Kansas
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.

In the last 12 months, **28** states have adopted a total of **42** policies

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

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

Kansas Computer Science Policy

|	
State Plan No	Although Kansas has not yet created a plan for K–12 computer science, the State Board of Education adopted five policy recommendations from the Department of Education's Computer Science Education Task Force in 2020. 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	Kansas adopted preK–12 computer science standards in 2019. A primary goal of the standards is to increase the availability of rigorous computer science for all students, especially those who are members of underrepresented groups.
Funding No	Kansas does not yet provide dedicated funding for rigorous computer science professional development and course support. Although funds may be available via broader programs, the state can strengthen its computer science programs by creating specific opportunities to bring computer science to school districts, such as matching fund programs.Islander).
Certification No	Kansas 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	Kansas 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 Yes	The Kansas Department of Education has a Computer Science Education Program Consultant.
All HS Offer No	Kansas 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 No	Kansas does not yet allow computer science to count for a core graduation requirement, although the State Board of Education directed the department to develop the policy. 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.
IHE Admission No	Kansas 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.

Kansas has a CSTA chapter.

Computer Science Access and Participation in Kansas

High Schools Teaching CS

Year	Percent
2017-2018	26%
2019-2020*	27%
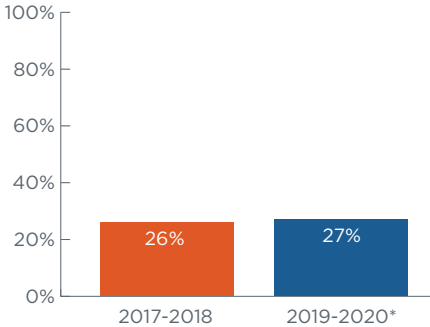
*Data was not collected for the 2018–2019 school year

Percent of High Schools Teaching CS by Community Type

Percent of High Schools Teaching CS

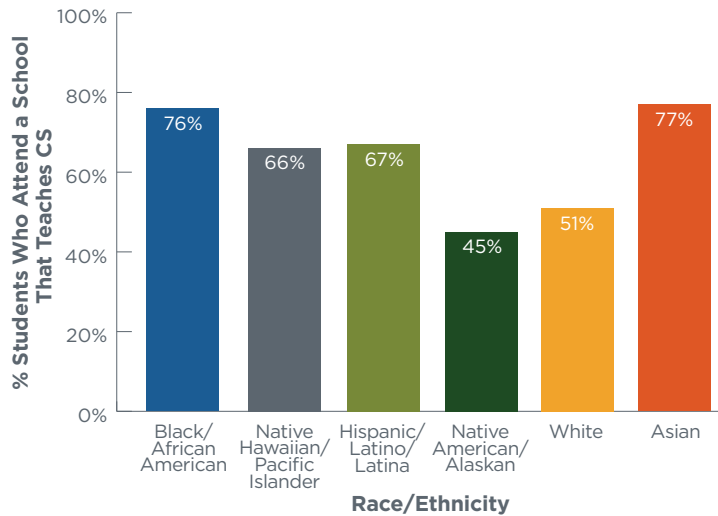| Community Type	Percent
City	73%
Suburban	65%
Town	25%
Rural	16%
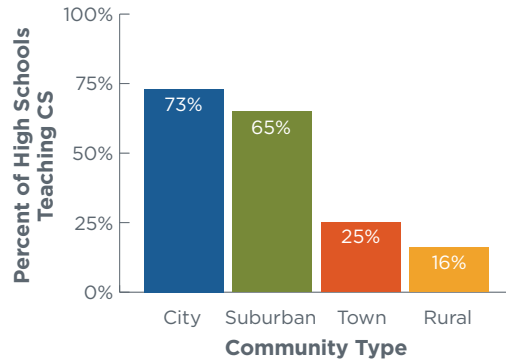
Kansas has averaged **2,934** open computing jobs each month*

