



Utah

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

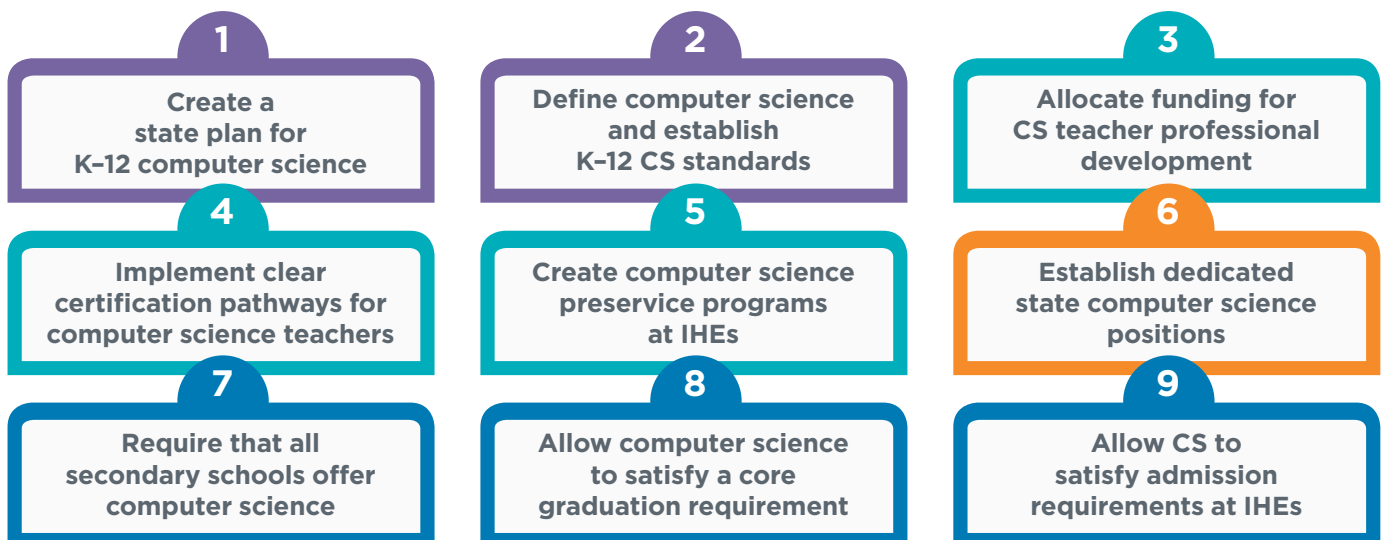
computer science education, supporting teachers and students, and providing leadership and guidance.

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





Utah Computer Science Policy

State Plan

Yes

Utah adopted the Utah Computer Science Education Master Plan in 2019. The plan includes a section on diversity with goals and recommendations to expand access to rural, low-income, and female students. The Community Foundation of Utah and the Silicon Slopes community created the Silicon Slopes Computer Science Fund to invest in computer science education initiatives outlined in the state plan.

Standards

Yes

Utah adopted K-5 computer science standards in September 2019 and 6-12 standards in May 2020. Standards within each grade band address concepts of equity, such as bias, accessible technology, and inclusivity.

Funding

Yes

HB 227 (FY 2020) allocated \$3.15M for the Computer Science for Utah Grant Program. Applicants must describe how they will increase the number of female and traditionally underserved students, ensure content is accessible to all students, and strategies for increasing diversity in K-12 computer science. SB 190 (FY 2018 and 2019) allocated \$1.2M annually for the Computing Partnerships Grants program. SB 93 (FY 2017) allocated \$400K for computer science.

Certification

Yes

In Utah, teachers with existing secondary or CTE licensure can obtain up to six course-specific 6-12 endorsements. Each endorsement requires a combination of experience or coursework, exams, professional development, and more.

Preservice

Yes

The Utah State Board of Education has approved teacher preparation programs leading to certification in computer science and lists these programs publicly.

CS Supervisor

Yes

The Utah State Board of Education has a Computer Science State Specialist.

All HS Offer

No

Utah does not yet require that all secondary schools offer computer science. The state can support the expansion of computer science courses by adopting policies that require schools to offer a computer science course based on rigorous standards, with appropriate implementation timelines and allowing for remote and/or in-person courses.

Grad Credit

Yes

In Utah, a computer programming course can replace the third mathematics credit (Secondary III) by request from a parent, or it can count as a science credit. AP Computer Science, Computer Science Principles, and Computer Programming II are approved to count as a science graduation credit.

