Washington

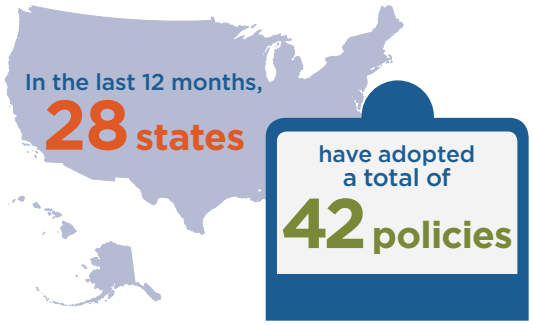
2020 State of Computer Science Education: Illuminating Disparities

Computer science education is more important than ever. The COVID-19 pandemic has highlighted our society's reliance on computing and its power to help businesses innovate and adapt, yet at the same time has surfaced greater disparities for students studying computer science. Computing is the number one source of all new wages in our economy, and there are currently 400,000 open computing jobs across the United States. Yet the U.S. education system does not provide widespread access to this critical subject.

Although access to computer science is key to addressing the equity issues in society, only 47% of our nation's high schools teach foundational computer science. In addition, students from marginalized racial and ethnic groups, students in Title I schools, and students from rural areas are less likely to attend a school that provides access to this critical subject.

States are working to broaden participation in computer science by passing policies to make computer science a fundamental part of the K–12 education system. In addition to adopting more policies, state education leaders extend and innovate on previously adopted policies: continuing to fund computer science education, supporting teachers and students, and providing leadership and guidance.

States that have adopted more of these nine policies have a larger percentage of high schools teaching computer science. States that have funded K–12 computer science professional learning have higher implementation rates than states that have not provided direct funding.



Pursuing an access agenda to K–12 computer science provides policymakers a rare opportunity to address equity, workforce, and education issues on a bipartisan basis. States should enact or expand on all nine of these education policies in order to provide opportunities for all students regardless of where they live, their race/ethnicity, gender, or socioeconomic status.

Nine Policies to Make Computer Science Fundamental

1. Create a state plan for K–12 computer science
2. Define computer science and establish K–12 CS standards
3. Allocate funding for CS teacher professional development
4. Implement clear certification pathways for computer science teachers
5. Create computer science preservice programs at IHEs
6. Establish dedicated state computer science positions
7. Require that all secondary schools offer computer science
8. Allow computer science to satisfy a core graduation requirement
9. Allow CS to satisfy admission requirements at IHEs

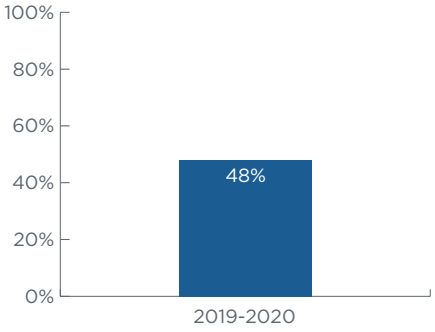
Washington Computer Science Policy

State Plan No	Washington has not yet created a state plan for K-12 computer science. A plan that articulates the goals for computer science, strategies for accomplishing the goals, and timelines for carrying out the strategies is important for making computer science a fundamental part of a state's education system.
Standards Yes	Washington adopted updated K–12 computer science standards based on the CSTA standards in 2018. Standards within each grade band address concepts of equity, such as bias, accessible technology, and inclusivity.
Funding Yes	HB 1109 (FY 2020 and 2021), SB 5883 (FY 2018 and 2019), and SB 6052 (FY 2016 and 2017) appropriated $1M annually for the computer science education grant program with a one-to-one private match requirement. HB 1109 exempted the match requirement for districts with greater than 50% of students eligible for free and reduced-price meals. Grants are intended to support innovative ways to engage students from historically underrepresented groups, including female students, low-income students, and students in underrepresented racial and ethnic groups.
Certification Yes	In Washington, teachers with existing licensure can obtain a K–12 endorsement through passing the state content exam. State funding for computer science can support credentialing for teachers.
Preservice Yes	The Washington Office of Superintendent of Public Instruction has approved teacher preparation programs leading to certification in computer science. The Washington State Opportunity Scholarship also provided funding for Central Washington University and Western Washington University to develop a computer science endorsement program.
CS Supervisor Yes	The Washington Office of the Superintendent of Public Instruction has a Computer Science Program Specialist.
All HS Offer Yes	SB 5088 (2019) required that each school district that operates a high school must provide access to an elective computer science course by the 2022–2023 school year. HB 1577 (2019) required each school district to report the number of computer science course offerings and demographics of the students enrolled in the courses, starting in June 2020.
Grad Credit Yes	In Washington, computer science can count as the third required mathematics credit or a science credit for graduation.
IHE Admission Yes	AP Computer Science A can count as a mathematics credit required for admission at institutions of higher education in Washington.

