

## Mod 4 HW4 PyCitySchools

### Observable Trends:

The dataset was composed of data from 15 different schools, 39,170 total students, and a budget of \$24,649,428. The average math score for all students was 79 and for reading it was 82. Though the scores were only 3 points off the percentage of those passing math, only 75% passing, and those passing reading, only 86% is a significant difference of 11%. The overall passing rate, where the students passed both math and reading with a score of 70 or higher, was only 65.2%.

### Highest-Performing Schools (By % Overall Passing)

	School Type	Total Students	Total School Budget	Per Student Budget	Average Math Score	Average Reading Score	% Passing Math	% Passing Reading	% Overall Passing
school_name									
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

### Bottom Performing Schools (By % Overall Passing)

	School Type	Total Students	Total School Budget	Per Student Budget	Average Math Score	Average Reading Score	% Passing Math	% Passing Reading	% Overall Passing
school_name									
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

After reviewing the data from the Highest-Performing Schools (By % Overall Passing) and the Bottom Performing Schools (By % Overall Passing) there seemed to be a correlation between the school type and total students. The top 5 schools were all Charters and had nearly half or less total students attending than the District Schools. The Per Student Budget did not seem to have any indicator whether the percent of students would pass overall, both math & reading with scores greater than 70.

Of the 15 schools, 7 are district and 8 are charter. The number of students in the schools ranged from 427 to 4976 students. The district schools all have more students than the charter schools.

	Average Math Score	Average Reading Score	% Passing Math	% Passing Reading	% Overall Passing Rate
<b>Spending Ranges (Per Student)</b>					
<b>&lt;\$585</b>	83.455399	83.933814	93.460096	96.610877	90.369459
<b>\$585-630</b>	81.899826	83.155286	87.133538	92.718205	81.418596
<b>\$630-645</b>	78.518855	81.624473	73.484209	84.391793	62.857656
<b>\$645-680</b>	76.997210	81.027843	66.164813	81.133951	53.526855

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

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

An interesting finding was that as the Spending Ranges (Per Student) increased the average math scores, average reading scores, and overall passing percentages actually decreased. While resources and funding are essential this is clear that other factors play a more significant role in the math and reading results for students.

The small and medium sized schools were nearly the same with their students' results, with those passing math (94% & 94%), those passing reading (96% & 97%), and those passing overall (90% & 91%). While the large school size seemed to have a significant drop off in achievement with those passing math (70%), those passing reading (83%), and those passing overall (58%). A difference of just over 30% overall passing rate is something that should be looked at more closely and the district should make adjustments as needed to help support these students at the larger schools.

As discussed early, the charter schools have a similar experience over the district schools with an overall passing rate of 90% vs the 53% at the district schools.