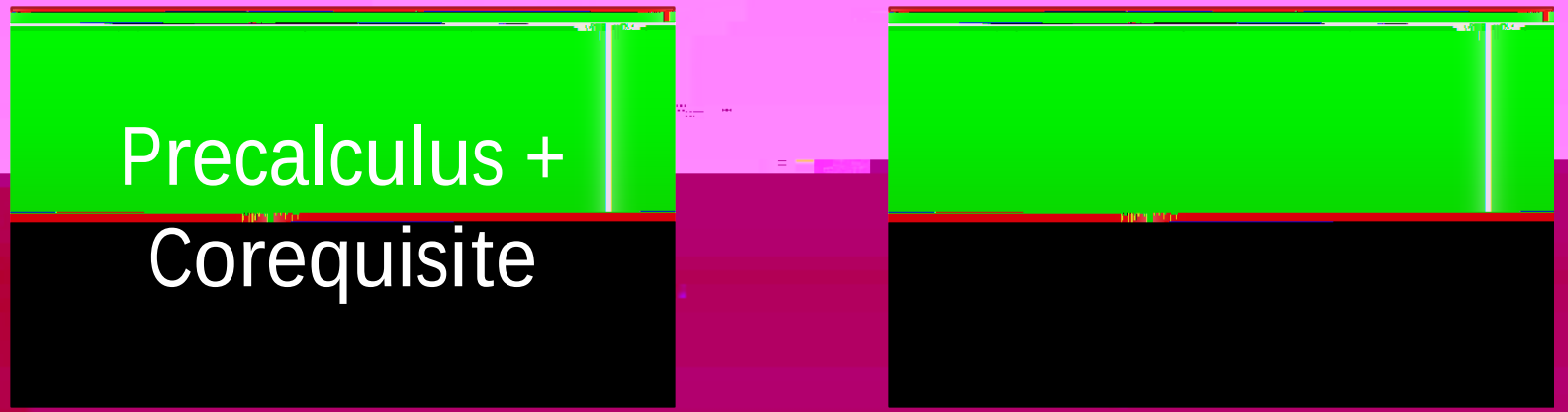
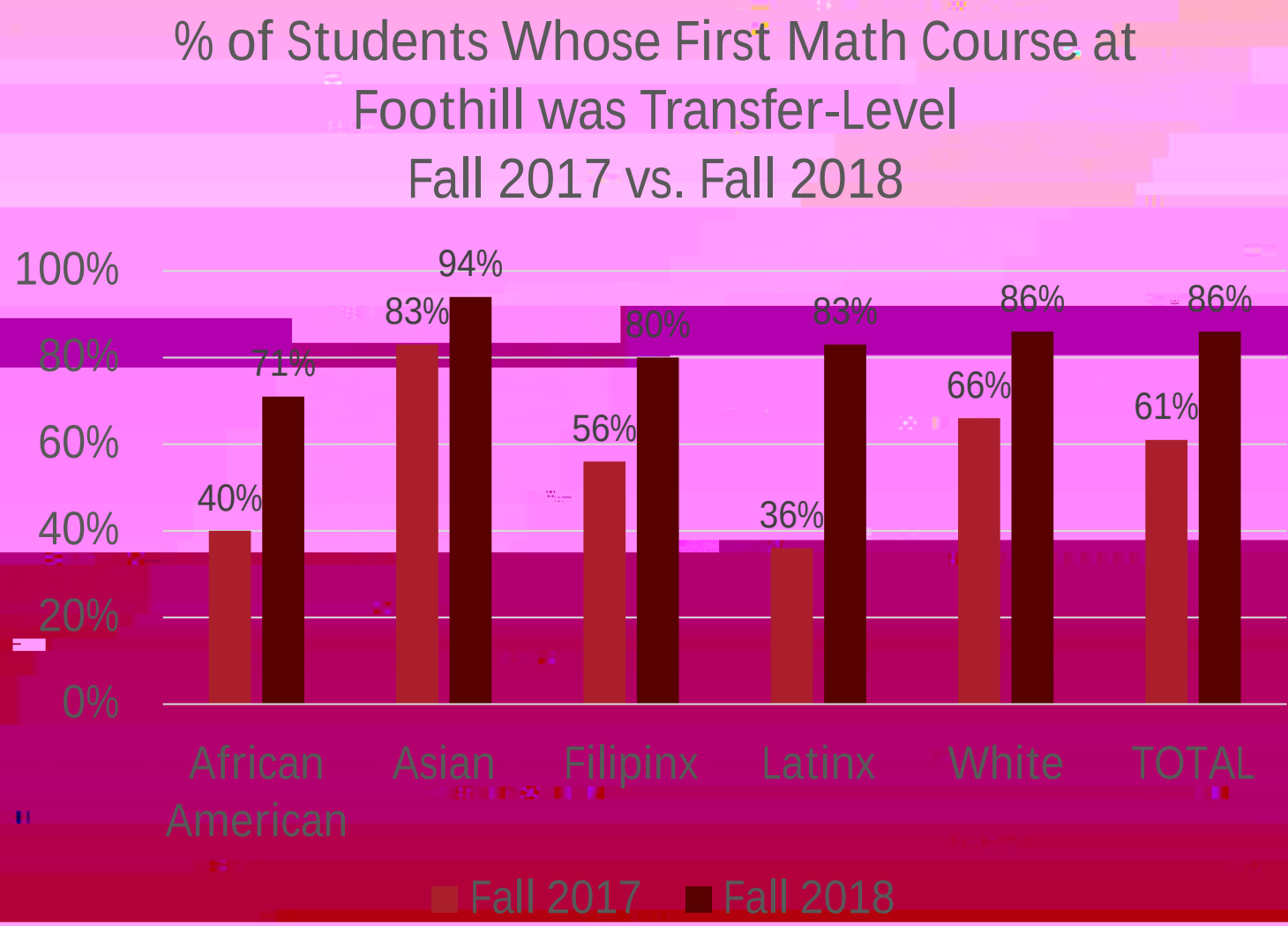
Part 1: Data

