

*Golden West College
Data Coach Inquiry
Project*

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COLLEGE ALGEBRA

Data Inquiry Project Topic

**How prepared are
Students in Math 115
and 115S courses?**

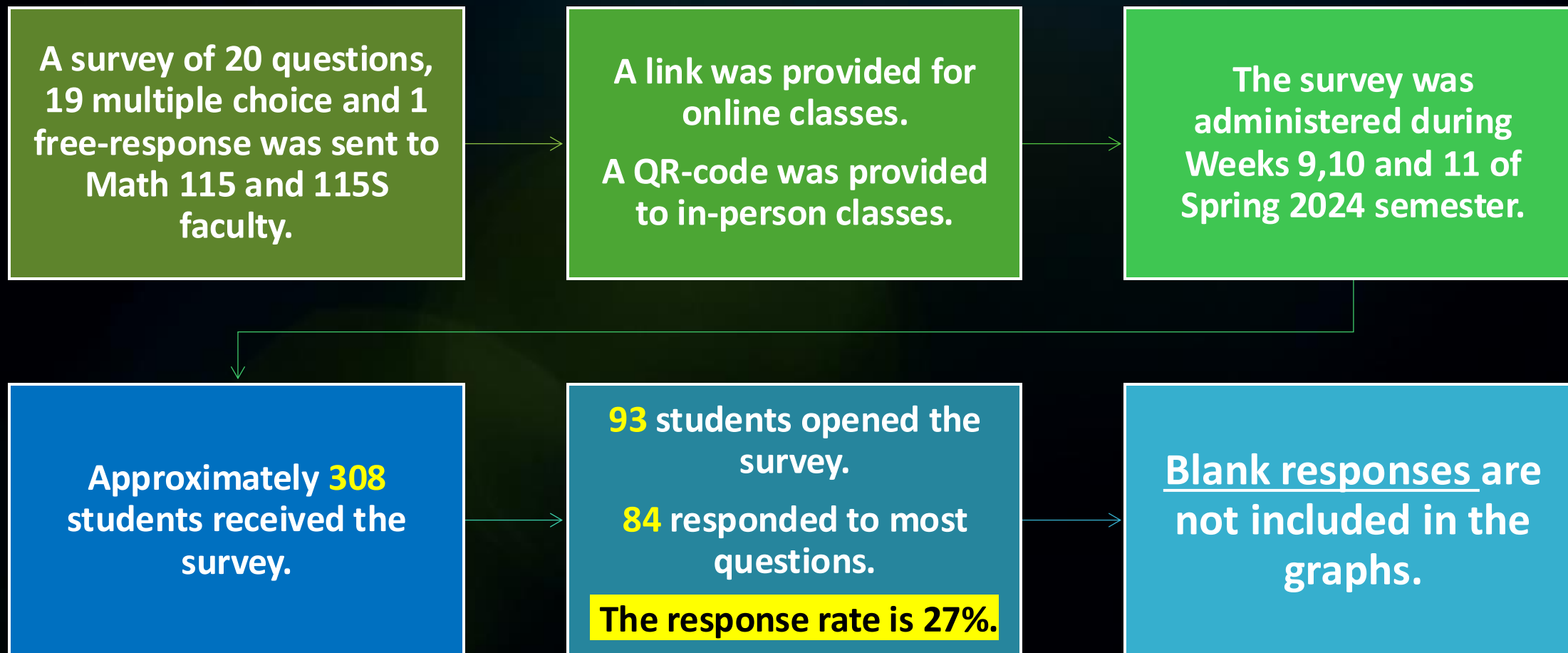
Math 115: College Algebra

Math 115S: College Algebra with Support

Why did I choose this topic for my Data Inquiry Project?