IHE Admission

No

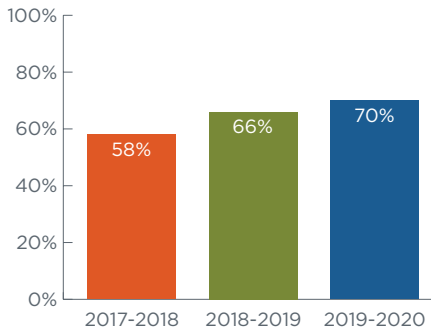
Utah does not yet allow computer science to count as a core admission requirement at institutions of higher education. Admission policies that do not include rigorous computer science courses as meeting a core entrance requirement, such as in mathematics or science, discourage students from taking such 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.

Utah is a member of the ECEP Alliance, has a CSTA chapter, and Governor Gary Herbert is a member of the Governors' Partnership for K-12 Computer Science.

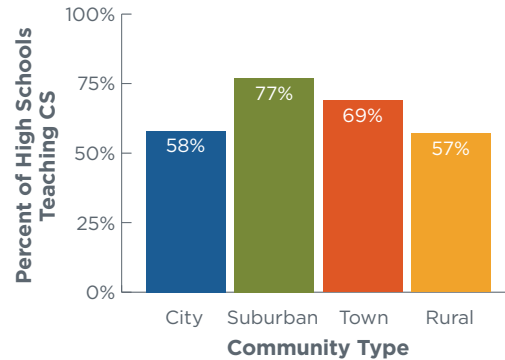


Computer Science Access and Participation in Utah

High Schools Teaching CS



Percent of High Schools Teaching CS by Community Type

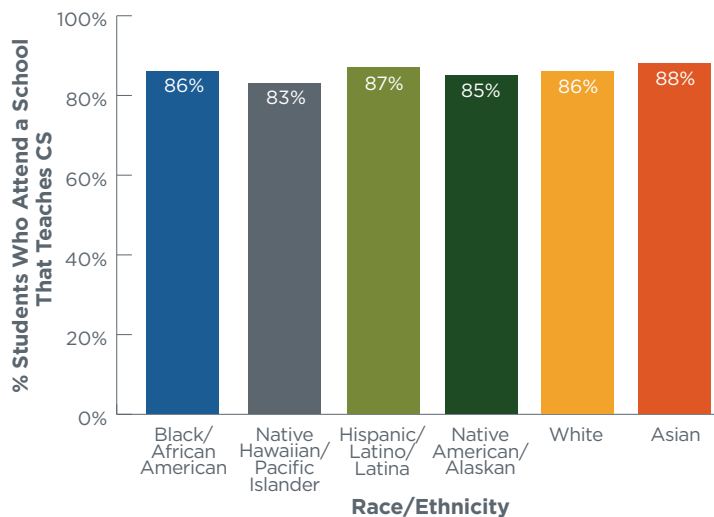


Utah has averaged
4,571
open computing jobs
each month*

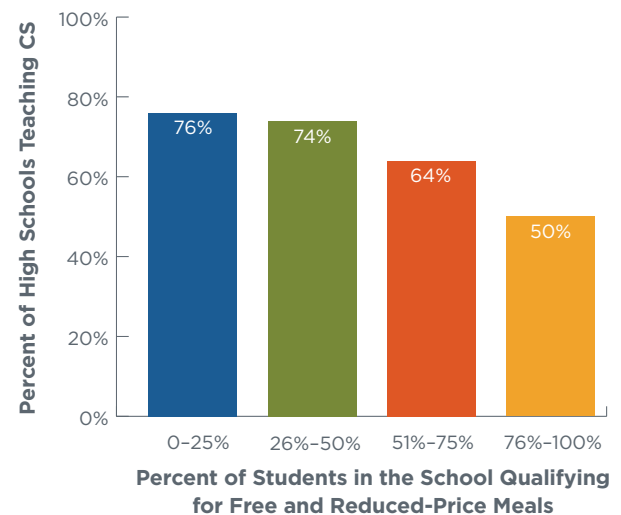
1,228
Bachelor's degree
in 2018 in Utah*

