Mississippi

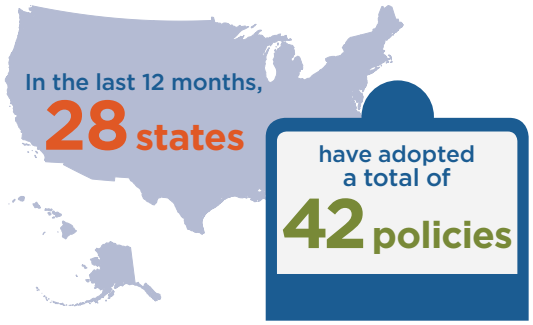
2020 State of Computer Science Education: Illuminating Disparities

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

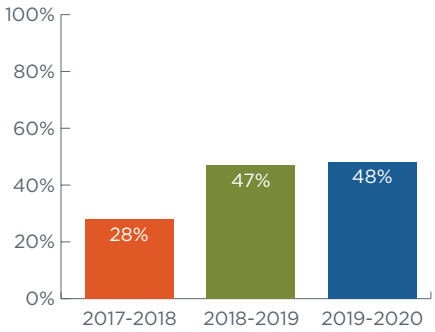
1. Create a state plan for K–12 computer science
2. Define computer science and establish K–12 CS standards
3. Allocate funding for CS teacher professional development
4. Implement clear certification pathways for computer science teachers
5. Create computer science preservice programs at IHEs
6. Establish 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

Mississippi Computer Science Policy

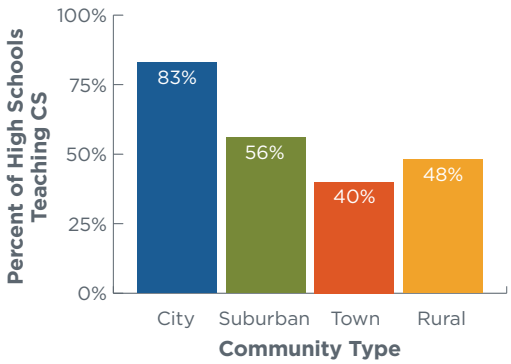
State Plan No	Mississippi has not yet created a state plan for K-12 computer science. A plan that articulates the goals for computer science, strategies for accomplishing the goals, and timelines for carrying out the strategies is important for making computer science a fundamental part of a state's education system.
Standards Yes	Mississippi adopted K–12 computer science standards based on the CSTA standards in 2018. Standards within each grade band address concepts of equity, such as bias, accessible technology, and inclusivity.
Funding Yes	HB 1700 (FY 2021) allocated $300K for computer science professional development. HB 1643 (FY 2020) allocated $300K to develop computer science courses and professional development.
Certification Yes	In Mississippi, teachers with existing licensure can obtain an AP Computer Science Principles Endorsement by completing an approved AP training. Teachers can also obtain a K–8 or 7–12 add-on endorsement by completing coursework or approved professional development for specific courses.
Preservice No	Mississippi 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 No	Mississippi does not yet have dedicated computer science positions in state or local education agencies. Creating a statewide computer science leadership position within the state education agency can help expand state-level implementation of computer science education initiatives. Similar positions at the local level could support districts' expansion of course offerings and professional development.
All HS Offer No	Mississippi 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	Beginning with incoming freshmen of 2018–2019, all Mississippi students must earn one credit in technology or computer science. Multiple computer science courses may satisfy the graduation credit.
IHE Admission Yes	All students applying to state institutions of higher learning in Mississippi for entrance in Fall 2022 must have earned one credit in computer science or technology, which aligns with the high school graduation policy.credit and articulation policies align with secondary school graduation requirements.

Mississippi 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



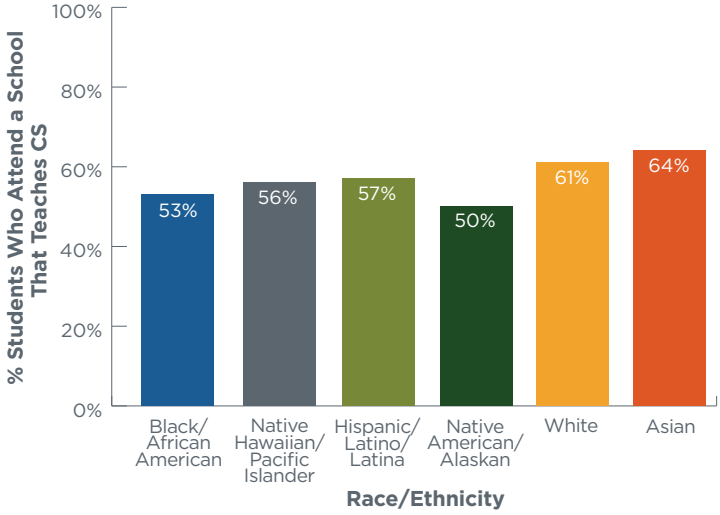
Mississippi has averaged **1,057** open computing jobs each month*

