



Hawaii

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

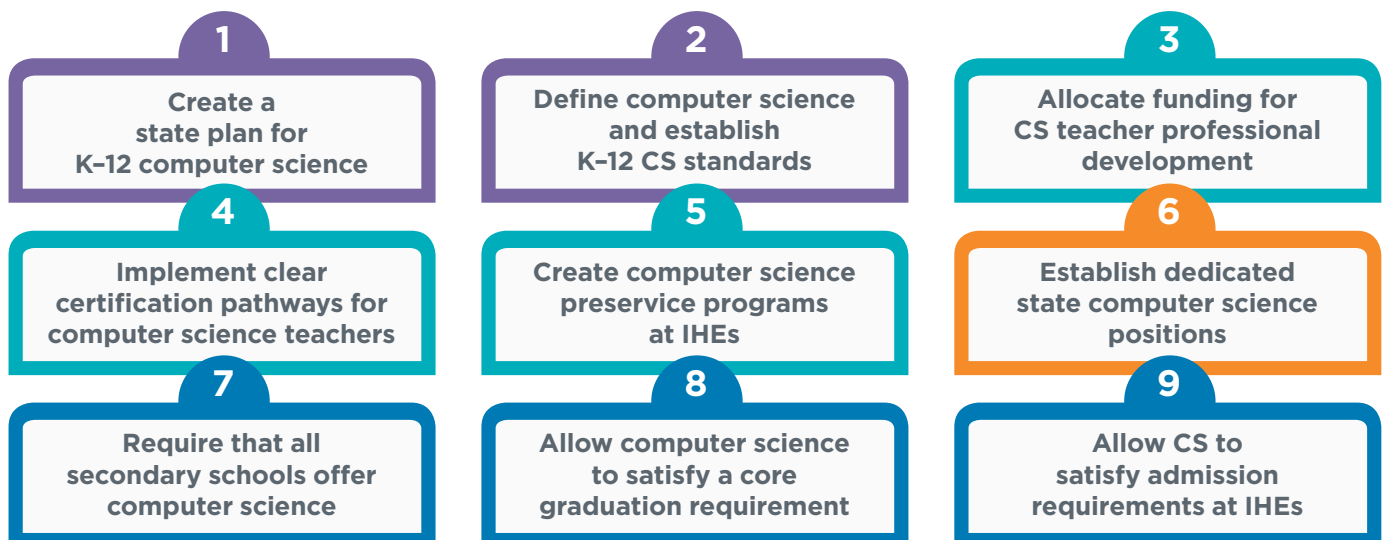
computer science education, supporting teachers and students, and providing leadership and guidance.

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



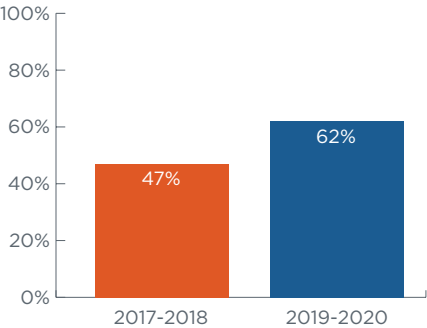


Hawaii Computer Science Policy

State Plan	The Hawaii State Department of Education developed a state plan for expanding computer science access in 2018. The plan includes a section focused on goals to increase diversity and equity in computer science.
Yes	
Standards	Hawaii adopted the CSTA K-12 Computer Science Standards in 2018. Standards within each grade band address concepts of equity, such as bias, accessible technology, and inclusivity.
Yes	
Funding	HB 2607 (FY 2019) dedicated \$500K to computer science teacher professional development and required grantees to address how they plan to instruct teachers to effectively teach students in computer science, including students from demographic groups that are historically underrepresented in computer science. In 2019, the state budget increased the weighted per-pupil funding to schools by \$3M, directing that schools use some of these funds to implement computer science curriculum.
Yes	
Certification	In Hawaii, teachers with existing licensure can obtain a K-6, 6-12, or K-12 certification by completing a state-approved teacher education program, passing the Praxis CS exam, coursework and experience, professional development and experience, or holding a certification from another state and experience. The state also has a limited license for individuals with CS industry experience.
Yes	
Preservice	Hawaii 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.
No	
CS Supervisor	The Hawaii Department of Education has a Computer Science Specialist.
Yes	
All HS Offer	Act 51 (2018) required all high schools to offer at least one computer science course by the 2021-2022 school year.
Yes	
Grad Credit	In Hawaii, AP computer science can count as the fourth mathematics credit required for the Academic or STEM Honors Recognition Certificate for graduation.
Yes	
IHE Admission	Hawaii 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.
No	

