February 2019

The Washington College Promise will remove the major barrier to access to postsecondary education — a lack of financial assistance — for those who most need it and ensure more Washingtonians can compete for Washington jobs.

Washington College Promise

What is the Washington College Promise?

The Washington College Promise is a scholarship to 65 public and independent colleges and universities in the state. By guaranteeing qualifying students the opportunity to pursue postsecondary education, it will reduce the amount of loans students may need to pay for their education and improve students' ability to successfully graduate.[i]

With a true promise in place, new high school graduates can rely on financial support and consider post-high school plans earlier in their academic life. At the same time, older or returning students will receive the aid they need to complete their education. This predictability and stability will make it possible for many to earn a college degree, postsecondary certificate or apprenticeship credential.

The Washington College Promise is proposed by Gov. Jay Inslee and sponsored by Rep. Drew Hansen (House Bill 1340) and Sen. Guy Palumbo (Senate Bill 5393).

How does the Washington College Promise work?

In 2021, the Washington College Promise will guarantee financial aid to eligible students ($61,500 annual income for a family of four). Students may attend a community and technical college, public baccalaureate institution, independent college, eligible private career school or apprenticeship program.

The scholarship will pay up to the full value of tuition and mandatory fees. It may also cover other costs associated with postsecondary education, such as books, housing and food. A student who receives other forms of financial aid, such as an award made by the college itself, would add that amount on top of the College Promise Scholarship, so more education-related costs are covered.

With the state dollars coming first to the student, higher education institutions can spread their awards more widely and benefit more students, including those from middle-class families.

How is the Washington College Promise Program funded?

The governor's 2019–21 budget boosts funding for the State Need Grant over the biennium to eliminate the number of unserved students. In the third year, his budget converts the program to the Washington College Promise to serve a predicted 93,000 students.

Why do we need the Washington College Promise?

Washington needs more people with postsecondary credentials. Businesses here estimate they will have 740,000 job openings over the next five years, with the vast majority of these jobs requiring postsecondary credentials.[ii]

In addition, research shows that individuals have a greater chance of supporting themselves and their families if they obtain a postsecondary credential. With higher levels of education, unemployment decreases and wages increase.

Yet too few of our students are pursuing postsecondary education. Only 40 percent of our high school students obtain a postsecondary credential and miss out on the best job opportunities on offer.[iii] The Washington College Promise will remove the major barrier to access to postsecondary education — a lack of financial assistance — for those who most need it and ensure more Washingtonians can compete for Washington jobs.

[i]Grant aid associated with higher retention and completion rates: Franke, 2016, Scott-Clayton, 2009, and Bania, N., Burley, M., & Penucci, A, 2013.; State Need Grant leads to higher retention in the community and technical colleges, State Board for Community and Technical Colleges research, 2013; Enrollment positively related to increases in need-based aid, Avery and Hosby, 2003; Retention and completion declines as "unmet need" increases, Breciani and Carson, 2002; Grant aid makes more of a difference than other aid, Heller, 2008; Lack of State Need Grant leads to increased borrowing, changes in living circumstances, increased work hours, and adjustment of educational plans, Washington Student Achievement Council student survey, 2013.

[ii]Partnership for Learning, Education Foundation of the Washington Roundtable, "Washington Kids of Washington Jobs." 2017.

[iii]Partnership for Learning, Education Foundation of the Washington Roundtable, "The Path to 70% Credential Attainment for Washington Students." 2018. "Just 31% of students in the high school class of 2006 completed a credential — such as a degree, apprenticeship, or certificate — by age 26. Our research projects that number will reach 40% for the high school class of 2015."

WASHINGTON COLLEGE PROMISE

GUARANTEED
FINANCIAL AID
BY ACADEMIC YEAR
2021–22

PREDICTED
TO SERVE A TOTAL OF
90,000
STUDENTS

FREE
TUITION & FEES
FOR LOWEST INCOME
($44,000 FOR A FAMILY OF 4)

PARTIAL
TUITION & FEES
FOR LOW INCOME
($61,500 FOR A FAMILY OF 4)

Decreases financial barriers to access

Decreases debt burden

Improves student success and completion

WASHINGTON STEM | 2019 LEGISLATIVE PRIORITIES

Washington STEM supports expanding student opportunity through P-20 STEM education and career connected learning. This legislative agenda outlines public policies that our data and research indicate drives equity and opportunity for Washington students, particularly students of color, girls and young women, students from low-income backgrounds, and students from rural communities.

Expand Career Pathways

Washington students, particularly students from underserved communities, will benefit from access to career connected learning programs that prepare them for high-demand, family-sustaining careers.

- Support increased capacity for regional STEM Network efforts to advance career connected learning through business, community, education, and government collaborations by supporting a fair and competitive grantmaking process.
- Support regional career guidance and navigation.
- Support data and measurement for career connected learning initiatives.

Expand Statewide Data and Measurement Capacity

Support transparent, timely, and clear data collection, connection, and sharing about the Washington education system and workforce in order to measure impact, effectiveness, and student outcomes.

- Expand the capacity of the Washington State Education Research and Data Center (ERDC) in data linking and matching, data visualization, governance, and creating a data enclave tool.

Support STEM Education Infrastructure

- Support postsecondary programs increasing education pathways to high-demand STEM careers.
- Support OSPI early learning coordinators who comprise a regionally-led and regionally-specific system that supports professional development, leadership, and capacity building for early learning professionals.

Contact Bish Paul at bish@washingtonstem.org or Jim Justin at jim@jimjustingov.com for more information.

2019 FULL LEGISLATIVE AGENDA

Advance policies and programs that set students on the pathway to high-demand, family-sustaining careers.

- Increasing access to career connected learning programs, like internships, apprenticeships, career exploration, job shadows, and more in- and out-of-school career-related experiences;
- Supporting increased capacity for regional STEM Network efforts to advance career connected learning through business, community, education, and government collaborations by supporting a fair and competitive grantmaking process;
- Supporting career guidance and navigation supports and data and measurement for career connected learning;
- Increasing access to computer science education from K-12 through postsecondary by funding the computer science education grant program at $3M per year and establishing these grants as multi-year grants, creating support and incentives to expand access to computer science education for pre-service teachers, supporting computer science coordinators across the state, and requiring every school to offer a course or instruction in computer science;
- Increasing dual-credit opportunities aligned with high-demand family-wage career pathways;
- Supporting other programs that expand career connected learning for students, including expanded learning opportunities, increased K-12 CTE funding, a middle school career pathways course starting students on High School and Beyond, flexible youth apprenticeship models, and increased number of high school counselors; and
- Supporting postsecondary programs increasing education pathways to high-demand STEM careers, including investments that allow postsecondary leaders to work collaboratively with K-12 leaders to build clear handoffs within high-demand sectors.

Advance policies and programs that prepare students of color, girls and young women, and students from rural and/or low-income communities for success through a strong STEM education.

- Increasing leadership and system capacity for providing impactful and equity-focused Next Generation Science Standards education, including leadership support for the Governor's innovative Climate Science education initiative, through increased funding for Leadership Assistance for Science Education Reform (LASER) from $356K to $600K;
- Supporting regional STEM Network programs that engage underserved students in STEM education and career pathways experiences; and
- Supporting statewide programs that support underserved students, including Washington College Promise, Washington State Opportunity Scholarship, Washington MESA, and supporting funding for undeserved students to participate in Washington FIRST programs.

