



West Virginia

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

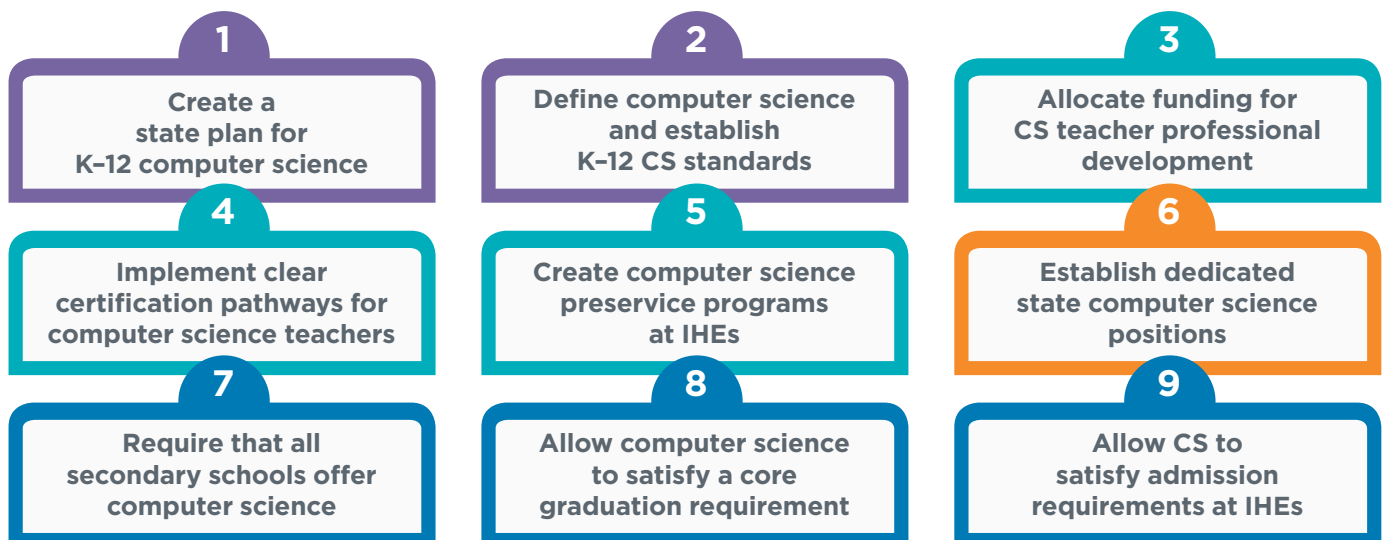
computer science education, supporting teachers and students, and providing leadership and guidance.

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. All nine policies can promote access to and equity within rigorous and engaging computer science courses when stakeholders make equity an explicit focus on policy development and implementation monitoring.

Nine Policies to Make Computer Science Fundamental





West Virginia Computer Science Policy

State Plan

Yes

The West Virginia Department of Education approved a state plan for expanding Computer Science in October 2019.

Standards

Yes

West Virginia adopted K-12 computer science standards in 2019.

Funding

Yes

With the publication of the West Virginia Computer Science Plan in October 2019, the state also allocated yearly funding for professional development for teachers as recommended by SB 267 (2019).

Certification

Yes

In West Virginia, teachers with existing licensure can obtain course-specific authorizations for Introduction to Computer Science, Computer Science Discoveries, and/or Computer Science Fundamentals by completing specified professional development.

Preservice

No

West Virginia has not yet established programs at institutions of higher education to offer computer science to preservice teachers. The computer science teacher shortage can be addressed by exposing more preservice teachers to computer science during their required coursework or by creating specific pathways for computer science teachers.

CS Supervisor

Yes

The West Virginia Department of Education has a Computer Science Supervisor.

All HS Offer

Yes

SB 267/HB 2415 (2019) required the West Virginia State Board of Education to adopt a policy detailing the appropriate level of computer science instruction that shall be available to students at each programmatic level prior to the 2020-2021 school year. Policy 2510, revised in 2015, required all high schools to offer a computer science course.

Grad Credit

Yes

In West Virginia, an AP computer science course can count as the fourth mathematics credit or a science credit for graduation.