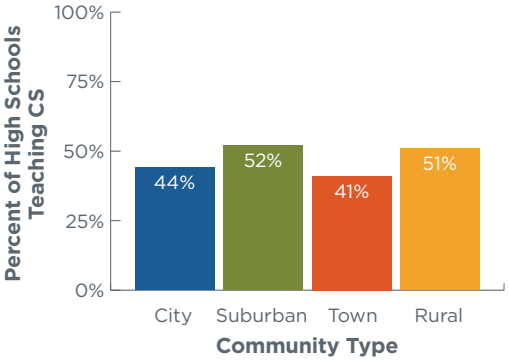
Washington is a member of the ECEP Alliance, has CSTA chapters, and Governor Jay Inslee is a member of the Governors' Partnership for K–12 Computer Science.

Computer Science Access and Participation in Washington

High Schools Teaching CS



Percent of High Schools Teaching CS by Community Type

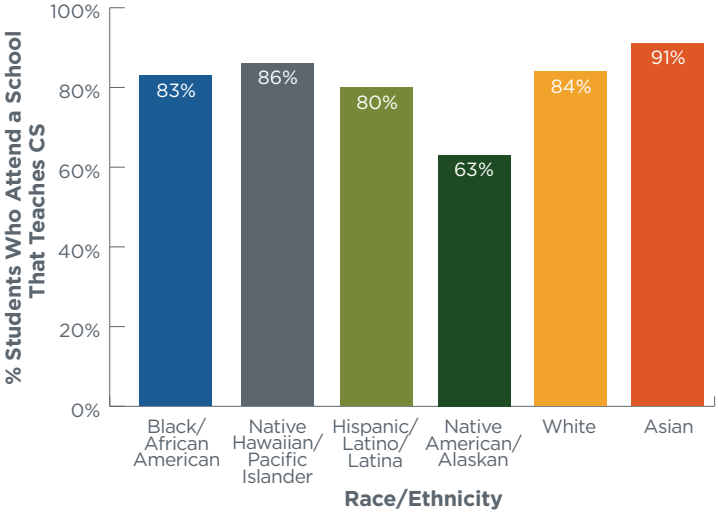


Washington has averaged **17,616** open computing jobs each month*

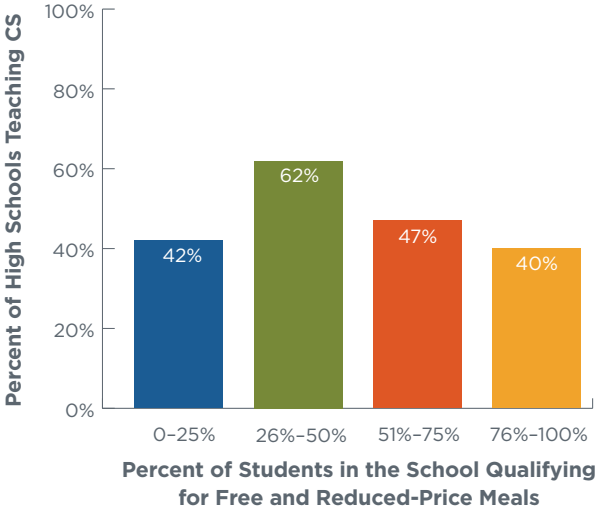
2,100 Bachelor's degree in 2018 in Washington*

*Sources: The Conference Board and the National Center for Education Statistics

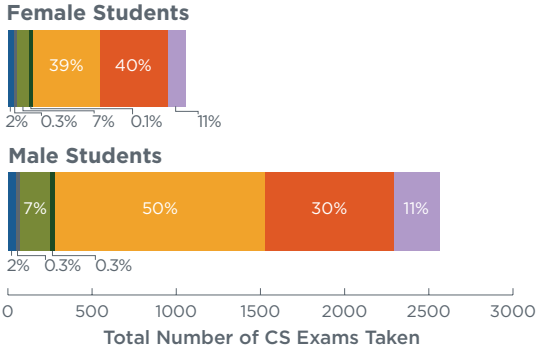
Race/Ethnicity and Access to Computer Science



Income Level and Access to CS



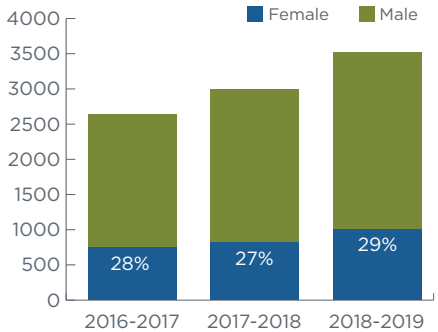
AP CS Participation by Race/Ethnicity and Gender