Advance policies and programs that deliver high-quality early learning, with a focus on early math and STEM education.

- Supporting OSPI early learning coordinators; who comprise a regionally-led and regionally-specific system that supports professional development, leadership, and capacity building for early learning professionals, particularly when it comes to closing early math opportunity gaps;
- Incorporating early STEM into key early learning systems;
- Supporting the Early Learning Action Alliance agenda; and
- Supporting professional development in early STEM for early learning educators.

Advocate for transparent, timely, and clear data sharing about the Washington education system and workforce.

- Working with state agencies to ensure policies and practices around data exchange are effective and accessible;
- Expanding the capacity of the ERDC in data linking and matching, data visualization, governance, and creating a data enclave tool; and
- Supporting a robust and educator friendly workforce and student data platform to inform alignment of K-12 courses with labor market data.

Contact Bish Paul at bish@washingtonstem.org or Jim Justin at jim@jimjustingov.com for more information.

Launching K-12 Climate Science Literacy to Scale in Washington State

Abby Ruskey

Photo: Eleanor Steinhagen

Washington teachers and specialists in climate literacy, tribal ecological knowledge, Next Generation Science Standards, assessment, and project-based curriculum development celebrate progress in Olympia.

CLIMETIME
CLIMATE SCIENCE LEARNING

As the sine die gavel pounded the dias March 8, 2018, it signified the conclusion of the Washington State Legislature's biennial short session and a nationally historic first for climate science literacy. On this day, the state of Washington allocated $4 million for climate science learning. In the following six months, the nine-line budget proviso became an active network of 16 formal and informal education partnerships piloting climate learning in K-12 schools across the state. By October 2018, students from Chewelah School District in northeastern Washington had presented their initial learnings to an international gathering of educators in Spokane. Among many findings, the Chewelah fifth-graders discovered that $499 in food was being wasted daily across their small Northeastern rural school district, not to mention the impact this waste was having on greenhouse gas emissions, water, and energy consumption. Upon hearing the student's presentation, the director of a statewide education association commented that the annual savings could pay for an extra teacher!

The example above is just one snapshot of education innovation taking root across the state of Washington. Now known as ClimeTime, a network of education leaders has developed Next Generation Science Standards (NGSS) aligned curriculum prototypes, teacher professional development, and assessment tools for thousands of K-12 students and their communities. The ClimeTime initiative is a solid first step in the 2018 – 2019 school year toward the goal of providing every Washington teacher and student with applied climate science learning, benefiting families, businesses, and communities across the state. As a case study for those in and beyond Washington, it illustrates how we can shift from incremental to exponential action, especially in light of the October 2018 report by the Intergovernmental Panel on Climate Change that greenhouse gas emissions must be halved by 2030. This is a clear, compelling, and quantifiable goal that the Washington State ClimeTime initiative addresses and one that opens up a world of possibilities for education leaders and students everywhere.

Washington's Trail-Blazing Efforts

Washington State has a history of environmental and sustainability education "firsts."

- Starting in the 1940s, Camp Waskowitz in the Highline School District was an early, if not the first, residential outdoor center to provide teacher professional development.
- Washington's Office of Superintendent of Public Instruction (OSPI) ratified one of the

first Environmental Education Guidelines in 1970 and then updated them in 2009 as the country's first Integrated Environmental and Sustainability Education (ESE) Standards.

- In 1984, conservation and environmental education was legally mandated as an area of study in the state.
- In 2007, the Washington Professional Education Standards Board (PESB) approved a standard for accredited teacher education programs that requires teacher candidates to design instruction for students to "be responsible citizens for an environmentally sustainable, globally interconnected, and diverse society." In 2009, the PESB passed the nation's first ESE Teacher Specialty Endorsement.
- In 2011, Washington was among the first states to create an Environmental and Sustainability Literacy Plan and led in the development of a Green Sustainable Design and Technology Course, both approved by the State Superintendent of Public Instruction.
- In 2015, Washington passed legislation requiring that tribal sovereignty—now known as Since Time Immemorial curriculum—be taught in all common schools.

With this foundation and a collaborative network of innovative ESE organizations, programs, and people, a natural next step was to pursue statewide K-12 climate literacy. These efforts were reinforced at the highest level when Governor Jay Inslee publicly signaled his concern that Washington students lacked an understanding of basic scientific concepts underlying climate science. As author of the book, Apollo's Fire: Igniting America's Clean Energy Economy, and a long-time clean energy advocate in the U.S. Congress (1999 – 2012) and as governor (2013 – current), Inslee is one of the nation's foremost policyl authorities on clean energy climate solutions. Said Inslee, "We're the first generation to feel the sting of climate change and we are the last to be able do something about it" (Berton, 2015).

Following his statewide tour and town hall gatherings, Governor Inslee was keen to increase teacher's capacity to engage students in science learning using NGSS and advance key climate change and clean energy related policies, among other priorities. Fortunately, the state revenue forecast for 2018 – 2019 provided a surplus to work with.

With the Governor's indication of his resolve to address gaps in science comprehension and improve science teacher preparation, education, tribal, business, and community leaders jumped into action. E3 Washington, the state environmental and sustainability education association, coalesced a series of stakeholder meetings. Meanwhile, the Association of Education Service Districts (AESD) also mobilized, seeing promise in community partnerships for teacher science professional development, student achievement, and career connected learning through climate literacy. When these two networks, along with OSPI and the Governor's policy office, put their aspirations and strategies together, the result was a $6.5 million climate science budget proviso built by some of the most credible voices in education and learning. The proviso specified grants to school districts to work with informal learning centers and engage teachers across all grade bands, and for statewide coordination.

The partners next coordinated an event in February 2018 on the capitol campus during the STEM Innovation Alliance meeting. At this meeting business and education leaders, legislators, and legislative staff were treated to presentations from students, teachers, and their business and tribal partners about the power of environmental and climate science learning.

