



CS-LISTEN Mission Vista HS



Research Question

How do we encourage CS 1 students to continue the CS pathway?

BACKGROUND

Mission Vista High/ Vista Unified SD

- Located in a suburban community approximately 25 miles north of San Diego
- Magnet School with an emphasis in the areas of Arts & Communication as well as Science & Technology
- Operates on a 4x4 block schedule
- 1660 Students
- 44.7% White, 37% Hispanic, 9.2% Asian, 4.3% Filipino, 3.1% African-American
- 40% Socioeconomically disadvantaged

Alumni Interview Highlights

- Exposure to CS early
- Get students to take CS1 as 9th or 10 graders
- Give more support with the complex concepts of object-oriented programming
- Need to get feedback from female alumni



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SURVEY FINDINGS

- A majority of students have an increased interest in Computer Science after taking CS1
- Group that stopped after CS1:
 - 51.7% took CS1 as a senior
 - 24/33 (72.72%) said they were more interested in CS after taking the course
 - 6/24 (25%) of those who said they were more interested said they had scheduling conflicts
 - Main reasons students stop after CS1 are 1) they are seniors or 2) they don't feel they are smart enough
- Group that plans to take CS2:
 - 60.9% were 9th graders in CS1
 - 91.3% reported an enjoyment level of at least a 4
 - 63% rated CS1 difficulty levels as moderate (2-3) and 37% rated CS1 difficulty levels as challenging (4-5)
- Group in CS2 Currently or Beyond:
 - 50% of students who continued on took CS1 in 10th grade
 - 33.9% said no for continuing CS classes
 - 42.9% ran out of schedule space
 - 28.6% finished all CS courses
 - 28.6% lost interest
 - Over half chose to continue the CS pathway because they desire to learn more about the computer science field.
 - About 1/3 wants a possible career or degree in computer science.
 - The remaining respondents are continuing as they enjoyed CS1
 - Students that complete the CS pathway have had previous exposure to CS prior to taking CS1

METHODOLOG

Survey

- Survey emailed to 273 students who had taken at least one CS course. 137 responses were received.
- Survey targeted 3 groups: those who will make CS1 the final course, those who plan to take CS2, and those who are taking/have taken CS2 or beyond. Each group was analyzed separately.
- Created a survey that mainly targeted personal experiences
- The survey employed skip logic and asked different questions based on previous questions

Interview

- Interviewed 14 MVHS CS Alumni over Zoom who are either in college (5) or in a career (9).
- Interviews were transcribed and responses consolidated into a Google Sheet.
- Questions focused on how their experiences at MVHS help them now
- Asked what could have been done better

Beginning

- Expose students to CS before they take CS1
 - to give an increased interest in CS
 - to gain confidence that they are smart enough to be successful in CS
 - to lead to more students continuing the pathway, and
 - to get them to start CS1 earlier
- Offer middle school afterschool program
- Pathway advertisement
- Introduce more work with Python
- Incorporate more group projects