



# 2021 School Counselors' Virtual Conference

## COMPUTER SCIENCE/ IT CAREERS

**PAIGE PRESCOTT & MELODY HAGAMAN-BURNS**

Session Time: 10:00 a.m.





# Paige Prescott



# Melody Hagaman-Burns

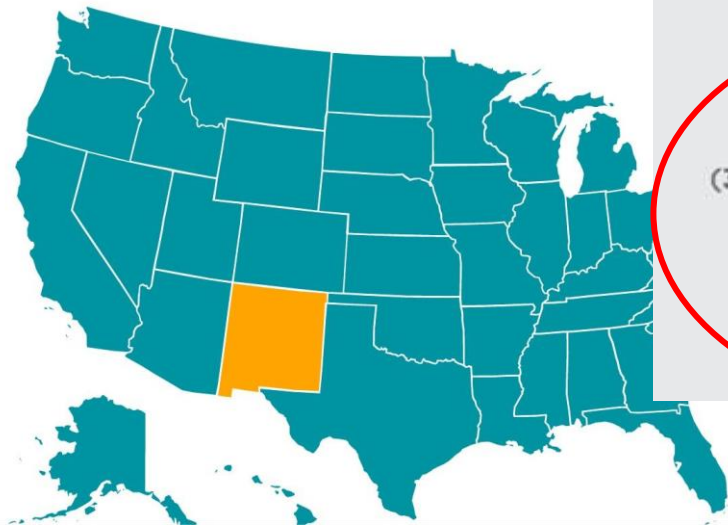


# SESSION AGENDA

- CS/IT- career connections
- Framing the current problem in CS/IT classes
- Solutions & Resources
- Open discussion



# Computing and technology jobs

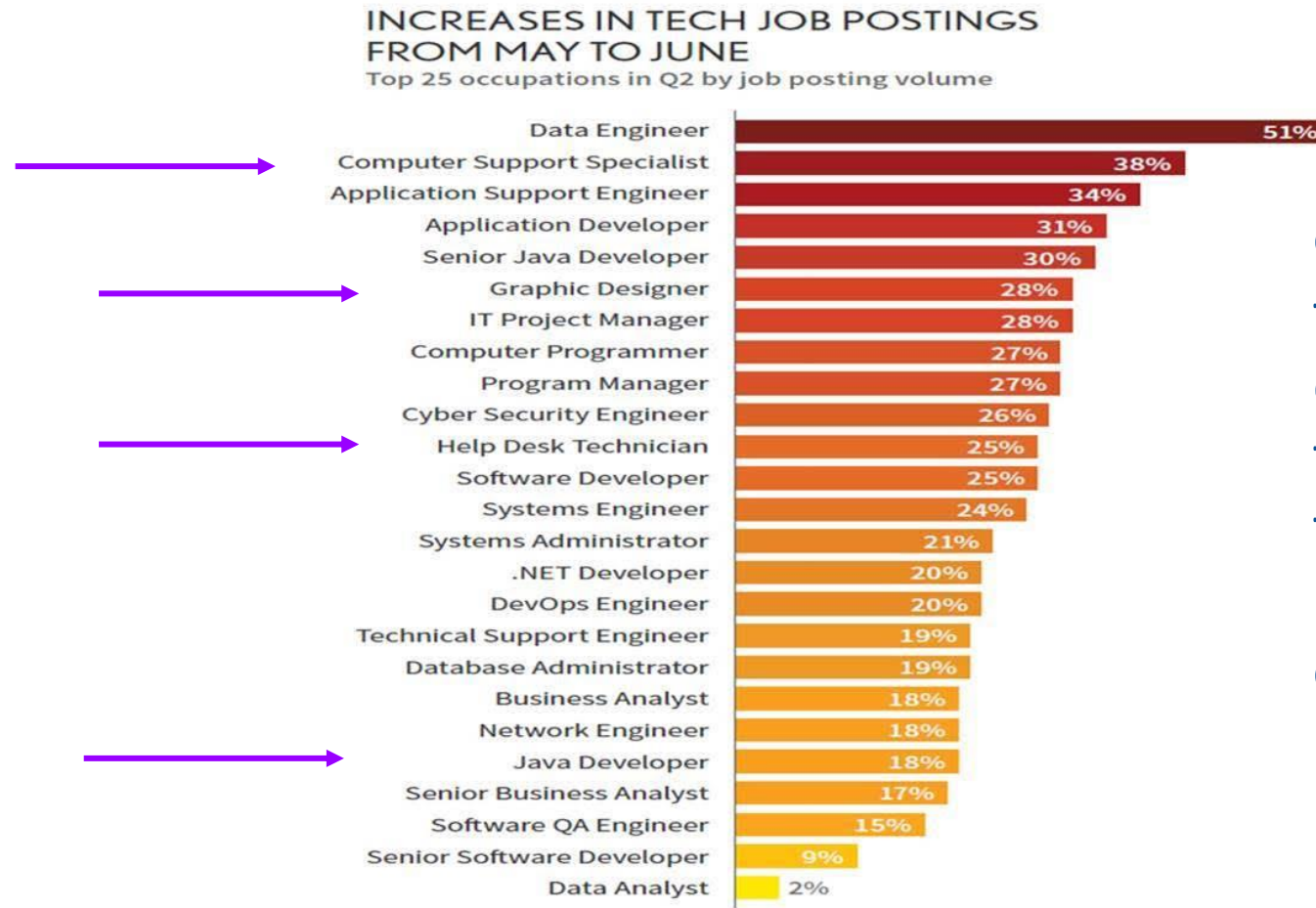


The average salary for a computing occupation in NM is \$72,000, which is significantly higher than the average salary in the state (\$44,840)