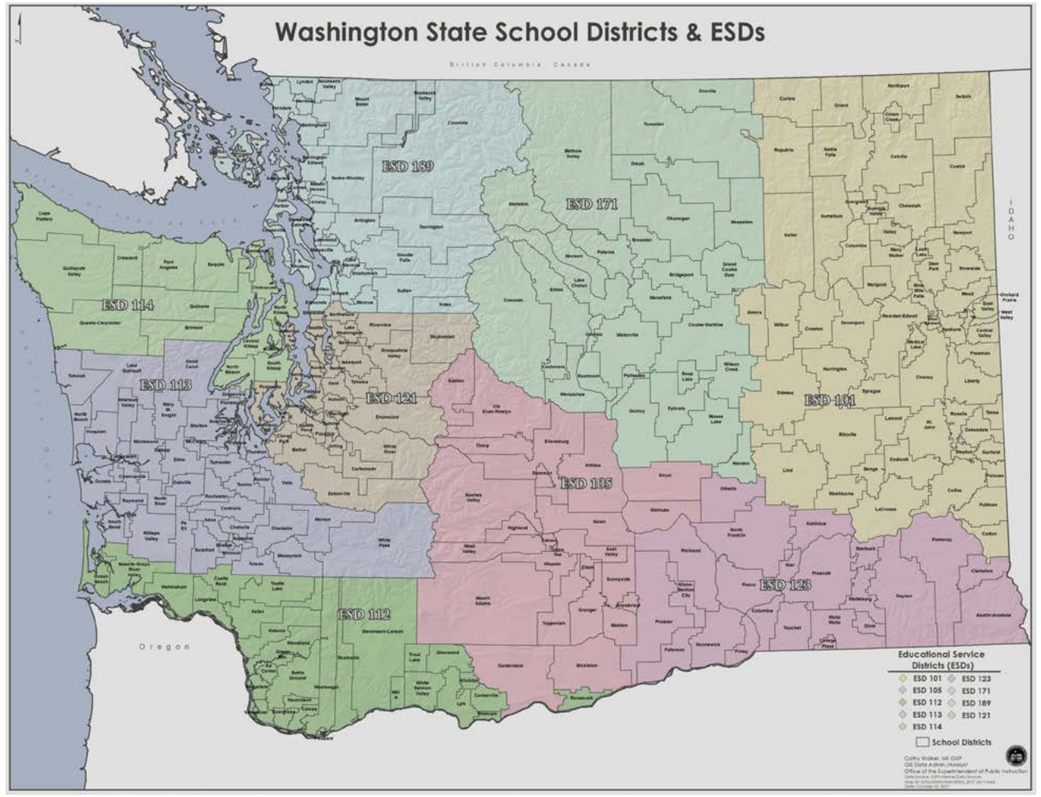
Moving through the state budget process, the Governor's proviso was eliminated in the House Appropriations Committee and reduced to $4 million in the Senate Ways and Means Committee, as budgetary priorities competed. In response, E3 Washington, AESD, the Pacific Education Institute, IslandWood, and others exerted constituent pressure through emails, blogs, phone calls, and appointments with legislators on budget committees. When the final budget was hashed out in conference, the following was retained thanks to the timely efforts of the partnership and supportive legislators, primarily Senators Rolfes and Ranker, and Representatives Ormsby, Lytton, Doglio, and Dolan.

(68) $4,000,000 of the general fund—state appropriation for fiscal year 2019 is provided solely for the office of the superintendent of public instruction to provide grants to school districts and educational service districts for science teacher training in the next generation science standards including training in the climate science standards. At a minimum, school districts shall ensure that teachers in one grade level in each elementary, middle, and high school participate in this science training. Of the amount appropriated $1,000,000 is provided solely for community-based nonprofits to partner with public schools for next generation science standards. (Washington State Engrossed Senate Substitute Bill 6032, as Amended by the Conference Committee (State Budget), 65th Legislature, 2018 Regular Session)

Stated Dr. Gene Sharratt, Executive Director of AESD, "Based on the strength of our combined networks, we have great potential to perform in 2018 – 2019 and expand consistent, year-to-year climate science professional development for our entire science teacher corps. This will result in K-12 students in every community excelling in science and will prove to be the very foundation on which Washington's successful transformation into a clean energy economic powerhouse will take place" (Sharratt, 2018).

From Statehouse to Schoolhouse in Six Months

Initial activities to implement the first phase of Washington's $4 million climate science literacy program have been efficient and far-reaching. Under the leadership of State Superintendent Chris Reykdal and Dr. Ellen Ebert, OSPI Director, Learning and Teaching Science, a two pronged proposal and budget submission process was generated for all nine education service districts (ESDs) along with a competitive grant process for community-based organizations (CBOs) across the state.



Washington State's 295 school districts and the nine ESDs that serve them.
Source: Washington State Office of Superintendent of Public Instruction

The speed of project start-up matched the urgency of the issue. State funding was achieved in March 2018 and transformed into a grant program by OSPI by May. Teams of CBOs, ESDs, and their partners developed proposals from May – June 2018 that involved expanded partnerships and focused priorities, including access and inclusion as required in the request for proposals:

> *Priority focus must be given to comprehensive and targeted comprehensive schools, and communities historically underserved by science education. These communities can include but are not limited to Tribal Nations (including Tribal Compact Schools), Migrant students, schools with high free and reduced lunch populations, rural and remote schools, students in alternative learning environments, students of color, English Language Learner students, and students receiving special education services* (OSPI, 2018).

Sixteen grantees were selected by OSPI in June and activated in summer 2018 through curriculum design and professional development, leading to student learning and assessment to be completed during the 2018 – 2019 school year.

While time-efficient and equitable, the ClimeTime project is also innovative and rigorous. A high caliber team from OSPI and the University of Washington's Institute for Science and Mathematics brought together the nine ESDs and seven CBOs selected in early July to launch all 16 projects as a networked, statewide climate science leadership community. During the two-day launch, project leaders were given time to share and network and were supported to strengthen their use of NGSS-3D strategies (Practice, Cross-Cutting Concepts, and Disciplinary Core Ideas) and the incorporation of formative assessment tools. Additionally, pedagogy and content professional development were provided in areas such as tribal ecological knowledge and place-based learning, anchoring phenomena, and current climate solutions and climate education clearinghouses (e.g., Drawdown and The Climate Literacy and Energy Awareness Network). STEM teaching and assessment tools, Open Educational Resources guidelines, and other pertinent information were also shared.

The seven ClimeTime CBOs selected for 2018 – 2019 by OSPI include Cascadia Conservation District, IslandWood, Pacific Education Institute, Padilla Bay National Estuary, Nooksack Salmon Enhancement Association, Snohomish Conservation District, and Washington Green Schools.

These CBOs are dedicated educational hubs for a wide range of informal learning resources beyond their own organization and within their service area. They research, vet, and broker resources on behalf of individual teachers, schools, and school districts with whom they have built ongoing working relationships. All have a successful track record of providing quality teacher professional development and K-12 student learning and curriculum that correlates with state standards.

An OSPI – ClimeTime webpage, to be launched in 2019, will share information about ClimeTime and all 16 CBO and ESD grantees' activities.

According to ClimeTime project lead, Dr. Ellen Ebert, "To leverage the scale of teacher and student science learning needed today for a green economy and climate stabilized future tomorrow, we are tapping into the wealth of teaching, learning, assessment, and evaluation resources across Washington State including environmental and sustainability informal learning organizations, ESDs, Tribes, University of Washington's Education Department, STEM Innovation Alliance members, practicing scientists in diverse communities and professions, and many more" (Ebert, 2018).

Cutting-Edge Assessment for High-Impact Learning

Because assessment is a leading driver of K-12 curriculum and student and teacher learning, team leads from all 16 ClimeTime initiatives convened at the University of Washington in late August 2018 to learn and apply NGSS related tools. Cross-initiative groups led by Dr. Phillip Bell and Dr. Deb Morrison worked for two days to co-design initial learner assessment tasks and measures for student and teacher learning that can be shared across the 16 initiatives and beyond. Washington's ClimeTime project benefits from intersecting with state-of-the-art education and learning and assessment networks nationally through OSPI and the University of Washington's Institute for Science and Math.

