



Connecticut

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

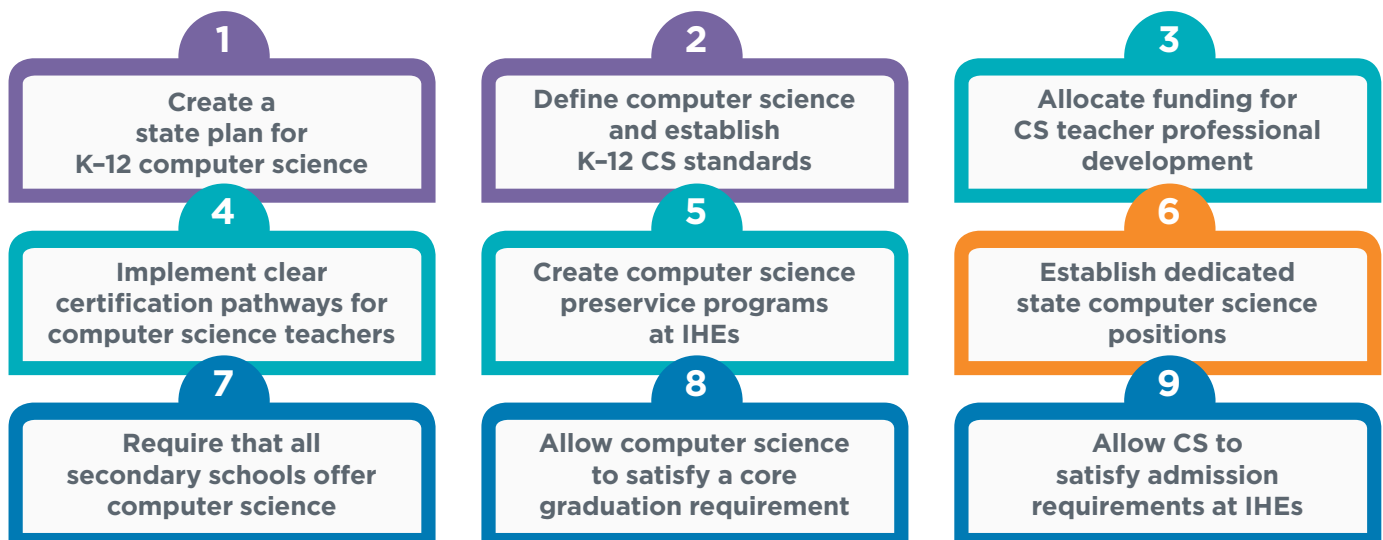
computer science education, supporting teachers and students, and providing leadership and guidance.