New Mexico had only 173 computer science graduates in 2018



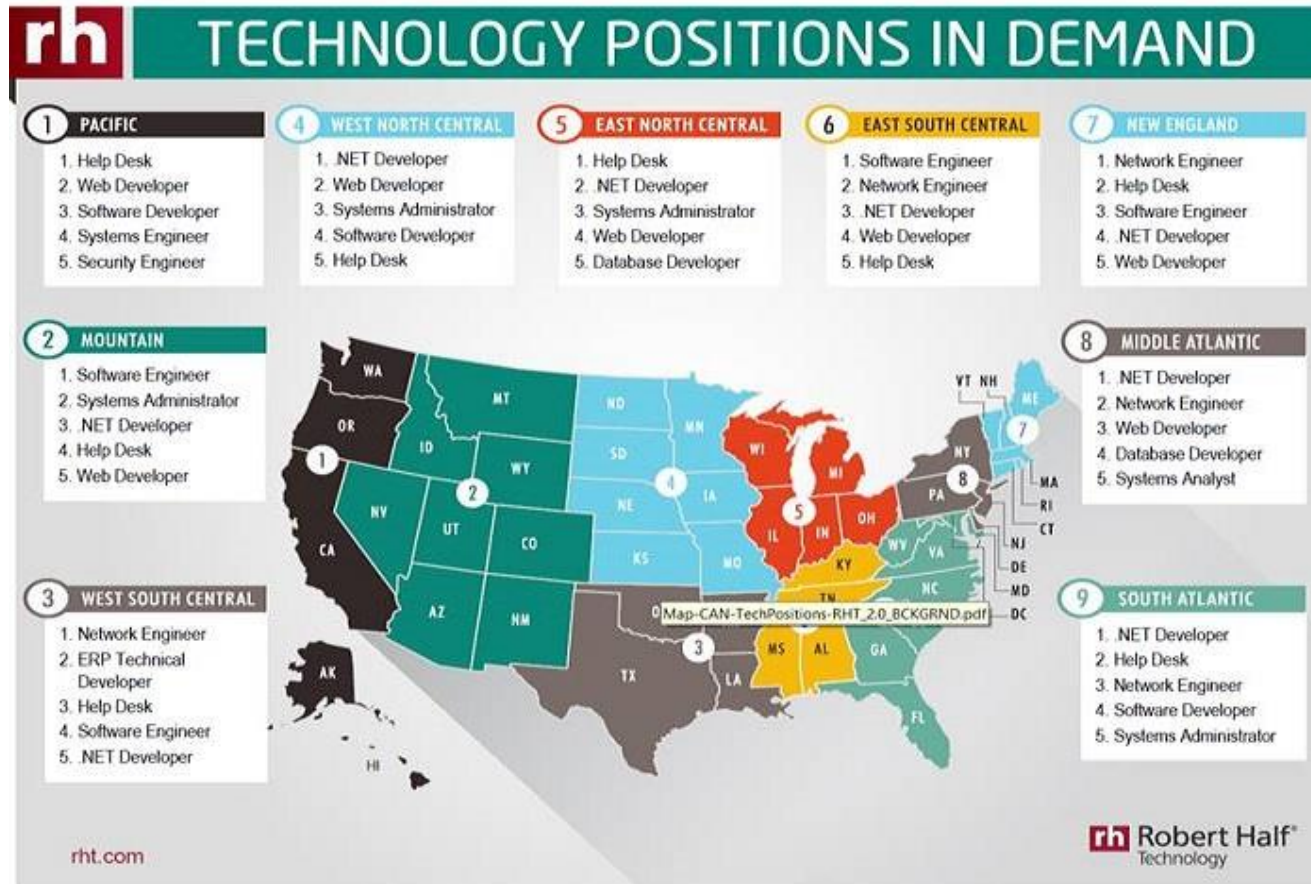
# Computing and technology jobs



Good news! Not all of these jobs require a degree in CS. Some of these skills you can get through certifications in HS or community college.

Source: Robert Half Technology

# Computing and technology jobs



Demand for computing talent is **STRONG** and only will continue to grow





# No matter your interest, coding can play a part in your future

## SCIENCE

Scientists use computer programming to analyze the results of their experiments.



## CODING JOBS ARE AVAILABLE ACROSS ..... MANY CAREERS

## DATA ANALYST

Data analysts use computer programming to analyze data and solve problems in business and finance.



## INFORMATION TECHNOLOGY

IT professionals write software that is used for everything from creating apps to driving cars.



## ENGINEERING

Engineers use programming to design and test new products and conduct research.



## ARTS AND DESIGN

Designers use digital tools to create websites and design the physical products we buy.



# NM CS Stats: **we have a diversity issue**

## AP CS information

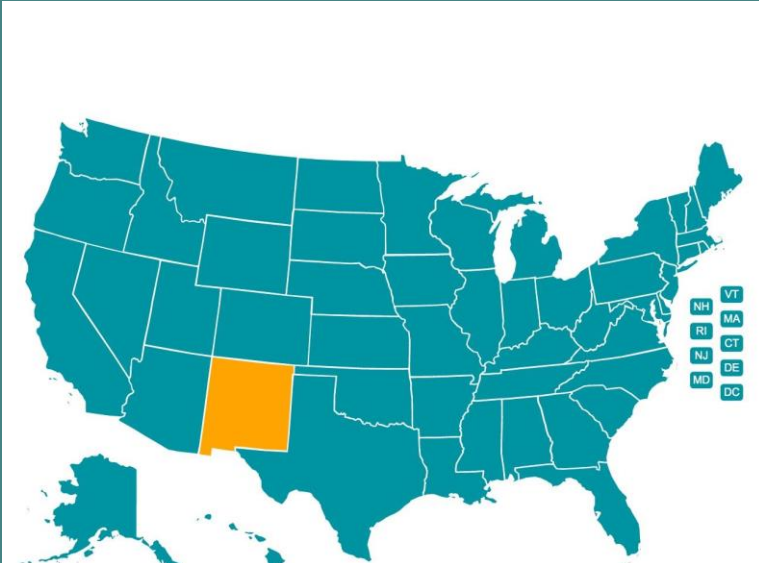
Only **221 exams** were taken in **AP CS** by high school students in New Mexico in 2019

24% female

93 were taken by underrepresented minorities (42%)

Only 16% of schools with AP offer an AP CS class

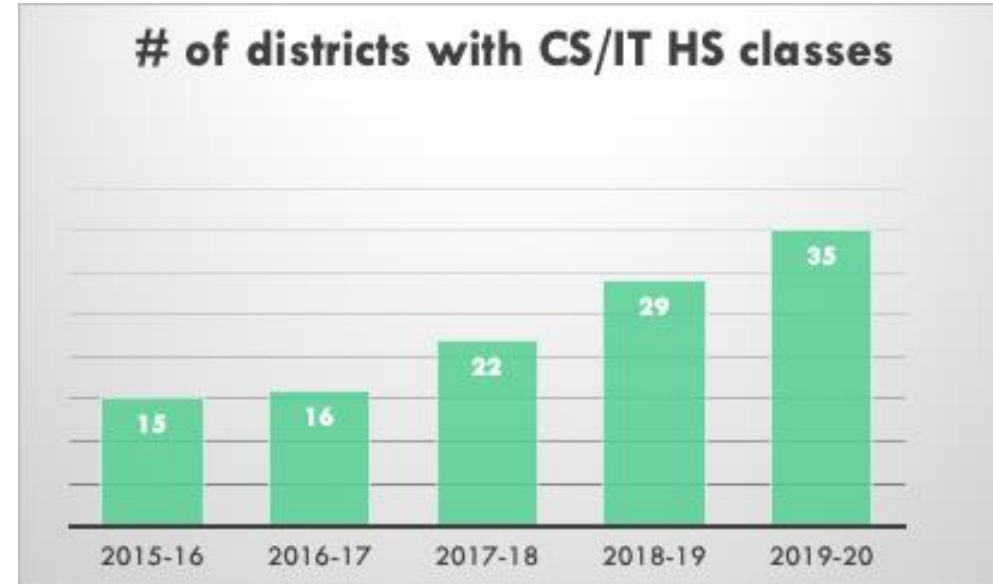
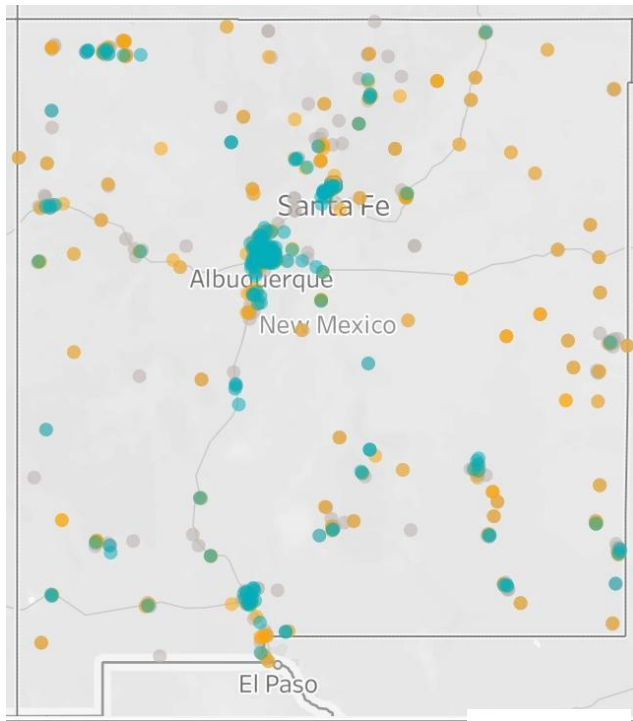
- Only 22% were female
- only 88 exams were taken by Hispanic or Latino students
- only 3 exams were taken by Black students
- only 2 exams were taken by American Indian or Alaska Native students





