



New Jersey

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

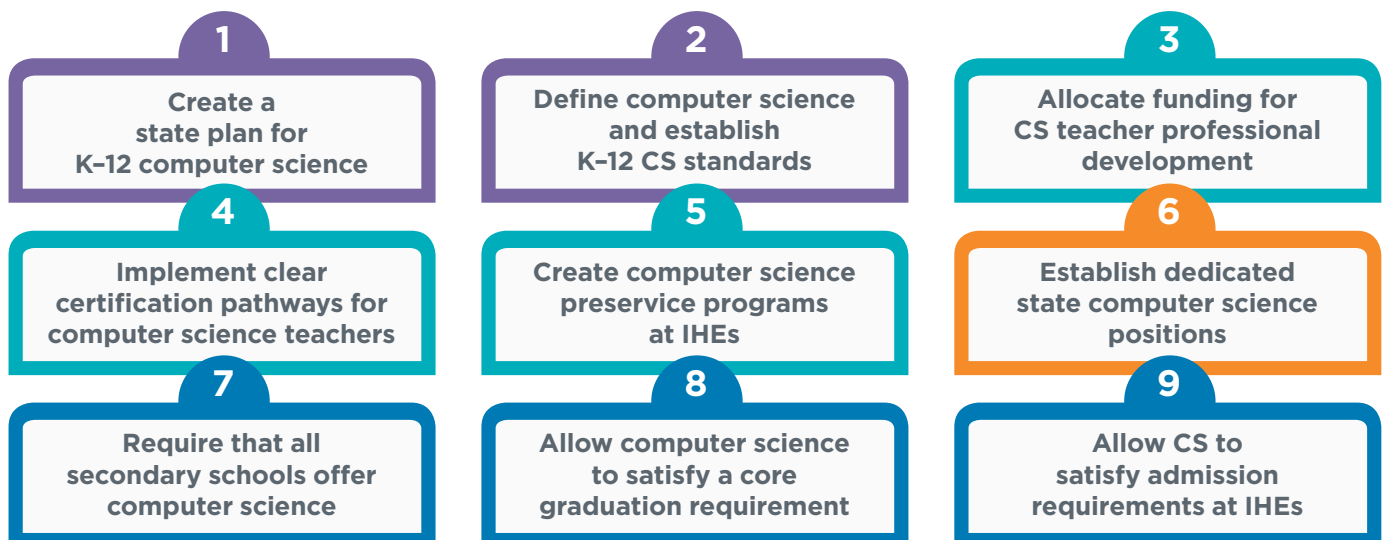
computer science education, supporting teachers and students, and providing leadership and guidance.