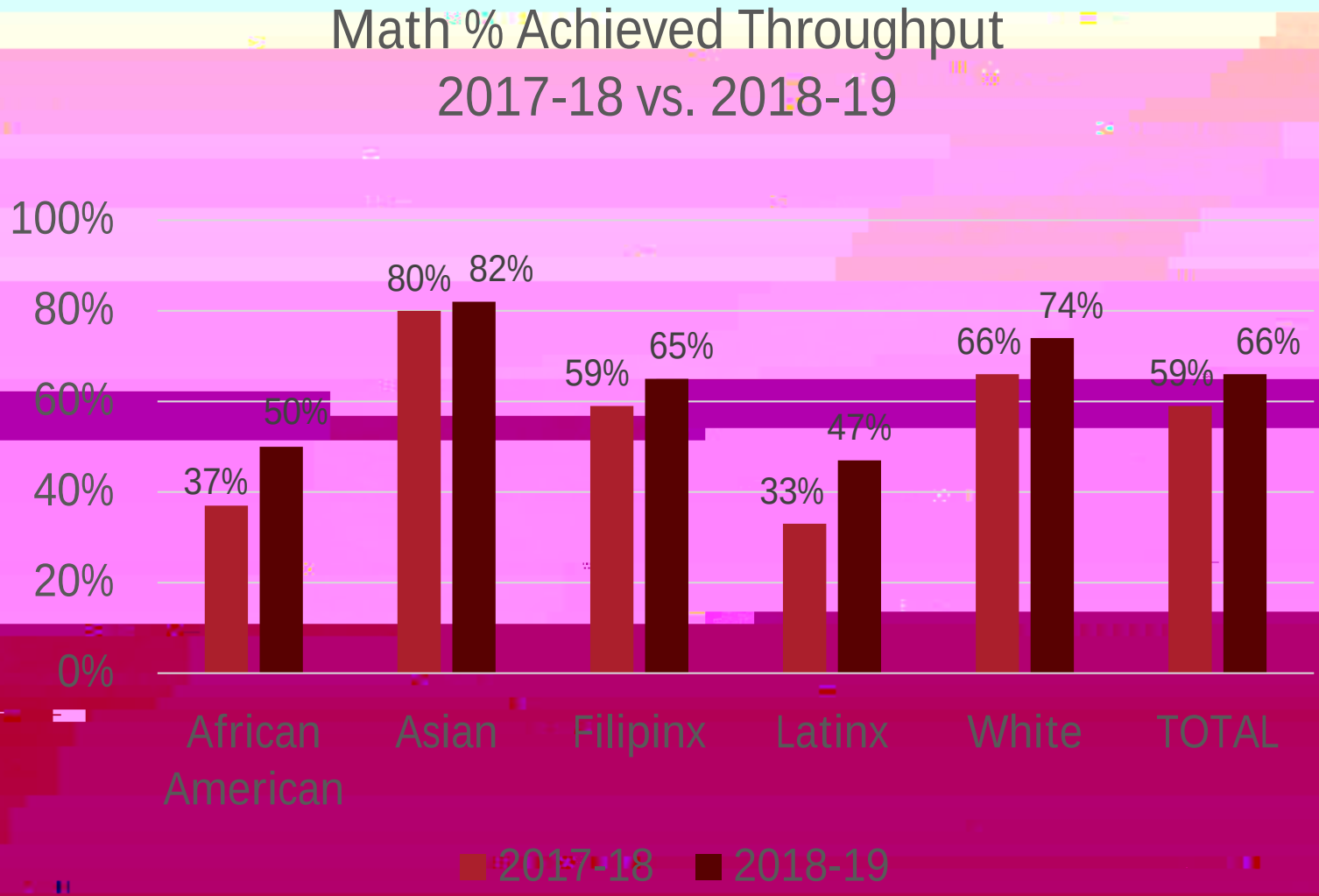
In 2018-19, Foothill College fully implemented AB 705 for math. All students can directly enroll in two transfer-level courses:



Increase in ACCESS:



Increase in THROUGHPUT:



Data: Out of all students who began the math sequence in Fall, the percent who successfully completed a transfer-level math course by Spring. Foothill College data only.

What about support?

- Did the corequisite in precalculus help students?

- Did tutors in statistics help students?

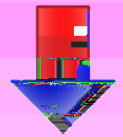
- Problem:
  - Difference in HS GPA between groups
  - HS GPA is a strong predictor of course success

Approach:

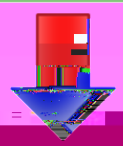
- Inverse propensity score weighting: weights data so students from corequisite / tutor sections look similar to each other.

Ŝφ∃φΥ ά I ƻό ό ƻdzfŘ corequisite students have done if they had taken the stand-I·fƻyŜ ŎfI·ăăKέ

By weighting data:



Control for differences between the groups, which leads to:



Better causal inferences

Variables in inverse propensity score weighting:

- HS GPA
- Ethnicity (White or Asian vs. Not White or Asian)
- Gender (Male vs. Female)
- If the student was repeating the class (No vs. Yes)
- If the student had passed Algebra at Foothill (No vs. Yes)
- Course modality (face-to-face vs. hybrid) [Statistics only]

Precalculus analysis: Logistic regression using all variables as covariates (controls).

Results:

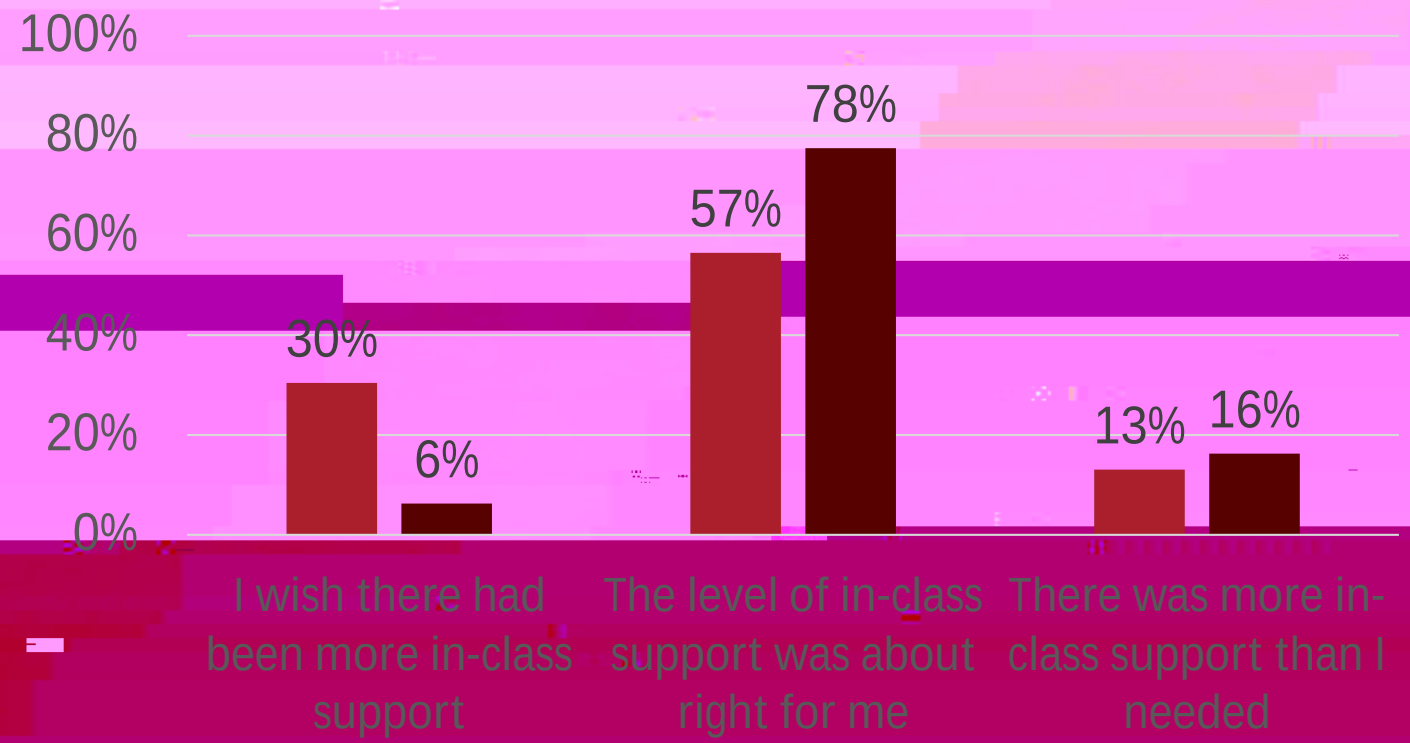
- The corequisite was a significant predictor of course success (< .05)