# NM CS Stats: **we have an access issue**

Where CS education  
is/isn't happening

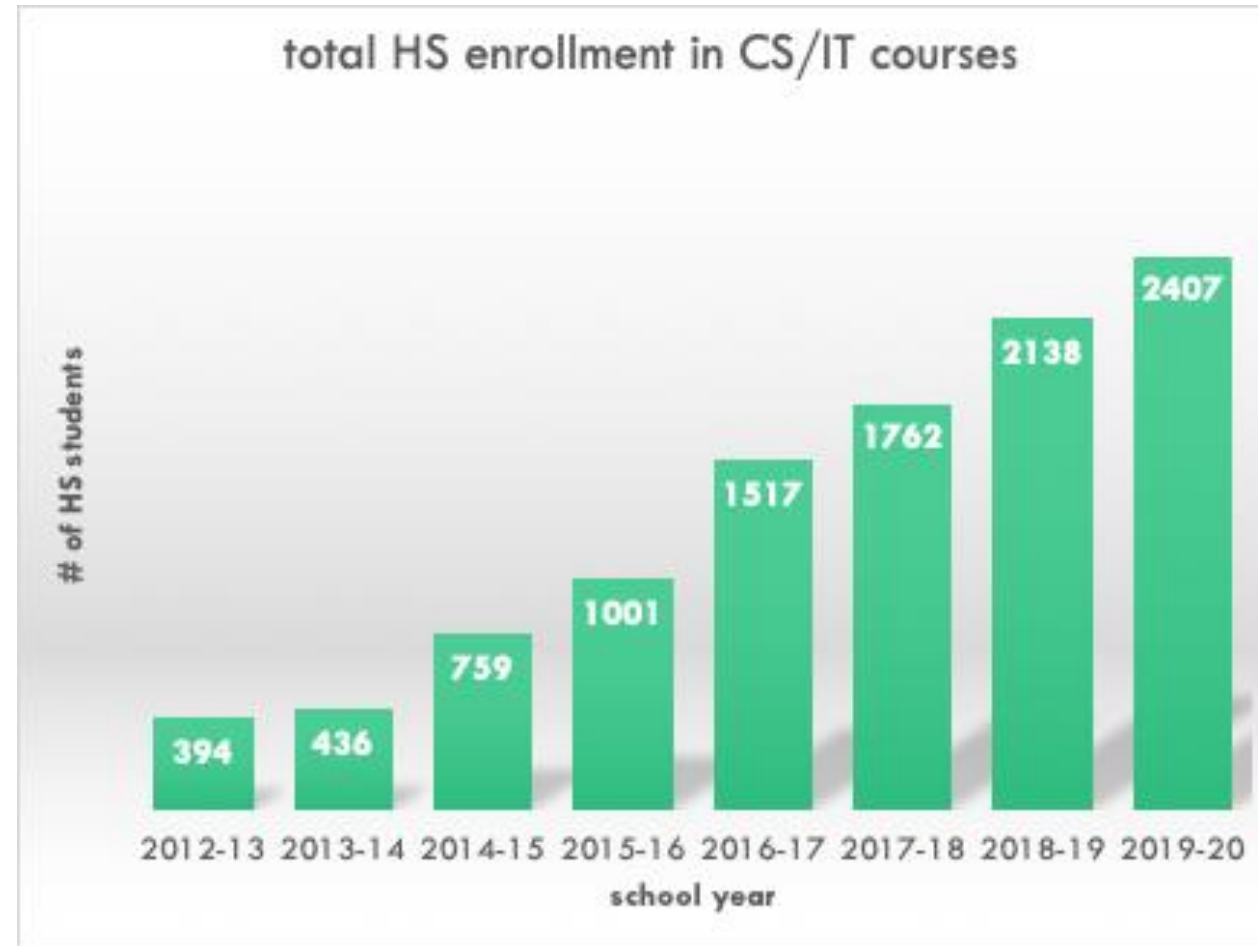


- Out of 89 school districts, there are 29 districts that have at least 1 CS class
- 61 out of ~200 HS have a CS class (30%)

