Module 4 Pandas Challenge Written Report

Introduction:

Considering how important education is for our future, understanding academia and academic performance is a crucial metric to measure the progress of students, educators, and institutions. The dataset we used for this challenge provides a comprehensive breakdown of metrics that can help provide insights on certain strengths and opportunities that can help improve certain areas while continuing with metrics that display strong results.

Summary of Analysis:

From the school’s data, we can affirm that the district schools had a higher student count, and for that reason, higher budgets.

From the overall passing rate, we see that the charter schools held the top percentage, this could be attributed to the smaller student size, therefore more personalized time with the teachers where students can ask questions and learn concepts better.

Math scores by grade shows a consistent pattern of students having similar grades throughout the 4 years from 9th grade to 12th. One can takeaway that the foundational learning achieved in the 9th grade by students helped them continue their learning and success. The 9th graders in schools that were in their mid 70 percentages ended up having the same range percentage in grade 12.

Overall, reading scores were good, maintaining an above 80 percent average throughout the 4 years with all the schools.

From school spending we see that the higher spending ranges schools had a lower over passing percent as opposed to the lower spending per student.

To further support the analysis, the size summary data aligns with the notion of the smaller school sizes having a significantly better passing rate and slightly better reading rate. There can be numerous factors that can affect these numbers. One, as mentioned before could be the dedicated time teachers can provide to a lower set of students. Two, we can also consider larger schools having more distracted children within their social circles. From a metrics perspective, there could be a larger sum of students performing poorly, not getting adequate tutoring, hence bringing the passing averages down.

Finally, from an overall perspective, we can see from the data that charter schools have returned better scores compared to district school scores.

To summarize, the main takeaways for District schools point toward having more classes/teachers to provide a more personal teaching environment for students to focus on studies and build strong foundational skills from grade 9 onwards as the data indicates the higher percentage score in 9th grade sets students up for success through the following years. Alternatively, the district schools having more student funds per capita can allocate said funds to providing a tutoring session approach for any students requiring extra help with their learning.