- I've been teaching College Algebra for 2 decades. This course is the gateway course for Business and STEM majors, and after Covid and implementation of AB 1705, the students who enroll in college algebra have been very unprepared.
- Math Proficiency Rate is low for K-12 in CA. The Department of Education in State of California reports that in 2022-23 only 27% of 11-graders met or exceeded standards for math, and I was curious to find out how students' proficiency in basic math impacts their performance in college algebra classes.
- To assess students' basic math skills in college algebra class, a few basic math questions, such as addition of fractions, were embedded in the survey.

Method of Collecting Data from Students

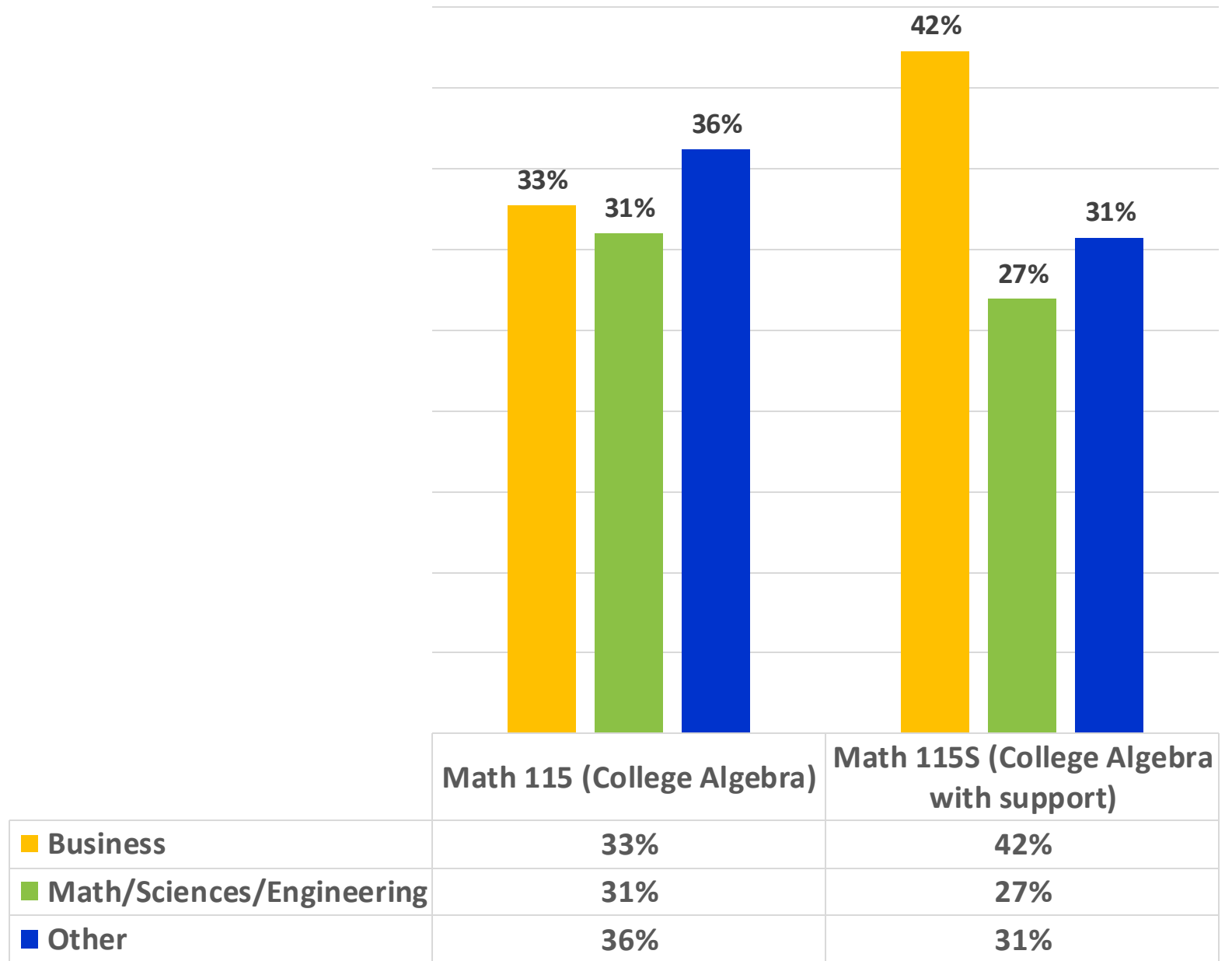


Majors of students who are taking Math 115 or Math 115S

Outcome

A great percentage of students enrolled in Math 115 and 115S are neither STEM nor Business majors.

