

## **Steve Kramer, 21st Century Partnership for STEM Education, Eight Year Analysis of Eugenio Maria de Hostos**

### **School serving English language learners and *immigrants* of poverty outperformed comparison schools in district and state in reading and math over eight year period**

Analysis of Mathematics and ELA Test Scores at the Eugenio Maria de Hostos Microsociety School

**EXECUTIVE SUMMARY:** The Eugenio Maria de Hostos Microsociety School is viewed as an exemplary MicroSociety school. It serves low-income students with a large immigrant population and large number of Limited English Proficient students. At MicroSociety's 2014 annual conference the building principal, Elda Perez-Mejia, received MicroSociety's George Award, recognizing her as an outstanding administrator, reflecting the high fidelity implementation of MicroSociety at her school.

But is this high fidelity implementation associated with high-caliber academic results? This report looks narrowly at one measure that can address the question: student achievement on standardized Mathematics and English/Language Arts (ELA) tests administered by the state of New York.

**The data reported below indicate that in mathematics achievement Hostos MicroSociety students outperform their peers from other schools.**

This is true for Limited English Proficiency students and even more strongly true for English-Proficient students. The pattern of relatively high mathematics achievement is not new with the current principal. Instead, it has been consistent since 2006, the first year data is available for comparing the MicroSociety school at Hostos to other schools. The pattern of superior performance is true for mathematics only. Hostos students' achievement on state administered ELA tests is similar to that of their peers from other schools.

The analysis reported below does not address all the intended outcomes of the MicroSociety program at Hostos. For example, The New York State Department of Education accepts Hostos' MicroSociety as a Title III approved program for children of immigrants and English Language learners. Although this report analyzes mathematics and ELA achievement of English Language Learners, it does not investigate MicroSociety's effects on students' learning to speak English, nor does it investigate the program's effects, if any, on socializing recent immigrants into U.S. culture and society. It also does not investigate the "21<sup>st</sup> Century Skills" that MicroSociety is intended to promote. These skills could be addressed using measures like student awards, leadership activities outside of school, and leadership/achievement of Hostos MicroSociety graduates once they reach middle school—but doing so is outside the scope of the current report.

#### **Background Information**

*Economic Disadvantage:* Hostos has a very high percentage of economically disadvantaged students. Governmental datasets are inconsistent in reporting the poverty level at Hostos. In its most recent data (2011-2012 school year) the National Center for Educational Statistics reported that 99.4% of all Hostos students received free or reduced-price lunch. The second-highest percentage reported in Yonkers by the NCES that year was 84.9% at School 13. However, for the 2011-2012 school year New York State reported that 91% of Hostos students were “economically disadvantaged”. That same year, New York reported several other Yonkers schools with percent disadvantaged close to or even above 91%.

Because the testing data analyzed by this report was provided by New York state, the report also uses data provided by the state to match Hostos with similarly disadvantaged schools. However, since data provided by NCES indicates that Hostos may be even more disadvantaged than is indicated by the NY state data, there is a possibility that the matched comparison schools are economically advantaged relative to Hostos. Therefore, the analysis reported below should be viewed as a conservative estimate of Hostos’ effects on student achievement.

*Limited English Proficient students:* One of the most salient features by which Hostos self-identifies is the large number of Limited English Proficient students at the school, most of whom are Spanish-speaking immigrants. In 2014 40% of Hostos 3<sup>rd</sup> through 5<sup>th</sup> graders who completed the state math test were Limited English Proficient students, a far larger percentage than at any other Yonkers elementary school.

*School History:* The Hostos school has used MicroSociety since it opened. In 2009-2010 Elda Perez-Mejia became principal. Outside observers have commented that Ms. Mejia is a particularly strong proponent of MicroSociety. At MicroSociety’s annual conference in July of 2014 she received a “George Award” recognizing her as an outstanding administrator. It is possible that the school may have seen enhanced effects of MicroSociety since Ms. Mejia became principal.