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



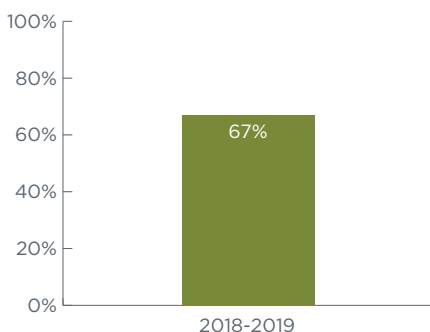


Connecticut Computer Science Policy

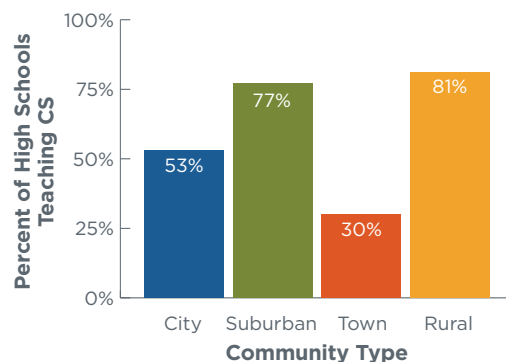
State Plan	The Connecticut State Board of Education adopted a computer science plan in 2020. The plan includes recommendations to reduce gaps in access to computer science courses for female students, students with high-need, and students from marginalized racial and ethnic groups underrepresented in computer science. The plan also targets diverse representation in teachers of computer science courses.
Yes	
Standards	Connecticut 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	Although SB 957 (2019) created a fund for computer science, no funding has been dedicated yet. Connecticut can strengthen its computer science programs by creating specific opportunities to bring computer science to school districts, such as funding for rigorous professional development and course support.
No	
Certification	In Connecticut, teachers with existing licensure can obtain the K-6 or 7-12 endorsement through academic coursework or passing the Praxis CS exam (approved in December 2019).
Yes	
Preservice	SB 957 (2019) required teacher preparation programs to include, as part of the curriculum for all preservice candidates, instruction in computer science that is grade-level and subject-area appropriate.
Yes	
CS Supervisor	The Connecticut Department of Education has a Computer Science Education Consultant.
Yes	
All HS Offer	SB 957 (2019) added computer science to the list of subjects that public schools must teach, with implementation by the 2019–2020 school year.
Yes	
Grad Credit	Connecticut does not yet allow computer science to count for a core graduation requirement, but the Department of Education expects districts to align computer science instruction to the state approved standards so that computer science is eligible as part of the STEM credit pathway required for graduation (Sec 10-221a). States that count computer science as a core graduation requirement see 50% more enrollment in their AP Computer Science courses and increased participation by students from marginalized racial and ethnic groups underrepresented in computer science.
No	
IHE Admission	Connecticut 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	

Connecticut is a member of the ECEP Alliance and has a CSTA chapter.

High Schools Teaching CS



Percent of High Schools Teaching CS by Community Type



Connecticut has averaged
5,602
open computing jobs
each month*

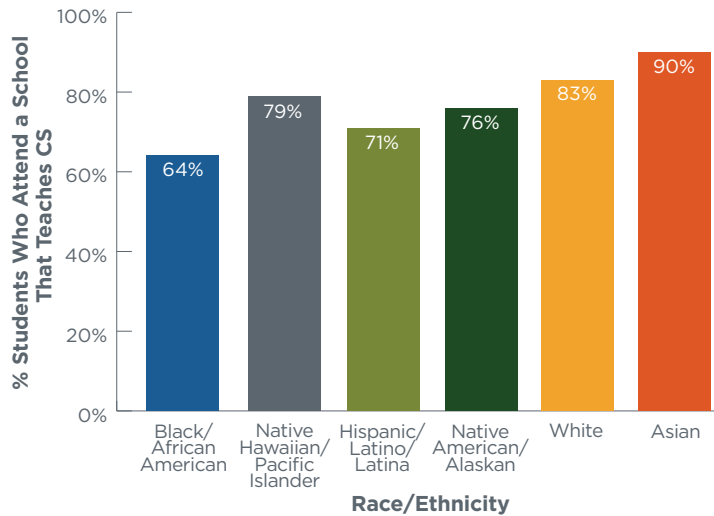
564
CS bachelor's degrees
in 2018 in Connecticut*