Why and how can we fix that?



Demographics

Students who left BLANK responses are disregarded in the next graphs.

ETHNICITIES	COUNT
Asian	30
Hispanic/LatinX	23
White	14
Black/African American	2
Two or more races	9
Native Hawaiian/Pac. Islander	1
Unknown	4
(blank)	10
Grand Total	93

Grades and Ethnicities

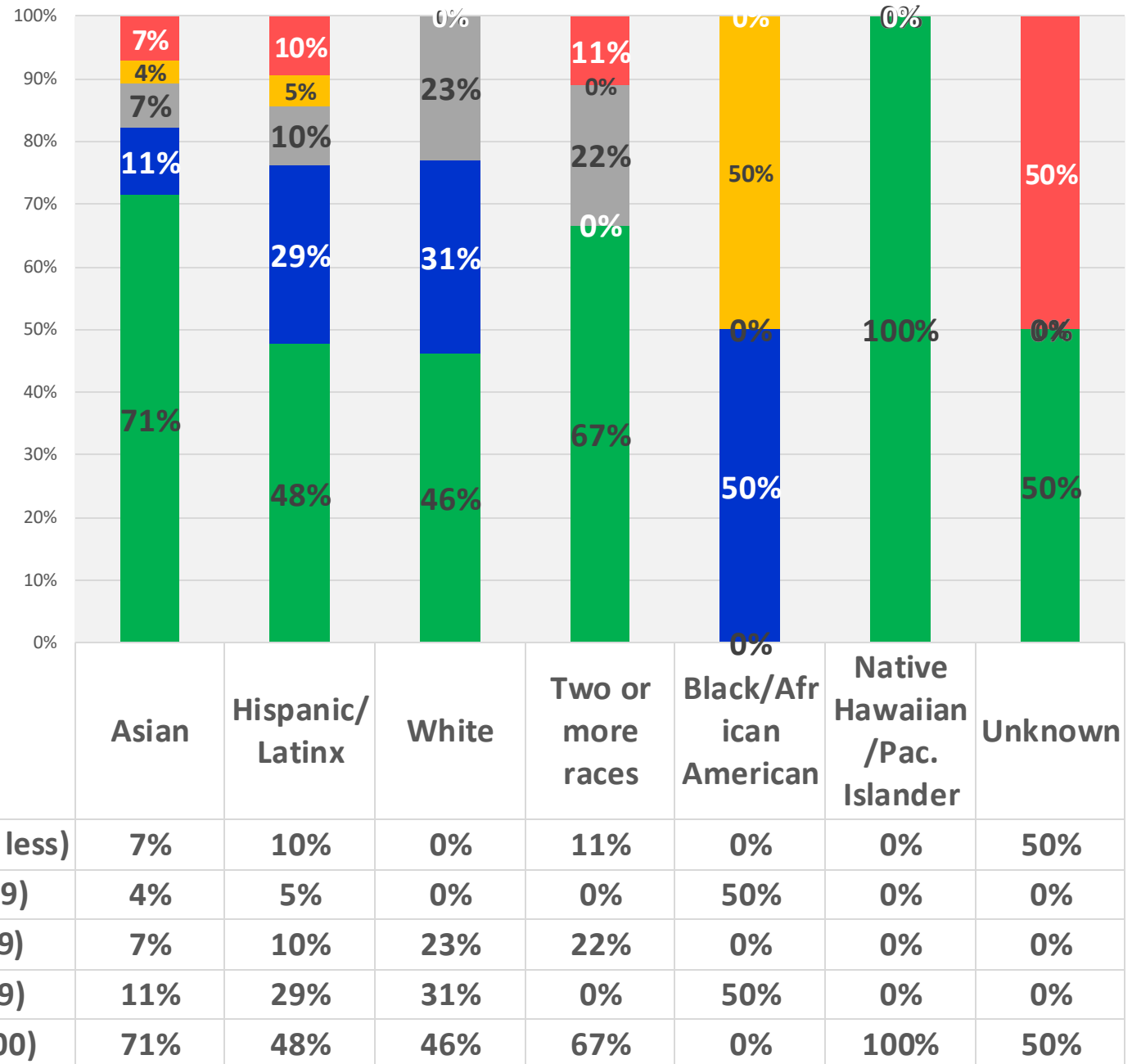
Observation

Largest percentage of A among Asian students

Smallest percentages of D and F among White students

Goal

Closing the gaps by decreasing percentages of D and F



Selected survey questions for the project