IHE Admission

No

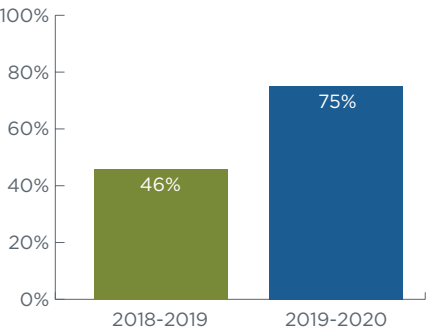
West Virginia does not yet allow computer science to count as a core admission requirement at institutions of higher education. Admission policies that do not include rigorous computer science courses as meeting a core entrance requirement, such as in mathematics or science, discourage students from taking such courses in secondary education. State leaders can work with institutions of higher education to ensure credit and articulation policies align with secondary school graduation requirements.

West Virginia has a CSTA chapter.

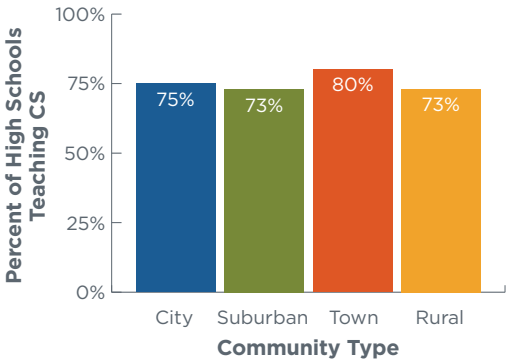


Computer Science Access and Participation in West Virginia