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



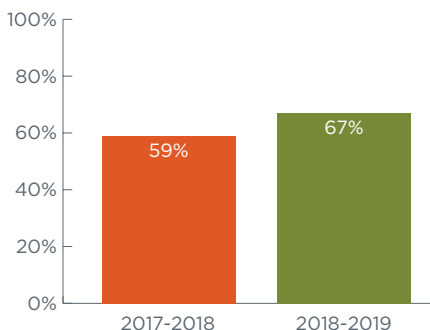


New Jersey Computer Science Policy

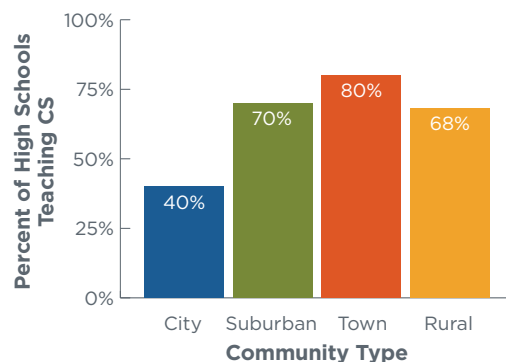
State Plan	The New Jersey Department of Education developed a state plan for computer science education implementation in 2019. The plan includes a section on equity and promotes equitable access in the mission and vision statements.
Yes	
Standards	New Jersey adopted revised computer science and design thinking standards in June 2020. The standards' vision statement focuses on equitable access for all students and fostering their ability to participate in an inclusive and diverse computing culture that appreciates and incorporates perspectives from people of different genders, ethnicities, and abilities. Standards within each grade band address concepts of equity, such as bias, accessible technology, and inclusivity.
Yes	
Funding	New Jersey's Secondary School Computer Science Education Initiative (PL 2018, Chapter 53) allocated \$2M for FY 2019. SB 2500 renewed the \$2M appropriation for FY 2020, but was later not included in the revised FY 2020 budget by NJ A3 (20R).
Yes	
Certification	In New Jersey, teachers with existing licensure can obtain a 9-12 CTE endorsement with a combination of previous teaching experience and academic coursework.
Yes	
Preservice	New Jersey 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 New Jersey Department of Education is currently in the process of hiring a Computer Science Coordinator.
In Progress	
All HS Offer	A2873 (2018) required all high schools to offer a course in computer science by the 2018-2019 school year.
Yes	
Grad Credit	In New Jersey, computer science can count as a mathematics credit for graduation.
Yes	
IHE Admission	New Jersey 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	

New Jersey has CSTA chapters and Governor Phil Murphy is a member of the Governors' Partnership for K-12 Computer Science.

High Schools Teaching CS



Percent of High Schools Teaching CS by Community Type



New Jersey has averaged

17,394

open computing jobs
each month*

2,002

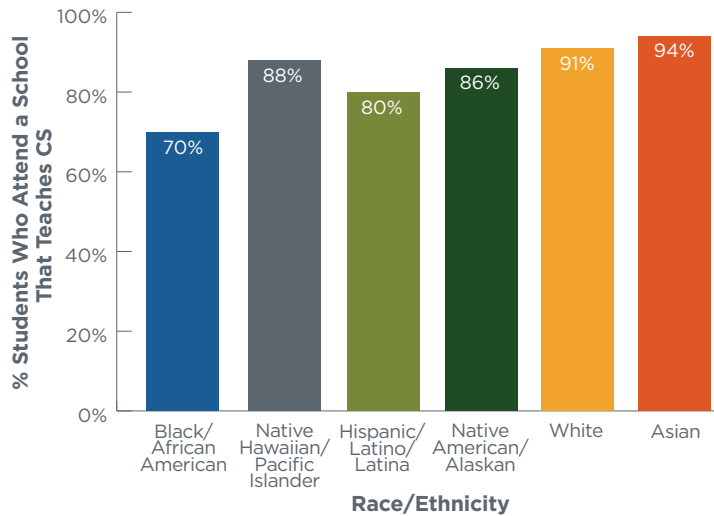
CS bachelor's degrees in 2018
in New Jersey*

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

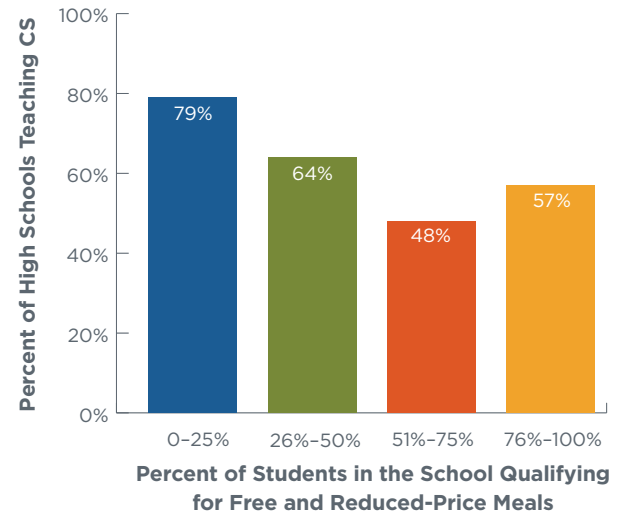


Computer Science Access and Participation in New Jersey

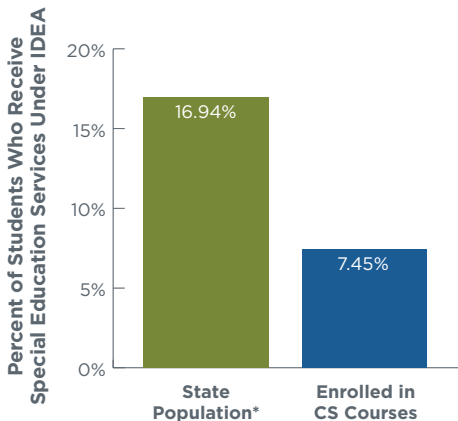
Race/Ethnicity and Access to Computer Science