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

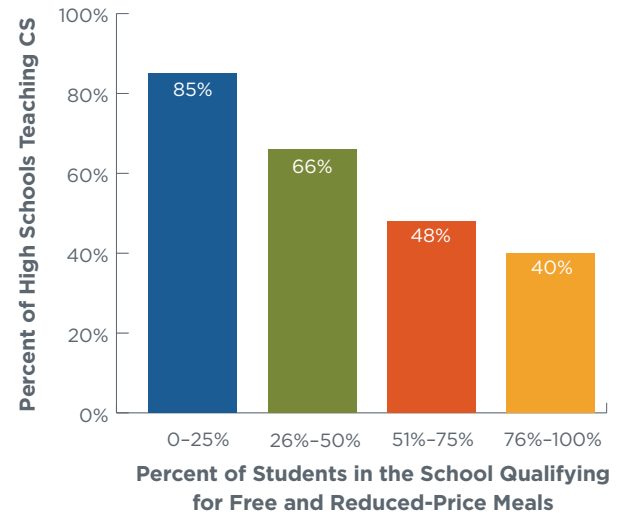


Computer Science Access and Participation in Connecticut

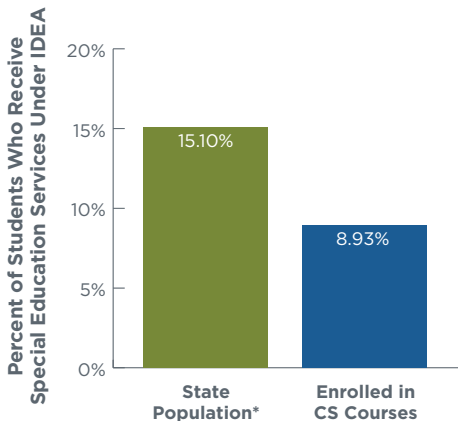
Race/Ethnicity and Access to Computer Science



Income Level and Access to CS

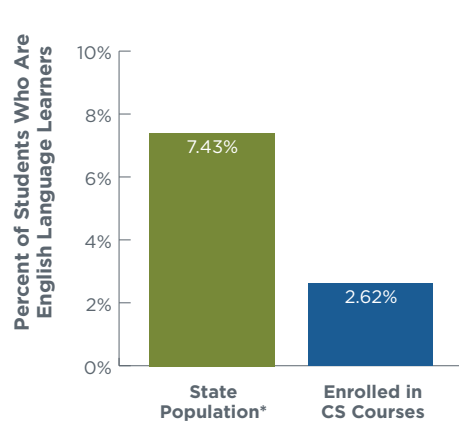


Students with Disabilities and Participation in CS



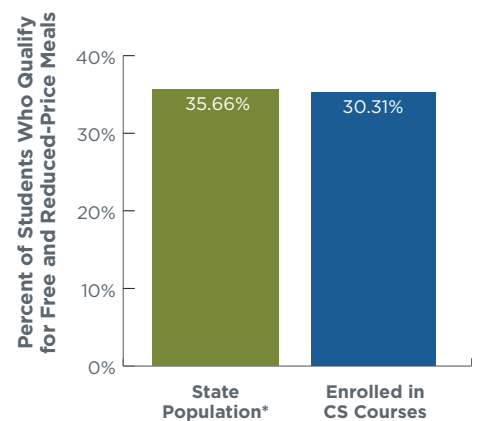
* U.S. Department of Education, Digest of Education Statistics Table 204.70, 2017-2018

English Language Learners and Participation in CS



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

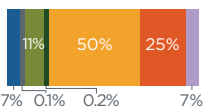
Economically Disadvantaged Students and Participation in CS



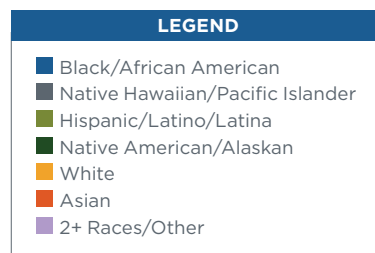
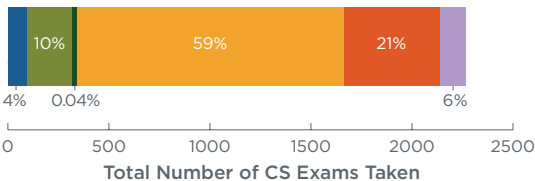
* U.S. Department of Education, Digest of Education Statistics Table 204.10, 2016-2017