High Schools Teaching CS

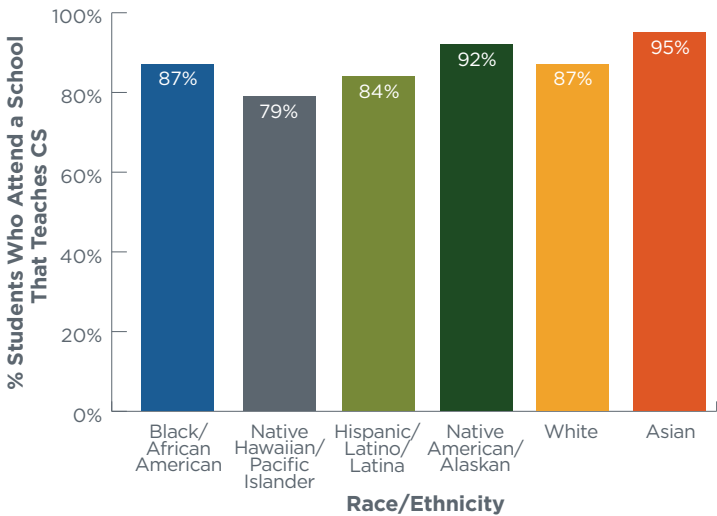


Percent of High Schools Teaching CS by Community Type

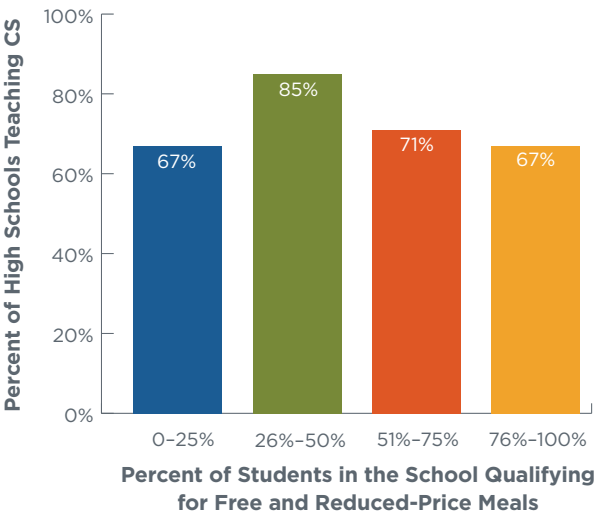


* Sources: The Conference Board and the National Center for Education Statistics

Race/Ethnicity and Access to Computer Science

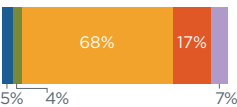


Income Level and Access to CS

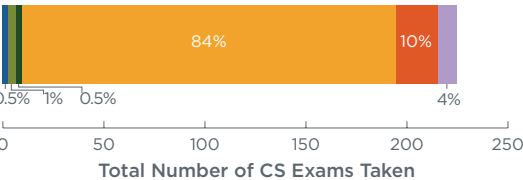


AP CS Participation by Race/Ethnicity and Gender

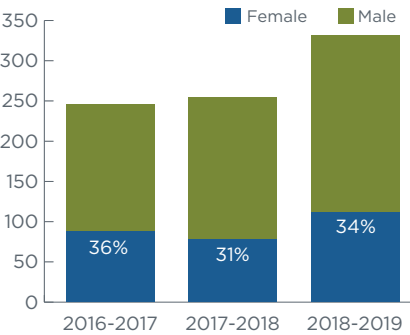
Female Students



Male Students



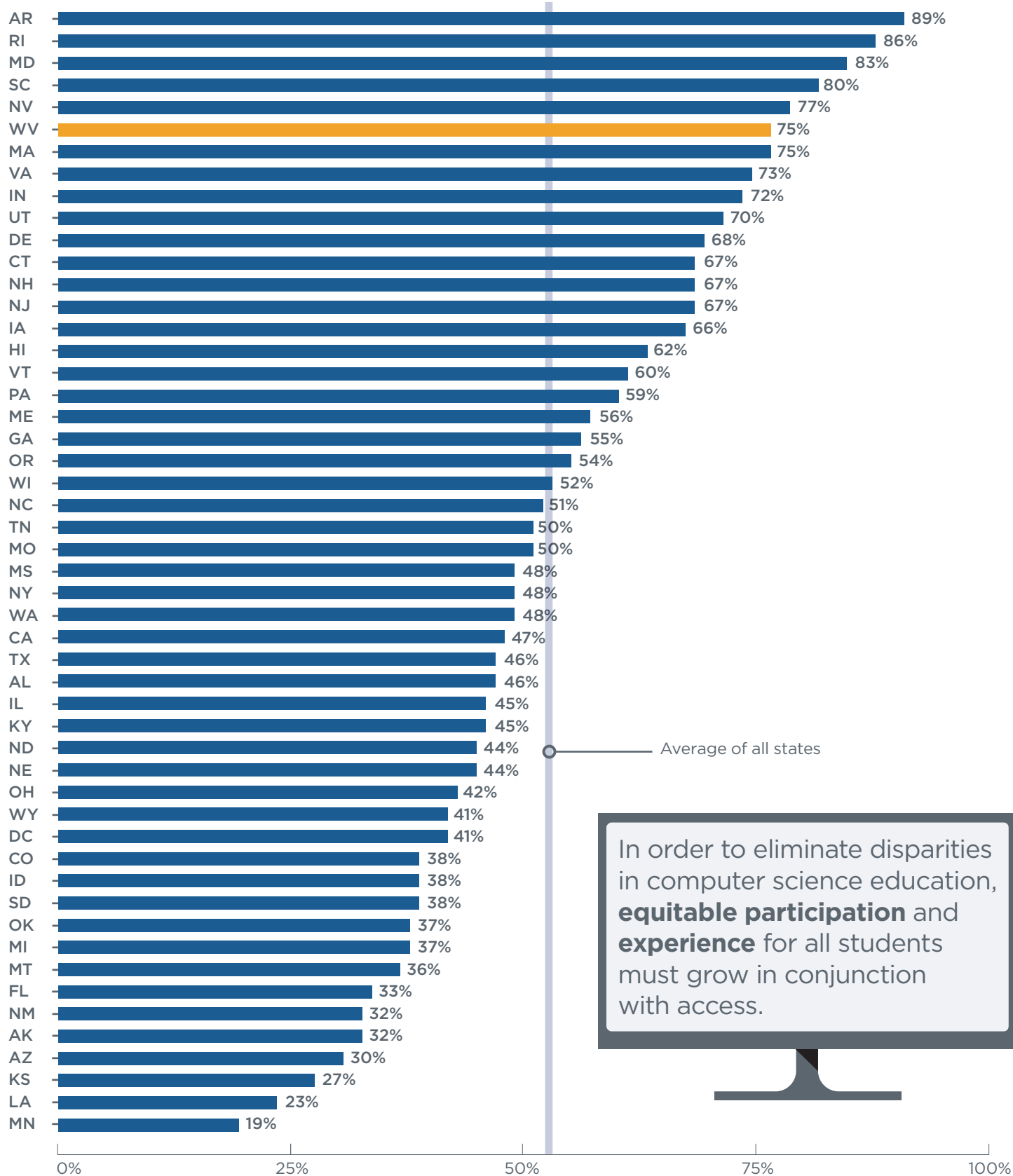
AP CS Student Participation



Black/African American students are 2.6 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