NGSS assessments are three-dimensional and based on item clusters that attempt to emphasize student interest and relevance. State-of-the-art learning research and tools are being utilized across the 16 initiatives as they design curriculum, train teachers, and measure teacher and student interdisciplinary learning. Reflection, dialogue, expression, and presentation are among the many methods available to measure learning. Formative probes adjust teaching in real-time. And for program consistency, the ClimeTime project assessment approach prioritizes inclusion and equity issues across diverse student and teacher cohorts.

Ultimately, projects in the ClimeTime network are challenged to measure the results of student field-based learning and projects on greenhouse gas emissions and carbon sequestration as well as other community-based environmental, economic, and social impacts. Through citizen science, students will increasingly be able to collect and contribute data and utilize tools and datasets, such as Google's new tool for measuring emissions across the globe, to learn about climate change and design and measure climate solutions.

Informal and Community-Based Local Resources and Phenomena for Science Learning

Natural phenomena are observable events that science attempts to explain or predict. With an understanding of local phenomena, students have the basis to design solutions using multiple disciplines, most commonly science and engineering. Observable phenomena may be an increase in algae blooms, a decline in bee populations, or record heat, fire, and flood events. There is no limit to the number of climate change associated phenomena in any given community. And there is usually at least one locally-based organization, agency, tribe, college, university, or business that will have in-house expertise, equipment, and field-based learning locations, along with years of institutional and cultural

Photo: Paul Williams

Governor Inslee met with climate literacy partners including 30 representatives from the state's Office of Superintendent of Public Instruction, E3 Washington, Association of Educational Service Districts, Suquamish Tribe, Climate Solutions, Pacific Education Institute, Western Washington University, Antioch University, Washington STEM, U.S. Partnership for Education for Sustainable Development, and Campaign for Environmental Literacy.

records and stories, to engage student science learning around identified phenomena.

Across Washington, as is the case in other states and geographies at this scale, there are endless classrooms-without-walls and scientists addressing climate change impacts and solutions. In Washington, these include forest health and wildfire management, regenerative agriculture, carbon sequestration, watershed and ocean-estuary health, energy conservation, clean-renewable electricity, transportation, and building and manufacturing technologies. OSPI's grant guidelines ensured that all 16 ClimeTime projects start and/or strengthen the relationship between ESDs, school districts, and informal education organizations, setting the stage for unleashing K-12 science learning resources and opportunities as never before imagined.

A Deeper Dive into One Project

The Pacific Education Institute's Locally Relevant 3-D Climate Science for Drawdown is one of the 16 ClimeTime network projects. Partnering with Project Drawdown, OSPI's Office of Native Education, Braided Education Consulting, the Suquamish and Muckleshoot Tribes, five ESDs, and multiple schools and school districts across Washington, the Pacific Education Institute is creating a new "solutions-oriented" methodology for student learning and teacher instructional practice in climate science.

Pacific Education Institute first convened a design team – half of whom are indigenous traditional ecological knowledge (TEK) educators and the other half being formal education and climate literacy specialists – to craft a template weaving together NGSS, TEK, Drawdown solutions, place-based learning, and formative assessment strategies. Twenty-seven educators used the template during summer 2018 to develop standards-aligned, Solutions Oriented Learning tasks for students. These tasks will be tested by teachers and students in the classroom during the 2018 – 2019 school year. The project will involve additional teachers to utilize the tasks in spring 2019, and in June up to 30 tribes in the indigenous educator network will send teachers to develop additional tasks unique to tribal needs.

The work will contribute to a statewide system of climate science education resources for educators. Pacific Education Institute's Executive Director, Kathryn Kurtz said, "If we do this right, if we include all teachers and all students in the schools and districts where we work, we will see students raising their voices to speak about their personal accomplishments to drawdown greenhouse gases and inform their communities about climate solutions" (Kurtz, 2018).

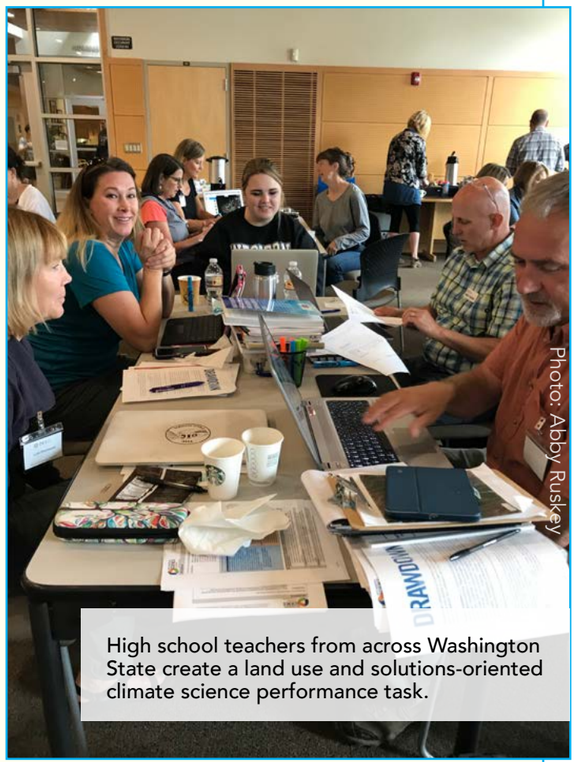


Photo: Abby Ruskey

High school teachers from across Washington State create a land use and solutions-oriented climate science performance task.

In addition, the seven ClimeTime CBOs and nine ESDs are directly partnering with additional CBOs, tribes, networks, universities, and agencies across the state. These include the Suquamish, Spokane, and Muckleshoot Tribes; RE Sources for Sustainable Communities; Common Threads; Garden of the Salish Sea; Wild Whatcom; North Cascades Institute; University of Washington Climate Impacts Group; Yakima Valley Technical College MESA; Pacific Northwest National Laboratory; NGSS-STEM Leadership Network; and Washington Leadership & Assistance for Science Education Reform (LASER). This is just the beginning of a comprehensive listing of informal or community-based learning resources for climate literacy that can be expanded significantly and linked to school-based learning across the state.

Success Inspires Success: Education for a Green Economy

Coming on the heels of the successful launch of the ClimeTime initiative, Washington State's Employment Security Department announced funding in October 2018 for "Educating for a Green Economy" (EGE), a pilot project to link green economy workforce development needs with preK-16 educational pathways. The EGE initiative is committed to inclusive programming for underserved audiences under the Workforce Innovation and Opportunities Act. Led by E3 Washington and the Pacific Education Institute, EGE coordinates with OSPI and brings together environmental educators; employers seeking student interns for green jobs; and K-12, career and technical college, and four-year post-secondary educators. Sharing her excitement, Lisa Eschenbach, E3 Washington's EGE Project Director stated, "In the next year we will create an advisory panel, research high demand green jobs, convene regional gatherings for locally relevant approaches, and support students to present related projects of excellence" (Eschenbach, 2018).

Next Up: Policy and Partnerships to Scale Climate Science Literacy

'Our highest intention is that young people see themselves as knowers of critical climate science concepts and as solvers of important problems within their own and the wider community." (OSPI Draft Report to Governor Inslee regarding status of Climate Science Literacy, August 2, 2018)

Washington State has 1.1 million K-12 students, 64,323 teachers, approximately 2,500 schools, and 295 school districts. Upward of 5,000 teachers will receive professional development and assessment support to teach and measure climate science learning in their classrooms through ClimeTime in 2018 – 2019. Scaling ClimeTime, EGE, and related programs will entail a series of bold and strategic steps for those of us in Washington.

