**PyCity Schools Analysis**

* As a whole, schools with higher budgets, did not yield better test results. By contrast, schools with higher spending 645-675 per student actually underperformed compared to schools with smaller budgets (585 per student).
* As a whole, smaller and medium sized schools dramatically out-performed large sized schools on passing math performances (89-91% passing vs 67%).
* As a whole, charter schools out-performed the public district schools across all metrics. However, more analysis will be required to glean if the effect is due to school practices or the fact that charter schools tend to serve smaller student populations per school.

**Personal Analysis Summary**

**The above PyCity Schools Analysis summarizes some key points of the calculations. Below I have added some viewpoints to that conclusion.**

**The first point made is that schools with higher budgets do not perform better and in fact perform worse. Indeed, based on our analysis they move in opposite directions across the board, often dramatically. Performance numbers are lower as spending groups go higher. The Scores by School Spending section shows us that in all five metrics (math scores, reading scores, math passing percentages, reading passing percentages, and overall passing percentages) a solid negative correlation is present in every category in every spending bin.**

**The second point made is that larger schools perform worse than smaller ones. They perform much worse in our analysis. In the Scores by School Size section bin analysis, we can see that although small and medium schools do not exhibit a pronounced difference in scoring, large schools have significantly poorer marks in all five metrics than their small and medium counterparts. An extreme example is evident at the bottom of the size summary table. It shows the % Overall Passing number for larger schools at 58.29%, while the small and medium schools perform at 89.88% and 90.62%, respectively.**

**The third point is that charter schools perform better than district schools. Once again, with a quick glance at the type summary table we can see that district schools perform worse in all categories, with a marked difference, once again, in % Overall Passing. Charter schools here show a 90.43% pass rate while their District counterparts, which have a pass rate of 53.67%.**

**Two other points that were not mentioned are evident in the data earlier in the report.**

**Firstly, the difference between average math scores and average reading scores is different among highest and lowest performing schools. In the five highest-performing schools the difference is not large and can be measured by less than one point in all cases. This seems to indicate consistency as opposed to specialty. It is important to note these are all charter schools. The difference between math and reading scores in the five bottom performing schools, which are all district schools, is much larger. In these schools the average reading score is between three to five points higher in all cases. This seems to indicate a bias towards literacy over analytical ability.**

**Secondly, average scores within individual schools in both math and reading do not change much between grades, with changes more than two points per year rare. This implies that there may not be that much of a difference in teaching or student support as the students move from grade to grade.**

**Conclusions**

**While a slightly higher per student budget may simply indicate a higher preference for change among previously poorly performing schools, as opposed to a cause of poor performance, without further research and based on we have now we must acknowledge that there is at least a negative correlation among the two factors. Increasing spending may not improve scores or pass rates in this school system.**

**A negative correlation is also present among school size (large vs. small and medium) and performance. Based on the information we possess we must acknowledge that performance tends to drop off in this school system when school size is over approximately 2000 students.**

**The most extreme disconnect here is the difference between charter and district schools. Again, while further research may be needed as to why, as stated above, we must accept that based on what we have, charter schools represent a better overall environment for learners.**

**Higher performing schools tend to be charter schools, tend to receive less money per student, tend to have less than 2000 students, and tend to be consistent across math and reading. Lower performing schools tend to be district schools, tend to get more money per student, tend to have over 2000 students, and tend have reading scores that are higher than math scores, but still much lower than their higher performing counterparts. All schools in this school system tend to show consistency across grades, with little deviation in scores from 9th to 12th grade.**