*Testing History:* New York can provide mathematics and ELA testing data for students in Grades 3-8 going back to the spring of 2006. During the period 2006-2014 the state has made two major changes in the tests. In 2010 “cut scores” setting the requirement for proficient performance were raised, which led to a more-or-less automatic statewide drop in percent of students rated “proficient” or “advanced”. In 2013 New York implemented a new set of tests based on the Common Core State Standards, again leading to a sharp statewide drop in percent of students rated “proficient” or “advanced”.

*Analysis Strategy:* In math, I tracked test scores of Hostos and a set of comparison schools back to 2006, which is the first year for which data are available. In ELA, I went back to spring of 2007, which is the first year for which ELA data were available. Although Yonkers elementary schools have recently added sixth grade, for most of this period Hostos was a K-5 school with test scores available only for 3<sup>rd</sup>, 4<sup>th</sup>, and 5<sup>th</sup> graders. Consequently, all analyses used percent proficient/advanced aggregated across 3<sup>rd</sup>, 4<sup>th</sup>, and 5<sup>th</sup> grade.

Because Limited English Proficient students consistently score lower than English-Proficient students on both Mathematics and ELA tests administered in New York, it was important to analyze Limited English Proficient students separately from English-proficient students.

Consequently, for a first cut I chose comparison schools in Yonkers for whom the state reported test scores both for Limited English Proficient students and for English-Proficient students each year since 2006. In practice, this meant that to be a comparison school, a Yonkers school needed at least five Limited English Proficient students in each grade level each year. If a school tested fewer than 5 Limited English Proficient students in any grade level, test scores were not disaggregated by English proficiency that year. As a second cut, I required each comparison school to be within +/-10% of Hostos in percent of students rated “economically disadvantaged” by New York in both 2013 and 2014. This eliminated one school, Yonkers School 21, which had more than 10% fewer disadvantaged students both years. This left the following five comparison schools in the Yonkers school district:

SCHOOL 13

SCHOLASTIC ACADEMY FOR ACADEMIC EXCELLENCE

SCHOOL 23

ENRICO FERMI SCHOOL FOR THE PERFORMING ARTS

CEDAR PLACE ELEMENTARY SCHOOL

Lastly, I included a statewide comparison group: students rated by New York as being from “High Need/Resource Urban-Suburban Districts”. This group included all students from high needs districts, so a portion of the students in this comparison group were from Yonkers and even from Hostos. Also, the percent of economically disadvantaged students in this statewide comparison group was lower than in Hostos or in the Yonkers comparison schools. In 2013 New York reported that 74.3% of the 45979 3<sup>rd</sup>, 4<sup>th</sup>, and 5<sup>th</sup> graders from High Needs Districts were “disadvantaged,” compared to 89.9% of Hostos 3<sup>rd</sup>, 4<sup>th</sup>, and 5<sup>th</sup> graders. In 2014 New York reported that 76.1% of the 44807 3<sup>rd</sup>, 4<sup>th</sup>, and 5<sup>th</sup> graders from High Needs Districts were “disadvantaged,” compared to 81.5% of Hostos 3<sup>rd</sup>, 4<sup>th</sup>, and 5<sup>th</sup> graders. Note that in 2013 the difference in percent disadvantaged between Hostos and the statewide comparison group was greater than the 10% cut-off I used to eliminate comparison Yonkers schools. This, the statewide group, while the best statewide comparison group available, nonetheless had an SES advantage over Hostos.