# NM CS Stats: **we have an access issue**

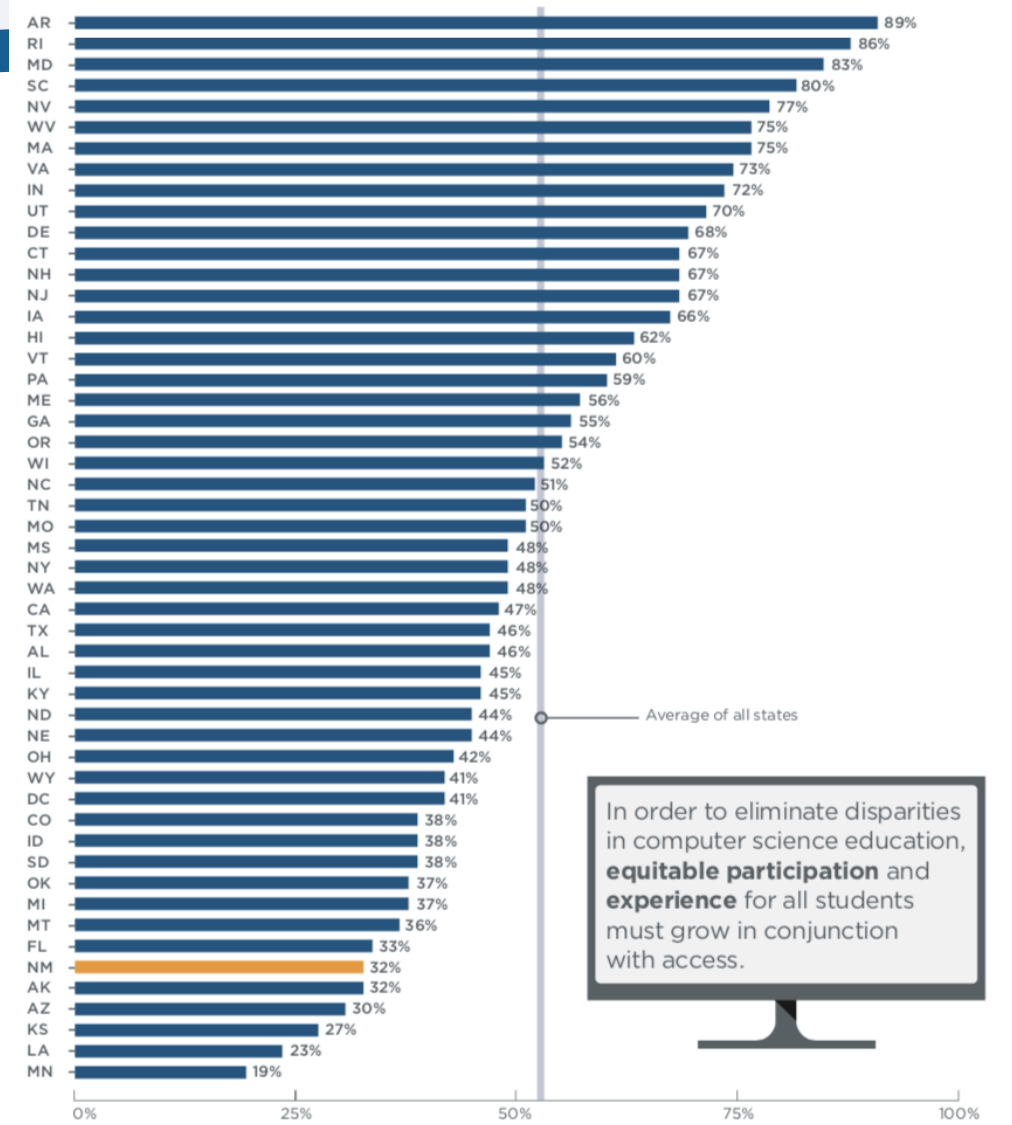
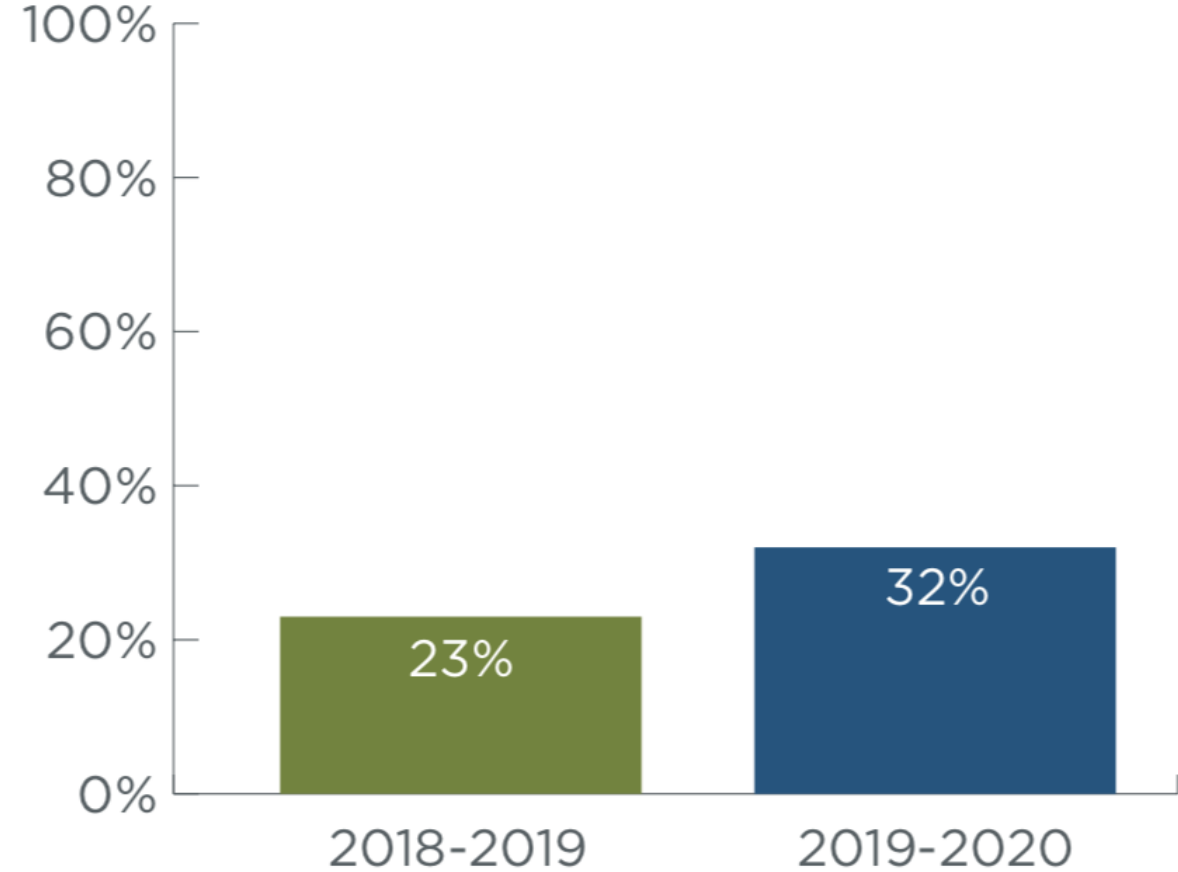
Districts	2016-17 # of students enrolled	2017-18 # of students enrolled	2018-19 # of students enrolled	2019-20 # of students enrolled	% of HS students enrolled in a CS/IT class 2018-19
Carlsbad	42	48	27	23	<1%
Roswell	23	40	17	30	2%
Albuquerque	178	279	315	332	1%
Las Cruces	375	480	348	351	5%
Los Alamos	61	54	62	107	6%
Los Lunas	142	49	65	80	3%
Rio Rancho	9	42	67	107	2%
Santa Fe	96	151	206	207	6%