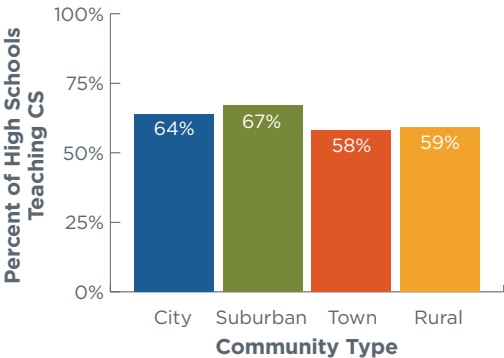
Hawaii is a member of the ECEP Alliance, has a CSTA chapter, and Governor David Ige is a member of the Governors' Partnership for K-12 Computer Science.

High Schools Teaching CS



*Data includes public DOE and public charter schools; 68% of DOE high schools teach CS. Data was not collected for the 2018-2019 school year.

Percent of High Schools Teaching CS by Community Type



Hawaii has averaged
1,416
open computing jobs
each month*

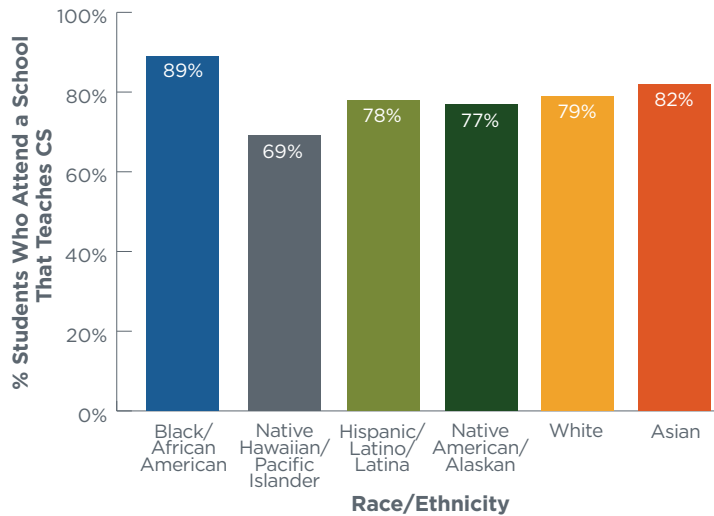
160
CS bachelor's degrees
in 2018 in Hawaii*