## Results

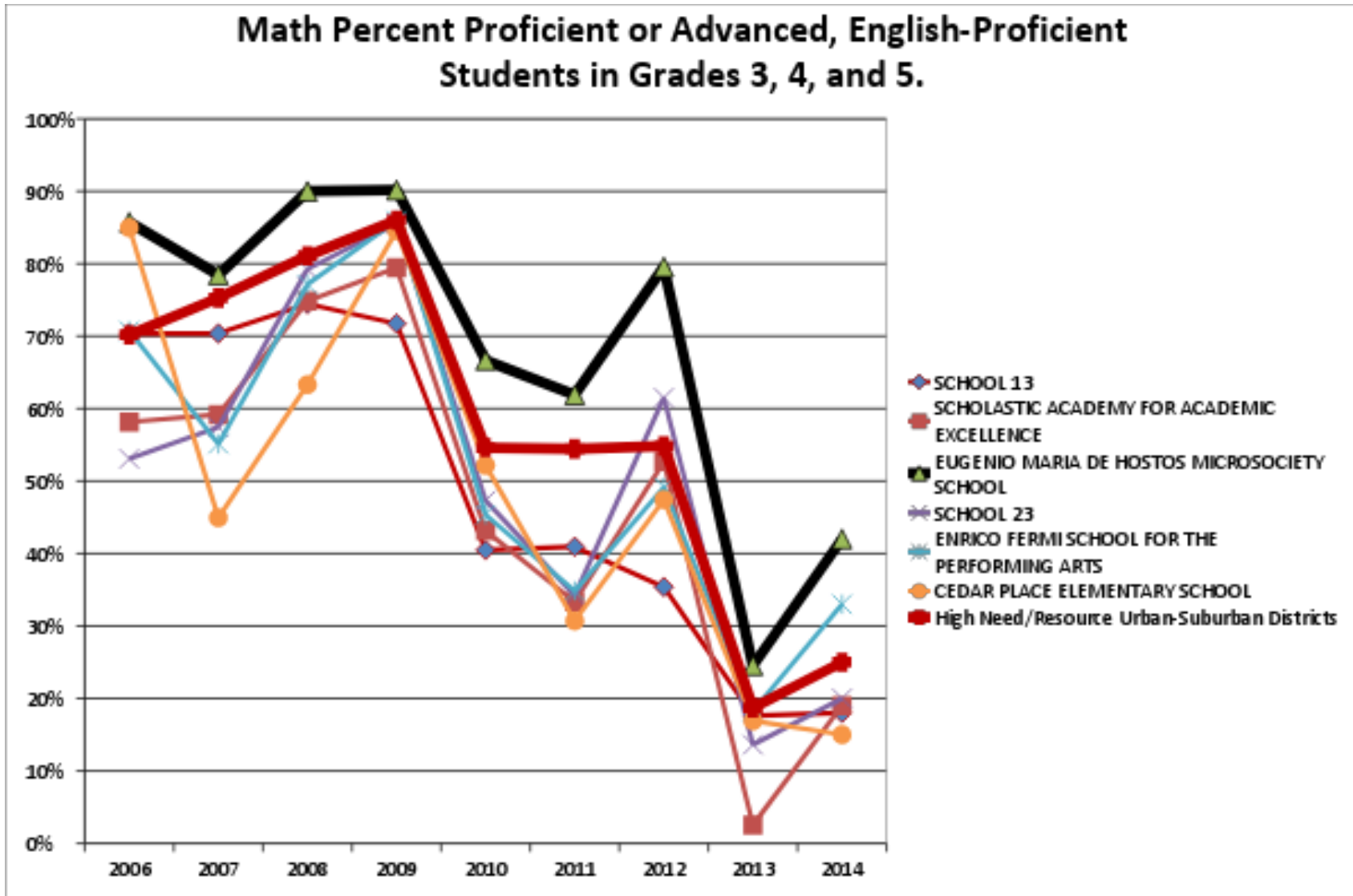
The **Eugenio Maria de Hostos Microsociety School appears to have a strong and consistent positive impact on students’ mathematics achievement** as measured by New York tests. This can be clearly seen using percent of students rated proficient/advanced on state-administered tests as the criteria by which to judge achievement. Hostos English-proficient students out-scored English-proficient students in every one of the five Comparison schools and students in the statewide comparison group every year from 2006 through 2014. This superior performance remained consistent through a change in principal and through two major changes in New York’s testing system. See Graph 1.

While the new Common Core tests have proven to be extremely difficult for Limited English Proficient (LEP) students, in both years since the test was implemented LEP students at Hostos outscored LEP students at every one of the five Comparison schools and students in the statewide comparison group. In five of the seven preceding years, LEP students at Hostos had outscored the statewide LEP comparison group and outscored LEP students in either four or five of the five comparison schools. See Graph 2.

The **Eugenio Maria de Hostos Microsociety School did not appears to have a consistent impact on students' ELA achievement** as measured by New York tests. For both English Proficient students and Limited English Proficient students Hostos sometimes scored at or near the top of the group of comparison schools, sometimes at or near the bottom, and sometimes in the middle. Hostos students did better than students in the statewide comparison group in some years and worse in other years. See Graphs 3 and 4.