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

Race/Ethnicity and Access to Computer Science

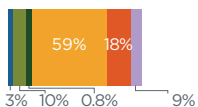


Income Level and Access to CS

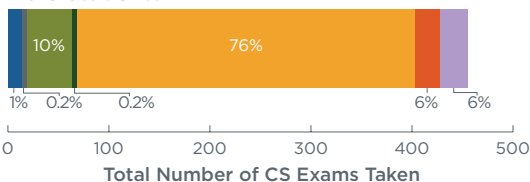


AP CS Participation by Race/Ethnicity and Gender

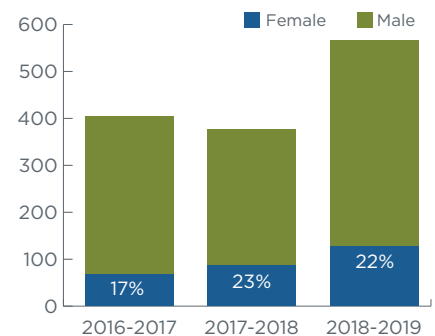
Female Students



Male Students



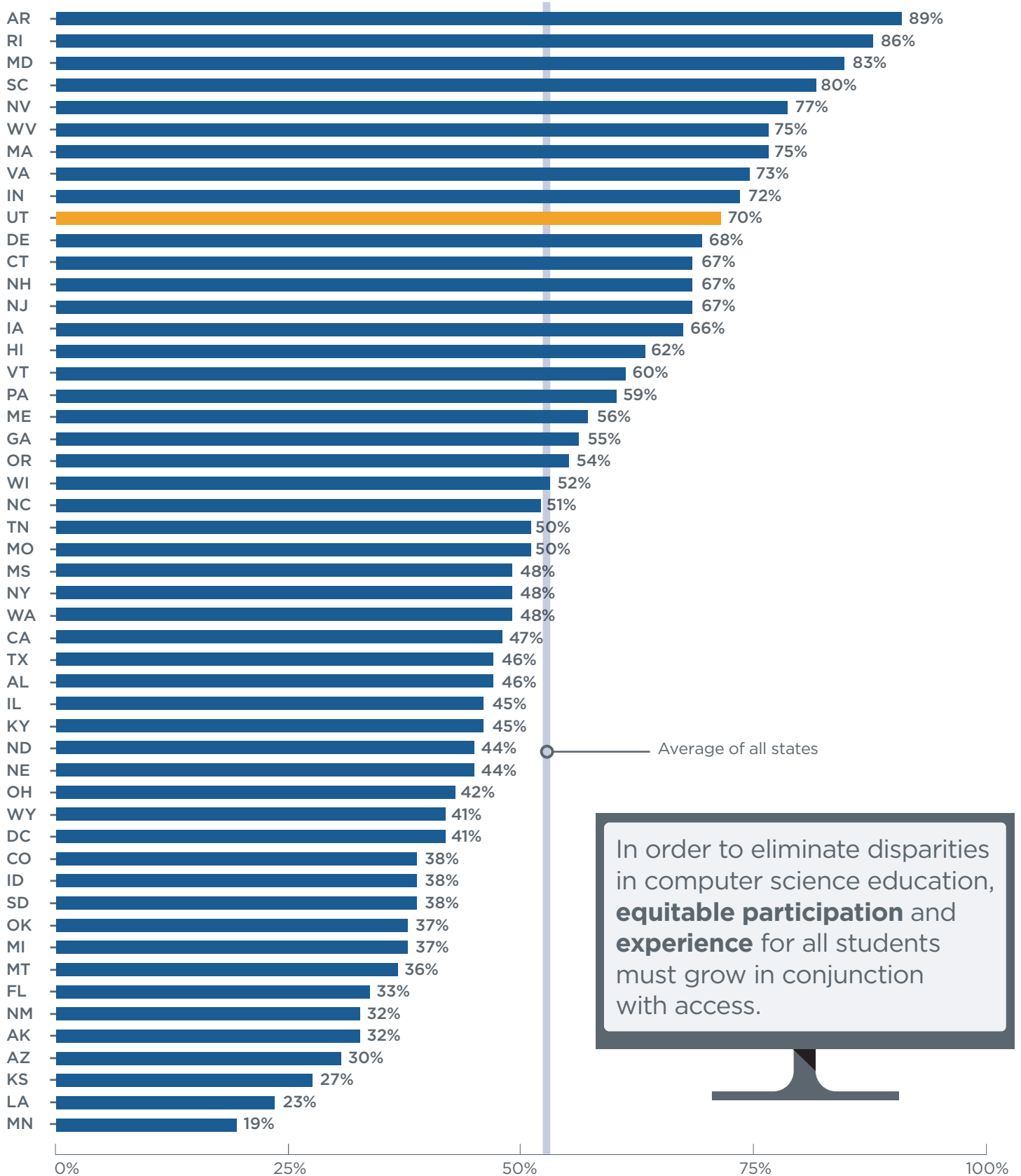
AP CS Student Participation



Hispanic/Latino/Latina students are 1.6 times less likely than their white and Asian peers to take an AP CS exam when they attend a school that offers it. Native American/Alaskan students are 1.7 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