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

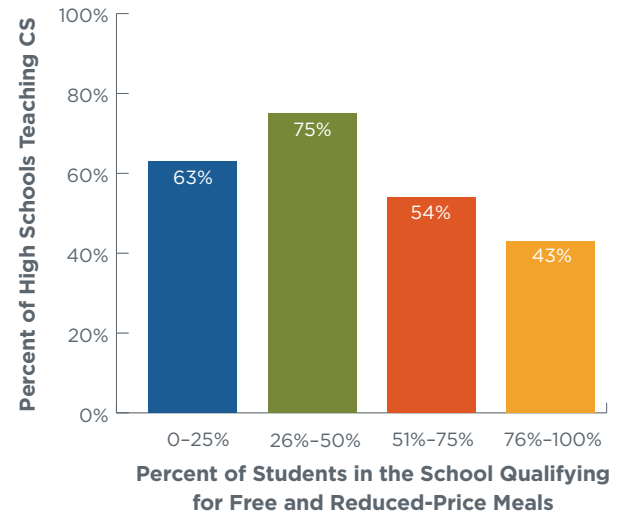


Computer Science Access and Participation in Hawaii

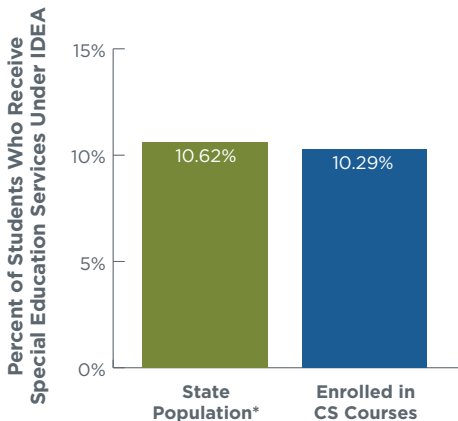
Race/Ethnicity and Access to Computer Science



Income Level and Access to CS

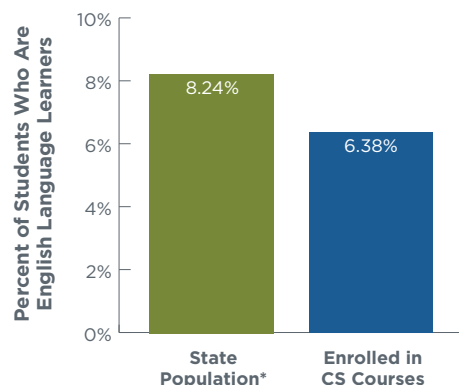


Students with Disabilities and Participation in CS



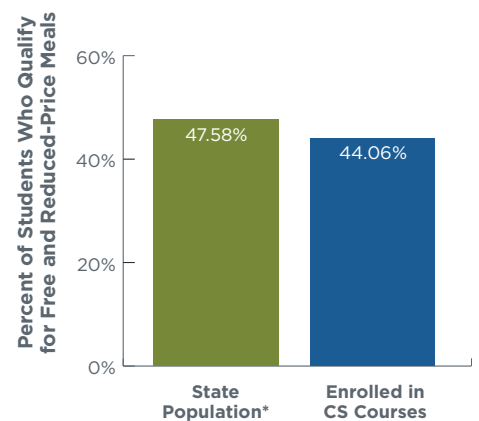
* U.S. Department of Education, Digest of Education Statistics Table 204.70, 2017-2018

English Language Learners and Participation in CS



* U.S. Department of Education, Digest of Education Statistics Table 204.20, fall 2017

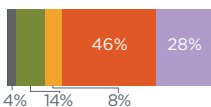
Economically Disadvantaged Students and Participation in CS



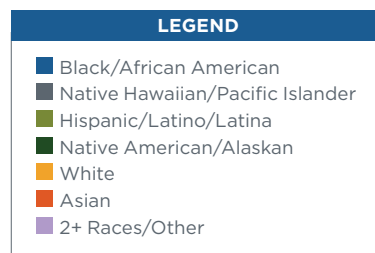
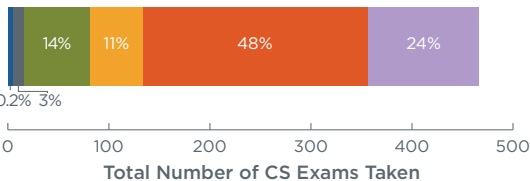
* U.S. Department of Education, Digest of Education Statistics Table 204.10, 2016-2017

