



What Factors Affect the Bay Area Achievement Gap?

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INTRODUCTION

The basic themes of my research fall into three categories: Early education, comprised of teacher qualification (including preschool quality) and the number of words heard per week; Standardized testing and the biases within (Brunn-Bevel & Byrd, 2015); and Monetary factors and a lack of resources and support (Malone, 2017). A basic definition of the achievement gap is “any significant and persistent disparity in academic performance or educational attainment between different groups of students” (Achievement Gap Definition, 2013).

RESEARCH METHODOLOGIES

- ★ Action Research
 - I taught a 10-minute lesson on teacher qualifications, where I asked students to fill out a survey on their thoughts on the subject. I started with the question: “Do you believe a correlation between teacher quality and test scores exists?” I answered in the affirmative explained to my “students” why this is the case.
- ★ Data Collection Tools
 - To collect my data, I administered two surveys before and after the lesson via Google Forms. They had the same questions for each survey, and I was trying to see a testable difference in responses.
- ★ Data Analysis Techniques
 - I used a spreadsheet with two tabs: pre-lesson survey answers and post-lesson survey answers. Once I put the data in, I calculated values using a two-sample T-Test ($p < .05$). I learned this test through my junior year Stats class.

DISCUSSION, ANALYSIS, AND EVALUATION

In this experiment, three research questions were asked:

- How does parental and community support influence the academic progress and achievement of a young child in the Bay Area?
 - How do differentiating factors (e.g., race, sex) influence how a student performs on standardized tests in Bay Area elementary schools?
 - Why is there is such a long-standing achievement gap between white students and students of color, despite growing up in the same socioeconomic conditions and receiving the same quality of education?
- As a result of my action research, I found that students knew a lot about the achievement gap and had experienced it in real life. Students were also knowledgeable about the correlation between teacher quality and students test scores and class grades. I found that my lesson might not have proved effective, but it was still helpful.

