**Overview of the School District Analysis – Supplemental Request**

**Original Request**

A city school district asked us to prepare an analysis of the performance of high schools in the district. This analysis was to be performed in conformance with the Family Educational Rights and Privacy Act (FERPA) of the U.S. Department of Education. This analysis was prepared and submitted to the school district.

**Supplemental Request**

Subsequently, the school district reported the discovery of an anomaly in grade reports of one of the grade levels at a single high school and were worried that this anomaly might have skewed the analysis. The district requested that the analysis previously provided be recalculated without the suspect grades.

**Results**

(Use bulleted lists and images of DataFrames as support.)

(Address the following questions.)

**District Summary:** The recalculated district summary indicated differences amounting to a few tenths of one percent for some results. Specifically, the average math score dropped by 0.1 from 79.0 to 78.9 while the average reading score remained the same at 81.9. For the percentage calculations, there was a change in the number of significant figures used in the calculation between the original analysis and the refactored analysis, specifically the original analysis calculated percentages rounding to the nearest whole number and the refactored analysis recalculated them with one significant figure behind the decimal place, to the nearest tenth of a percent. This caused the percent passing math to appear to have dropped 0.2% from 75% to 74.8%, the percent passing reading to appear to have dropped 0.3% from 86% to 85.7%, and the percent passing overall to appear to have dropped 0.1% from 65% to 64.9%. However, if the refactored calculation had been rounded to the nearest whole number like the original, the percentage values would have been the same.

Images of the original and refactored data summary.

School Summary:

Thomas High School’s performance relative to the other schools:

Impact of refactored calculations:

* + - Math and reading scores by grade
    - Scores by school spending
    - Scores by school size
    - Scores by school type

Summary:

(Summarize four changes in the updated school district analysis after reading and math scores for the ninth grade at Thomas High School have been replaced with NaNs.)

* + How is the district summary affected?
  + How is the school summary affected?
  + How does replacing the ninth graders’ math and reading scores affect Thomas High School’s performance relative to the other schools?
  + How does replacing the ninth-grade scores affect the following:
    - Math and reading scores by grade
    - Scores by school spending
    - Scores by school size
    - Scores by school type

**Summary**

(Summarize four changes in the updated school district analysis after reading and math scores for the ninth grade at Thomas High School have been replaced with NaNs.)

The analysis should contain the following:

1. **Overview of the school district analysis:** Explain the purpose of this analysis.
2. **Results:** Using bulleted lists and images of DataFrames as support, address the following questions.
   * How is the district summary affected?
   * How is the school summary affected?
   * How does replacing the ninth graders’ math and reading scores affect Thomas High School’s performance relative to the other schools?
   * How does replacing the ninth-grade scores affect the following:
     + Math and reading scores by grade
     + Scores by school spending
     + Scores by school size
     + Scores by school type
3. **Summary:** Summarize four changes in the updated school district analysis after reading and math scores for the ninth grade at Thomas High School have been replaced with NaNs.