- **What is the students' comfort level in College Algebra class at the beginning of the semester and at the time of taking the survey?**
- **Do students know how to add fractions such as $\frac{1}{3}$ plus $\frac{1}{5}$?**
- **Given the option, would students take Intermediate Algebra before taking College Algebra?**
- **Do students seek for help from the Tutoring Services?**

Level of comfort with the Course Content

Perfectly comfortable

understand the content and do not struggle

Very comfortable

understand the content and rarely struggle with it

Somewhat comfortable

understand about half the content and struggle with the other half

A little comfortable

understand a little bit of the content, but struggle with most of it

Not at all comfortable

have a hard time with the content and struggle all the time

Math Comfort Pulse of College Algebra students

Comfort level of the students with the course during the first week

Comfort level of the students with the course when they took the survey

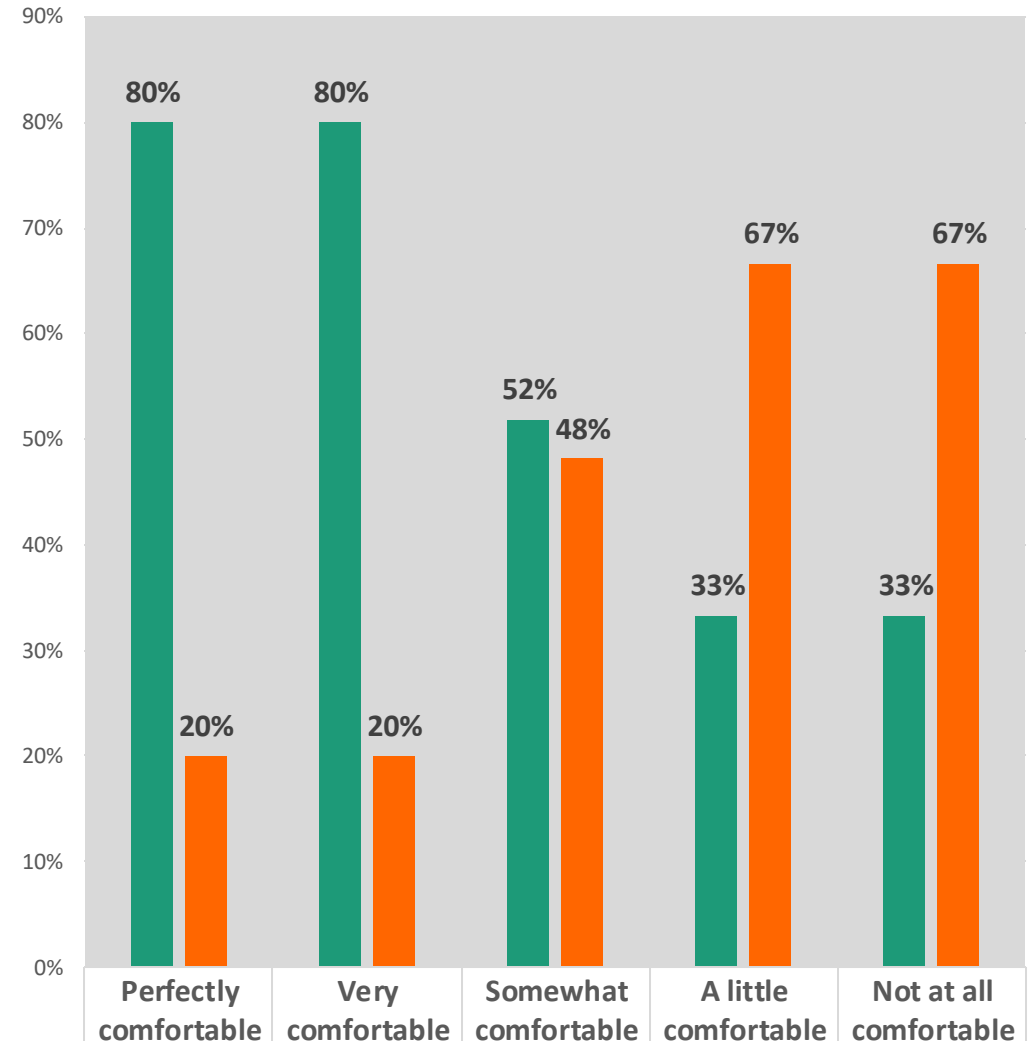
	Count	Percent
Perfectly Comfortable	24	28.9%
Very Comfortable	23	27.7%
Somewhat Comfortable	20	24.1%
A little Comfortable	12	14.5%
Not at all Comfortable	4	4.8%