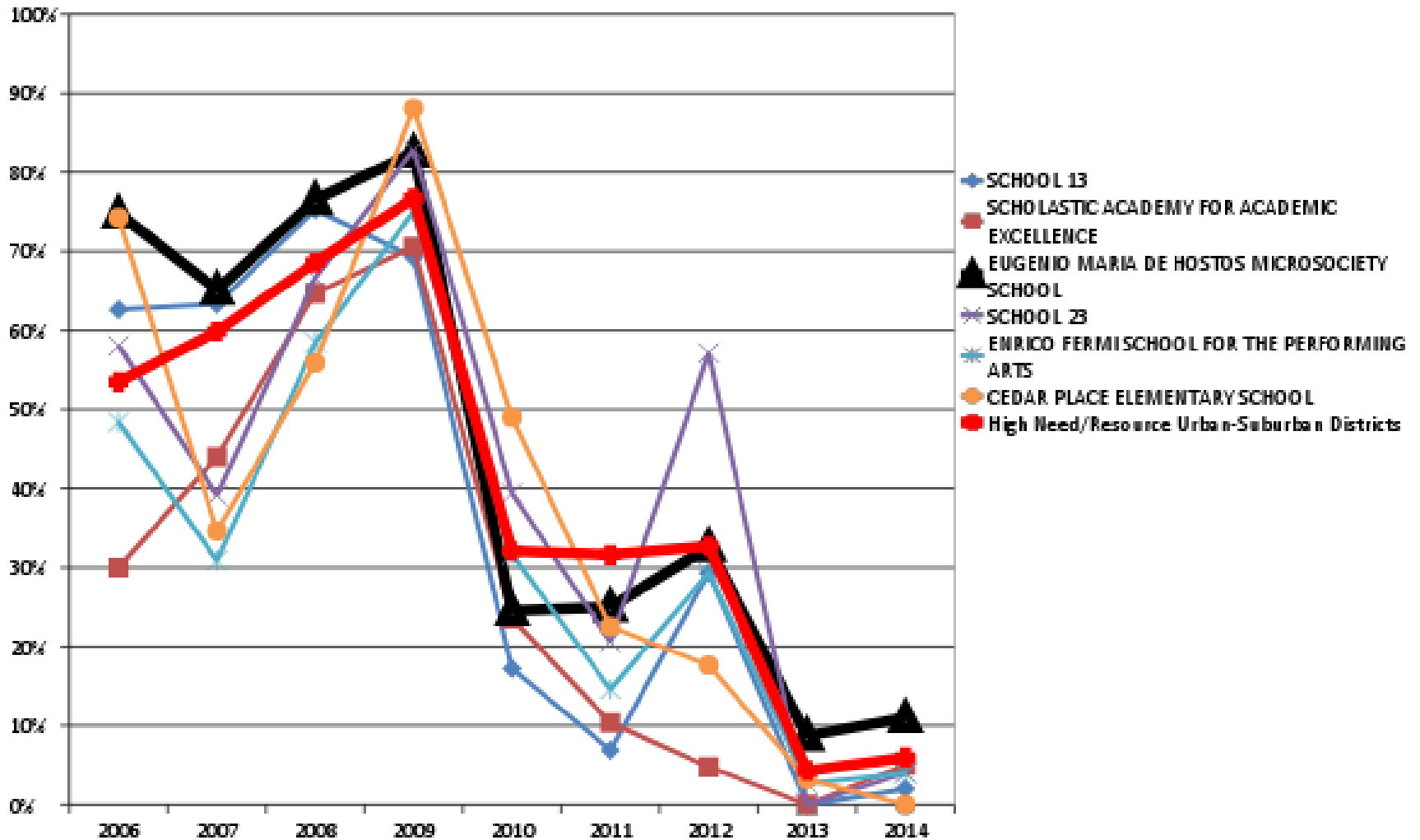
**Explanation of Graphs** In each graph, the thick black line represents Hostos students. The thick red line represents students in the statewide comparison group. The thin multicolored lines represent students from the five comparison schools.