The first step is for climate science learning to be legally mandated by incorporating it into the Washington Administrative Code specifying it as a mandatory area of study in Washington schools.

The second step entails a review and revision of all related Washington State policies, requirements, guidelines, programs, and funding that can be linked, updated, and fortified with K-12 climate science literacy.

Third, policy and financial mechanisms are needed to increase the current budget allocation for the ClimeTime program from $4 million to $50 - $75 million per year to reach all Washington teachers, students, families, and communities with quality NGSS-aligned climate science learning. While just a drop in the bucket of the $23.5 billion that the state spends on K-12 education, the $50 - $75 million needed to scale ClimeTime could include matching investments from stakeholders needing an educated and trained workforce. The green building, clean energy, low-carbon agriculture, waste management, and transportation industries are partners and likely investors, as well as those directly experiencing the impacts of climate destabilization such as Tribes and the insurance, health services, forestry, and aquaculture industries.

Fourth, to successfully scale ClimeTime and related education and training programs, environmental and sustainability education stakeholders need to strengthen and enlarge the climate literacy coalition into a formidable force that can secure and retain climate science policies and funding year-to-year. This can be modeled on coalitions like the

Photo: Lisa Eshenbach

Students present their climate science projects to Washington industry, education, tribal, and governmental leaders, including Governor Inslee and State Superintendent Chris Reykdal, at the Governor's STEM Innovation Alliance meeting at the state capitol on February 14, 2018.

Washington Wildlife and Recreation Coalition, which secured $80 million for projects in 2017 – 2019.

For those inside and outside of Washington, this case study is intended to spur ideas, inspiration, replication, and feedback. In your journey, you may wish to consider the following:

Don't wait, do it today.

Is there a known or potential climate science champion in your state, province, or other jurisdiction responsible for setting education policy and providing public funding? Who might you share this article with to spur attention and action for climate science literacy? You will be surprised at how far you can get given the political momentum that is rapidly growing for the Green New Deal, a system of climate literacy and solutions that are locally meaningful.

Do your homework.

What environmental and sustainability education, green schools, career and tech education, STEM and related policy, guidelines, standards, endorsement, and program milestones are in place where you are? What are the values that hold strong in the population there and what can you leverage that is unique to your context?

Hold to your vision and speak from your heart as well as your head.

Educators and education stakeholders can relay story upon story of why there is no better investment for our children and future generations than environmental, sustainability, and climate literacy. Find all the ways you, your students, and partners can express those stories to those who have the power to make a BIG difference. Then provide them with a concept of the policies, programs, and funding needed.

Closing Thoughts

The "sweet spot" for climate solutions and the emerging regenerative, life-enhancing economy is rooted in communities and neighborhoods where schools and colleges are the heart of change alongside other local institutions such as businesses, libraries, and community and environmental centers (Bhowmik et al., 2018). As the first state-funded and coordinated climate science literacy program, ClimeTime is working to ensure educational rigor and student academic success while pushing pedagogical boundaries for teachers and students to be central actors in what indigenous science scholar Megan Bang calls "place-making" (Bang and Vassoughi, 2016).

A future where all students understand the principles of the Earth's climate system and the land and other local natural resources that sustain their bodies, minds, and spirits—and where they can communicate about climate change impacts and solutions in a meaningful and localized way—simply cannot unfold without a full-scale climate science literacy policy effort and resulting funding and programs. ClimeTime is the beginning of such an endeavor in Washington and once it and other initiatives like it elsewhere take flight, students, families, neighborhoods, businesses, and communities everywhere will be better prepared and resilient in the face of climate impacts.

Governor Inslee's statement, that we are the last generation to do something about climate change, is our "call to arms." Clean energy systems, carbon taxes, and other technologies and policies alone will not get the job done. Indeed, the hour to unleash the power of climate science learning for this and future generations is finally here, and it rests squarely in our hands. What is your next step?

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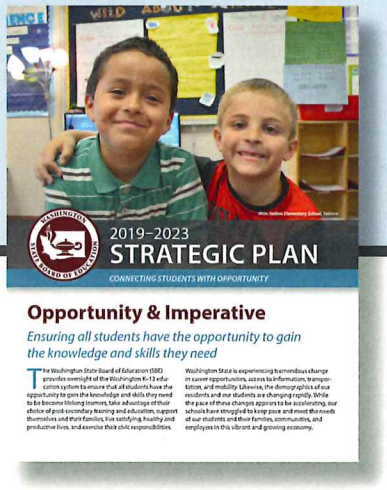
2019–2023 STRATEGIC PLAN

sbe.wa.gov/strategic-plan



The Washington State Board of Education (SBE) envisions an education system where students are engaged in personalized education pathways that prepare them for civic engagement, careers, postsecondary education, and lifelong learning. The strategic plan also lays out a set of goals and priorities to realize this vision.

- **All students feel safe at school, and have the supports necessary to thrive.**
- **All students are able to engage in their schools and their broader communities, and feel invested in their learning pathways, which lead to their post-secondary aspirations.**
- **School and district structures and systems adapt to meet the evolving needs of the student population and community, as a whole. Students are prepared to adapt as needed and fully participate in the world beyond the classroom.**
- **Students successfully transition into, through, and out of the P–12 system.**
- **Students graduate from Washington State high schools ready for civic engagement, careers, post-secondary education, and lifelong learning.**
- **Equitable funding across the state to ensure that all students have the funding and opportunities they need, regardless of their geographical location or other needs.**

The strategic plan serves as a foundation for Board actions and efforts for the period of 2019 through 2023. During this time period, progress will be measured on an annual basis using the indicators of system health. *(See opposite side.)*

5 CATEGORIES:

- STUDENT WELL-BEING
- LEARNING ENVIRONMENTS
- SYSTEM DESIGN
- STUDENT TRANSITIONS & DIPLOMA
- FUNDING & ACCOUNTABILITY

The strategic plan is intended to highlight not just initiatives led by the Board but also those of partner agencies and organizations that are working to improve our education system, advance equity, and respond to the needs of students and communities. The development of the plan relied on the work of the EOGOAC, ELOC, Career Connect Washington, OSPI, PESB, CISL, WSAC, WSSDA, DCYF, WTECB, and others. In addition, we received input through regional community forums, outreach at partner meetings, presentations to the State Board, and a public survey that reached 2,690 participants.

The Board is comprised of sixteen members, including two student members, the Superintendent of Public Instruction, one member elected by the private schools, five members elected by local school boards, and seven members appointed by the Governor.

