
Resource Allocation Recommendation to the School Districts in California

A guide by DataNerd Private Consultation Firm

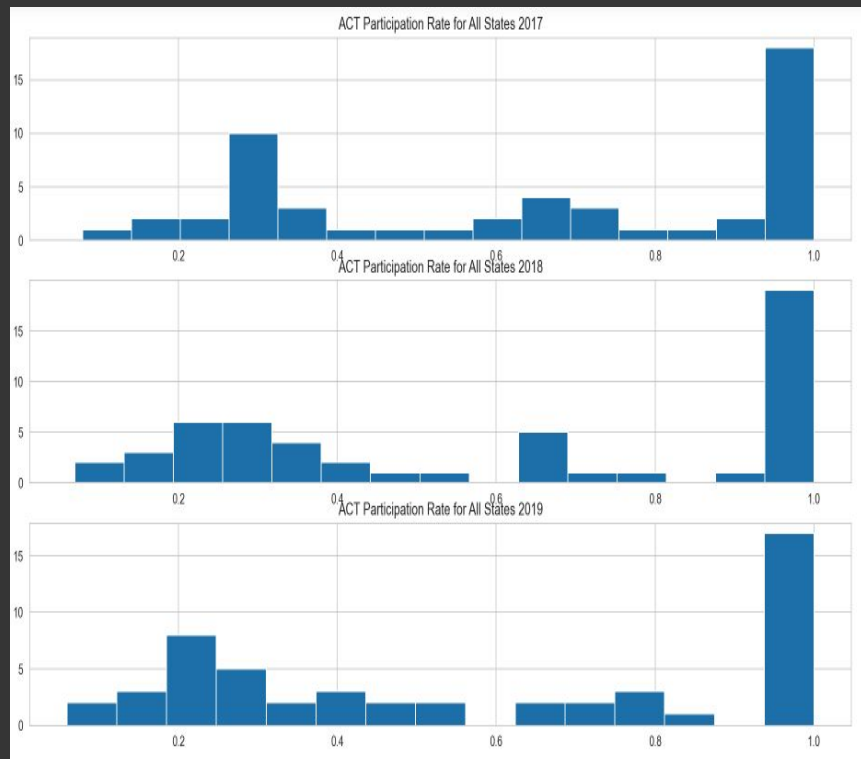
Objective:

The state of California has many school districts. This project aims to identify the top 10 school districts that need the most help to increase their students' ACT & SAT participation rate. In this presentation, we'll explore the following:

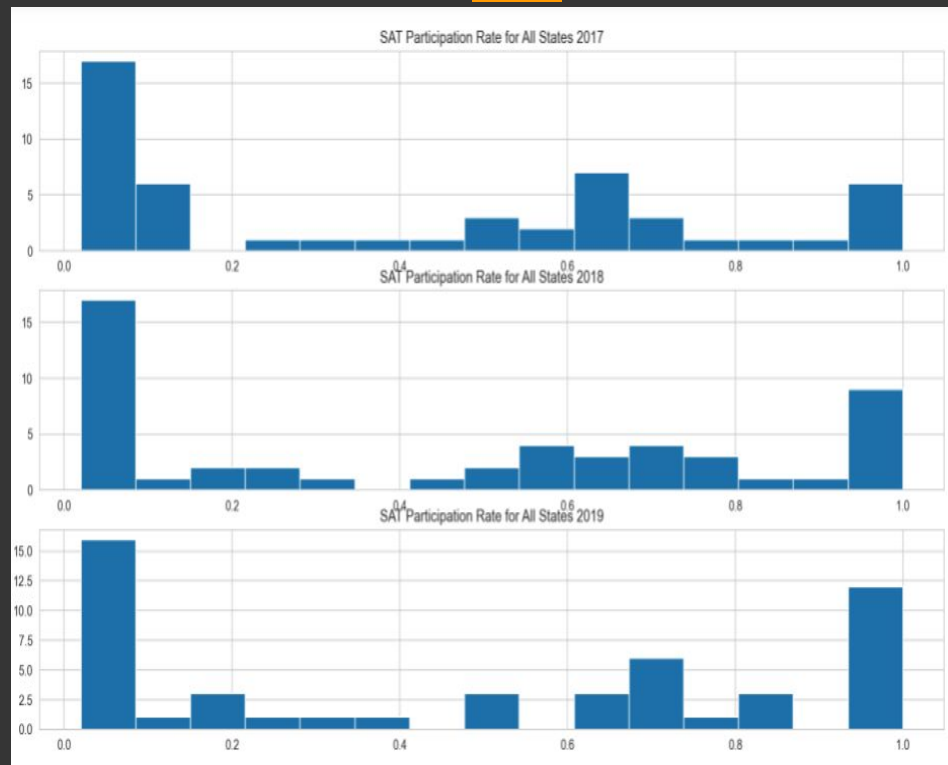
- Overall ACT & SAT Participation Rate for both the Nation, and California between 2017 and 2019
- California ACT & SAT Analysis for 2017-2019
- Top 10 school districts for the state of California to allocate the resources to in order to help increasing test participation rate in ACT & SAT