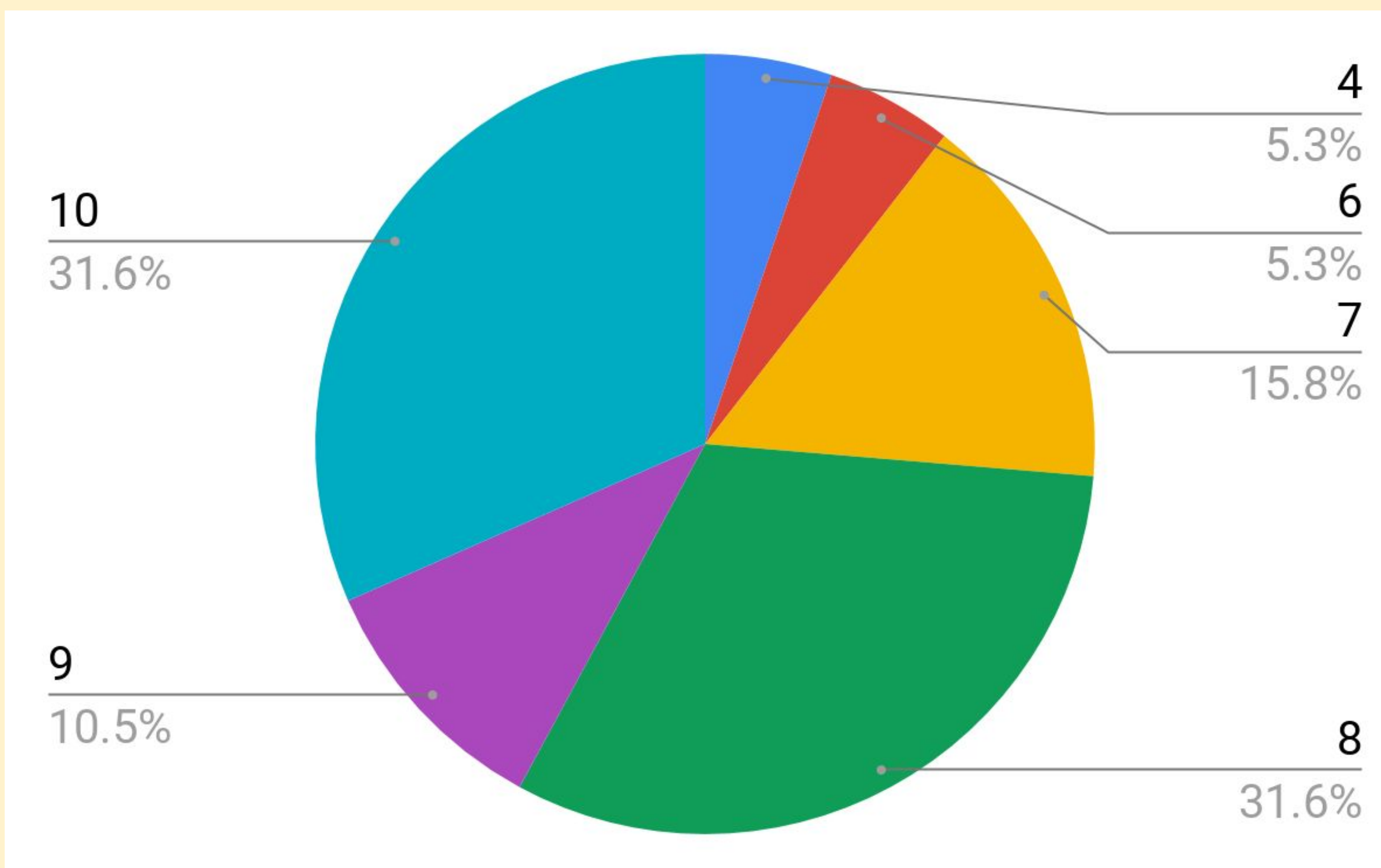
Using a two-sample T-Test, I calculated the average difference between scores from 1-10 (answers to the survey questions). Using a p-value of .05, I realized that my data was greater than .05. Thus, my lesson was not statistically significant enough to have dramatically changed the perspectives on the correlation of teacher quality and test scores. However, after the lesson, many students had thoughts to share and stayed after the bell to discuss the implications of my hypothesis (“There is a correlation”).

Even though statistically I did not make enough of a difference to matter, I still think my project went well and helped me in my understanding of what factors helped contribute to the Bay Area achievement gap.