# NM CS Stats: CS education is growing



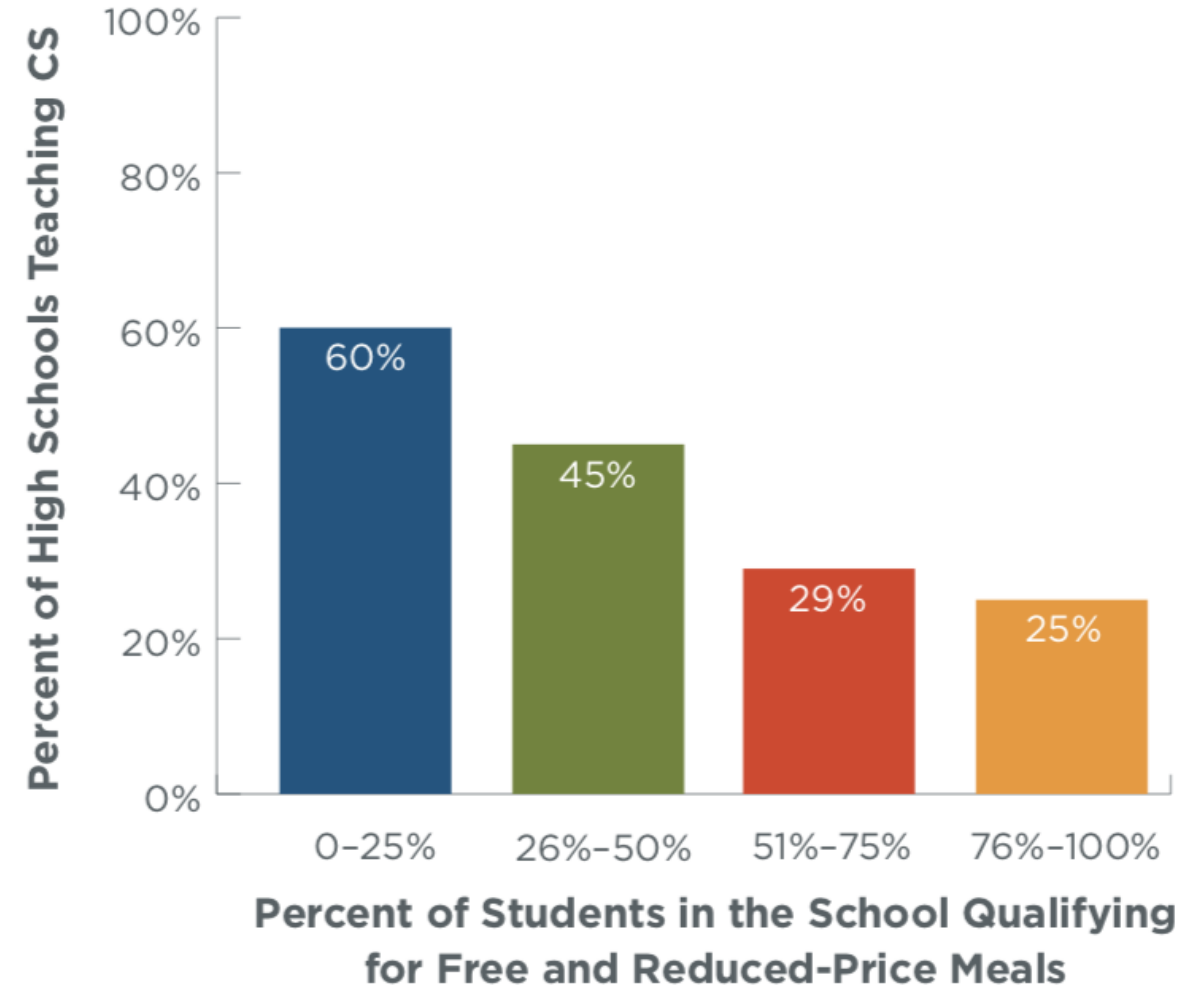
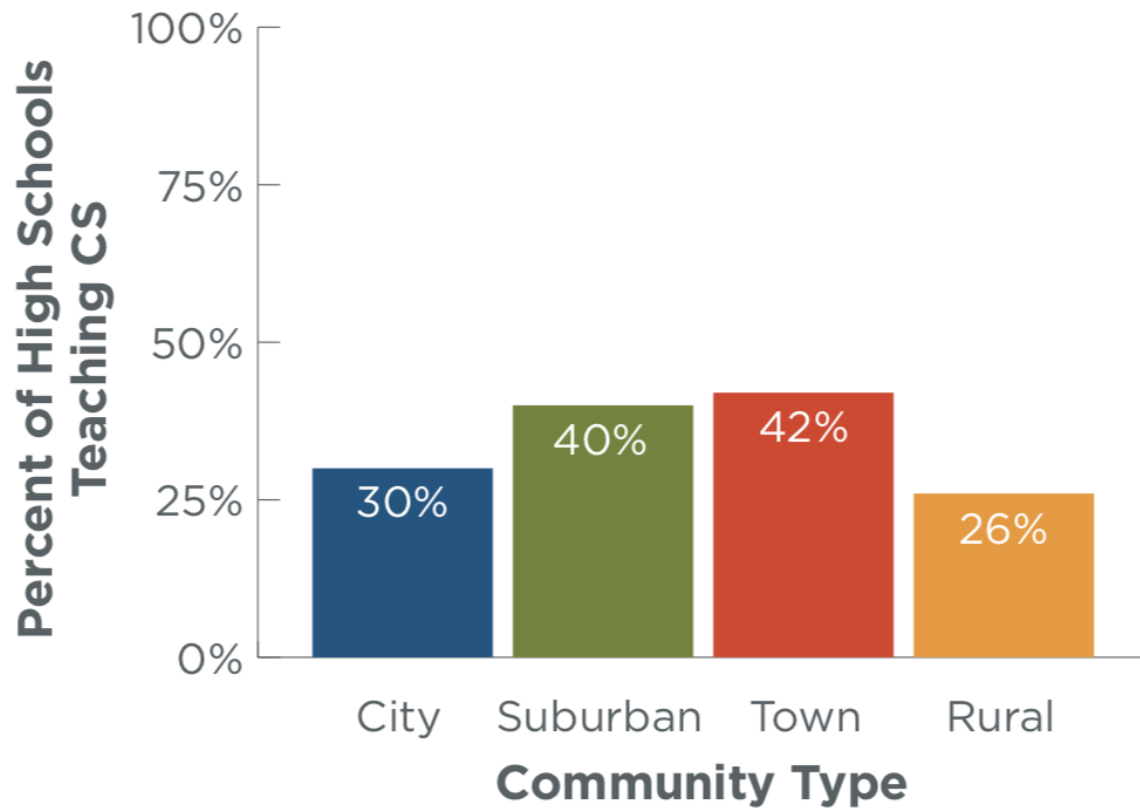


