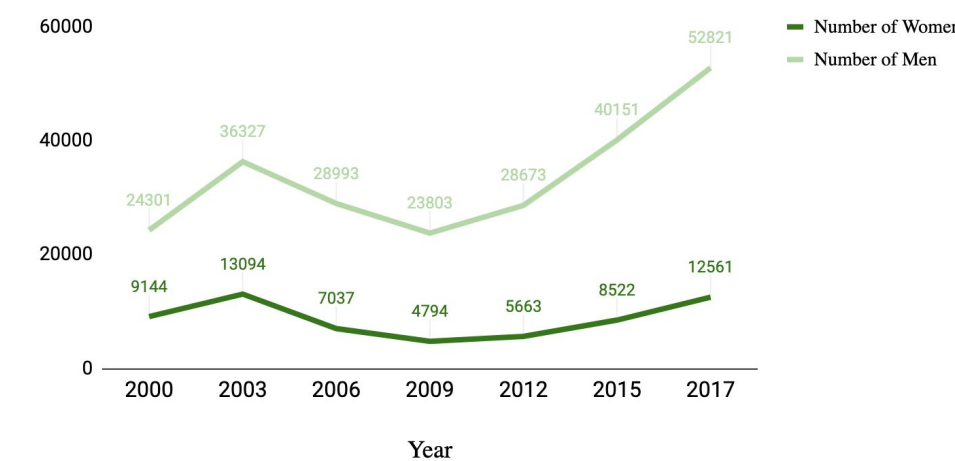


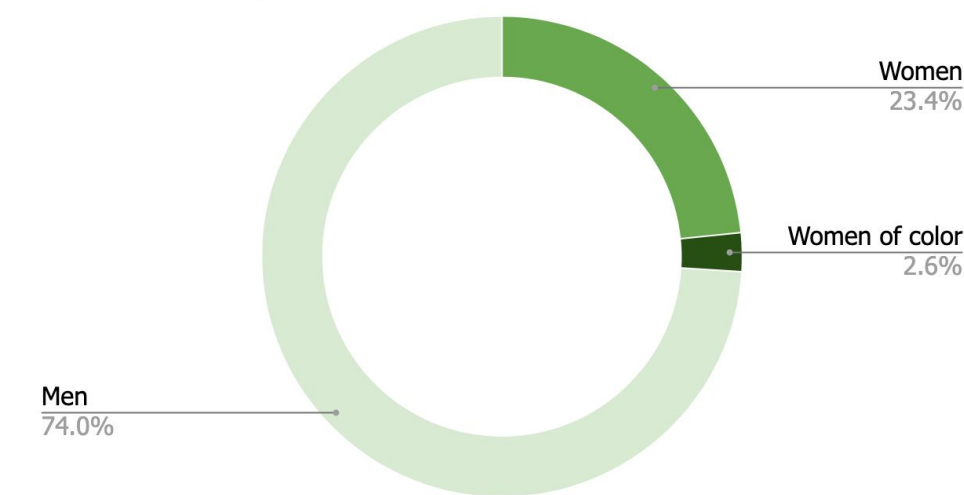
Motivation

Only 26% of the computing workforce is women, less than 10% of whom are women of color. This is in contrast to the gender distribution in the life sciences, which is much closer to 50%. Thus, we created a one-week camp for high school girls focused on teaching computer science using familiar biological concepts.