201 CS bachelor's degrees in 2018 in Mississippi*

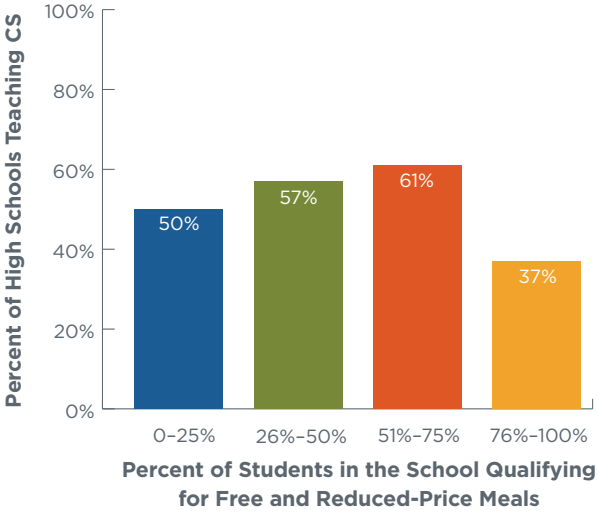
*Sources: The Conference Board and the National Center for Education Statistics

Computer Science Access and Participation in Mississippi

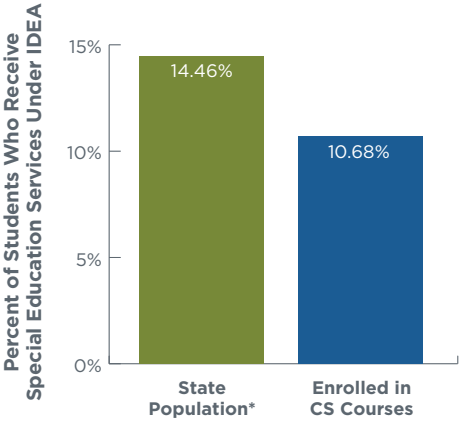
Race/Ethnicity and Access to Computer Science



Income Level and Access to CS

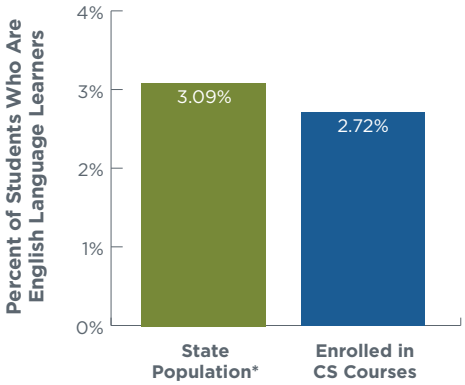


Students with Disabilities and Participation in CS



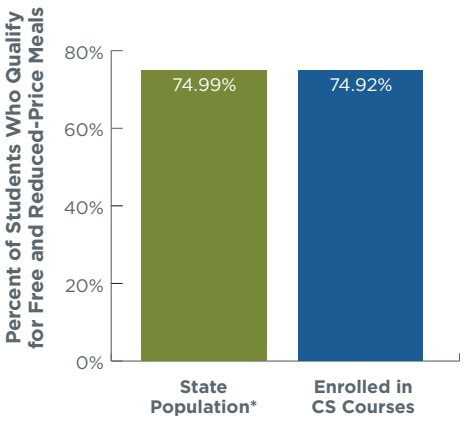
* U.S. Department of Education, Digest of Education Statistics Table 204.70, 2017–2018

English Language Learners and Participation in CS



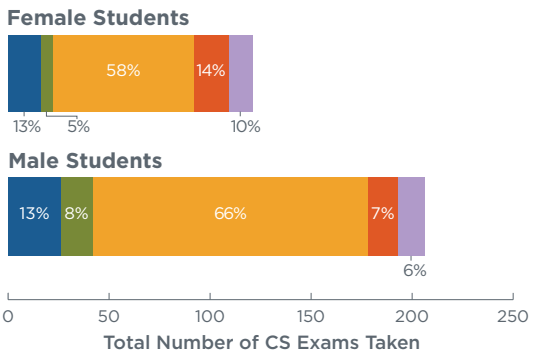
* U.S. Department of Education, Digest of Education Statistics Table 204.20, fall 2017

