ 11. *Are we clear about what changes* (policy, investments, technical, human capacity) needed to take place in order to move this issue forward?

STEM Alliance Legislative Recommendations Workgroup
STEM Teacher pipeline

Strengthening STEM educator recruitment, development, and retention
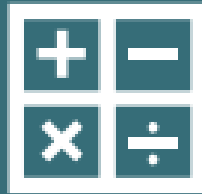
Developing early math skills among young learners

Improving workforce readiness and career connected learning

STEM Teacher Pipeline: Issues

Lack of STEM-endorsed Teachers Statewide

Per PESB Shortage Areas, Math and Science Teachers are needed in every ESD in Washington

These shortages impact STEM learning at all levels

A lack of teachers qualified to teach College in the High School courses impacts dual credit availability

STEM Teacher pipeline

Recommendation:

Provisos for the Educator Conditional Scholarship Program (WSAC) and Recruiting Washington Teachers/Bilingual Educator Initiative (PESB).

"$500,000 of the general fund-state appropriation for fiscal year 2023 is provided solely to increase the number of STEM endorsed educators through the educator conditional scholarship program. Recipients must be STEM teachers, with a preference for STEM teachers endorsed to teach dual credit programs."

A separate proviso language would direct additional state dollars to create STEM pathways in the Teacher Academy program Recruiting Washington Teachers (targeting 11th/12th grade HS students) and/or the Bilingual Educator Initiative to bring more diverse students to STEM education.

STEM Teacher pipeline

Other Options:

Regional Grow Your Own Teacher Model

▸ Seattle Public Schools' Academy of Rising Educators (ARE) is a district-funded grow-your-own recruitment program that pays tuition costs for community members to become teachers
  ▹ A hybrid program with elements of a Teacher Academy and Alternative Routes programs
  ▹ Tuition support and hiring preference/job guarantee for completers
  ▹ Partner with Seattle Central, CWU and UW for AA-through-MA education
  ▹ District knows the candidates
  ▹ Helps diversify the educator profession in a diverse district
  ▹ Some intra-district competition for participants

▸ Potential recommendation: Funding for regional programs through ESDs
  ▹ Budget: $1 M per year as a pilot

▸ Not directly STEM focused, but equity impact is significant

▸ STEM Alliance interest following presentation by KO Wilson of Seattle Public Schools and others involved in the program

STEM Alliance Legislative Recommendations Workgroup
Early STEM/ Early Math

Strengthening STEM educator recruitment, development, and retention
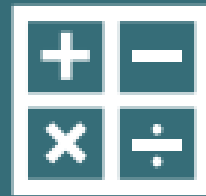
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Early STEM/ Early Math

Systems Improvements in Early STEM

Issues:

Metrics and reporting of how are children in Washington state doing by region

Measurement of state investments in Early STEM and learning

Variable statewide assessment of children and their Early STEM skills

Skill development and developmental progression indicators & pathways needed

Early STEM/ Early Math

Systems Improvements in Early STEM:

a) Measurement & accountability in current and future investments

Support the ongoing creation and usage of State of the Children reports. The annual State of the Children reports bring together key data from across sectors that allow regions and local communities to better understand what communities need. The State of the Children: Early Learning & Care report series, provide an in-depth look at the health of our early learning and child care systems. In its first iteration the State of the Children Reports brought together more than 34 data sources provided by 20 organizations, into one single interactive dashboard and regional report series.

This report is not currently funded by the state, however there is an impending need for regions and local communities to have regular and reliable access to data that can guide increased access to early learning through coordinated recruitment and enrollment efforts.

✓ *reductions in racial disparities*
✓ *evidence and research*
✓ *ongoing feedback loop*
✓ *viable in the upcoming session*
✓ *clear about what changes*

Early STEM/ Early Math

Systems Improvements in Early STEM:

b) WaKIDS Professional Development

Increasing alignment and improving use of Washington Kindergarten Inventory of Developing Skills (WaKIDS) assessment to measure and support Early STEM. The state uses the Smarter Balance assessments in reading and math in the 3rd grade. Research shows that kids who start behind, stay behind in the k-12 system. K-5 students often experience learning prioritizing math and ELA only. This narrow focus limits students and fails to leverage the anchoring arena science provides where all subjects come together in authentic learning experiences grounded in meaningful purpose. Science engages curiosity and drive to learn, provides for social and emotional learning needs, and requires students to deeply read, write, speak, and listen; apply mathematical thinking and skills to authentic contexts, and consider human relationships with the natural world. More antiracist and culturally appropriate professional development is needed for teachers to understand how to provide developmentally appropriate opportunities for children to demonstrate and grow their early STEM skills in ways that are culturally responsive and achieve equitable outcomes across populations.

STEM Alliance
Early STEM/ Early Math

Systems Improvements in Early STEM:

c) Expand the "Pathways" series to articulate the developmental progression of skill development for STEM, building off the Washington Early Learning and Development Guidelines and existing Pathways documents - fund the creation, implementation and usage of a new pathway on STEM, as well as professional development on how to use it. Content knowledge, scientific practices, and analytical thinking skills develop in in a clear, coherent progression, beginning in prekindergarten and building grade by grade. Students without access to this early learning must enter middle and high school lacking the foundational skills, knowledge, and learner confidence. This strongly disadvantages these students in their ability to be successful in science courses in middle school, which consequently impacts their readiness for the rigor of high school science. Furthermore, students who do not have access to science learning in K-5 are denied the opportunity to develop personal STEM identities and mindset. Students of color face obstacles of personal mindset and social messaging about their place in science and STEM. Failure to address these issues during the formative years when students are developing their ideas about who has the right to access science and engineering learning and establish rightful identities as STEM-literate people serves to perpetuate this problem.