Graph 1

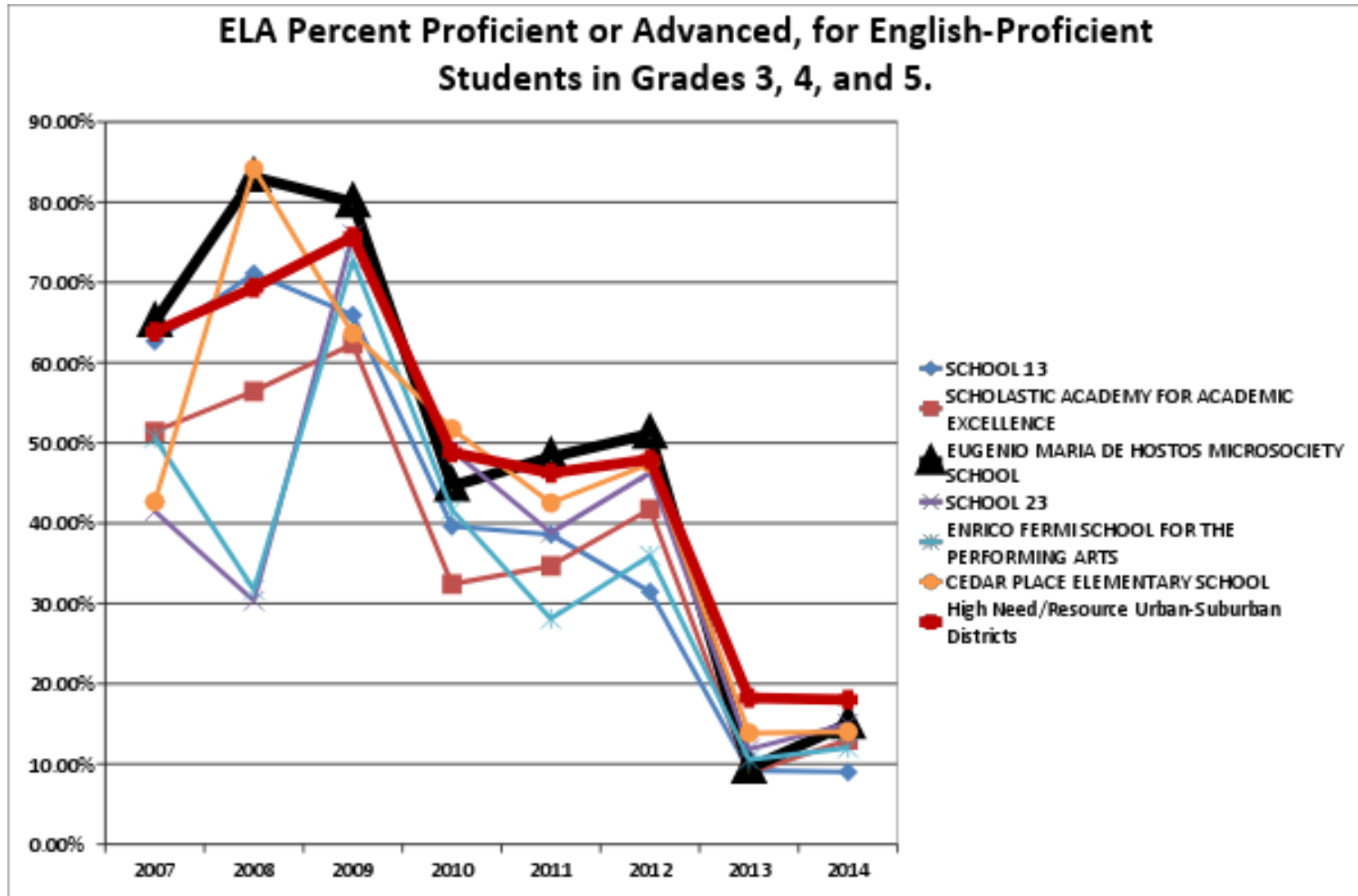


Graph 2

## Math Percent Proficient or Advanced, Limited English Proficiency (LEP) Students in Grades 3, 4, and 5.



Graph 3





Graph 4