Participation Rate for all States

ACT



SAT



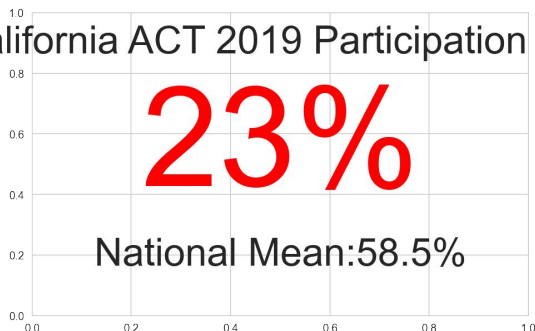
Obversation

- Between 2017 - 2019, SAT participation rate has increased slightly for the whole country, while ACT participation rate has drop a little bit. We can see that the graph is fairly screwed. It's not a normal distribution at all.
 - For ACT2017, the mean participation rate is 65%, and 75 percentile of the states have 100% of the participation rate (25 percentile is at 31%)
 - ACT2018, mean = 60%, 75 percentile = 100%, 25 percentile = 27%
 - ACT2019, mean = 58%, 75 percentile = 100%, 25 percentile = 24%
 - FOR SAT2017, mean = 40%, 75 percentile = 66%, 25 percentile = 4%
 - SAT2018, mean = 45%, 75 percentile = 78%, 25 percentile = 4.5%
 - SAT2019, mean = 49%, 75 percentile = 82%, 25 percentile = 5.5%
- Let's focus in 2019. As for California, the ACT participation rate is 23% (it's much lower than the national's mean), and SAT participation rate is 63% (higher than the national's mean).
 - National Mean for ACT2019 = 58.5%
 - National Mean for SAT2019 = 49%

