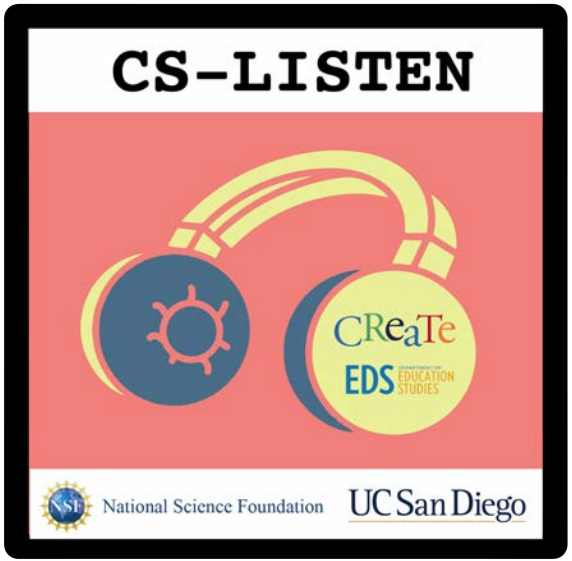
Sweetwater Union High School



This research is funded by the National Science Foundation CSforAll Grant Award #1923406.

Research Question(s):

1. Why is CS not known or talked about?

Demographics

School demographic data here by race and ethnicity

	Number of Students	Percentage of Students
African American	28	1%
American Indian or Alaska Native	7	0.3%
Asian	16	0.6%
Filipino	347	12.7%
Hispanic or Latino	2,210	80.9%
Pacific Islander	16	0.6%
White	62	2.3%
2 or more races	46	1.7%
Total	2,732	100%

Ethnicity Data of those Surveyed:

	Number of Students	Percentage of Students
African American	17	4.6%
American Indian or Alaska Native	0	0%
Mexican/ Latino	240	65%
Asian/Filipino	122	33.1%
White/Caucasian	31	8.4%
Native Hawaiian/Pacific Islander	9	2.4%
Native American	2	0.5%

Analysis of Ethnicity #:

The majority of students surveyed identify as Mexican/Latino, which was 240 out of the 369 students surveyed.

The second most number of students identified as Asian/Filipino, which was 122 out of 369 students surveyed.

The third most number of students identified as White/Caucasian, which was 31 out of 369 students surveyed.

This means that the top three ethnicities at our school based on those who responded to the survey is Mexican/Latino, Asian/Filipino, and White/ Caucasian.

Age of those Surveyed:

	Number of Students	Percentage of Students
14	28	7.6%
15	88	23.8%
16	113	30.6%
17	103	27.9%
18	31	8.4%
19+	6	1.7%
Total:	369	100%

Analysis of Age #:

The majority of students who took the survey were 16 years old, which was 113 out of 369 students surveyed.

The second most number of students surveyed were 17 years old, which was 103 out of 369 students surveyed

The third most number of students surveyed were 15 years old, which was 88 out of 369 students surveyed.

This means that the top three ages at our school based on the survey is 16, 17, and 15.

Do you plan on taking any Computer Science classes for the following?

	# of students per years taking/planing to take cs in the next five years	% of students per year planning to take or taking cs in the next 5 years
TOTAL	493	369
Freshman Year	12	3%
Sophomore Year	19	5%
Junior Year	93	25%
Senior Year	124	34%
College	134	36%
Currently Taken or Have Taken	111	30%

Analysis Report of Data:

Based on the data shown to the left most students prefer taking cs during their senior year, or college.

Important: We failed to make an option where students choose that they do not plan to take computer science.

Why is CS not known or talked about?

Qualitative Analysis

Qualitative Analysis from **two** questions:

WHY or WHY NOT do you think computer science is important?

Do you believe students should take a Computer Science course? Please explain why you chose that opinion.