Income Level and Access to CS

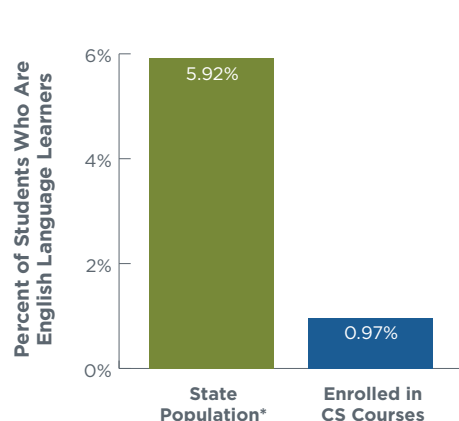


Students with Disabilities and Participation in CS



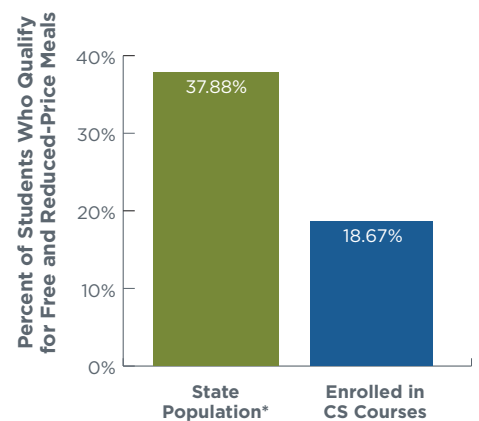
* U.S. Department of Education, Digest of Education Statistics Table 204.70, 2017-2018

English Language Learners and Participation in CS



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

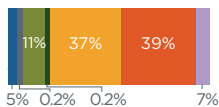
Economically Disadvantaged Students and Participation in CS



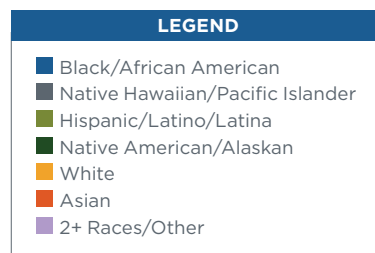
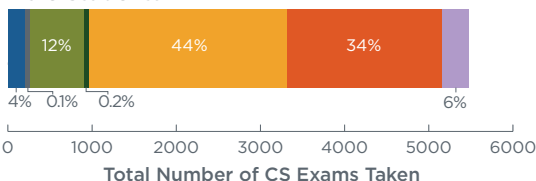
* U.S. Department of Education, Digest of Education Statistics Table 204.10, 2016-2017