Participation Rate Comparison

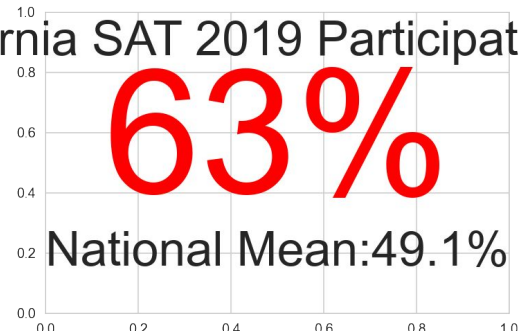
ACT

California ACT 2019 Participation rate

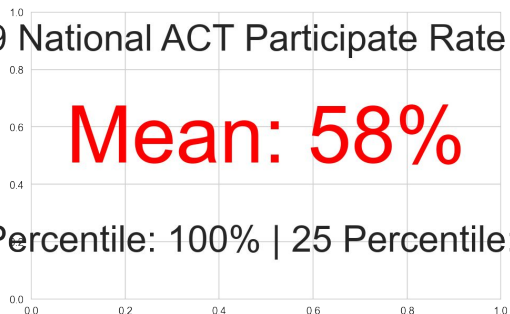


SAT

California SAT 2019 Participation rate

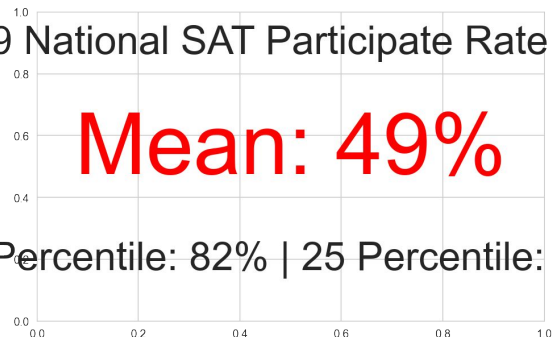


2019 National ACT Participate Rate Facts



75 Percentile: 100% | 25 Percentile: 24%

2019 National SAT Participate Rate Facts



75 Percentile: 82% | 25 Percentile: 5.5%

Obversation

- For ACT Participation Rate in California in 2019,
 - Total of 344 school districts
 - Top 75 percentile
 - 119 school districts / 252 schools
 - Bottom 25 percentile
 - 139 school districts / 245 schools
- For SAT Participation Rate in California in 2019,
 - Total of 399 school districts
 - Top 75 percentile
 - 94 school districts / 316 schools
 - Bottom 25 percentile
 - 181 school districts / 310 schools
- Within the highest and lowest participation rate in California:
 - ACT
 - i. the lowest participation is **Oxnard Union High School District** (2.2%)
 - ii. The highest are Los **Angeles Unified and Hawthorne School Districts** (100%)
 - SAT
 - i. The lowest participation is **San Diego Unified School District** (5%)
 - ii. The highest participation are **Los Angeles Unified and Hemet Unified School Districts** (100%)

** Note: These are the schools that have more than 15 students participate.

Obversation

Some Good News!

- 111 school districts that have >50% participation on ACT
- 328 school districts that have >50% participation on SAT

A good indication that it is possible to get the other school districts to catch up to these schools.

So, what are the top school districts for the states of California to send their resource to those that in need?

Obversation

Let's dig a bit deeper to our data.

The Top 10 School Districts with the least amount of ACT participation in 2019 are (2.2-4.1%):

- Kern High, Antelope Valley Union High, Oxnard Union High, Hemet Unified, Fresno Unified, Colton Joint Unified, Chino Valley Unified, Chaffee Joint Union High, Central Unified, and Anaheim Union High

The Top 10 School Districts with the least amount of SAT participation in 2019 are (4.6% - 12%):

- William S. Hart Union High, West Covina Unified, Waterford Unified, San Juan Unified, San Diego Unified, Ripon Unified, Los Angeles Unified, Lompoc Unified, East Side Union High, and Borrego Springs Unified

What does that mean?

