Analysis

1 – Sample Data

The first table is useful to perceive the size of the sample, so the analyse relate to a universe of 15 Schools that have more than 39,000 students combined.

Summary info

Total Schools	Total Students	Total Budget	Average Math Score	Average Reading Score	% Passing Math	% Passing Reading	% Overall Passing
15	39,170	$24,649,428.00	78.985371	81.87784	74.980853	85.805463	65.172326

2 – Performance Trends

The performance measurement was the percentage of students that passed on both math and reading. Here we can notice interesting trends that differentiates the best and worst schools:

- Top 5 Schools are all charter Schools and Bottom 5 are all District
- Top 5 doesn't have more than 2500 students and Bottom 5 have all more than 2500 Students
- Interestingly top 5 schools tendentially had less budget per student which could reflect a more efficient use of the available funds.

Top Performing Schools

School Name	School Type	Total Students	Total School Budget	Per Student Budget	Average Math Score	Average Reading Score	% Passing Math	% Passing Reading	% Overall Passing
Cabrera High School	Charter	1858	$1,081,356.00	$582.00	83.061895	83.975780	94.133477	97.039828	91.334769
Thomas High School	Charter	1635	$1,043,130.00	$638.00	83.418349	83.848930	93.272171	97.308869	90.948012
Griffin High School	Charter	1468	$917,500.00	$625.00	83.351499	83.816757	93.392371	97.138965	90.599455
Wilson High School	Charter	2283	$1,319,574.00	$578.00	83.274201	83.989488	93.867718	96.539641	90.582567
Pena High School	Charter	962	$585,858.00	$609.00	83.839917	84.044699	94.594595	95.945946	90.540541

Worst Performing Schools

School Name	School Type	Total Students	Total School Budget	Per Student Budget	Average Math Score	Average Reading Score	% Passing Math	% Passing Reading	% Overall Passing
Rodriguez High School	District	3999	$2,547,363.00	$637.00	76.842711	80.744686	66.366592	80.220055	52.988247
Figueroa High School	District	2949	$1,884,411.00	$639.00	76.711767	81.158020	65.988471	80.739234	53.204476
Huang High School	District	2917	$1,910,635.00	$655.00	76.629414	81.182722	65.683922	81.316421	53.513884
Hernandez High School	District	4635	$3,022,020.00	$652.00	77.289752	80.934412	66.752967	80.862999	53.527508
Johnson High School	District	4761	$3,094,650.00	$650.00	77.072464	80.966394	66.057551	81.222432	53.539172

3 – Reading vs Math and Performance by year

The table above shows how generally students struggle more with Maths comparing to Reading. The best schools though showed that their success was to shorten this gap where Math and Reading have similar scores.

Regarding the grading year there is no significant trends and each year have similar scores across all years, differences rely much more in the school and subject.

School Name	Math				Reading			
	9th	10th	11th	12th	9th	10th	11th	12th
Bailey High School	77.1	77	77.5	76.5	81.3	80.9	81	80.9
Cabrera High School	83.1	83.2	82.8	83.3	83.7	84.3	83.8	84.3
Figueroa High School	76.4	76.5	76.9	77.2	81.2	81.4	80.6	81.4
Ford High School	77.4	77.7	76.9	76.2	80.6	81.3	80.4	80.7
Griffin High School	82	84.2	83.8	83.4	83.4	83.7	84.3	84
Hernandez High School	77.4	77.3	77.1	77.2	80.9	80.7	81.4	80.9
Holden High School	83.8	83.4	85	82.9	83.7	83.3	83.8	84.7
Huang High School	77	75.9	76.5	77.2	81.3	81.5	81.4	80.3
Johnson High School	77.2	76.7	77.5	76.9	81.3	80.8	80.6	81.2
Pena High School	83.6	83.4	84.3	84.1	83.8	83.6	84.3	84.6
Rodriguez High School	76.9	76.6	76.4	77.7	81	80.6	80.9	80.4
Shelton High School	83.4	82.9	83.4	83.8	84.1	83.4	84.4	82.8
Thomas High School	83.6	83.1	83.5	83.5	83.7	84.3	83.6	83.8
Wilson High School	83.1	83.7	83.2	83	83.9	84	83.8	84.3
Wright High School	83.3	84	83.8	83.6	83.8	83.8	84.2	84.1

5 – Performance by size

As seen already the first trends indicated the table below showed that the largest schools had lower performances especially at Maths.

School Size	Average Math Score	Average Reading Score	% Passing Math	% Passing Reading	% Overall Passing
Small(<1000)	83.821598	83.929843	93.550225	96.099437	89.883853
Medium(1000-2000)	83.374684	83.864438	93.599695	96.790680	90.621535
Large(2000-5000)	77.746417	81.344493	69.963361	82.766634	58.286003

6 – Performance by type

Also as seen while comparing best and worst performances, the district schools had a considerably lower student performance compared to charter schools.

School Type	Average Math Score	Average Reading Score	% Passing Math	% Passing Reading	% Overall Passing
Charter	83.473852	83.896421	93.620830	96.586489	90.432244
District	76.956733	80.966636	66.548453	80.799062	53.672208

Conclusion

Despite all these tendencies, it's still hard to judge how best or worst are these schools, it's notorious that some schools present better student performance than others but there are big limitations such as not knowing if the students were presented with the same exams or if tutoring method is simply more oriented to grade achievement.

As a sidenote in Portugal at high-school level it's well-known the private schools have way better grades, however it's also known for years that the students from the public sector are normally better prepared in terms of content learned. Therefore, over the years private schools developed a reputation of being used to "buy" grades to access some elite universities that have very hard entry requirements. An extra boost for wealthier kids which have been unable to get grades in the public, to counter balance this the state has been over the years either increasing the difficulty of the national exams or making harder to predict the content of the questions which usually favours the public students statistically.

It doesn't seem exactly what happens here but it shows how evaluating performances on the education sector can be highly subjective and sensitive therefore when talking about performance it would be always better to access more parameters and data. Education goes hand in hand with inequality and I would have my own biases as well with community driven high-schools.