**Pycityschool analysis Report**

The purpose of this Pycityschool analysis is to get the relationships of students’ performances and its school factors via two data sets: schools completed information and student score completed information. The joint of the two data sets provided the original data to be able to be analyzed on.

1. District Summary
   1. There is a total of 15 unique schools and 39170 students. The total budget for the program is $24,649,428 dollars.
   2. The average score for math is 78.99 and the average score for reading is 81.88. 74.98% of students passed the math and 85.81% of students passed the reading. The overall passing rate for all students is 65.17%
2. School Summary
   1. There are two school types: District and Charter, students count at each school is between 400+ to 4000+. Each schools’ budget is as high as 3 million+ and as low as 248K+. Per student budget range is between $578 to $ 655.
   2. Each school’s average math and reading score and each school’s percentage of passing reading, percentage of passing math and overall passing percentage are all calculated separately.
3. The highest performing school by percentage overall passing is Cabrera High School at 91.33%.
4. The lowest performing school by percentage overall passing is Rodriguez High School at 52.99%.
5. Math Score by Grade is calculated, for example, Bailey High School’s math score for ninth graders to twelfth graders are 77.08, 77, 77.52 and 76.49.
6. Reading Score by Grade is calculated, for example, Bailey High School’s reading score for ninth graders to twelfth graders are 81.30, 80.91, 80.95 and 80.91.
7. Scores by School spending

We declared 4 categories of spending range. When spending per student is lower than $585, students have the best performance, over all passing rate at 90.37%

1. Scores by School size

We declared 3 categories of school sized, under 1000 student, between 1000 to 2000 student, 2000 to 5000 students. Students in small size schools have the best outcome.

1. Score by School type

Total two school types were analyzed in the data sets. Charter schools’ performance is better than District schools in all evaluated performance: average math score, average reading score, percentage passing of match, percentage passing of reading, and overall passing rate.

According to the detailed analysis against all students’ performance, especially scores by school spending, scores by school size and scores by school type, there are three recommendations I would like to suggest to the school board and Mayor.

* School budget do not exceed $630 per student:

Surprisingly the analytical results show there is a negative relationship between spending per student and students’ scores. When spending range is under $585 per student, their average math score, average reading score, and % of passing is all showing the highest. Scores from all perspectives are going down when per student spending rises. Especially when the spending range is higher than $630/student, the overall passing percentage drops dramatically. Thus, it makes no sense to budget more money higher than a certain level, it would get to the opposite effect.

* Controlling school sizes under 2000 students:

The analytical result shows when the school size is small (under 1000 students) or medium (between 1000 to 2000 students), students’ performances are close. However, the students scores are a lot lower for the students in the large size schools (between 2000-5000 students).

To keep the students scores high and maintain their performances, controlling school sizes could be a very efficient way.

* Prioritizing the improvement of district school students:

In general, the performance of students in District schools is not as well as students in Charter schools. There are huge improvement opportunities for District schools. their current average math score is nearly 7 points lower than Charter school and average reading score is nearly 3 point lower than charter school. The differences in percentage of passing the tests are even larger. So, district schools have more room to improve if proper resources are allocated to them.