Examples of pathways include:

Learning Pathways In Numeracy

Pathways in Literacy

Pathway on Socio emotional learning.

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Early STEM/ Early Math

COVID response: Support access to outdoor learning in preschool and the early grades

Schools and DCYF programs are expanding and piloting outdoor early learning models with the passage of recent legislation (SB5151). Outdoor learning can provide high-quality learning opportunities, while providing for increased safety during the pandemic, as well as implementing curriculum rooted in STEM concepts and pedagogy. While nature-based programs can be operated without the additional cost of facilities, some additional and unique program supplies are needed for nature-based programs, such as rainy day gear, hygiene and outdoor adventure supplies. These additional costs can be a burden for some families to access ONBP. A "Goods & Gear" grant would be instrumental in removing barriers to access for low income families.
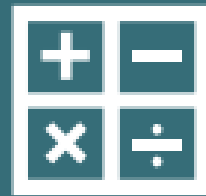
- ✓ *reductions in racial disparities*
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STEM Alliance Legislative Recommendations Workgroup
STEM Career Readiness

Strengthening STEM educator recruitment, development, and retention

Developing early math skills among young learners

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STEM Career Readiness

Community based outreach & engagement in STEM programs

Support for Career Connected Learning (CCW)

Support for Career and College Pathways Grants (WSAC)

Issues: Inequity in access (rural vs urban); need for more trusted messengers in communities

Proposal: Create grants for regional *Career Connected Learning Rural Navigator* positions housed in community-based organizations to help families and students find, enroll in, and complete, various career connected learning opportunities in their region. The Navigators are trusted messengers who will direct educators, business and community-based orgs to all the career connected learning programs available in the region and how to access them.

▸ Partner with rural districts & work with the ESD coordinator and CCW Networks

▸ Develop a core group of CCL contacts at assigned rural middle and high schools

▸ Assist districts with developing and executing FAFSA/WAFSA nights, HSBP planning sessions, career days/fairs, etc.

✓ *reductions in racial disparities*
✓ *evidence and research*
✓ *ongoing feedback loop*

▸ Communicate with parents, students, and families

✓ *viable in the upcoming session*
✓ *clear about what changes*

STEM Career Readiness

Increase access to Computer Science by supporting regional implementation, community partnerships & planning

Issues: Inequity in access to CS; coordination & information around current CS implementation; need systems improvements regionally & statewide to serve all students

Working through the Education Service District regional structure, CS Implementation lead positions could provide technical assistance to the K12 system for implementation of Computer Science standards and support for meeting the legislation for offering CS courses, and developing CS career pathways in partnership with local Career Connected Learning Networks.

Deliverables:
- Materials and Curriculum
- Leadership
- Teacher Capacity
- Partners and Community

- ✓ *reductions in racial disparities*
- ✓ *evidence and research*
- ✓ *ongoing feedback loop*
- ✓ *viable in the upcoming session*
- ✓ *clear about what changes*

STEM Career Readiness

Equitable access to Dual Credit

Issue: Inequity in access to and affordability of dual credit programs. Minorities are underrepresented in STEM disciplines at every level. Participation in dual credit programs linked to higher college-going and persistence rates, as well as achieving a higher GPA.

Expand Dual Credit articulation systems statewide in order to give all students equitable access to dual credit and the opportunity to enroll, complete, and earn college credit for various program offerings.

The proposal would continue to expand access and affordability to the six existing dual credit programs in Washington to meet equity goals as well as increase postsecondary attainment goals. Expanding Dual Credit articulation systems supports the state's attainment goal as well as opens doors of opportunity for low-income and students of color.

- ✓ *reductions in racial disparities*
- ✓ *evidence and research*
- ✓ *viable in next legislative session*

clear about what changes?

STEM Alliance Legislative Recommendations Workgroup
STEM Career Readiness

Workforce readiness: Apprenticeships & Related Experiential Learning

Issues: Apprenticeships and other experiential learning, including preparatory programs, have grown significantly in WA state. The growth is limited, however, by a scarcity of industry opportunities for apprentices and funding issues, including with the Washington College Grant (WCG).

Proposals to Consider Supporting:

▸ The **LNI decision package provision** of digital enhancement to the apprenticeship registration and tracking system. (Note: could explore LNI being responsible for data collection and reporting, leading to more providers enrolling in the system.)

▸ **Senators Keiser and Randall** jointly have been building a roadmap to tackle apprenticeship funding issues. Two bills are expected this legislative session, one in Higher Education & Workforce Development Committee and the other in Labor, Commerce and Tribal Affairs. Input welcome.

▸ **Governor Inslee's Green Energy legislative proposal,** with support for apprenticeships built in.

▸ Continue to support **Career Connect WA** and its support for apprenticeships.

SBCTC   OSPI   WA MESA   LNI   Senator Keiser & Randall

Summary

1. Expand teacher pipeline through the Educator Conditional Scholarship Program and Teacher Academies *(STEM educator recruitment)*

2. Early STEM Systems Improvements: measurement & equitable investment + professional development + STEM pathways development *(Early STEM)*

3. Fund access to outdoor learning in preschool and the early grades *(Early STEM)*

4. Community based outreach & engagement in STEM programs *(Career Readiness)*

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6. *Support* expanding Dual Credit articulation systems statewide to increase equitable access *(Career Readiness)*

7. *Support* Apprenticeships & Related Experiential Learning *(Career Readiness)*

STEM Alliance
2022 Legislative Recommendations Next Steps

Request to STEM alliance & partners

▸ Provide feedback on refinement of priorities by Oct 6th by emailing EllenM@wsac.wa.gov

▸ Alliance letter with recommendations to OFM by Oct 8th

▸ Reference document for more specifics: Additional Details_Proposed STEM Alliance Recommendations2022