Theme 1: Only if relevant to your major

I think computer science is not necessarily important to take but if someone wants to major in the field then yes ,it is something that is important

“Science is not important because i don’t want to be a scientist"

"I don’t think it’s required in all fields."

I don’t think it’s important to me because it does not benefit me in the future and the future job I’m hopefully getting.

Theme 2: NOT Necessary

"I don’t think it’s necessary because we won’t really need it outside of school "

"i am in a neutral stat mentally and it could benefit you if you are taking a course that has this requirements."

""I think it is important as we will use computers a lot I our lives. However I don't see how I would use it to program if I don't plan to make an app or something.

"I don't think we need it"

Theme 3: No Info

"ima be 100 percent honest idk what computer science is"

“I don't know”

“I don't know enough about computer science to have an opinion”.

“I'm ill informed, but i'll assume it can take off certain semesters you'd need to take in college.”

Theme 4: Personal Opinions/other

"Not that many people are interested or the way computer science is being shown is not appealing enough."

"It depends what people are interested in."

"Counselor said it's not important."

"There are many other careers other than computer science."

Why is CS not known or talked about?

Quantitative Analysis

I am interested in CS:

Strongly Agree

Agree

Neutral

Disagree

Strongly Disagree

Mexican/Latino

African American

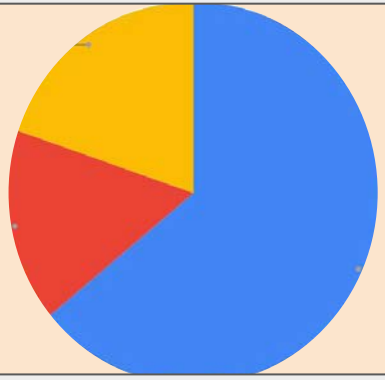
Native Hawaiian/Pacific Islander

Asian/Filipino

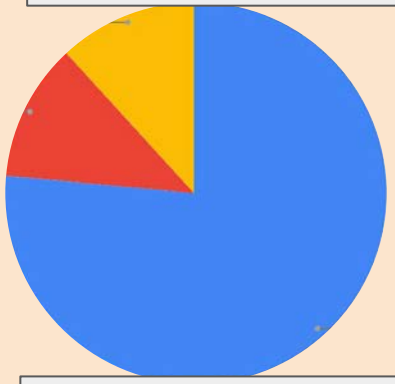
White/Caucasian

Do you know what benefits come from taking Computer Science courses?