Number of Computer Information Systems Bachelor's Degrees by Gender

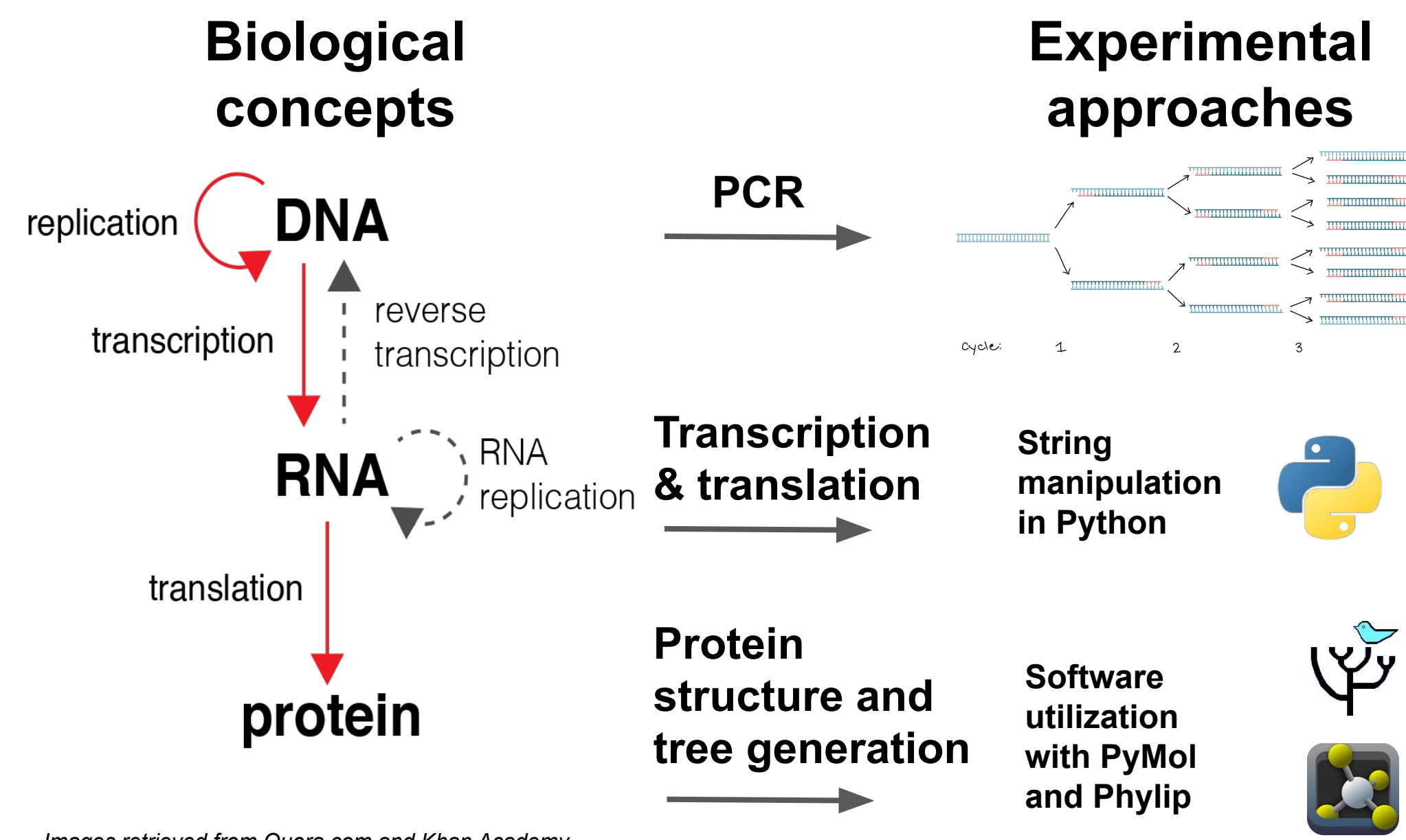


Computing workforce demographics in 2017



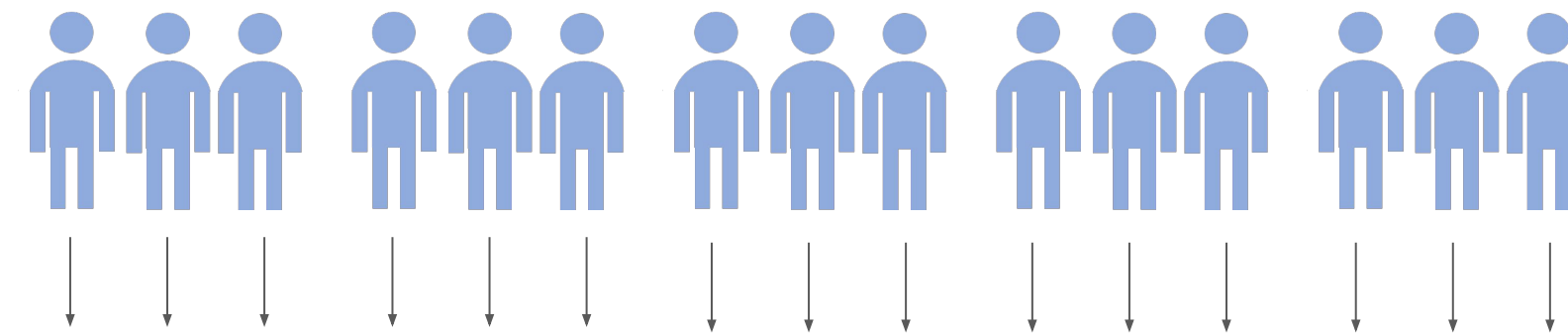
Does an interdisciplinary approach encourage more women to pursue computer science (CS) degrees?

Turning biological concepts into experimental challenges

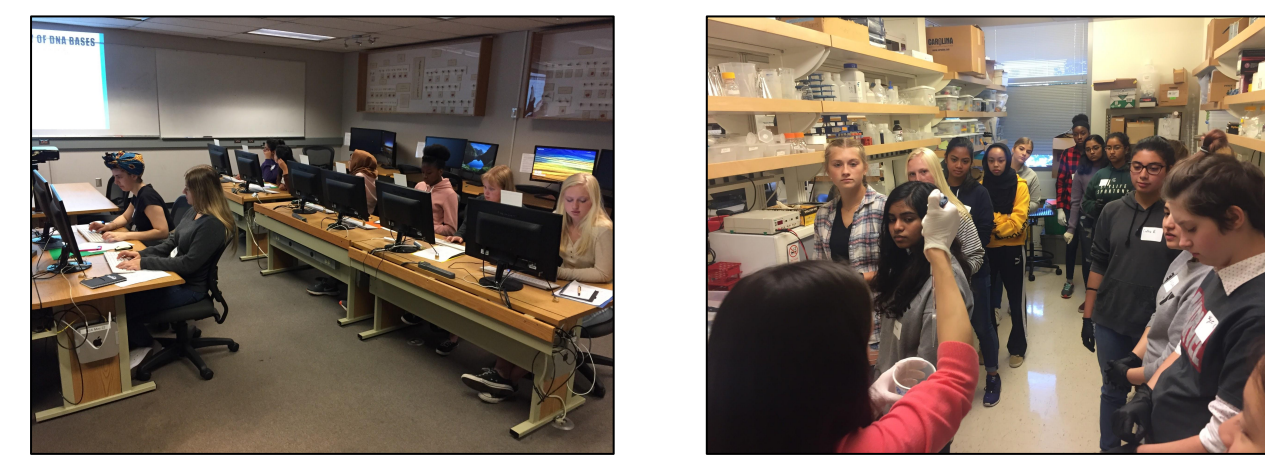


Curriculum design

Our curriculum was designed to spend equal amounts of time in the computer lab and the wet lab.



Each student independently completes their own original code and experimental work, but works towards the same question as their teammates



Group work encourages collaboration which makes computational challenges more approachable.



A scientific poster presentation to the public and to the department allows students to practice their communication skills while reflecting on their accomplishments. It is always one of the students favorite parts of camp!