BOARD MEMBERS

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- Jeff Estes
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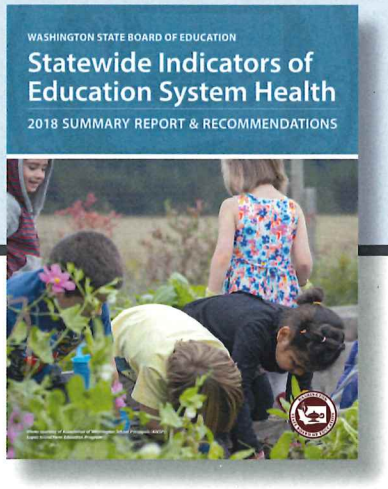
- Autymn Wilde, *Student [Central Valley HS]*

STATEWIDE INDICATORS OF EDUCATION SYSTEM HEALTH

2018 SUMMARY REPORT & RECOMMENDATIONS

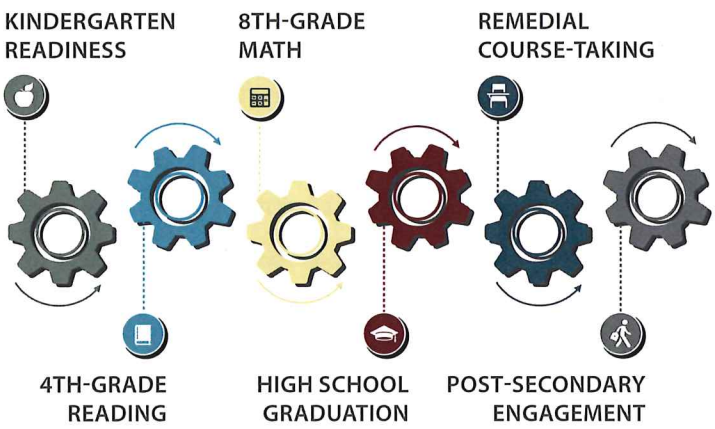
sbe.wa.gov/education-system-health



Washington faces a real opportunity to address persistent challenges in our education system. There is a great deal of alignment and energy among partners in the Washington state education system. Many of our partners have established goals and initiated actions that align with the SBE vision of an education system where students are engaged in personalized education pathways that prepare them for civic engagement, careers, postsecondary education, and lifelong learning. The State Board of Education is committed to working with partners in education to attain our common goals.

Statewide Indicators of the Educational System Health are centered on three primary framing questions:

1. **Are young children prepared to learn as they transition into the K–12 system?**
2. **Do students have access to quality schools and programs?**
3. **Are students provided an opportunity to develop the skills and knowledge to be prepared for civic engagement, careers, postsecondary education, and lifelong learning?**



The six primary indicators (Kindergarten Readiness, 4th-Grade Reading, 8th-Grade Math, High School Graduation, Remedial Course-taking, and Post-secondary Engagement) provide an annual snapshot of the Washington education system beginning in kindergarten and extending into higher education and work. The indicators are intended to provide a state level look at key trends; however, they are not comprehensive.

Washington is improving on most key education performance indicators, however, the rate of improvement is not enough to achieve the long term goals the state has set for its students. Detailed analysis of the results may be found in the Indicators of Educational System Health Report (http://bit.ly/18system) and the data supplement (http://bit.ly/18supp).

MOST RECENT PERFORMANCE FOR THE "ALL STUDENTS" GROUP ON STATEWIDE INDICATORS

Indicator	3-Year Trend	2018 Actual	2018 Target
Kindergarten Readiness	IMPROVING	46.7%	51.7%
4th-Grade Reading	UNCHANGED	57.3%	58.7%
8th-Grade Math	UNCHANGED	47.5%	50.9%
High School Graduation	IMPROVING	79.3%*	80.4%
Readiness for College Coursework	IMPROVING & TO BE UPDATED	73.9%*	75.5%
Post-secondary Attainment & Workforce	IMPROVING & TO BE UPDATED	42%*	44%

**2017 represents the most recent year of data at the time of publication.*

WASHINGTON STATE BOARD OF EDUCATION

Statewide Indicators of Education System Health

2018 SUMMARY REPORT & RECOMMENDATIONS

Photo courtesy of Association of Washington School Principals (AWSP): Lopez Island Farm Education Program

Photo courtesy of Sherman STEAM

Summary and Background Information

The State Board of Education (SBE), with assistance from other state education agencies,[1] reports on the statewide indicators of educational system health established in RCW 28A.150.550 and recommends evidence-based reforms to improve the status of the indicators. The legislation was meant to help the legislature understand whether reform efforts and investments are making positive progress in the overall education of students and whether adjustments are necessary.

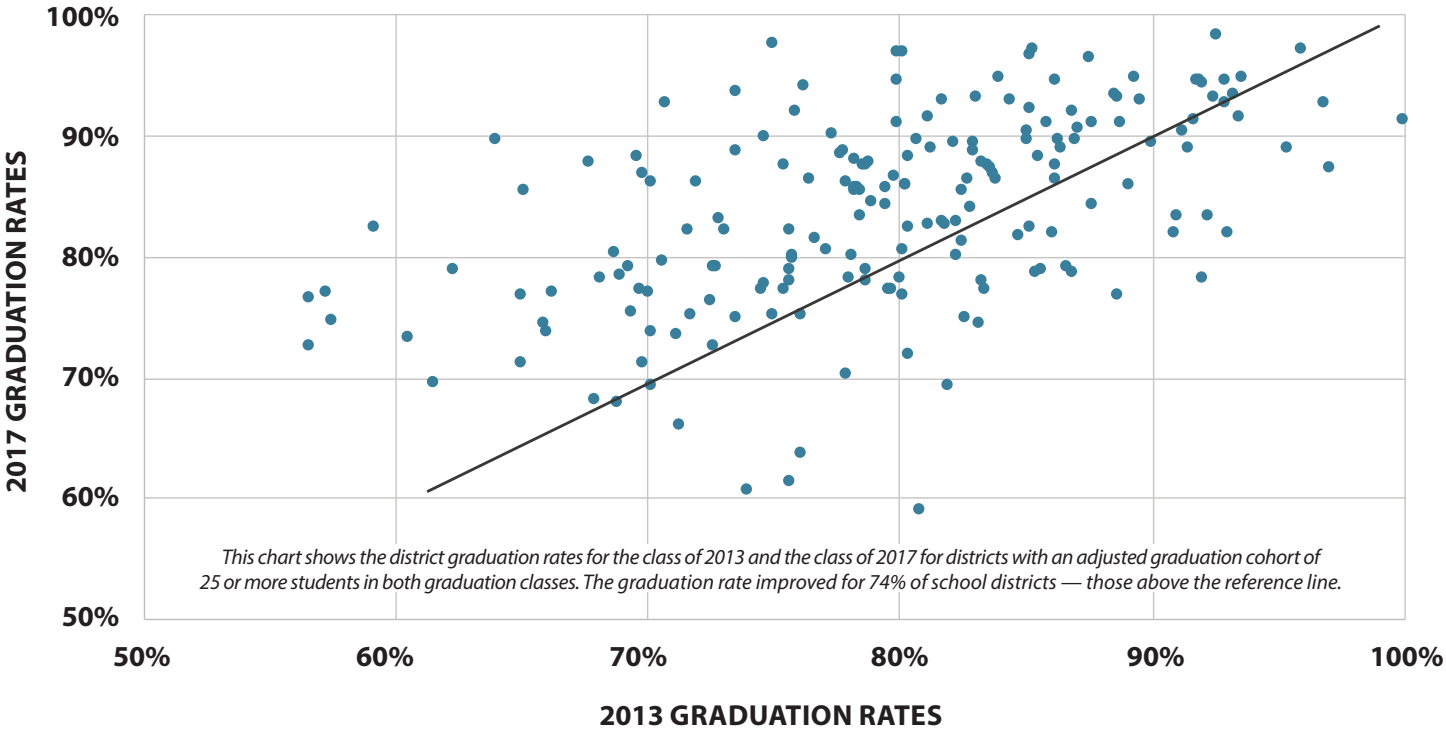
This is the fourth report on the Indicators of Educational System Health. As you read this report and the supplemental data tables and figures, be mindful that this process is not merely to report on the results of each indicator, but to make recommendations about appropriate reforms in the system. The Board has intentionally aligned the recommendations of this report with the 2019–23 Strategic Plan.