Results for Precalculus: Fall 2017-Spring 2019

	Stand-alone	Corequisite
Unweighted data	59%	63%
Weighted data	53%	62%

Note: Data does not include summer sessions or special program sections (STEM Core).

Student Surveys: Level of Support Ratings by Stand-alone vs. Corequisite Section



Note: Almost all sections (both stand-alone and corequisite) had tutors; sections without tutors were excluded.

Statistics analysis: Logistic regression using all variables as covariates (controls).

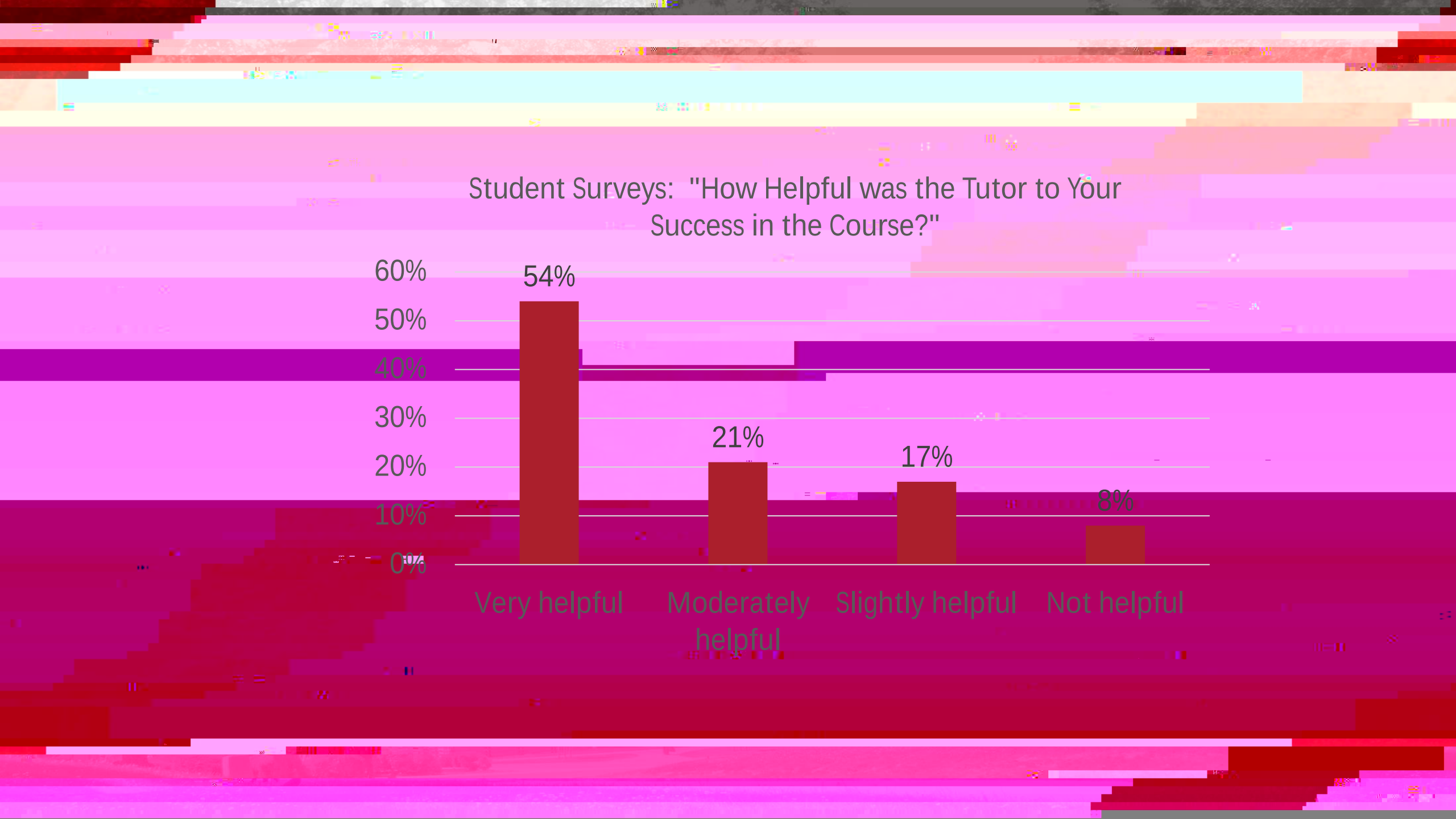
Results:

- Tutor support was a significant

Results for Statistics: Fall 2017-Spring 2019

	No Tutor	Tutor
Unweighted data	68%	65%
Weighted data	59%	64%

Note: Data does not include summer sessions, online sections or special program sections (Math Performance Success).


Student Surveys: "How Helpful was the Tutor to Your Success in the Course?"
60%
50%
40%
30%
20%
10%
0%
54%
21%
17%
8%
Very helpful
Moderately helpful
Slightly helpful
Not helpful

Part 2: Precalculus Corequisite

Precalculus One Corequisite

- Cohort model, the same students and instructor are together for both the parent class and the corequisite.
- The parent class and corequisite are completely integrated in practice.
- Three 2.5 hour classes each week

School/Study Skills

- Main Idea: Take the behaviors that you observe in successful students and turn them into assignments that are worth points and have due dates.
  - This gives students a more tangible reason to adopt these behaviors.
  - It gives you and them a way to monitor their progress and encourage changes to behavior as needed.

School/Study Skills Examples

- Wrap each of the quizzes with a before and after assignment.
  - Before: Students create a study guide where they reflect on and summarize what they have learned in each lesson.
  - After: Students do corrections on their quiz and reflect on each problem they got incorrect and their progress in the class in general.

School/Study Skills Examples

- Exam Corrections
  - Students meet with me or the embedded tutor to discuss their corrections.
- Students can earn an extra dropped quiz for spending 15 hours using the tutoring resources on campus.
- Students also start the quarter with a growth mindset activity.

Collaborative Practice

- Main Idea: Give students just enough information to get started, then let them0 540 re

Collaborative Practice

- Benefits:
  - Students can help each other fill in any gaps in their knowledge.
  - Students leave with more experience solving problems.
  - Students are actively working, thinking and problem solving in class.

Just-in-Time Remediation

ƒ¢ŜI·ŎKƛƴƎ 2ŦáLJNJŜNJŜIjdzƛăƛűŜɛ ű2LJƛŎă ƛă ōŜăű Ř2yŜ in the context of the Precalculus lesson.

Just-in-Time Remediation

- Keep separate algebra and arithmetic lessons to an absolute minimum.
- Most of this will sort itself out during the collaborative practice.
- A short impromptu review can be done during a lesson or the collaborative practice if needed.

Notes

- In the corequisite

Part 3: Statistics Embedded Peer Tutors

Structure of Embedded Tutoring

- Two quarter 1 credit training course.
- In-class assistance.
- Out-of-class workshops.

What did it look like?

- Attending classes and helping students.
- Hosting workshops outside of the classroom.
- Coordinating with professor:
  - Getting students to attend workshops.
  - Going over course content.

Workshops

- Content review and preparation.
- Developing study skills and habits.
- Test prep.
- Safe environment for students to ask questions of another student.

Challenges

- Scheduling, preparing, and running workshops.
- My own time management.
- Students reaching out outside of class and workshops.
- Paperwork and data collection.

Takeaways

- Strong understanding of class content.
- Professional development.
- Community building.
- Rewarding outcomes.

What would I change?

- Create the infrastructure first.
- Coordination between other tutors and instructors.
- Bolster tutor training classes.
- Instructor recommended tutors.

Part 4:
SMALL GROUP DISCUSSION

- What is your institution doing to support students under AB 705?
- How is it going so far?
- Any other ideas for ways to support students?

Thank you!