AP CS Participation by Race/Ethnicity and Gender

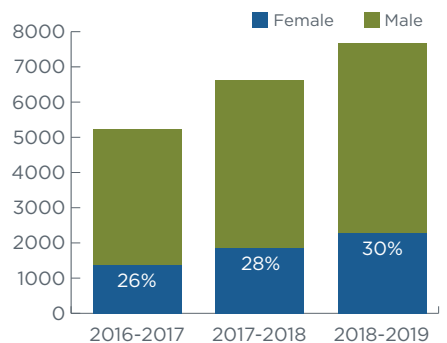
Female Students



Male Students



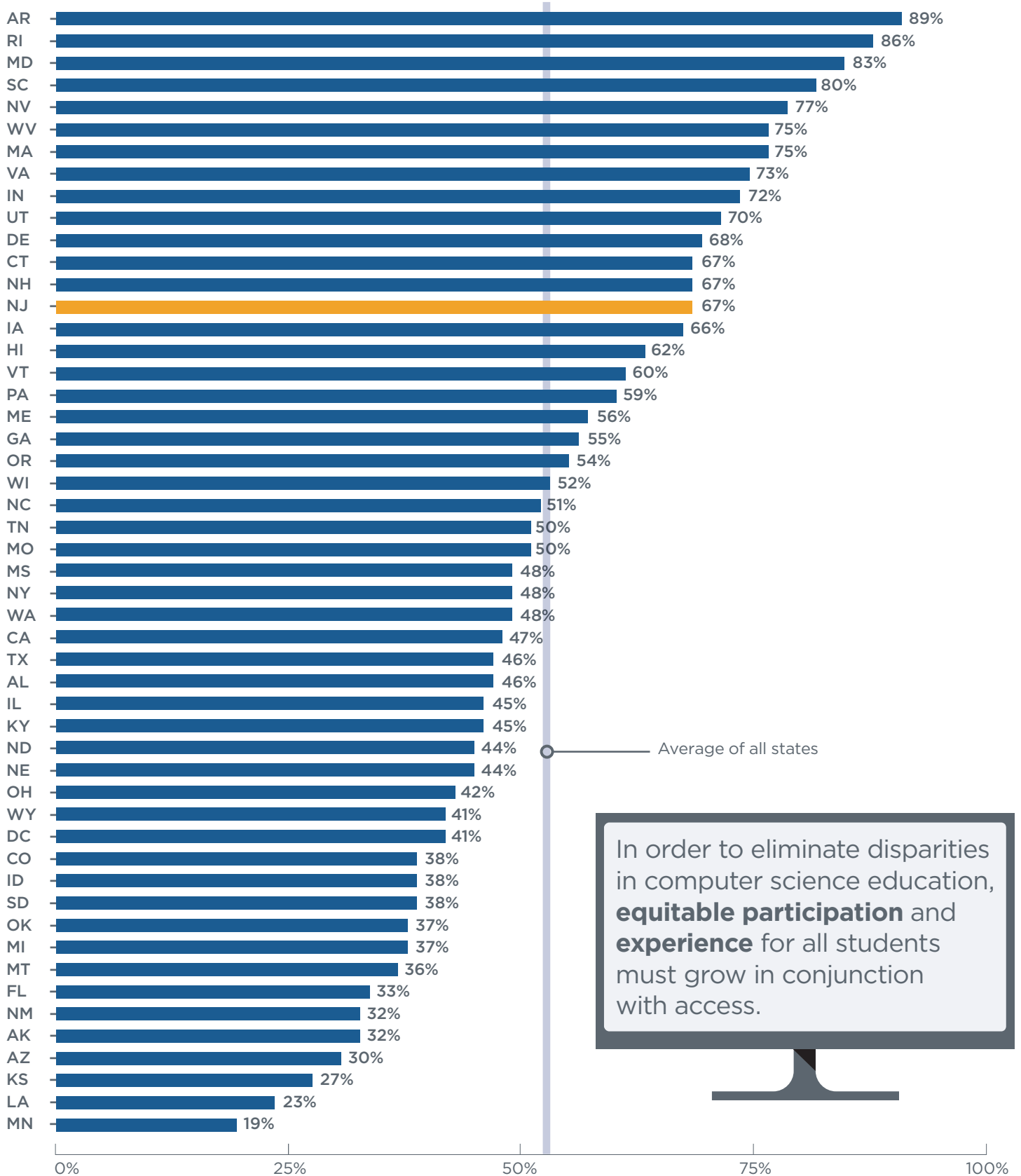
AP CS Student Participation



Hispanic/Latino/Latina students are 1.6 times less likely than their white and Asian peers to attend a school that offers AP CS, and 2.3 times less likely to take an AP CS exam when they attend a school that offers it. Black/African American students are 1.6 times likely than their white and Asian peers to attend a school that offers AP CS, and 4 times less likely to take an AP CS exam when they attend a school that offers it.



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

