

Metuchen Citizens for Quality Education

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CQE Advocacy

- Metuchen CQE is a parental advocacy organization, devoted to excellence in public education at all levels.
- CQE strongly supports the Metuchen schools, and is always seeking ways in which they could be improved for the benefit of our children.
- Concern that the 4-year college attendance rate lags other schools in our DFG.
- Studies show that the best route toward a 4-year degree is directly through a 4-year college.
- Committee to study areas of improvement in the district that will lead to more Metuchen students being prepared for and going to 4-year colleges.
- This is not a position based on economics. Families in Metuchen, like in all towns, must decide for themselves what is best for their children.
- This is a position based on student readiness for college, and the overall quality of the educational experience in our district.
- The analysis that follows, we hope, demonstrates the magnitude of the issue and points to some areas for growth and improvement for our school district.

Database Analysis

- The New Jersey Department of Education maintains an expansive database of objective performance parameters for all schools and school districts in the state.
- Data are available from 2000 up through 2008.
- We have extracted data for schools and towns in our DFG for all available years.
- This allows for a historical comparison of Metuchen's schools relative to other towns with similar socioeconomic status.
- We can also compare these measurable parameters, to see if there are any relationships between them that might shed more light on areas for improvement.
- The next several tables summarize what we have found to date in our analysis of these data.
- This is by no means an exhaustive analysis, but rather a snapshot of some important details regarding our schools.

4-Year College Attendance

	4-Year College Attendance - Metuchen	4-Year College Attendance - I Average	Metuchen I District Rank
2000/01	60.0%	79.4%	55/58
2001/02	72.0%	79.5%	46/58
2002/03	67.4%	80.9%	56/58
2003/04	72.2%	79.7%	40/47
2004/05	71.0%	80.3%	42/47
2005/06	74.3%	80.7%	37/47
2006/07	63.1%	80.8%	47/47
2007/08	74.0%	80.4%	38/48
2008/09	66.0%		

SAT Scores

	SAT Math - Metuchen	SAT Math - I Average	Metuchen I District Rank	SAT Verbal - Metuchen	SAT Verbal - I Average	Metuchen I District Rank
2000/01	531	568	56/58	519	544	52/58
2001/02	557	569	41/58	532	546	44/58
2002/03	535	575	56/58	527	550	50/58
2003/04	552	568	35/47	563	548	9/47
2004/05	559	572	34/47	533	551	41/47
2005/06	549	568	36/47	530	542	34/47
2006/07	520	561	44/47	518	541	42/47
2007/08	539	567	44/48	535	544	34/48

AP Enrollment

	AP Enrollment Rate - Metuchen	AP Enrollment Rate - I Average	Metuchen I District Rank
2000/01	15.2%	28.5%	55/58
2001/02	18.2%	31.0%	50/58
2002/03	19.4%	30.3%	51/58
2003/04	14.9%	29.2%	45/47
2004/05	15.4%	27.6%	45/47
2005/06	19.3%	27.7%	40/47
2006/07	23.5%	29.5%	39/47
2007/08	26.7%	31.9%	32/48

Some Cost Data

	Total Cost per Pupil - Metuchen	Total Cost per Pupil - I Average	Metuchen I District Rank	Comparative Cost per Pupil - Metuchen	Comparative Cost per Pupil - I Average	Metuchen I District Rank
2002/03	\$11,463	\$11,936	22/43	\$10,139	\$10,381	19/43
2003/04	\$12,311	\$12,548	19/43	\$10,859	\$10,896	20/43
2004/05	\$12,896	\$13,039	21/43	\$11,489	\$11,340	18/43
2005/06	\$13,169	\$13,645	24/43	\$11,585	\$11,831	22/43
2006/07	\$13,942	\$14,012	20/43	\$12,284	\$12,410	21/43
2007/08	\$13,920	\$14,525	26/43	\$12,180	\$12,850	28/43

	Percentage Local Funding - Metuchen	Percentage Local Funding- I Average	Metuchen I District Rank
2002/03	89%	87%	16/43
2003/04	89%	86%	17/43
2004/05	90%	87%	19/43
2005/06	88%	85%	21/43
2006/07	89%	87%	20/43
2007/08	89%	86%	15/43

Some Faculty Data

	Average Faculty Salary - Metuchen	Average Faculty Salary- I Average	Metuchen I District Rank	Average Faculty Experience - Metuchen	Average Faculty Experience - I Average
2002/03	\$59,015	\$54,445	9/43	12	10
2003/04	\$59,104	\$55,013	10/43	10	9.3
2004/05	\$59,700	\$56,438	9/43	10	8.9
2005/06	\$64,050	\$57,965	7/43	10	8.7
2006/07	\$65,573	\$59,373	6/43	9	8.7
2007/08	\$66,972	\$61,179	6/43	10	8.8

Correlation Tests

- How well do the database parameters correlate with 4-Year College Attendance?
- Simple linear correlation test (linear fit, normalized covariance)
- Tells us how well one parameter varies with another
- Answer can vary from -1 to +1
 - Value of +1 means perfect correlation (e.g. when one goes up, the other goes up)
 - Value of -1 means perfect anti-correlation (e.g. when one goes up, the other goes down)
 - Value of 0 means no correlation (the parameters are not related at all)
- In general, a value > 0.3 is the threshold for meaningful correlation, and > 0.7 indicates strong correlation.