# NM HS Teaching Computer Science

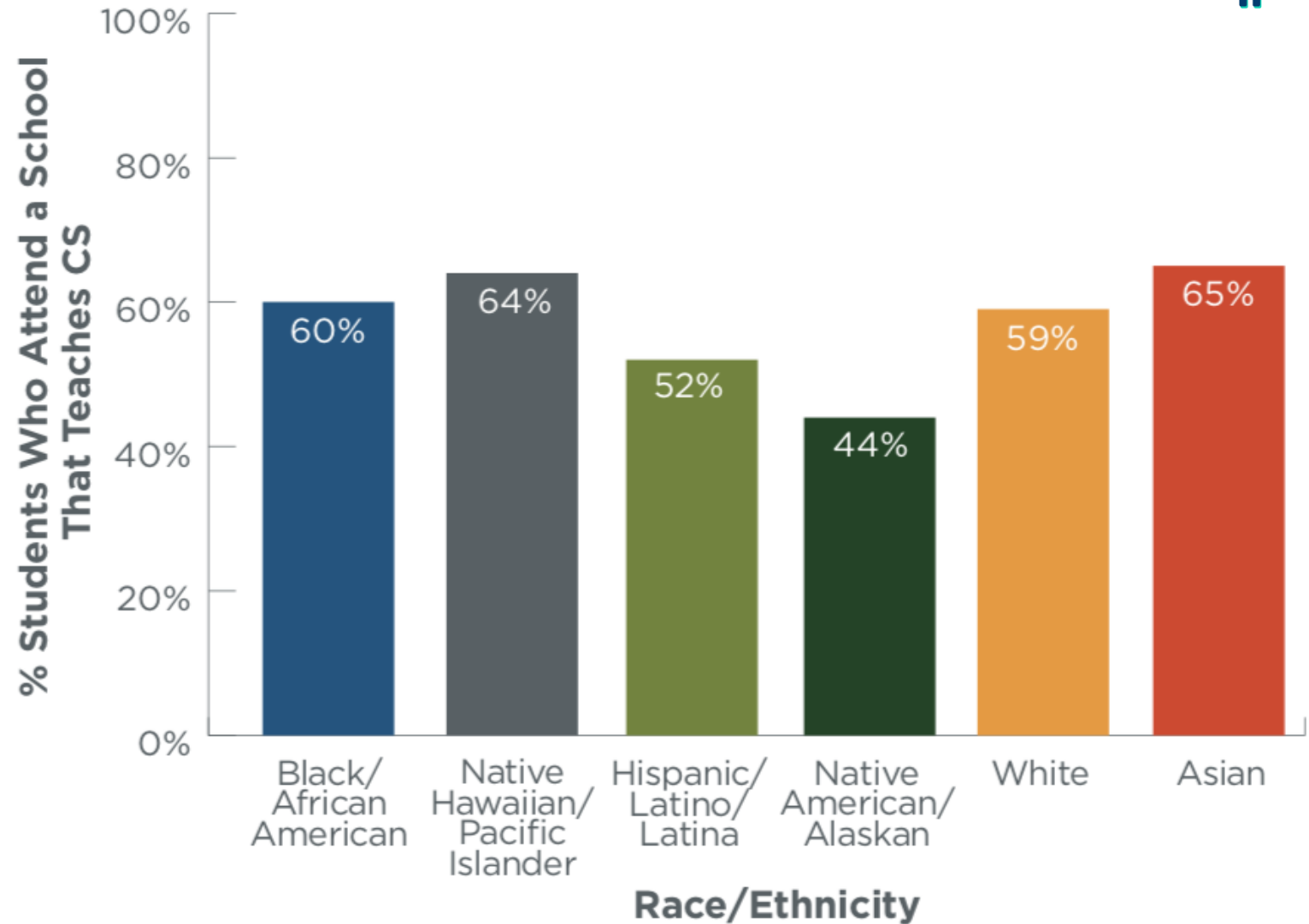


In order to eliminate disparities in computer science education, **equitable participation** and **experience** for all students must grow in conjunction with access.

# K-12 Computer Science Access Report



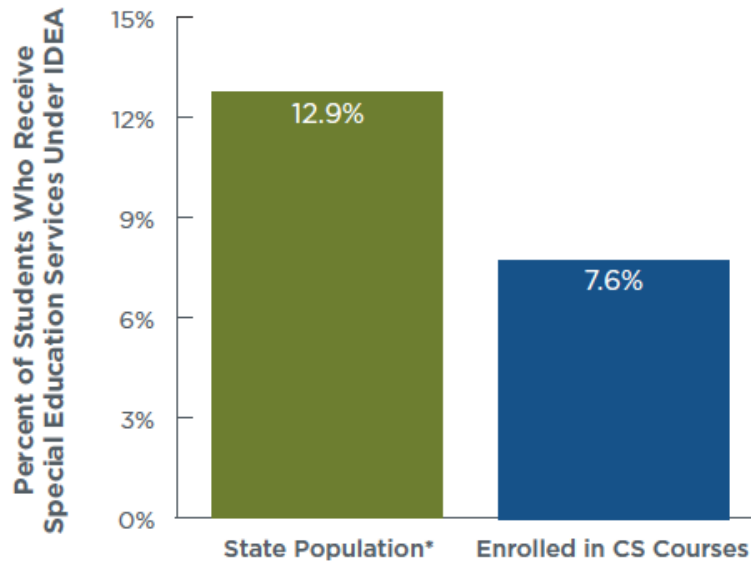
# Race/Ethnicity and Access in New Mexico



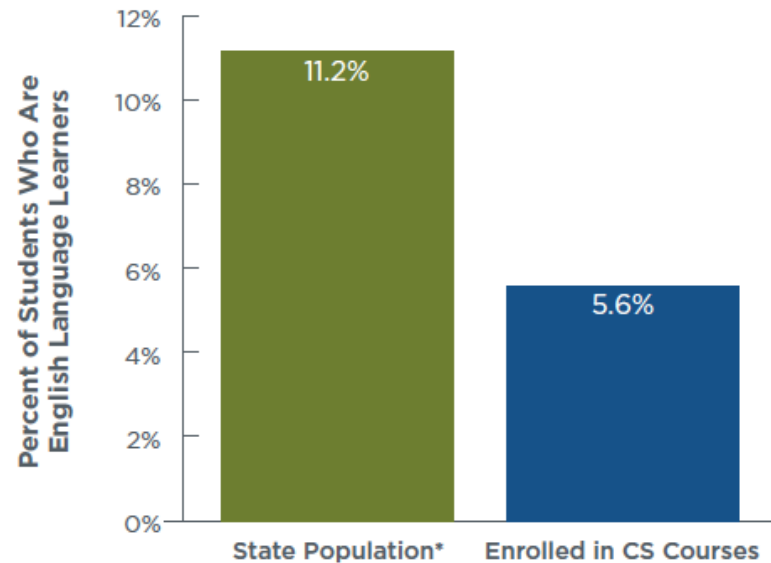


Alabama, Arkansas, Connecticut, Florida, Hawaii, Indiana, Massachusetts, Mississippi, New Jersey, New Mexico, and Texas provided data on the demographics of students enrolled in CS courses.

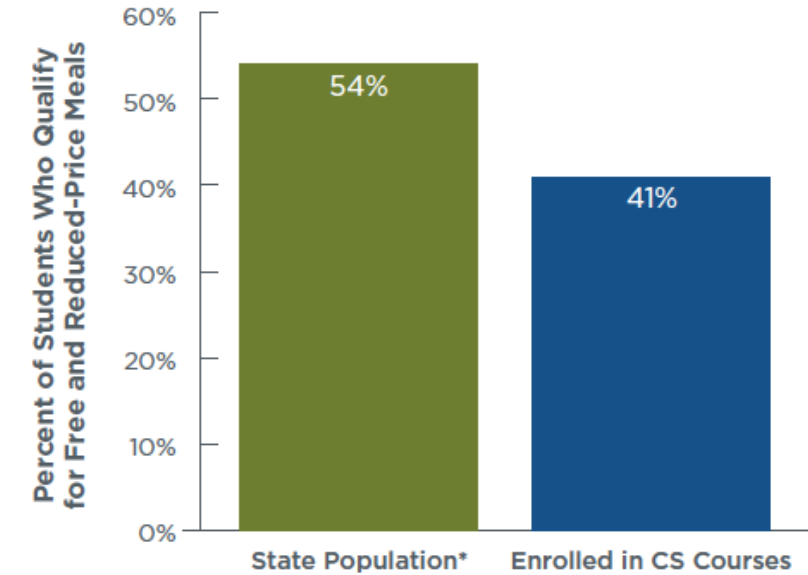
### Students with Disabilities and Participation in Computer Science