Mexican/Latino



African American

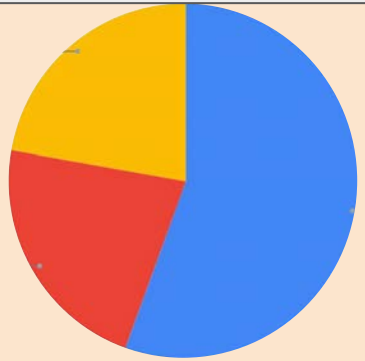


Yes

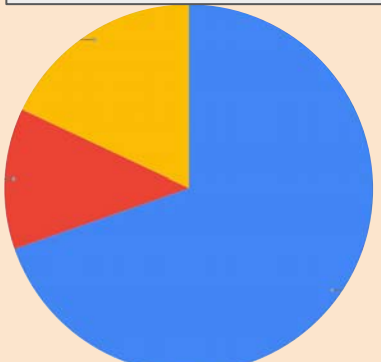
No

Maybe

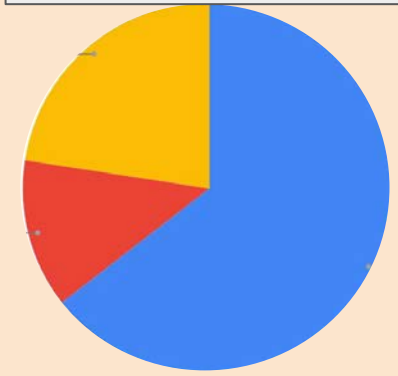
Native Hawaiian/Pacific Islander



Asian/Filipino

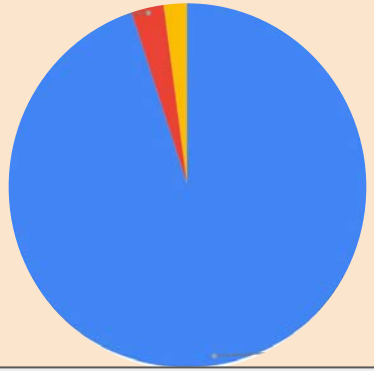


White/Caucasian

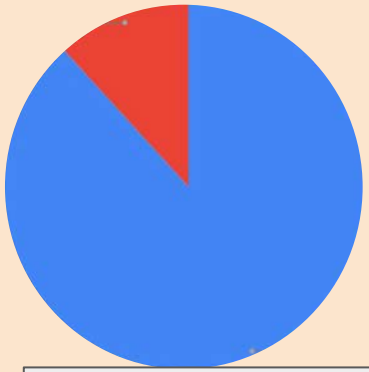


Do you know if your school offers any Computer Science courses?:

Mexican/Latino



African American



Native Hawaiian/Pacific Islander

Asian/Filipino

White/Caucasian

I believe Computer Science is important

Strongly Agree

Agree

Neutral

Disagree

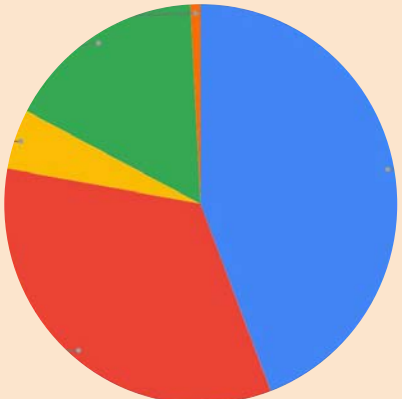
Strongly Disagree

Mexican/Latino

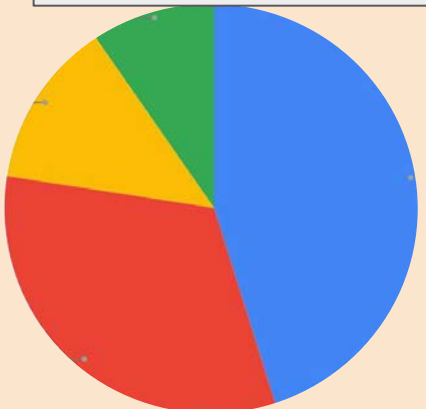
African American

Native Hawaiian/Pacific Islander

Asian/Filipino



White/Caucasian



I believe Computer Science will benefit me in the future.

Strongly Agree

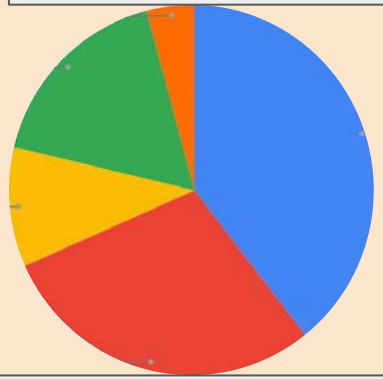
Agree

Neutral

Disagree

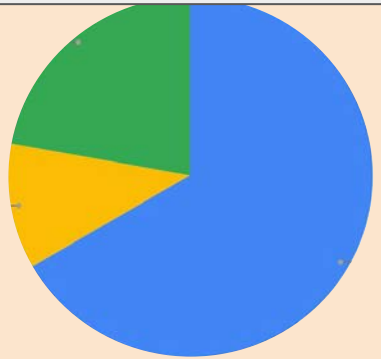
Strongly Disagree

Mexican/Latino

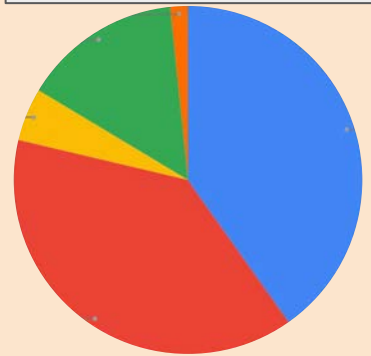


African American

Native Hawaiian/Pacific Islander



Asian/Filipino



White/Caucasian

I believe the ability to program is a necessary skill.

