David Roth Module 4 Challenge

The data seen in this report is generated from two comma separated value files that contain statistics from fifteen high schools (presumably all in general proximity to each other) and their student bodies. There are several ways to break down this data and draw conclusions from the information gathered.

The dataset reveals the names, types, sizes, and budgets of the schools and the names, genders, grades, schools, reading and math scores of the students. We can see that the schools that have larger student bodies tend to be district schools, and the smaller ones tend to be charter schools. The larger district schools have larger budgets than the smaller charters, but that does not always tell the whole story. So, a statistic was used to measure budget per student (or per capita budget as seen in the report). Even here, the district schools average a higher budget per student. Yet we find that the charter schools consistently produce better results on math and reading scores than the district schools. In fact, it almost seems that students perform at *lower* levels at schools with a *higher* budget per capita, which on the surface seems very counterintuitive.

It is also noted that across all schools, all things equal, students performed slightly better in reading than in math.

When grouped by grade level at each school, students scored identically relative to other grades, and this is evident in both the reading and math scores. From this observation, it does not appear that the grade level of students has much impact on class performance.

Perhaps the most stark and revealing statistic that seems to have the greatest correlation to student performance is the type of school, as well as its size. Because there seems to be a relationship between school size and school type (not necessarily causation or correlation), the type of school also seems to play a factor in result scores. Schools with less than 1000 students are classified as small; medium-sized schools teach any number of students from 1000 to 2000, and large schools teach upwards of 2000 students. The small and medium-sized schools score extremely close to each other on both reading and math, and their passing rates are also nearly the same. The large drop-off occurs when schools exceed 2000 students. While the reading score is not much less than the reading scores of other size categories, the passing rate decreases by about fourteen percentage points. But student scores seem to nosedive in math, both when comparing large schools to other sizes, as well as comparing district schools to charter schools. The large schools show a twenty-three percentage point dip from the other school sizes.

Throughout the measuring of these contingencies, it was worth noting how much the math scores had an impact on not just math passing rates, but overall passing rates, especially in the larger district schools. In the district schools, about 81% passed reading, while only about two-thirds of the students passed math, causing nearly half of them to not pass altogether. It appears that the greatest need, based on the data gathered here, is in the teaching of math in the district schools. Whether it is resources invested, teachers brought over, or curriculum changes, something must give in order to avoid nearly have the class not passing.