New Mexico

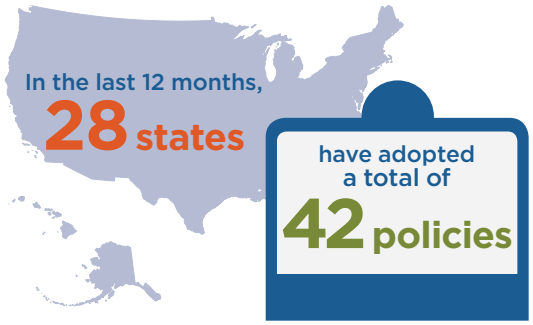
2020 State of Computer Science Education: Illuminating Disparities

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

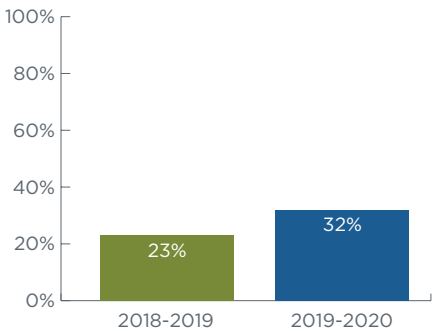
1. Create a state plan for K–12 computer science
2. Define computer science and establish K–12 CS standards
3. Allocate funding for CS teacher professional development
4. Implement clear certification pathways for computer science teachers
5. Create computer science preservice programs at IHEs
6. Establish dedicated state computer science positions
7. Require that all secondary schools offer computer science
8. Allow computer science to satisfy a core graduation requirement
9. Allow CS to satisfy admission requirements at IHEs

New Mexico Computer Science Policy

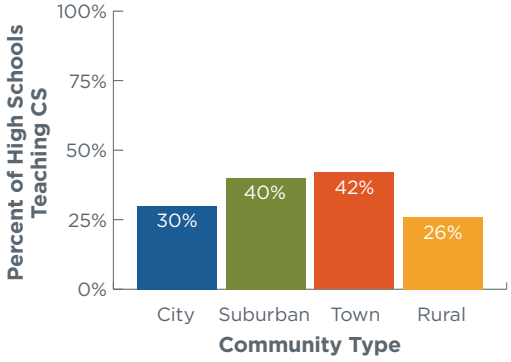
State Plan In Progress	New Mexico is in the process of developing a plan for K–12 computer science. A plan that articulates the goals for computer science, strategies for accomplishing the goals, and timelines for carrying out the strategies is important for making computer science a fundamental part of a state's education system.
Standards Yes	New Mexico 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.
Funding Yes	HB 548 (FY 2020) allocated $200K annually to develop and implement teacher professional development courses. HB1 (first special session, FY 2021) amended the FY 2021 budget to allocate $300K for K–8 computer science, including $166K from recurring funding and $133.9K from the STEAM initiative. The application guidance includes professional development activities that are culturally and linguistically responsive, and awards prioritized high-need districts.
Certification No	New Mexico does not yet have clear certification pathways for computer science teachers. The expansion of K-12 computer science education is hampered by the lack of qualified computer science teachers. We can grow their ranks by creating clear, navigable, and rewarding professional paths for computer science teachers.
Preservice No	New Mexico 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 In Progress	The New Mexico Public Education Department is in the process of hiring a Computer Science Specialist.
All HS Offer No	New Mexico 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 New Mexico, computer science can count as a mathematics or science credit for graduation, provided that a student has demonstrated competence in mathematics or science.
IHE Admission No	New Mexico 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.

New Mexico has a CSTA chapter.

High Schools Teaching CS



Percent of High Schools Teaching CS by Community Type



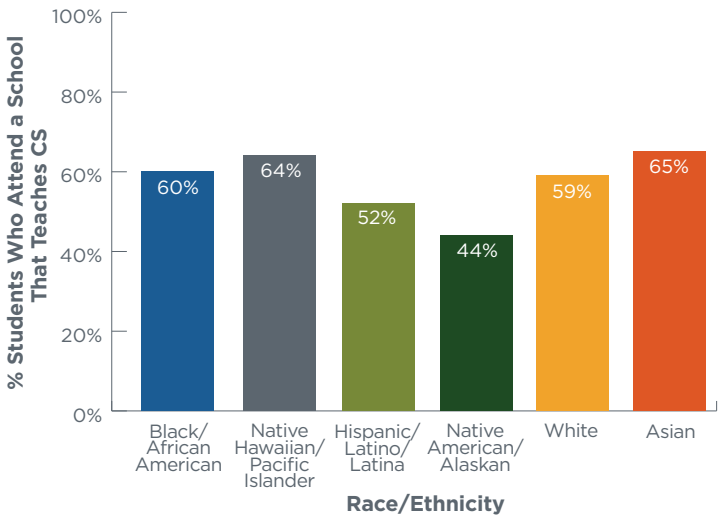
New Mexico has averaged **2,065** open computing jobs each month*