At the fall 2016 SBE meetings, members spoke of the importance of aligning the performance goals of the statewide indicators to the Every Student Succeeds Act (ESSA) long-term goals. Also at that time and during discussions at prior meetings, members suggested that the peer states utilized in the comparisons be updated periodically to reflect the changing characteristics of Washington. Finally, members expressed the desire for staff to engage with partner agencies earlier in the reporting year to ensure that the partner agencies have ample time to provide input and to guide the development of the report. In response to member discussions and in consultation with partner agencies, the following changes were implemented for December 2018.

- **The SBE convened a Technical Advisory Committee (TAC) to advance the work on the Statewide Indicators of the Educational System Health report.**
- **Performance goals were revised and reset in a manner that aligns each with the ESSA goalsetting methodology.**

[1] Office of the Superintendent of Public Instruction, Workforce Training and Education Coordinating Board, Education Opportunity Gap Oversight and Accountability Committee, Washington Student Achievement Council, Washington State Board of Community and Technical Colleges, Department of Children, Youth, and Families, Education Research and Data Center, Professional Educator Standards Board, and Office of the Governor.

DISTRICT HIGH SCHOOL GRADUATION RATES



This chart shows the district graduation rates for the class of 2013 and the class of 2017 for districts with an adjusted graduation cohort of 25 or more students in both graduation classes. The graduation rate improved for 74% of school districts — those above the reference line.

- **The annual targets and long-term goals for students with a disability were recalculated following guidance from the OSPI that eliminates the reporting of Level-2 Basic proficiency.**
- **The list of peer states has been revised to better match the characteristics and structure of Washington's economy.**
- **This report proposes five evidence-based reforms or recommendations put forth for the purpose of improving Washington's educational system, each of which are explicitly aligned with the SBE strategic plan for 2019–23.**

In the 2017 and 2018 legislative sessions, the legislature passed and the Governor signed into law legislation that increased funding for education and made other important changes to our K–12 system. Evidence of the system improvement will not be borne out in educational outcomes for years because institutional change requires time. The supplemental data tables and figures show that the overall performance on nearly all of the indicators is incrementally improving, but like many other states, large performance gaps based on race, poverty, and other characteristics persist.

For example, the four-year high school graduation rate increased a modest 3.3 percentage points from the class of 2013 to the class of 2017. A small annual change, but three of every four school districts granting high school diplomas posted gains on the high school graduation rate. On the image above, each school district's graduation rate for 2013 is plotted against its graduation rate for 2017. Dots above the diagonal line represent a district with an increase in the graduation rate from 2013 to 2017, and a greater distance from the diagonal line indicates a larger increase. While it is appropriate to acknowledge the incremental successes we have experienced, it is also important not to lose a sense of urgency about the size and scope of our achievement and opportunity gaps, which present as early as age five, and persist in the data to age 25 and beyond. We can and must do better for Washington's children.

The authorizing legislation requires that the performance on the indicators be reported on for the All Students group, and disaggregated into the seven race and ethnicity student groups, and the special programs student groups (English learner, low income, and special education). For any given indicator, the aspirational goal is the same, which means that student groups performing below the state average must make larger annual gains to remain on track to meet the goal. Student groups performing above the state average are able to remain on

STATUS OF THE SIX REQUIRED INDICATORS OF THE EDUCATIONAL SYSTEM HEALTH

	Change Over 3 Years*	Met Annual Target	Comparable to Peer States**	Top 10 % Nationally**
Kindergarten Readiness	+ 2.5	NO	NO	NO
4th-Grade Reading	+ 0.3	NO	YES	YES
8th-Grade Math	- 0.3	NO	YES	YES
High School Graduation	+ 1.2	NO	NO	NO
Readiness for College Coursework	+ 1.1	NO	YES	YES
Post-secondary Attainment & Workforce	+ 0.5	NO	*N/A*	*N/A*

**Change shown as percentage points.*

***The peer state and national comparisons utilize a combination of measures comprised of the recommended measures, nationwide administered assessments, and other publicly available information.*

track to meet the goal by making smaller annual gains. For the English learner student group and the students with a disability group, meeting the annual improvement targets becomes a real challenge as the most successful students are removed from the group when they achieve the academic level of their peers.

Status of the Statutorily Required Indicators

Statewide, we are seeing overall progress on the six required indicators of system health when the All Students group is considered (see above). However, progress by some student groups is mixed and the degree to which some indicators are improving is less than desired.

The overall performance on Kindergarten Readiness via the WaKIDS whole-child assessment is up 2.5 percentage points (pp) over three administrations, but the readiness of Native American and Pacific Islander children declined by approximately 4.7 and 4.8 percentage points, respectively.

- **On the 4th-grade reading indicator, the students with a disability group improved 3.5 percentage points from 2017, but the English learner group's performance declined by 4.0 percentage points from 2016.**
- **On the 8th-grade math indicator, the All Students' group performance increased by 0.9 percentage points from 2017, but the American Indian, Asian, and Black student groups' performance declined by 0.4 to 2.6 percentage points (pp) from 2017.**
- **The performance on the measure of High School Graduation for the class of 2017 is up fractionally for the All Students group, up for the Native American (3.9 pp), Black (2.7 pp), and Hispanic (3.1 pp) student groups, but is down fractionally for the Asian and Pacific Islander student groups.**

MOST RECENT PERFORMANCE FOR THE "ALL STUDENTS" GROUP ON THE STATEWIDE INDICATORS

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**Represents the most recent year of data.*

The separate supplemental data tables document provides a great deal of information on the educational system performance through the disaggregation of the indicator performance by race/ethnicity student groups, low income status, and participation in special education or bilingual education. The figures comprising the bulk of the supplemental report show that students of certain race ethnicities (e.g. Asian) perform higher than other groups and are closer to meeting long-term goals. Previous SBE work disaggregating groups to the sub-ethnic level clearly demonstrates that some Asian student groups (e.g. Korean) perform at a high level but other Asian student groups (e.g. Thai and Vietnamese) perform considerably lower. Inequitable outcomes are not always obvious as there are no model or exceptional student groups, rather, the inequities are sometimes concealed in the educational system.

The Washington educational system is improving but not to the degree where most student groups are meeting annual targets (see above). In other words, many student groups are not on track to meet the long-term goals aligned with Washington's ESSA state plan.

