Initially when looking at the summary data frames created for this challenge it seems as though there is is quite a bit of parody from school to school when performance is taken into account. When one looks closer at the “School Summary” (which is an analysis of student data broken down and averaged by school) a few things stick out; 1) there is a rather large disparity in “% Overall Passing” and 2) those schools with high overall passing rates seem to largely be charter schools. These initial observations are confirmed when we rank the schools by “% Overall Passing”. When the data is sorted in this way the 5 schools with the highest average % of students passing overall are charter schools while the lowest 5 schools measured on the same metric are district schools. Next, the data was broken down calculating the average math and reading scores by grade. When this data is displayed in this way it’s clear that all school’s scores remain relatively consistent through the grades. This lens on the data also highlights the disparity in schools is less when factoring in average grades and greater when factoring in the percentage of students passing. Additionally, the school data was used to analyze the differences in performance between schools on the basis of per student spending. Through this endeavor we see that schools spending less per student actually have higher performance in nearly every category. Similarly we compare schools with small, medium and large student bodies and see that schools with smaller student bodies also have higher performance in nearly every category than the others. Lastly, the schools’ performances are compared directly between charter and district schools. In every category the charter schools perform better than the district schools.

One might prematurely conclude that charter schools are exclusively the answer to higher average grades and passage rates in this case but that would be a faulty assumption. When we see other clear correlations such as that between school size and performance it is clear that this is a multi faceted issue, even within this simple dataset. Another piece of data that indicates the potential for misreading in this information is the lack of disparity in per student spending. Yes, charter schools spend less per student within these examples but that amounts to a maximum disparity of only $77 per student, <12% of the highest spending school’s per student spending. It would be very difficult to imagine proving that the absence of resources increases performance within a school. The strongest conclusion one can reach within this data is that larger schools perform worse, both in terms of average scores and in terms of percentage of students that pass math and reading with a particularly pronounced drop-off in the percentage of students that pass math.