### English Language Learners and Participation in Computer Science



### Economically Disadvantaged Students and Participation in Computer Science



# AP CS Access and Participation



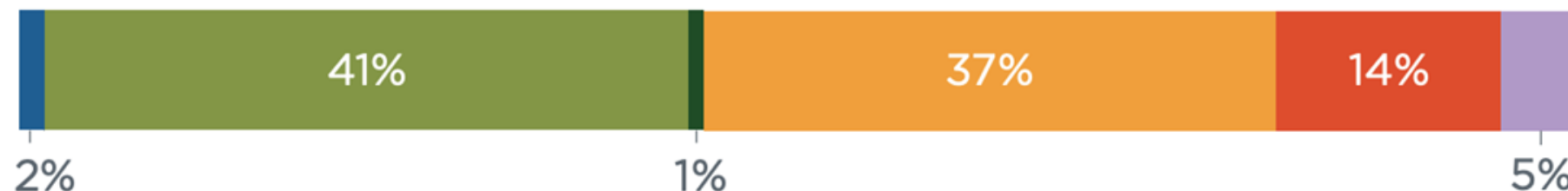
## Overall Student Demographics



## Demographics in Schools Teaching AP CS



## Demographics of Students Taking AP CS Exams

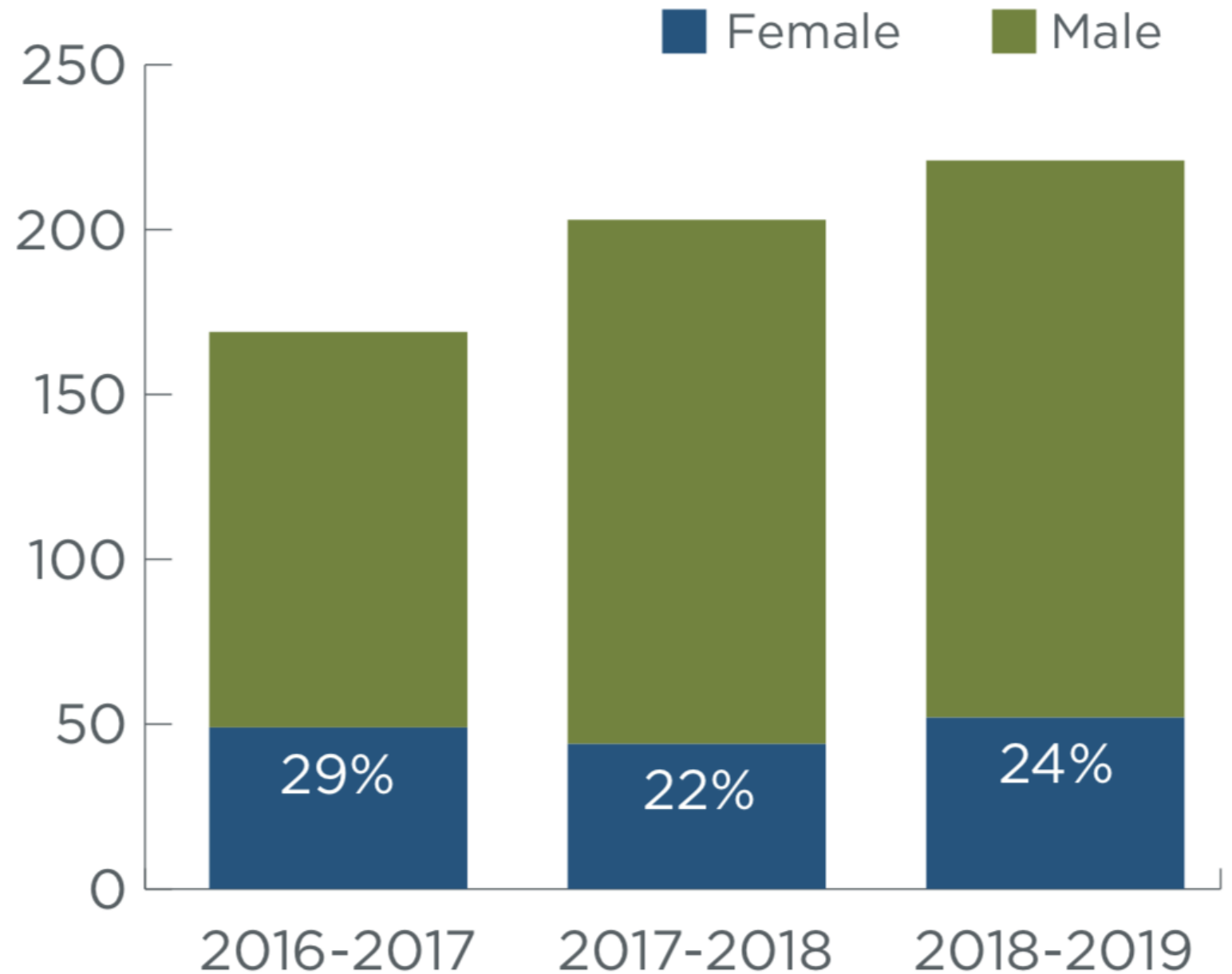


### LEGEND

- Black/African American
- Native Hawaiian/Pacific Islander
- Hispanic/Latino/Latina
- Native American/Alaskan
- White
- Asian
- 2+ Races/Other