Language in the legislation provides a clear picture of the legislature's aspirational goals for Washington: an education system ranked in the top ten percent nationally and comparable to the education systems of other high performing states. In selecting and defining the indicators to be monitored and reported upon, the legislature sent a clear message about what are the important measures for the educational system and what milestones are important for students to meet. The indicators are reasonably well suited to address three overarching questions about Washington's education system.

1. **Are young children prepared to learn as they transition into the K–12 system?**
2. **Do students have access to quality schools and programs?**
3. **Are students provided an opportunity to develop the skills and knowledge to be prepared for civic engagement, careers, postsecondary education, and lifelong learning?**

What evidence do we have showing that young children are prepared to learn as they transition into the K–12 system?

The legislature directed the SBE to annually monitor the percentage of kindergarten students who meet the benchmarks on all six domains of the Washington Kindergarten Inventory of Developmental Skills (WaKIDS). To provide additional information on this question, the SBE recommended that the state monitor the early childhood education enrollment patterns for young children before entering the K–12 education system.

For a number of years, the percentage of Washington three- and four-year olds enrolling in early childhood education has hovered around 40 percent, but that number is inching higher, as the state has been expanding the number of Early Childhood Education and Assistance Program (ECEAP) full day and part day slots annually. Approximately one-half of all incoming kindergarten students are kindergarten-ready as measured by the WaKIDS.

- **In the fall 2018, approximately 53 percent of White kindergartners were kindergarten-ready but only 31 percent of Hispanic kindergartners were kindergarten-ready, a performance gap of 22 percentage points at the time of transitioning into the K–12 education system.**

The percentage of young children who are kindergarten-ready is substantially lower for Native American, Black, Hispanic, and Pacific Islander young children, who are less likely to enroll in a private early childhood education and must compete for state funded ECEAP slots. The percentage of young children who are kindergarten-ready is expected to increase as Washington's ECEAP continues to expand and as program quality improves under solid funding in the coming years.

RECOMMENDATION:

Expand access to affordable, high-quality early childhood education for all of Washington's children, particularly children of color and children in poverty.

Do Washington students have access to quality schools and programs?

The statutorily required indicators are not particularly well suited to address a qualitative question such as this, but the SBE monitors some measures that shed light on the question. It would be safe to say that a "quality school" is one in which students feel safe, valued, listened to, and take control of their learning. Also, that every student has access to an effective and qualified teacher or role model at the school that each student can relate to or connect with.

RECOMMENDATION:

Improve early learning and transitions within the K–12 continuum. Expand the availability of graduation specialists and career specialists in high school. Increase equity in access to accelerated learning opportunities, including dual credit programs.

RECOMMENDATION:

Promote programs and policies that enable and encourage meaningful family and community engagement at every level of the education system to ensure schools are responsive to the needs of communities. Expand use of personalized learning strategies and project-based and career-connected learning opportunities, including credit for competencies acquired in the workplace, through volunteer work, or other extracurricular activities. Implement emerging and effective practices in the teaching and learning of math. Scale these efforts and share effective practices to implement continual curriculum improvement using research-based models to improve teaching and learning. Ensuring relevancy and personalization for students is valued.

The SBE made the recommendation to monitor disproportionate exclusionary discipline because access to education is greatly diminished when a student is excluded from day-to-day learning opportunities. Students of color are subjected to exclusionary discipline interventions at a disproportionately high rate, most often for "other inappropriate behavior" which is ill-defined.

- **Native American students and Black students are more than twice as likely to experience an exclusionary discipline intervention as a White student.**

A large number of schools in Washington administer school climate and culture surveys, parent surveys, and educator surveys as a means to quantify the otherwise qualitative measures of school climate and culture. Analyses are showing that positive school climate/culture has a positive impact on student well-being, student educational outcomes, and teacher and parent/guardian satisfaction. Notwithstanding the demonstrable benefits, Washington has yet to implement a statewide school climate/culture survey for the purpose of improving climate and culture in school buildings and to help quantify school quality across the state.

RECOMMENDATION:

Develop a statewide framework for school safety and mental health to provide all schools with access to mental health professionals in schools with links to community-based mental health and other healthcare providers, wrap-around supports for students,[2] professional development to support mental health, social emotional learning, trauma-informed instruction, positive behavioral interventions and support (PBIS), and emergency preparedness for all educators and other school staff. Shift the focus of discipline to an integrated student supports system that keeps youth engaged in school and out of the juvenile justice system. Strengthen current high school health learning standards to include information on mental health relevant to students and improve mental health instruction in K–12. Expand efforts to support the emotional well-being of our teachers. Expand efforts to ensure students have agency and input in their learning environments.

Which students are provided an opportunity to develop the skills and knowledge to be prepared for civic engagement, careers, postsecondary education, and lifelong learning?

Like many educational systems across the country, Washington's educational system is quite effective for the White middle/upper class and is much less effective for students of color, students from low income households, students with a disability, and students whose home language is something other than English. The inequities of the educational system are evident from the educational outcome measures included in the statewide indicators.

- **On the 4th-grade reading assessment, approximately 65 percent of White students meet the proficiency benchmark but only 40 percent of Hispanic students meet the benchmark, a performance gap of 25 percentage points.**
- **On the 8th-grade math assessment, approximately 54 percent of White students meet the proficiency benchmark but only 25 percent of Black students meet the benchmark, a performance gap of 34 percentage points.**
- **On the high school graduation measure, approximately 82 percent of White students graduate in four years but only 60 percent of Native American students graduate from high school in four years, a performance gap of 22 percentage points.**

[2] For example: Washington Integrated Student Supports Protocol (WISSP)

RECOMMENDATION:

Increase investments to expand high quality, publicly funded learning opportunities including extended day, summer learning opportunities and extracurricular activities as well as transportation and other supports necessary to ensure equitable access. Increase investments and professional development to address the needs of diverse learners including expansion of dual language and immersion programs beginning in elementary school and continuing through high school. Encourage intentional consideration of culturally responsive, flexible calendars and scheduling and alternatives to the traditional 180-day calendar. Recruit and retain educators and administrators who represent the diversity of the students served, and innovative educational leaders who are committed to eliminating biases, barriers, and opportunity gaps. Provide additional professional development opportunities for educators and administrators.

RECOMMENDATION:

Provide targeted funding to schools and students who need it most, including support for increased access to mental health services, wrap-around supports, Special Education, and English Language Learners. Fully fund dual credit programs in all subject areas to eliminate disparities related to cost. Revise the prototypical school funding model to better reflect needs of the students schools serve; to include a specific student to mental health professional ratio, and to increase the ratio of instructional staff to students (reduce class size). Increase funding for professional development to strengthen, develop, and retain strong, sustainable, diverse school leadership at every level. Provide funding to recruit and retain teachers, staff, and school leaders to reflect the diversity of the school and community. Provide adequate state funding for school and district facilities and change the capital funding threshold to require a simple majority for passage of bonds.

Conclusion

Washington failed to meet the annual targets for the statewide indicators of the educational system health and the reader is directed to the supplemental data tables and other information to learn more about the educational system health. The SBE strategic plan for 2019–23, adopted at the November Board meeting, provides a more complete set of recommended system reforms.

More: http://sbe.wa.gov/education-system-health

Photo courtesy of AWSP: Larchmont Elementary