LEGEND

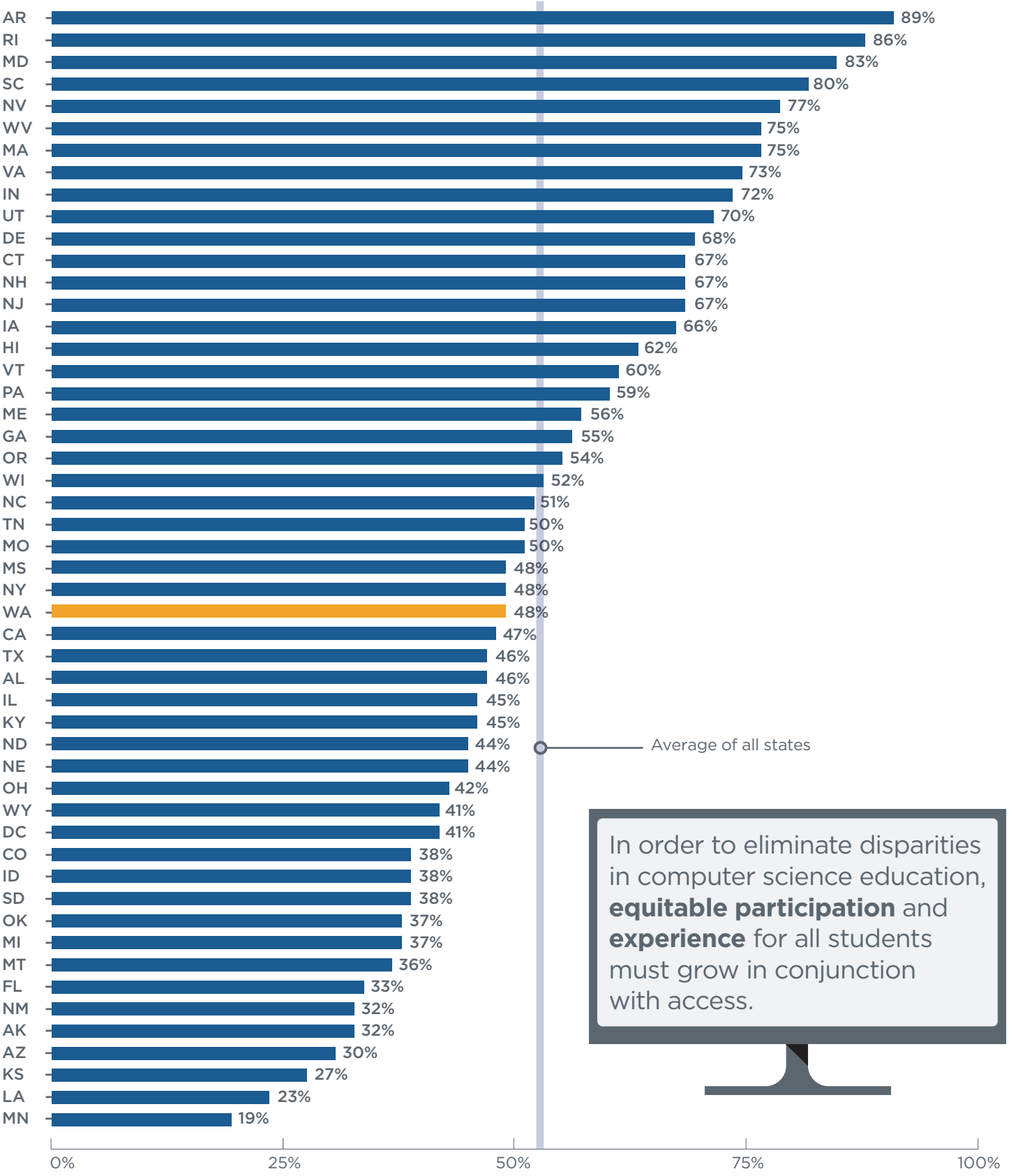
- Black/African American
- Native Hawaiian/Pacific Islander
- Hispanic/Latino/Latina
- Native American/Alaskan
- White
- Asian
- 2+ Races/Other

AP CS Student Participation



Native American, Hispanic/Latino/Latina, and Black/African American students are each 3 times less likely and Native Hawaiian/Pacific Islander students are 4.6 times less likely than their white and Asian peers to take an AP CS exam when they attend a school that offers it.

Percent of High Schools Teaching Computer Science by State



In order to eliminate disparities in computer science education, **equitable participation** and **experience** for all students must grow in conjunction with access.

For more details on policy, access, and participation, see the full 2020 State of Computer Science Education report at advocacy.code.org/stateofcs

Advocacy Coalition

ECEP Expanding Computing Education Pathways

CSTA