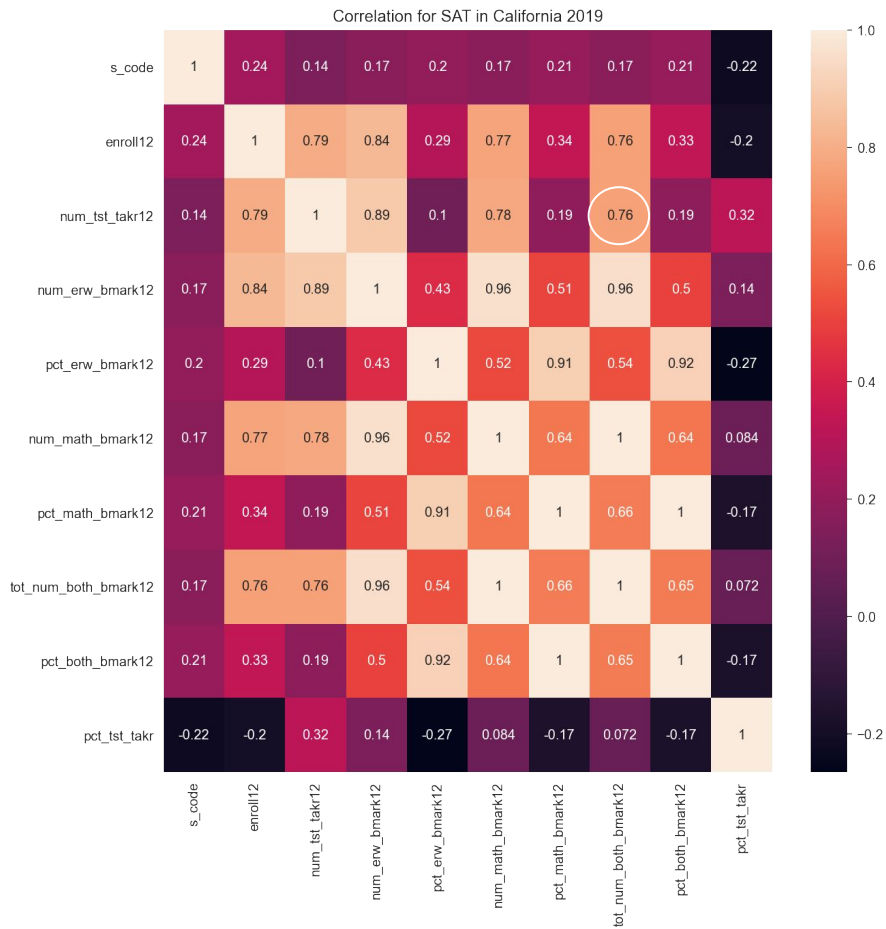
Why do we need to help to increase test participation rate?

Observation

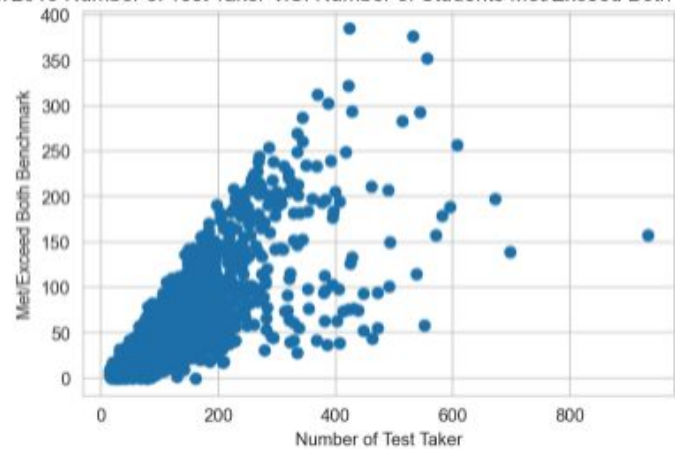
The data shows that there's a positive correlation between the number of test taker and the number of students who score >21 on ACT, and/or met or exceed both grade 12 benchmark for SAT