Strongly Agree

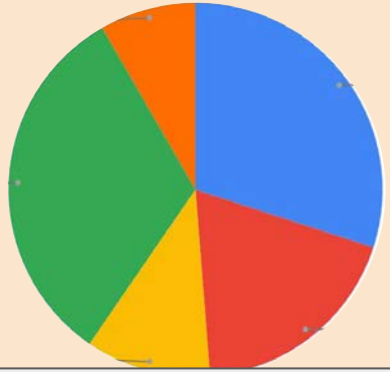
Agree

Neutral

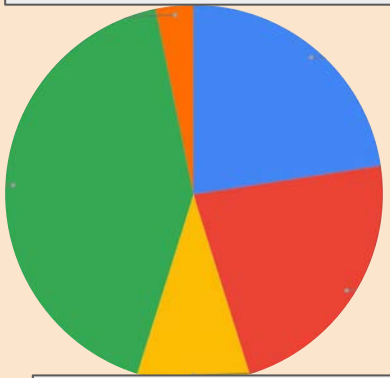
Disagree

Strongly Disagree

Mexican/Latino

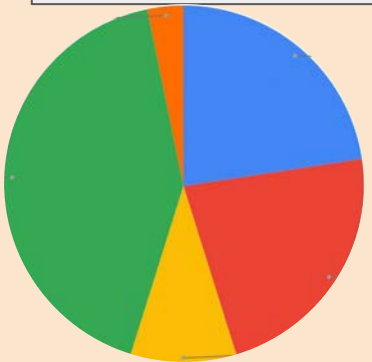


African American



Native Hawaiian/Pacific Islander

Asian/Filipino



White/Caucasian

Why is CS not known or talked about?

Recommendations for Action

We recommend... Explore CS!

- Introduce earlier - middle or high school
  - Coding Camps or Clubs
    - Better for people with full schedules
    - Inform students about what computer science is and maybe even what jobs/careers that taking computer science can help you with.
    - Inform them that the introductory AP CSP class is easy and fun!
    - Introduce students to a variety of different programming languages
- Purchase kits that allow anyone, regardless of what experience they have with CS, to create projects by coding
    - Can create coding projects for things like making a robot talk, walk, etc
    - Kits like Vex Robotics or Arduino allows anyone from beginner to intermediate to create that is possible through coding.

We recommend... Recruit!

- Recruit
  - Teachers and Counselors
    - Counselors talk about CS classes when students meet them for class registrations
    - Making presentations of computer science courses like Mr. Lopez does
  - Students
    - High schoolers could talk about their experiences in the high school CS classes.
  - Introduce CS
    - We can have one day or multiple dedicated to teaching the basics of computer science, so students can actually see what it's like
      - Hour of Code

We recommend... Offer Options!

- More classes with different languages (robotics, Arduino, apps, etc.)
  - Get a headstart on learning different languages before going to college.
    - C#, C++, or Python

Sweetwater High School SCR Team

Student Co-Researchers:

Justin Alagar
Clarence Bermudez
Arvie Cabal
Joaquin Castillo
Hannia Cruz
Allison Cunningham
Danna Diaz Zazueta
Kaye Falaminiano
Alexa Huerta
Brenda Jimenez
Brenda Lopez
Justin Mamangon
Jerold Mauricio
Lionel Mendoza
Erenice Prieto
Valeria Solis
Deniah Tanner

Teacher Leaders:
Art Lopez
Samantha Silvas