## AP CS Student Participation



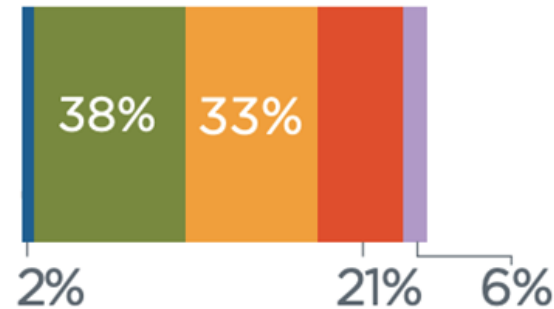


# AP Participation by Race/Ethnicity & Gender

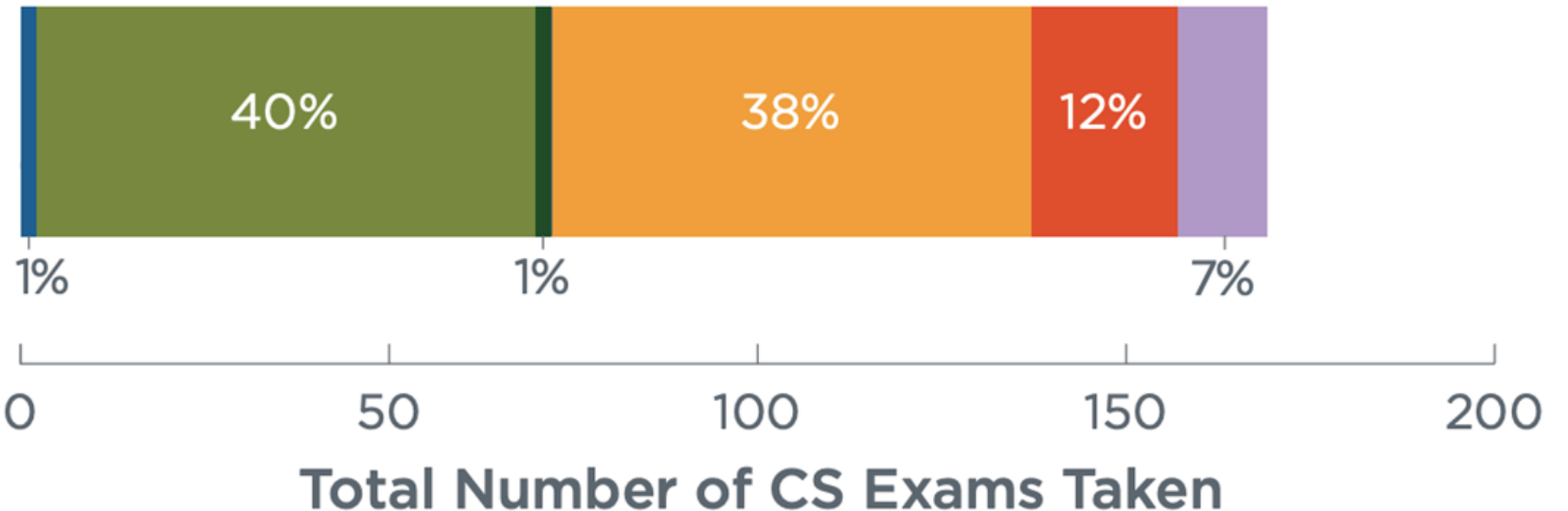
## LEGEND

- Black/African American
- Native Hawaiian/Pacific Islander
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- Asian
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## Female Students



## Male Students



Beyond the data:  
making the CS/IT class experience real



# Power of Placement

A seat in a computer science class  
can change a life







# COMPUTER SCIENCE



Jerry's story inspired me to recruit even harder

# COMPUTER SCIENCE WEEK



27

## FORTUNE TELLER & LOVE ALGORITHM

Get your fortune told or test your love compatibility with our highly accurate algorithms!

28

## V.I.P. SHOWCASE LUNCHEON

Check out all the cool things we're doing in computer science. Invitation only.

29

## LIFE-SIZE PAC-MAN AND PHOTO BOOTH

Play life-size Pac-Man for prizes. Take photos in our special 80s themed CS Photo booth

30

## PUPPY PLAYPEN

Robots! Puppies! Fun!





# Recruitment means nothing without counselor support



Recruitment means nothing without counselor support





Who gets a spot?





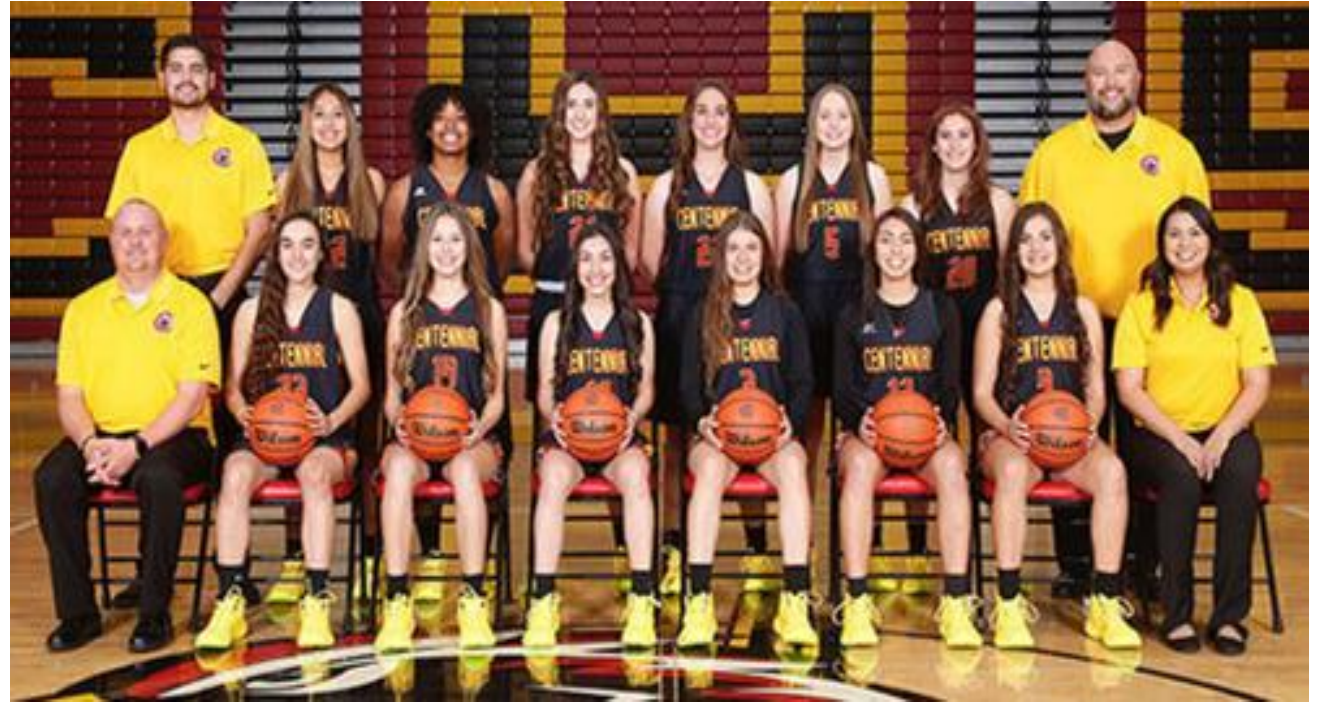
# What if girls DON'T have experience?

- Traditionally represented students get the opportunity to see themselves as computer scientists every day
- One gender is not inherently better at CS...but one has a lot less opportunity
- Girls are signing up for other STEM classes and being successful--they will be successful in CS



# Making a Smart Master

- Girls tend to join CS in groups
- Don't schedule in-demand CS classes at a time when girls are less available (during cheer, Women's Choir, or Girls' Basketball, for example)
- Try not to make STEM-invested students choose between STEM classes



# NM CS education has advocates

- **NM PED**
  - 9-12 overseen by Career & College Readiness Bureau
    - Jaime Cherry, Bobbi Eichhorst
    - A.P. - Alex Lutz (STEM Symposium session on AP CSP)
  - K-8 overseen by Math & Science Bureau
    - Yanira Vasquez, Shafiq Chaudhary, Jenifer Hooten
- **Higher Ed- NMSU, DACC, NNMC, UNM, ENMU, CNM**
- **Non-profits- CS Alliance, LANL Foundation, Supercomputing Challenge, NM MESA**
- **Organizations & Businesses- CSTA-NM, NM Tech Council**
- **Elected Officials- Rep. Debbie Sariñana, Sen. Jacob Candalaria**
- **CS Taskforce- creating a state plan**





[www.computersciencealliance.org](http://www.computersciencealliance.org)



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# Thank You!

Feel free to contact us!