	Count	Percent
Perfectly Comfortable	21	25.3%
Very Comfortable	25	30.1% 😊
Somewhat Comfortable	27	32.5% 😊
A little Comfortable	6	7.2% 😊
Not at all Comfortable	4	4.8% 😞

Does the knowledge of Basic Math impact the comfort level in learning the content of college algebra?

Reflection

It seems that the students who know their basic math such as addition of fractions are more comfortable with college algebra's content.



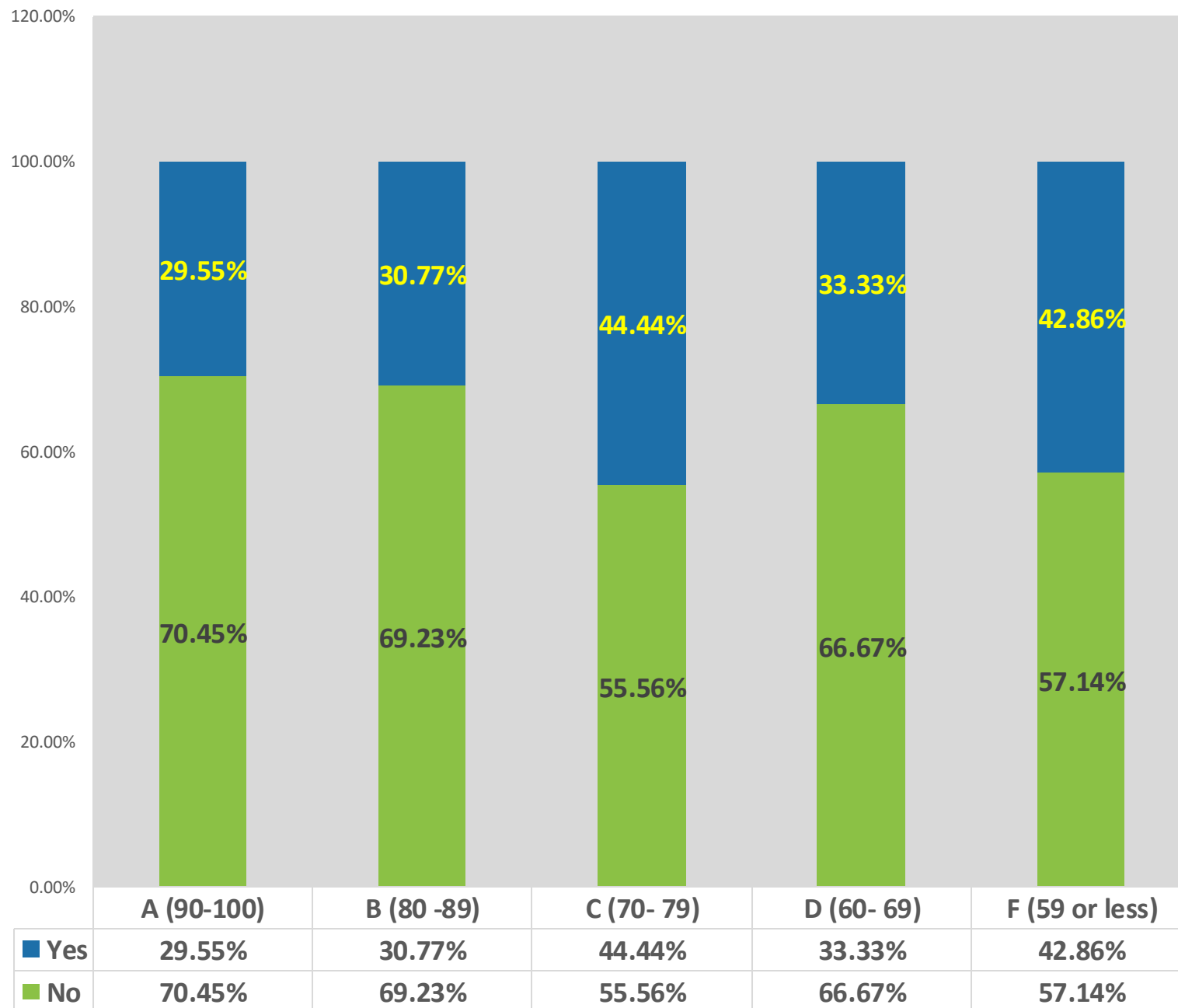
■ I know exactly how to add $\frac{1}{3}$ and $\frac{1}{5}$	80%	80%	52%	33%	33%
■ I need instruction and help to add $\frac{1}{3}$ and $\frac{1}{5}$	20%	20%	48%	67%	67%

Are college algebra students utilizing the tutoring resources?

Reflection

It's encouraging to see that a good percentage of students are utilizing the tutoring resources.