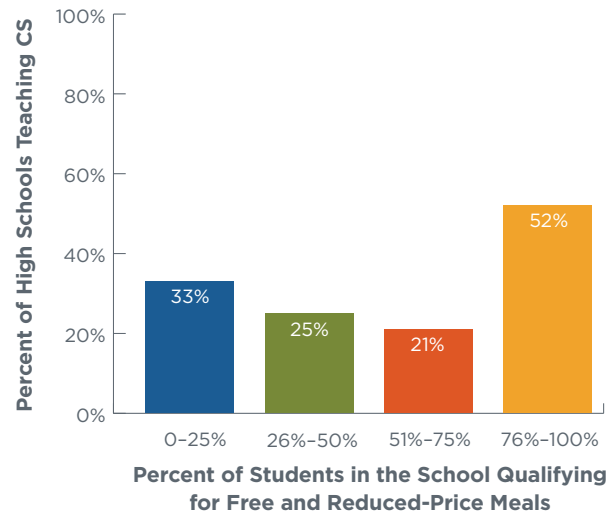**516** CS bachelor's degrees in 2018 in Kansas*

*Sources: The Conference Board and the National Center for Education Statistics
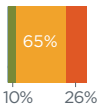
Race/Ethnicity and Access to Computer Science

% Students Who Attend a School That Teaches CS
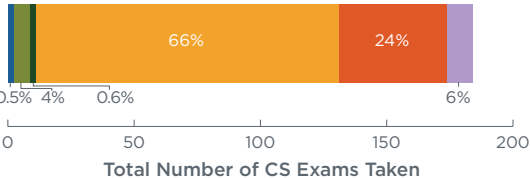
Race/Ethnicity	Percent
Black/African American	76%
Native Hawaiian/Pacific Islander	66%
Hispanic/Latino/Latina	67%
Native American/Alaskan	45%
White	51%
Asian	77%

Income Level and Access to CS

Percent of High Schools Teaching CS

Percent of Students in the School Qualifying for Free and Reduced-Price Meals	Percent
0–25%	33%
26%–50%	25%
51%–75%	21%
76%–100%	52%

AP CS Participation by Race/Ethnicity and Gender

Female Students
10%, 65%, 26%

Male Students
0.5% 4% 0.6% 66% 24% 6%

Total Number of CS Exams Taken
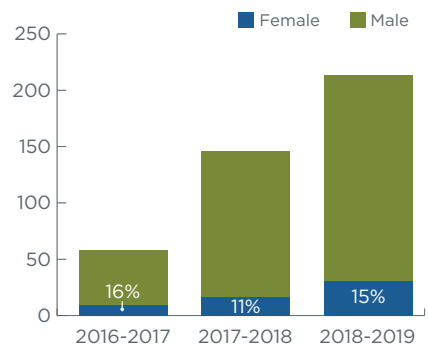
LEGEND
- Black/African American
- Native Hawaiian/Pacific Islander
- Hispanic/Latino/Latina
- Native American/Alaskan
- White
- Asian
- 2+ Races/Other