AP CS Participation by Race/Ethnicity and Gender

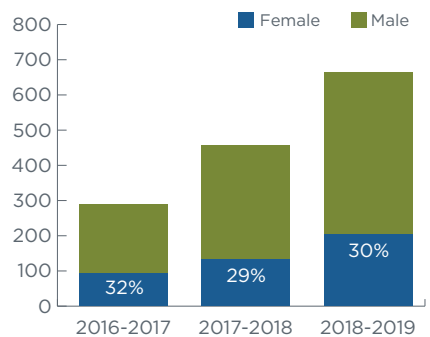
Female Students



Male Students



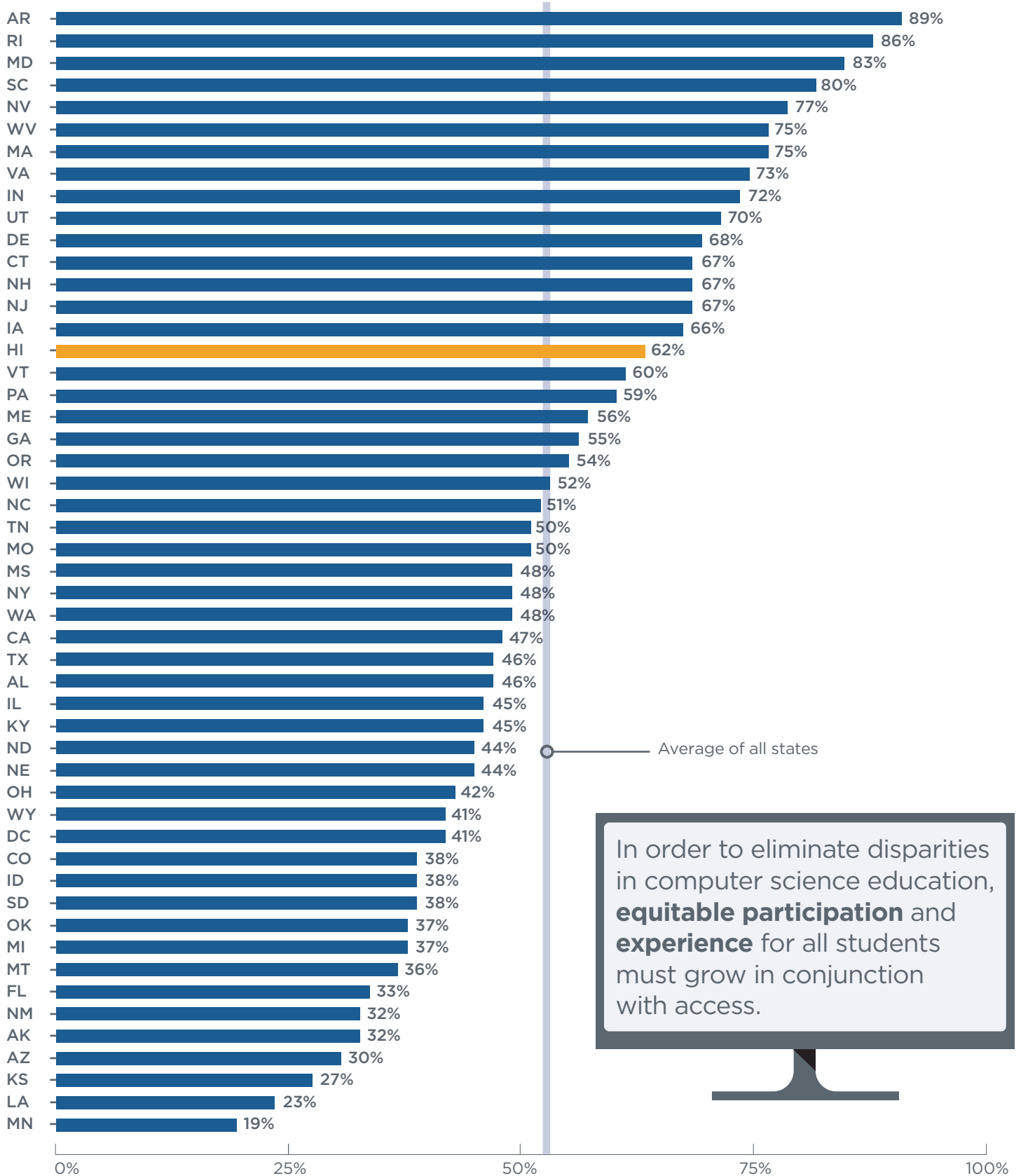
AP CS Student Participation



Native Hawaiian/Pacific Islander students are 11 times less likely than their white and Asian peers to take an AP CS exam when they attend a school that offers it. Hispanic/Latino/Latina students are 2 times less likely than their white and Asian peers to attend a school that offers AP CS.



Percent of High Schools Teaching Computer Science by State



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