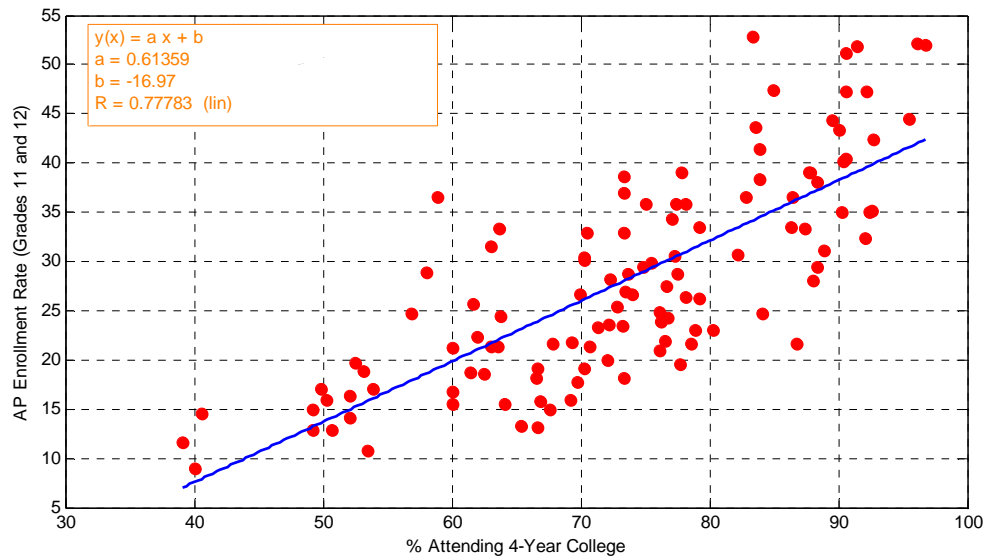
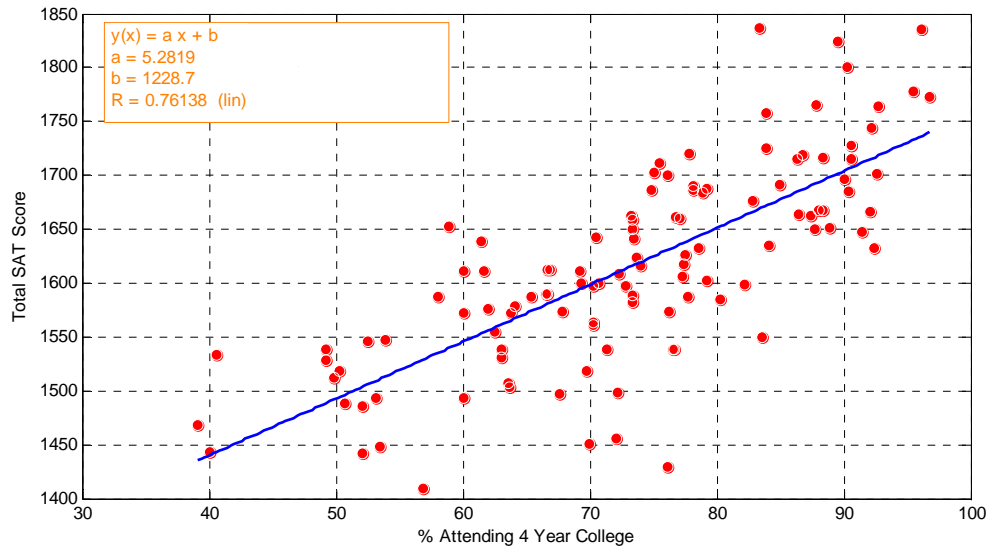
Correlation Results

- To improve the sample size, I included all GH, I, and J districts (115 total)
- Strong correlation with SAT score and AP Enrollment
- Meaningful correlation with % Local Funding
- No meaningful correlation with per pupil expenses, faculty salary, or experience

Does 4-Year College Attendance correlate?

Total SAT Score	0.76	Yes
AP Enrollment	0.78	Yes
Faculty Salary	0.19	No
Faculty Experience	-0.17	No
Total Cost per Pupil	-0.06	No
Comp. Cost per Pupil	0.05	No
% Local Funding	0.47	Sort Of

