

WRITTEN REPORT - PYCITYSCHOOLS

The 'School Dataset' provides details for 15 schools, both Government and Independent, along with the school size and total budget for each school.

The 'Student Dataset' has information about the students in the 'School Dataset'. It provides data relating to reading and maths scores, the year in which the students are studying, student names, gender and so on.

The summary from analysing these datasets is as per below -

- 1) The 'Area Summary' DataFrame provides overall information about the schools and the performance of the students. The overall passing percentage of all the 15 schools is 72.81%.
- 2) The 'School Summary' DataFrame provides some detailed information about the schools, indicating school type, number of students, total budget, per student budget, average scores in maths and reading while also computing the pass percentages in these subjects. It also indicates the overall passing percentage of the schools.
- 3) The 'Top Schools' DataFrame indicates the top performing schools based on 'Overall Pass Percentage'. As per the analysis, Griffin High School has a high overall pass percentage of 81.33%.
- 4) The 'Bottom Schools' DataFrame indicates the low performing schools based on 'Overall Pass Percentage'. As per the analysis, Hernandez High School has the lowest overall pass percentage of 66.36%.
- 5) The 'Scores by Spending' DataFrame provides the average maths and reading scores along with the pass percentage in these subjects and the overall pass percentage based on 'Per Student Budget'. The analysis is carried out by grouping Per Student Budget in 'spend_bins' and then analysing the student scores based on the spend.
- 6) The 'Scores by School Size' DataFrame provides the average maths and reading scores along with the pass percentage in these subjects and the overall pass percentage based on total number of students in the school (school size). The analysis is carried out by creating groups based on school size and then analysing the student scores.
- 7) The 'Scores by School Type' DataFrame provides the average maths and reading scores along with the pass percentage in these subjects and the overall pass percentage based on the type of school (Government or Independent).

The observable trends based on the data are -

- 1) On analysing the 'Scores by School Type', Independent schools have a better score in maths and reading and an overall better pass percentage when compared to Government schools.
- 2) The analysis using 'Scores by School Size', indicates that schools with a size of 2000 – 5000 students have a much lower overall pass percentage when compared to schools with less than 2000 students.
- 3) While looking into the 'Scores by Per Student Spend', schools spending between \$585 and \$630 per student have a better overall pass percentage than other schools. The normal tendency in analysis is that when more is spent the outcome is much better. However, this is not the case in 'Scores by Per Student Spend' analysis, where schools spending less actually perform slightly better in terms of overall pass percentage.

CONCLUSION

The top performing schools, such as Griffin High School, tend to be 'Independent' schools with a smaller student population and moderate per student spending, debunking the common belief that higher spending always results in better outcomes.

School size seems to be a significant factor in student performance, with smaller schools consistently outperforming larger ones. This could be attributed to more personalized attention and focused resources in smaller institutions.

The type of school, whether Government or Independent, plays a crucial role in student success. Independent schools generally have higher scores and pass percentages, indicating potential differences in teaching methods, resources, or student demographics between the two types of schools.

These trends highlight the complexity of factors influencing student performance, emphasizing that it's not merely about funding but also about school size and type. Smaller class sizes and tailored approaches to teaching might contribute significantly to student success, regardless of the budget available to the school.