DATA AND FINDINGS

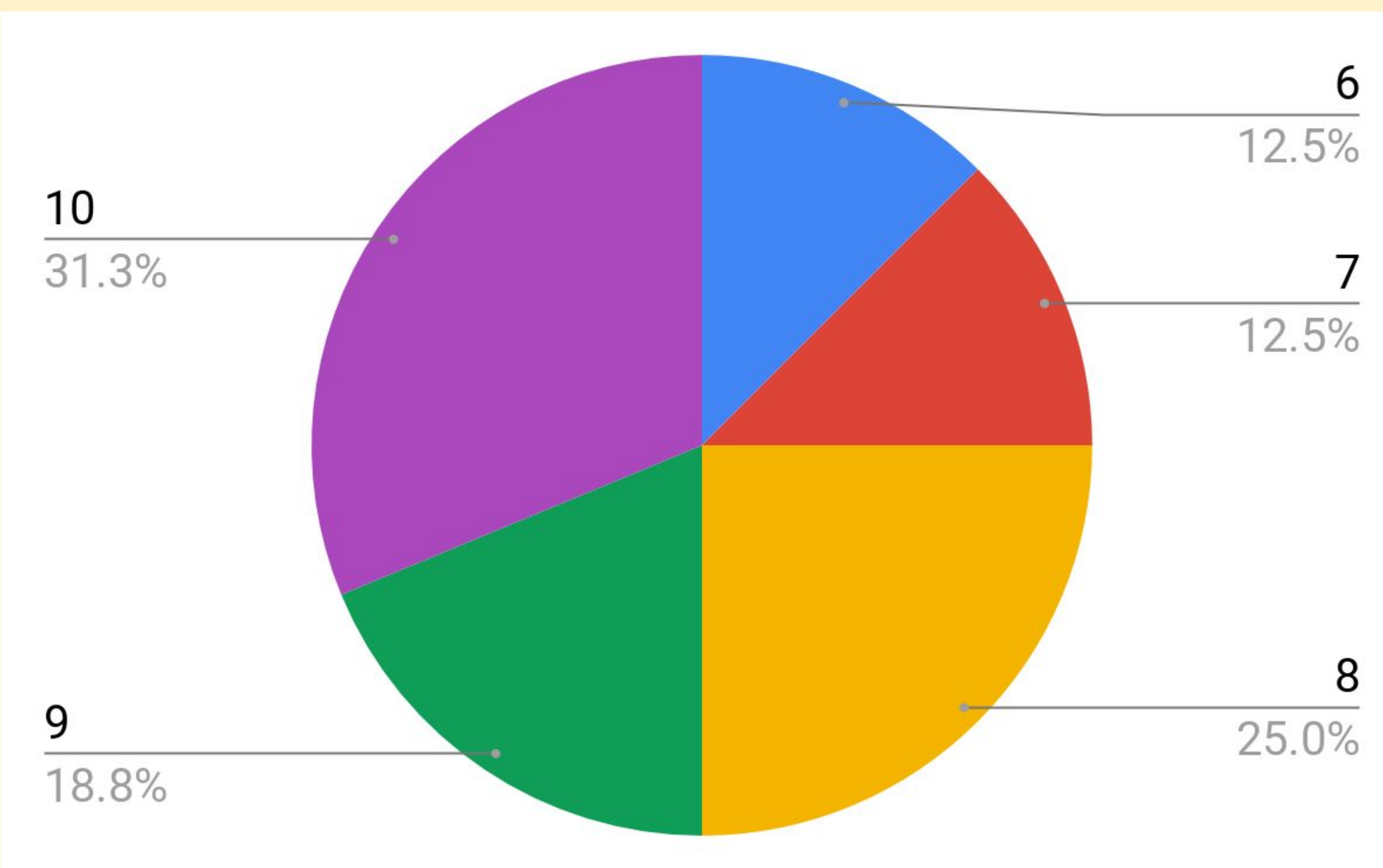
Preliminary Survey Responses

Figure 1. This figure represents the answers to the question: on a scale from 1-10, how much does teacher quality affect scores received by students in any course within a public high school?



Post-Lesson Survey Responses

Figure 2. This figure represents the answers to the question: on a scale from 1-10, how much does teacher quality affect scores received by students in any course within a public high school?



Memorable Quotes

“I think that teachers have a duty to be responsible for students and support them. It shouldn’t be teaching just to teach the lesson, it should be about educating the student as a whole. I think the most important quality for a teacher is to care about their students, it can be hard, but that’s what teacher should be doing.”

“I think that there is a correlation between test scores and teacher quality because if a teacher is more passionate and interested about what they are teaching, I will be as well. This is because I will feel more inclined to study and try in the class, which helps me get higher test scores.”

CONCLUSIONS, IMPLICATIONS, AND NEXT STEPS

In short, I felt that my action research helped me better understand the complex world of the Bay Area achievement gap. Though my data was not statistically significant, I think that it helped some of my classmates realize even more how some of us in this world will always be a step up because of factors beyond our control. In addition, having an honest conversation about the achievement gap interspersed with commentary about teacher quality was very refreshing.

The implications of these results are that because my results were not statistically significant, my classmates were already aware of the correlation. Because they were aware of this, they realized how the fault of one person (an incompetent teacher) can make everyone (the students) fall behind, creating an even larger achievement gap than before. The next steps of this project is to educate more people about the achievement gap, and what can be done to lessen this gap and help those who historically are disadvantaged because of it.

I greatly enjoyed this project and look forward to my next challenge!

ACKNOWLEDGEMENTS / REFERENCES

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