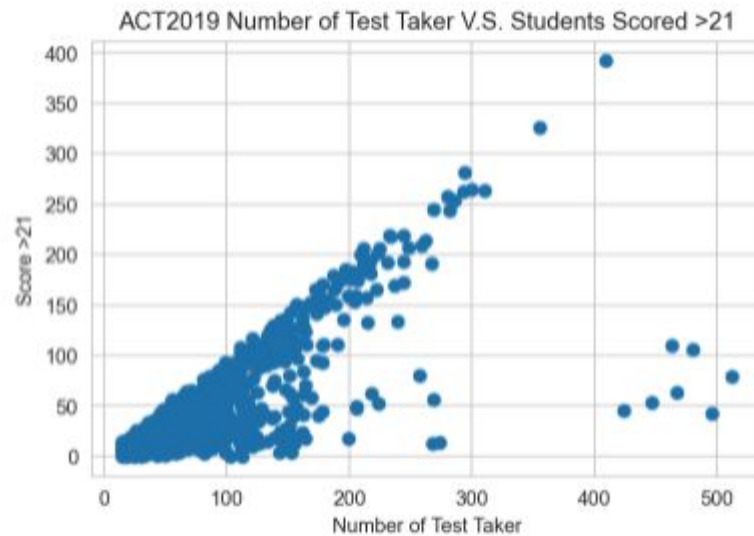
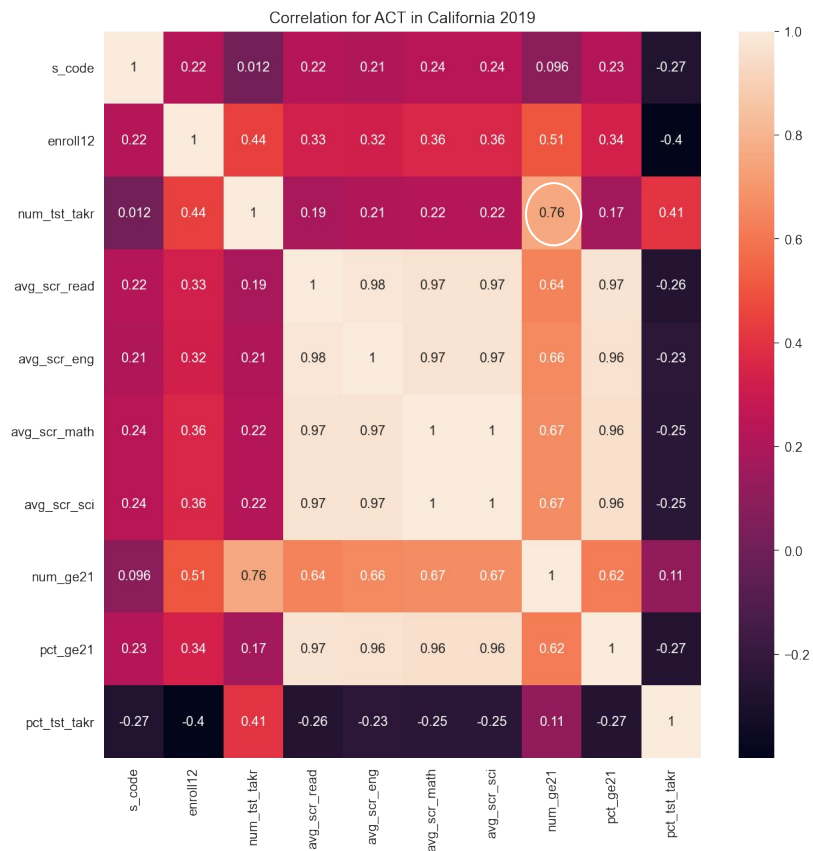
More support, see SAT Scores See Slight Increase as Test-Taking Surges article.*

- *The number of students taking the SAT has hit an all-time high - 2.1 million in the class of 2018, while showing a slight increase in the average scores.*



SAT2019 Number of Test Taker V.S. Number of Students Met/Exceed Both Benchmark





Conclusion:

As we can see from the data, the more students to participate in the ACT & SAT tests, the more students met or exceed the benchmark for the tests. The state of California should focus on, and allocate the resources appropriately to the school districts / schools that need the most help. To increase the participation rate, we should be able to see the trend of more students scoring higher and meeting the expectation score level. There are total of 11 school districts that have more than 50% of participation on ACT, and 328 school districts that have >50% participation on SAT. This shows that it's very possible to get the lower schools to catch up.



Sources*:

- 2017 ACT Scores by State, 2018 ACT Scores by State, 2019 ACT Scores by State (<https://blog.prepscholar.com/act-scores-by-state-averages-highs-and-lows>)
- 2019 ACT Scores in California by School (<https://www.cde.ca.gov/ds/sp/ai/>)
- 2017, 2018 SAT Scores by State (<https://blog.collegevine.com/here-are-the-average-sat-scores-by-state/>)
- 2019 SAT Scores by State (<https://blog.prepscholar.com/average-sat-scores-by-state-most-recent>)
- 2019 SAT Scores in California by School (<https://www.cde.ca.gov/ds/sp/ai/>)
- SAT Scores See Slight Increase as Test-Taking Surges (<https://www.edweek.org/teaching-learning/sat-scores-see-slight-increase-as-test-taking-surges/2018/10>)