AP CS Participation by Race/Ethnicity and Gender

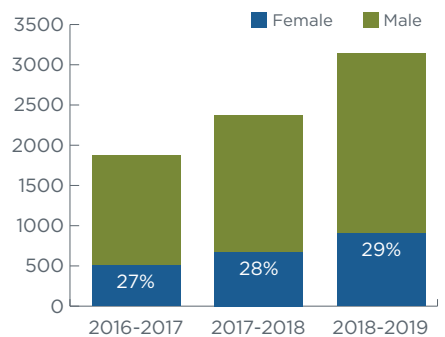
Female Students



Male Students



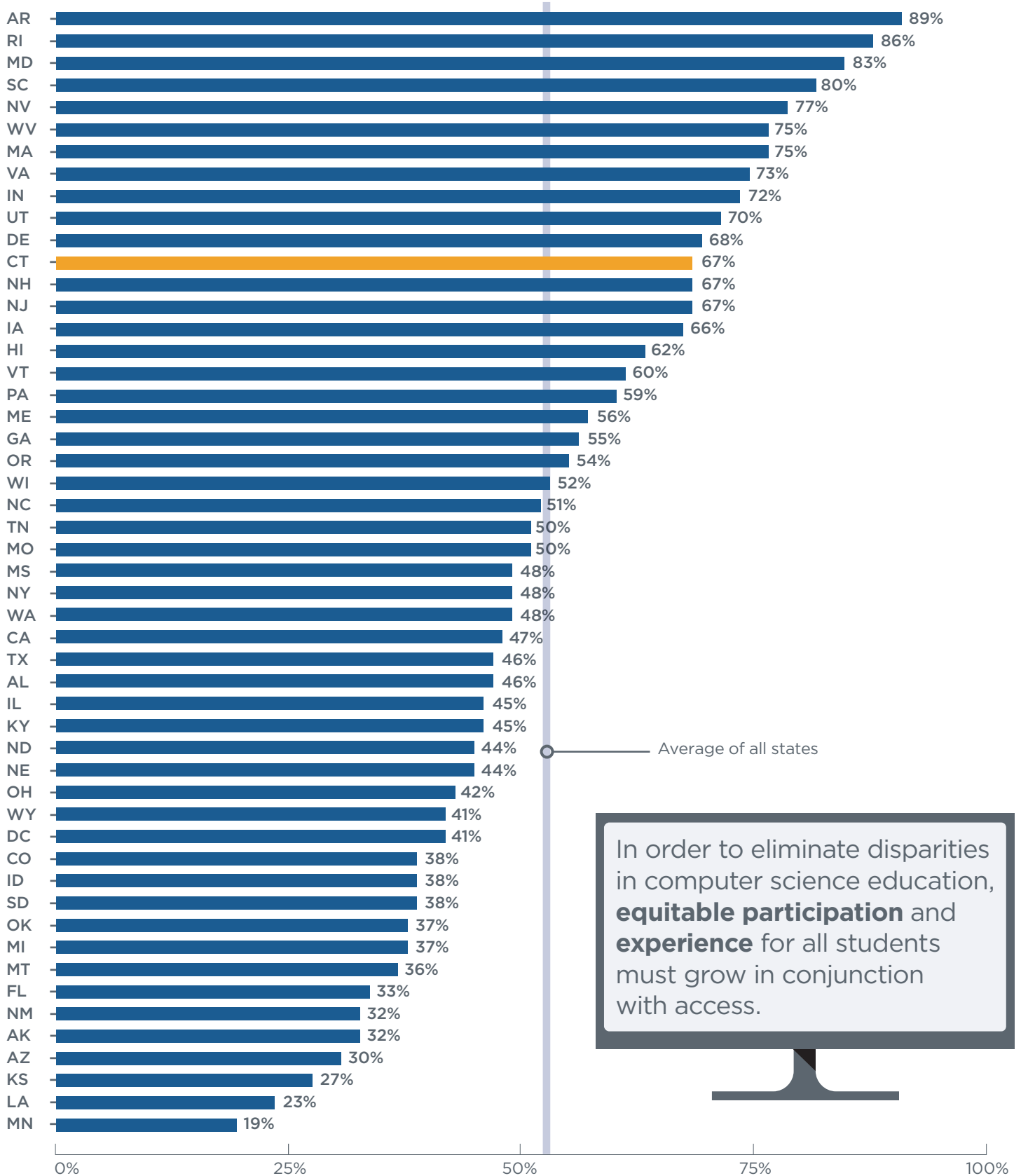
AP CS Student Participation



Black/African American students are 2.7 times less likely and Hispanic/Latino/Latina students are 2.4 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