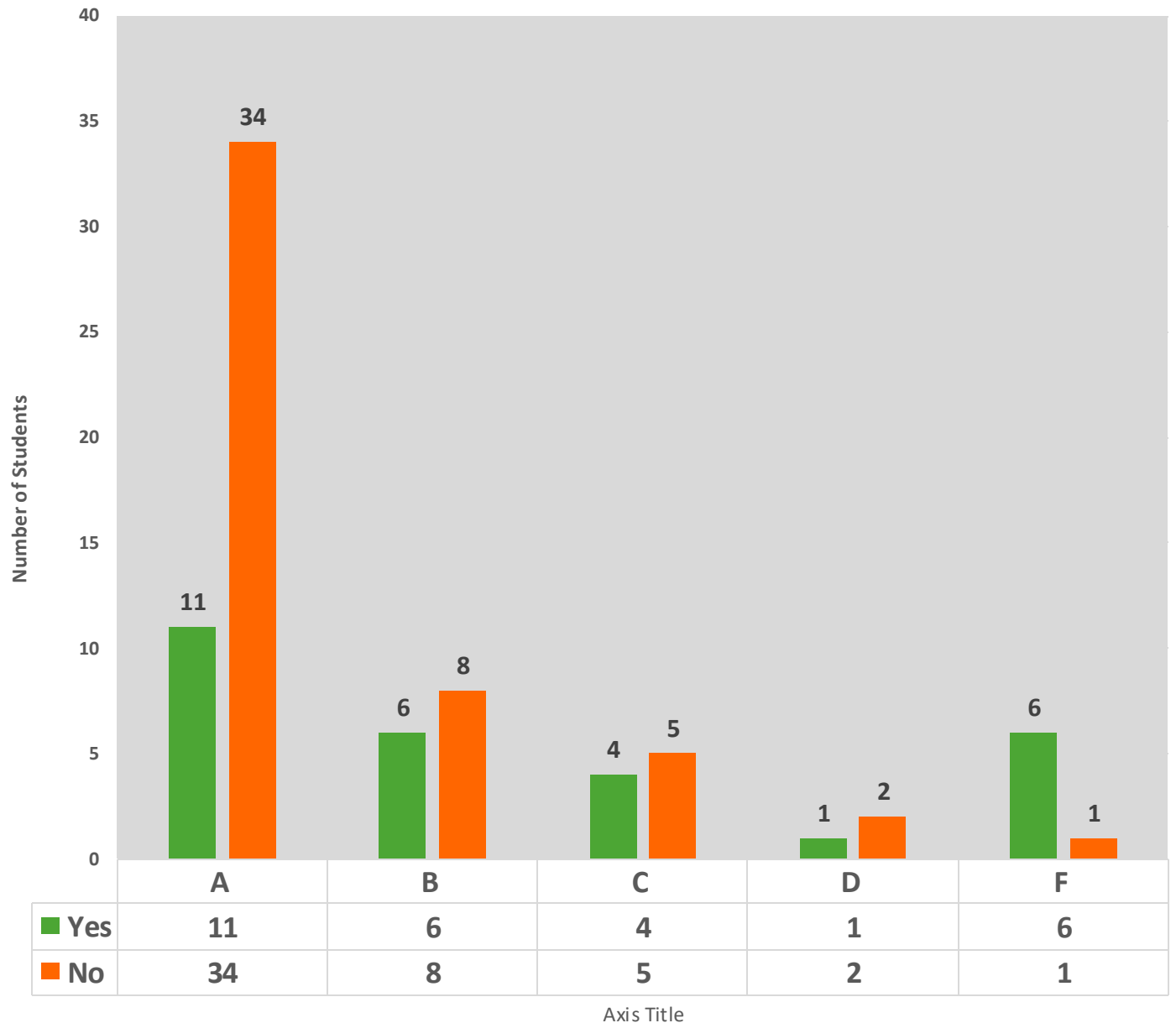
There is always room for improvement, and therefore we must enhance our tutoring programs.



Would students prefer to take Intermediate Algebra before College Algebra if given that option?

Observation

1. Most students whose grades are A, B and C would not.
2. Most students whose grades are F would prefer to take Intermediate Algebra.



Students' free comments

Reflection

1. College Algebra with Support provides more time to review the basic algebra's content.

2. Tutoring resources are useful, and students like them. They just need improvement.

3. It can be a lot of concepts because instructors spend many hours of class time reviewing the required content of pre-college algebra.



The additional hour is helpful and Support classes should be an option for other math courses too.



I want more tutorials.



Even though this math class is fun, sometimes it can be a lot of concepts.

Possible Next Steps

Offering 1–2-week workshops pre-fall or pre-spring to improve Basic Math skills.

(Early Intervention/ Jumpstart Programs)

Offering effective and proper guidance to students in choosing suitable math courses based on their majors.

Improving the quality of our tutoring services and offering incentives.

Creating an active and lively Math Center like many other colleges.

Hiring and training more experienced tutors

Collecting and analyzing more data





Thank You!

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