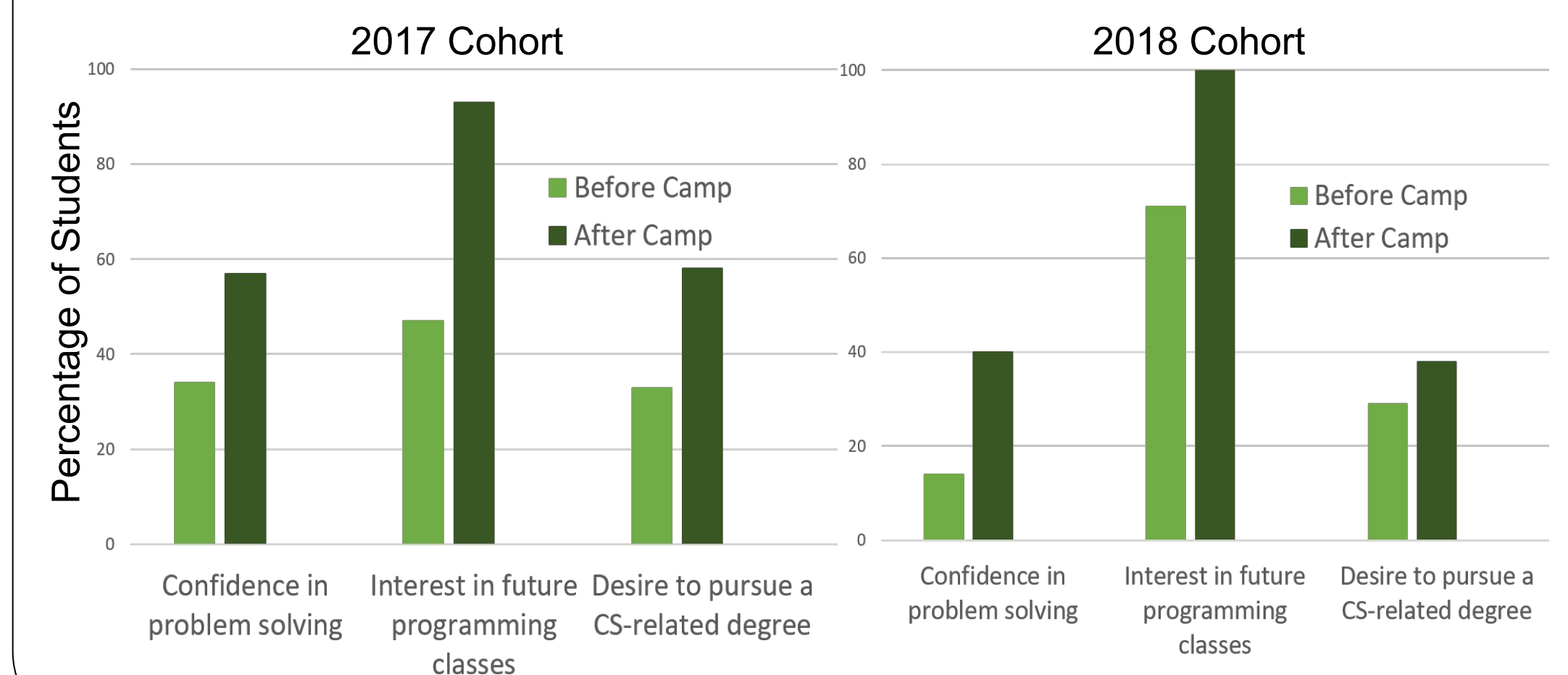
4:1 low student-to-teacher ratio maintains hands-on aspect of camp



Students from the first year requested more time to get to know other students, so we added more structured games and activities. As a result, students felt more comfortable collaborating and had more fun!

Outcomes

Every student in our camp completed our curriculum, regardless of previous coding experience. Surveys taken before and after the camp showed increased confidence and interest in CS in each cohort.



Continued interests in CS

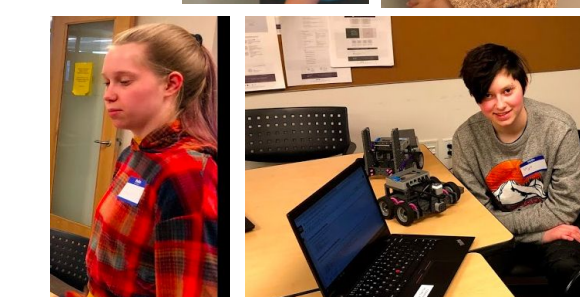
Many of our students continued to seek out opportunities after camp to improve their computational skills.



Phung is now a sophomore at UW majoring in computer science! She also returned to volunteer for Genome Hackers.



Many of our students have now also participated in Girls Who Code!



Acknowledgements



Thanks to the National Center for Women in Information Technologies for providing our funding. Huge thanks for the 30+ graduate students, faculty, and staff at Genome Sciences for making our program successful!