173 CS bachelor's degrees in 2018 in New Mexico*

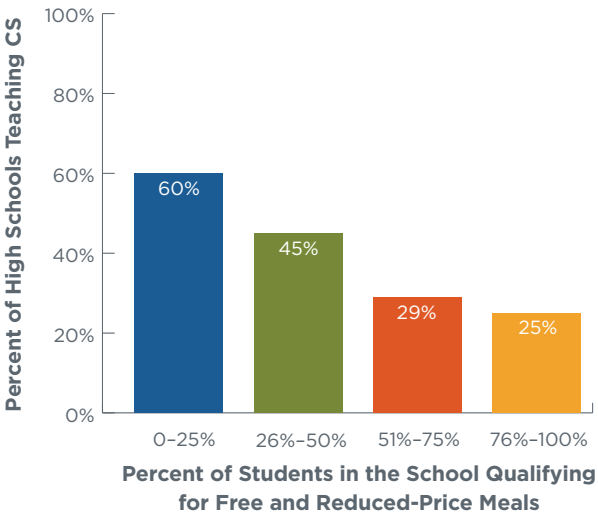
*Sources: The Conference Board and the National Center for Education Statistics

Computer Science Access and Participation in New Mexico

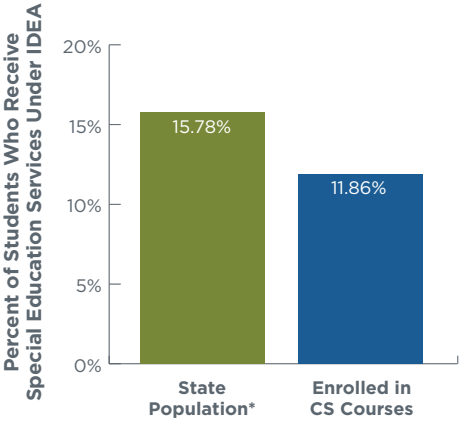
Race/Ethnicity and Access to Computer Science



Income Level and Access to CS

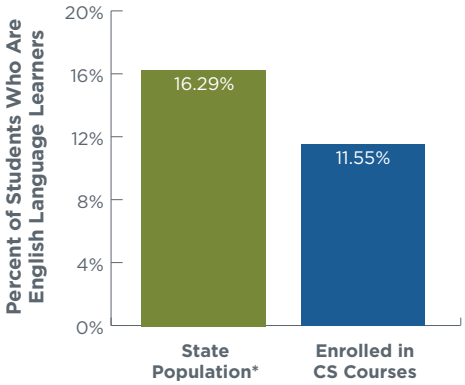


Students with Disabilities and Participation in CS



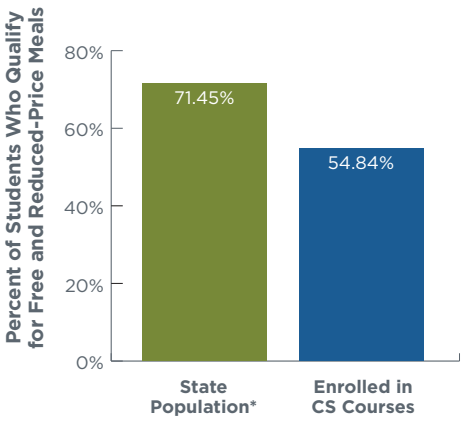
* U.S. Department of Education, Digest of Education Statistics Table 204.70, 2017–2018

English Language Learners and Participation in CS



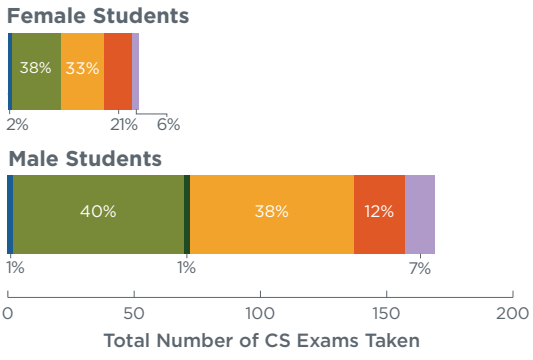
* U.S. Department of Education, Digest of Education Statistics Table 204.20, fall 2017