AP CS Student Participation

Female ■ Male ■

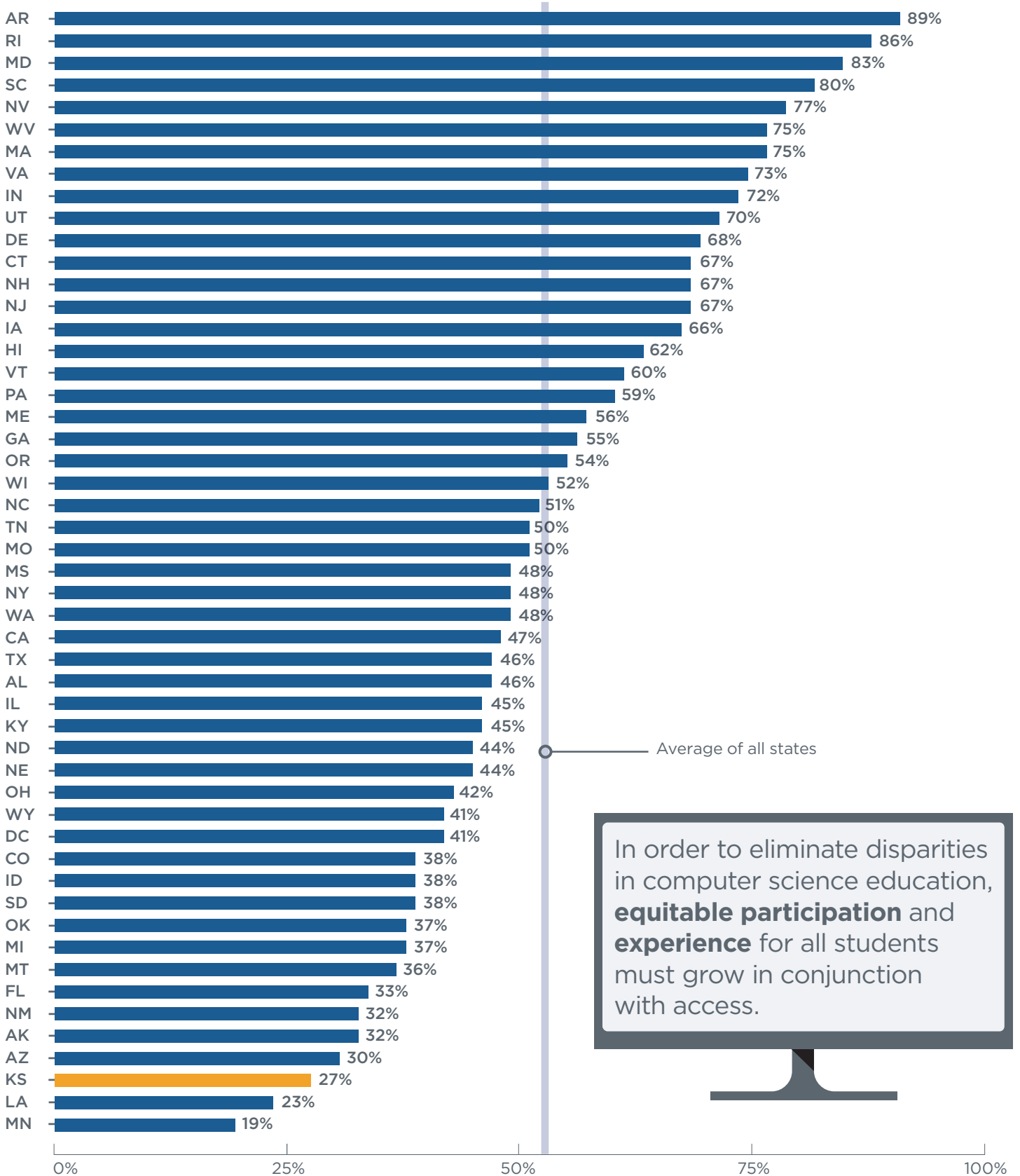| Year	Female
2016-2017	16%
2017-2018	11%
2018-2019	15%

Although Hispanic/Latino/Latina students make up 20% of the overall student population, only 4 Hispanic/Latino/Latina students took an AP CS exam. Black/African American students make up 7% of the overall student population, but only 1 Black/African American student took an AP CS exam.

Percent of High Schools Teaching Computer Science by State

State	Percent
AR	89%
RI	86%
MD	83%
SC	80%
NV	77%
WV	75%
MA	75%
VA	73%
IN	72%
UT	70%
DE	68%
CT	67%
NH	67%
NJ	67%
IA	66%
HI	62%
VT	60%
PA	59%
ME	56%
GA	55%
OR	54%
WI	52%
NC	51%
TN	50%
MO	50%
MS	48%
NY	48%
WA	48%
CA	47%
TX	46%
AL	46%
IL	45%
KY	45%
ND	44%
NE	44%
OH	42%
WY	41%
DC	41%
CO	38%
ID	38%
SD	38%
OK	37%
MI	37%
MT	36%
FL	33%
NM	32%
AK	32%
AZ	30%
KS	27%
LA	23%
MN	19%

Average of all states

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

CODE Advocacy Coalition

ECEP Expanding Computing Education Pathways

CSTA