Correlation Plots



Some Data with Median Income

I District High School	Median Family Income	4-year College	2-year College	SAT Median Math	SAT Median Verbal	SAT Median Wrtg	Cost/Student	AP Participation Grades 11 & 12
Metuchen	\$85,022.00	73.6%	19.1%	539	535	542	\$13,920.00	26.7%
East Brunswick	\$86,863.00	75.0%	11.0%	591	546	550	\$14,493.00	29.4%
South Brunswick	\$86,891.00	73.7%	20.5%	556	529	539	\$13,233.00	28.7%
Hillsborough	\$93,933.00	69.0%	27.0%	557	526	528	\$12,482.00	16.0%
Hanover	\$93,937.00	65.0%	20.7%	547	519	532	\$17,561.00	19.2%
James Caldwell	\$94,379.00	77.0%	11.0%	529	540	534	\$13,219.00	26.3%
Scotch Plains*/Fanwd	\$96,238.00	76.5%	12.5%	546	519	520	\$13,098.00	39.0%
Bridgewater-Raritan	\$99,832.00	73.0%	18.0%	572	531	538	\$13,578.00	26.9%
Sparta	\$100,658.00	61.7%	29.5%	543	538	530	\$12,279.00	25.7%
Madison	\$101,798.00	79.0%	17.0%	583	565	572	\$14,261.00	39.1%
New Providence	\$105,013.00	90.4%	6.1%	588	584	549	\$13,364.00	40%
Columbia S Or*/Mplwd	\$107,641.00	76.6%	16.5%	521	508	509	\$15,373.00	27.5%
Livingston	\$108,149.00	87.5%	9.1%	587	556	572	\$14,756.00	33.5%
Tenafly	\$111,029.00	92.0%	4.0%	623	583	595	\$14,315.00	35.0%
Westfield	\$112,145.00	90.1%	6.7%	591	559	566	\$12,866.00	38.1%
Hunterdon (North)	\$113,280.00	72.0%	19.1%	570	551	538	\$17,407.00	40.1%
Summit	\$117,053.00	83.0%	8.0%	583	570	572	\$14,248.00	41.4%
Watchung Hills (Somerset)	\$120,764.00	78.0%	15.0%	569	546	545	\$14,661.00	34.3%
Holmdel	\$122,785.00	83.9%	15.7%	611	571	576	\$13,805.00	38.3%
Princeton	\$123,098.00	82.0%	9.0%	620	607	610	\$18,110.00	38.6%

Does 4-Year College Attendance correlate?

Total SAT Score	0.69
AP Enrollment	0.68
Median Income	0.51
Total Cost per Pupil	-0.05

Yes

Yes

Sort Of

No

Length of School Day and Instructional Time – 2007-08

	Instr Mins	I Mean	I Rank	DayMins	I Mean	I Rank
Metuchen High	351	359	31/44	375	416	50/50
Edgar	348	340	84/337	391	391	134/337
Campbell	330	340	254/337	380	391	278/337

“Top 10” I Districts for High School Instructional Time – 2007-08

School District	School	Total Instructional Minutes	2008 Ranking
Verona Boro	Verona High	405	53
N Hunt/Voorhees Regional	Voorhees High	400	41
N Hunt/Voorhees Regional	North Hunterdon Reg High	400	43
Northern Valley Regional	N Valley Reg H Demarest	393	9
Northern Valley Regional	N Valley Reg H Old Tappan	393	18
Montclair Town	Montclair High	393	85
Cranford Twp	Cranford Sr High	387	29
Pascack Valley Regional	Pascack Valley High	383	25
Pascack Valley Regional	Pascack Hills High	383	12
Glen Ridge Boro	Glen Ridge High	380	5
Cresskill Boro	Cresskill Jr Sr High Sch	378	26
Sparta Twp	Sparta High School	373	63
Westfield Town	Westfield Senior High	371	27
Metuchen	Metuchen High	351	86

Average Instructional Time = 388 minutes. Average Rank = 34.

For the “Bottom 10”, Average Instructional Time = 337 minutes. Average Rank = 42.

What does this all mean?

- Metuchen is a good school district, but lags our cohort in several key areas.
- Historically speaking, we have underperformed in objective criteria such as SAT scores, AP enrollment rate, and 4-year college attendance.
- Our teachers are experienced and well-paid, and our overall student expenses in line with other I districts.
- The correlation results suggest that efforts to improve SAT scores and AP enrollment may lead to more students attending 4-year colleges after high school.
- Our school days and instructional time are on the short side.

Correlation is not Causation

- We do not suppose to have all of the answers.
- The data here show some issue areas, but do not identify causes or solutions.
- Requires the resources of the Board and Administration.
- The objective performance data should be used not as end goals, but as benchmarks for the overall performance of our schools.
- If the educational system is as enriching and rigorous as possible, these benchmarks will reflect that.
- We encourage you to look closely at these and other data and continue to work to give our children the best education possible.

Specific Suggestions

- Honors and AP Grade Differential
 - Investigate increasing it to encourage higher enrollment
 - GPA and Class Rank impacts
- Curriculum Rigor
 - Investigate increasing the rigor of non-AP courses to prepare students for the SAT and college.
- Length of School Day
 - Increase instructional time to allow for curriculum improvements and/or additional elective courses.
- Find other avenues to improve college readiness, such as hiring an additional Guidance Counselor to reduce the counselor/student ratio and to increase contact time with individual students and parents.
- High School Principal
 - Hire a new principal who is dedicated to academic excellence and who has a portfolio which demonstrates that dedication.