Economically Disadvantaged Students and Participation in CS

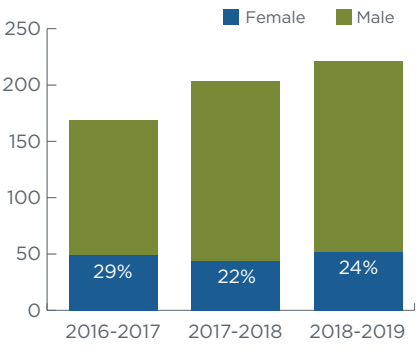


* U.S. Department of Education, Digest of Education Statistics Table 204.10, 2016–2017

AP CS Participation by Race/Ethnicity and Gender

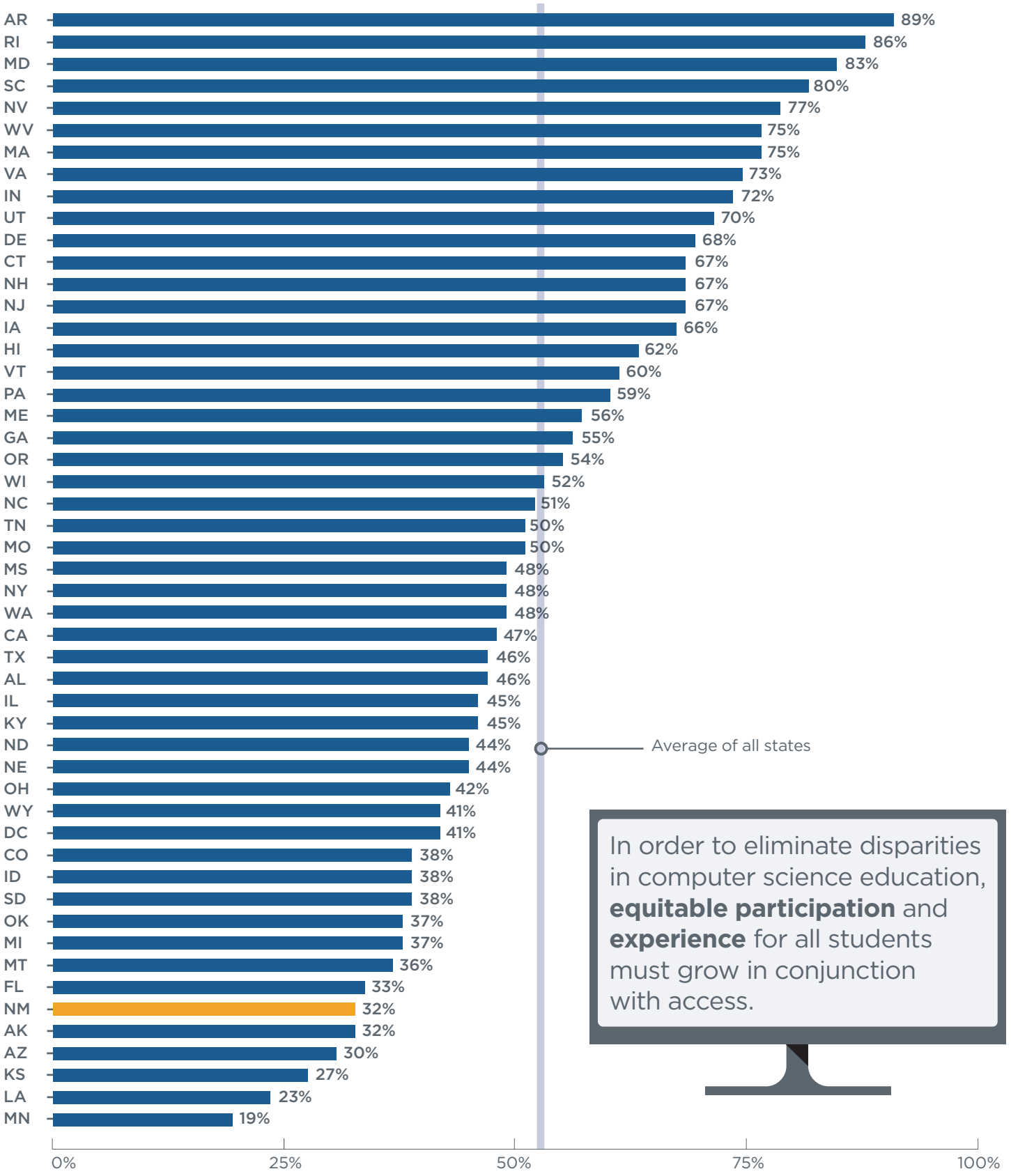


AP CS Student Participation



Hispanic/Latino/Latina students are 3.6 times less likely and Black/African American students are 3 times less likely than their white and Asian peers to take an AP CS exam when they attend a school that offers it. Although Native American/Alaskan students make up 10% of the overall student population, only 2 Native American/Alaskan students took an AP CS exam.

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

ECEP Expanding Computing Education Pathways

CSTA