Economically Disadvantaged Students and Participation in CS

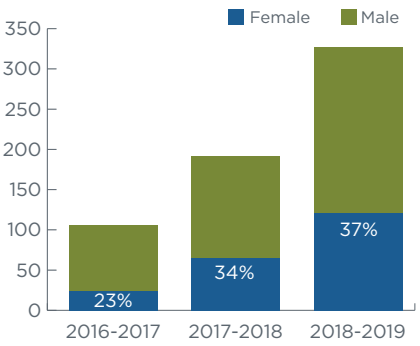


* U.S. Department of Education, Digest of Education Statistics Table 204.10, 2016–2017

AP CS Participation by Race/Ethnicity and Gender

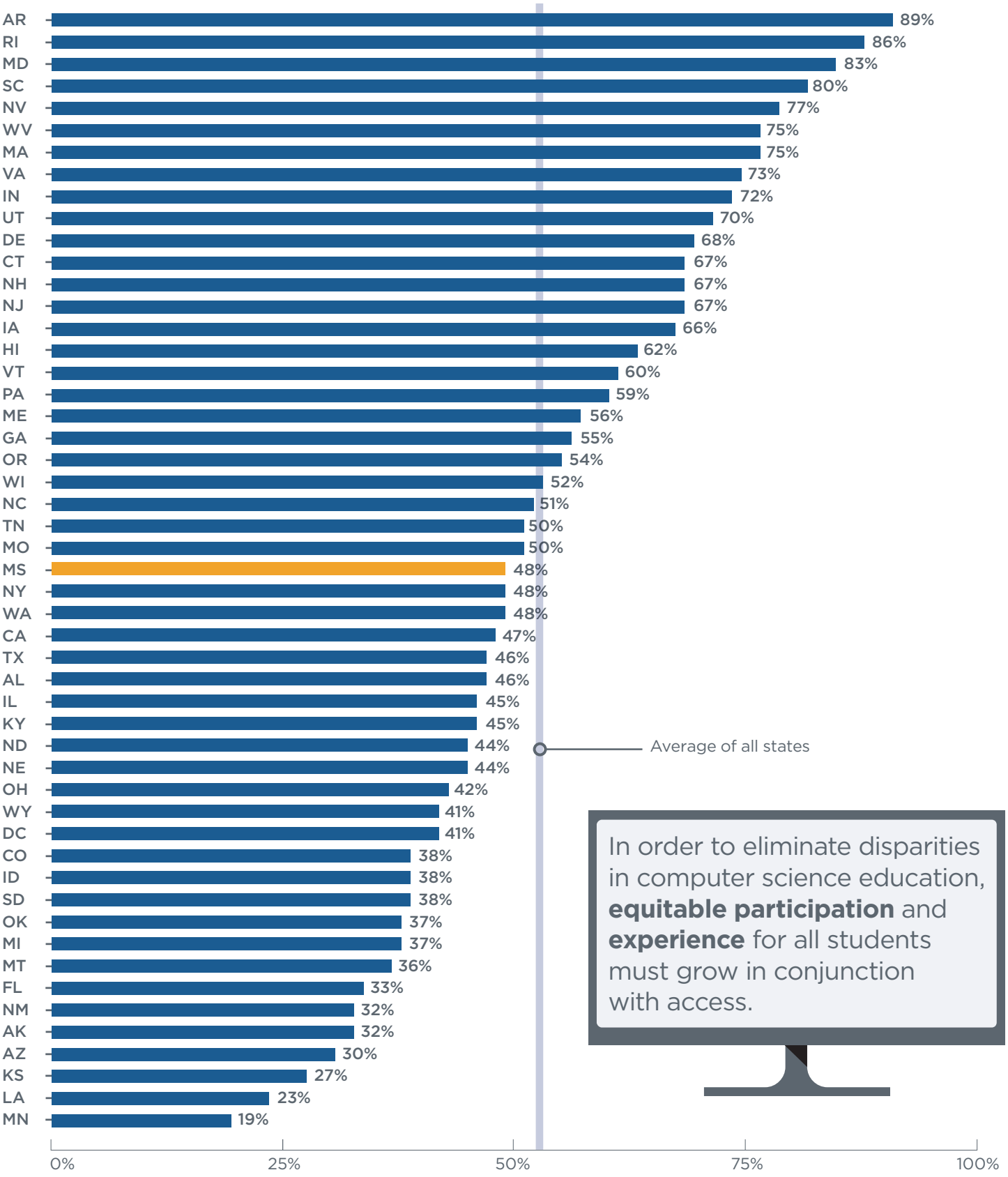


AP CS Student Participation



Black/African American students are 4.4 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

Advocacy Coalition

ECEP Expanding Computing Education Pathways

CSTA