

# The Metropolitan Opera Guild

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## COBALT *Final Report*

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### Executive Summary

The Metropolitan Opera Guild's Opera-Based Learning (OBL) methodology connects classroom learning in core subject areas with libretto writing, music composition, staging, acting, singing, literary analysis, and critical response, and provides students with opportunities to create, present, and attend opera.

Our programming offers a transformational experience for school culture and classroom culture, while providing tools for teachers to expand and bring alive their existing classroom curriculum by using the components of opera. By allowing students to experience the world of opera in connection with classroom learning, we are providing students with 21st Century skills, applicable beyond the classroom.

Comprehensive Opera-Based Arts Learning and Teaching (COBALT) was developed as an Arts Education Model Development and Dissemination research project supported by a grant from the US Department of Education. The program was designed and implemented by the Metropolitan Opera Guild based on its OBL methodology. COBALT was executed over the course of four school years, in three low-performing Brooklyn public elementary schools.

The project's efficacy was evaluated based on its ability to 1) utilize opera-based learning for 1,350 elementary school students to foster achievement in multiple cognitive and behavioral domains, and 2) provide multi-tiered and continuous professional development for all teachers focused on curriculum design, arts integrated instruction, and student assessment.

The framework for evaluation was designed in collaboration with Metis Associates, who worked with the Guild to oversee and analyze all data collection in all COBALT schools, including those serving as comparison (control) schools. These findings and their analysis are presented in detail in this report.

In addition to evaluation of COBALT as a tool for improving the classroom performance of students and teachers alike, the project achieved the following:

- Produced high-quality opera-based frameworks and tools, which now include curriculum resources like the Opera-Based Learning Standards and the Arts Assessment available on-line;
- Built capacity in teachers (confidence, expertise, and resources) to design and deliver integrated, opera-based instruction and improve instructional practice; and
- Improved student achievement and built student skills.

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#### COBALT USDOE Study Snapshot

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**Time Period:** 2011 to 2014

**Location:** Brooklyn, NY

**Target Grades:** K, 1, 2, 3, 4, and 5

**Participation:** 1,350 Students, 72 Classroom Teachers, 3 Arts Specialists

**Format:** Experimental Design

**Evaluation Instruments:** Arts Assessment, EATQ-R SF, CPAA in English and Math, Meta-Cognitive & Socio-Emotional Rubric, Teacher Program Impact, Classroom Observation, NYS Student ELA and Math Achievement Data

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## Background

Opera is inherently and deeply multi-disciplinary, involving music, language, theater, movement/dance, and visual arts. Taken together, these provide multiple points of connection and interaction with classroom curriculum.

An original musical drama, created by students with guidance from their classroom teacher, arts specialists and teaching artists, can take as its source a story, poem, or historical incident drawn from classroom curriculum.

Writing libretto or lyrics not only promotes writing skills; it also speaks to character study, poetic expression, connections between text and self, and connections between text and the wider world.

Composing music to accompany those words correlates with language skills, but also presents ideal opportunities for building and applying music literacy skills. And when an emphasis is placed on collaborative creation, the process offers authentic opportunities for teamwork, problem-solving, self and peer reflection, and perseverance.

In short, opera is an ideal medium for arts integrated teaching and learning. The Guild set out on this project to determine the validity of our opera-based teaching and learning methods; to disseminate our work; and to hopefully increase our presence within the education system.

## Project

New York State law mandates that all elementary school students receive instruction in four art disciplines (music, dance, theater, and visual arts), and specifies that 20% of primary and 10% of upper elementary instructional time be spent on arts learning.

Nevertheless, with heightened emphasis on improving test scores, there has been a de-prioritization of arts-education. New York City elementary school students, especially those in under-served communities, are simply not receiving adequate arts instruction.

COBALT (Comprehensive Opera-Based Arts Learning and Teaching), as a research project, was designed to address these gaps through:

- opera-based instruction that incorporates all four art forms, making it cost-effective as well as holistic;
- building the capacity of classroom teachers to guide students in arts learning, thereby freeing school resources as well as embedding the arts as a key component of classroom instruction;
- an emphasis on literacy development, curriculum integration, and professional development, which is believed to have a positive impact on test scores – arts education need not be sacrificed to the demands of testing; and
- the dissemination of tools and practices to other Title I schools.

The model used for COBALT was developed at PS 10, a Title I elementary school located in Brooklyn's District 15, which has served as a laboratory school for developing the Guild's approach to opera-based learning since 2003. Best practices in professional development, integrated curriculum design, instruction, documentation and student assessment established at PS 10 were disseminated in three other Title I schools within District 15; three more District 15 Title I schools served as matched comparison control schools.

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## Project Timeline

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**YEAR 1.** Largely focused on refining the model for Comprehensive Opera-Based Arts Learning and Teaching. The work built on the Guild's hypothesis: If opera exists as the simultaneous integration of multiple art forms, then composing, presenting, viewing and responding (to and through) opera may provide an effective platform for the transfer of learning across domains.

**YEAR 2.** An R&S Team was established at the three dissemination sites. While all classroom teachers and arts specialists at these schools received ongoing professional development throughout the grant period, members of the R&S Team, kindergarten, and third grade teachers received more intensive instructional support.

**YEAR 3.** Brought increasingly differentiated professional development for teachers, as grades one and four joined grades K and three in receiving intensive support, and then also contributed large sample/high intensity student data to the research study.

**YEAR 4.** The Metropolitan Opera Guild and Metis Associates presented at several conferences to disseminate opera-based learning and the tools developed for the project to the education and arts education community. The project was presented at Educon (Science and Leadership Academy) in Philadelphia, Face to Face (NYC Arts in Education Roundtable) in New York City, and the Conference for Community Arts Education (National Guild for Community Arts Education) in Los Angeles, and the Opera America Conference in Vancouver, Canada.

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# RESULTS

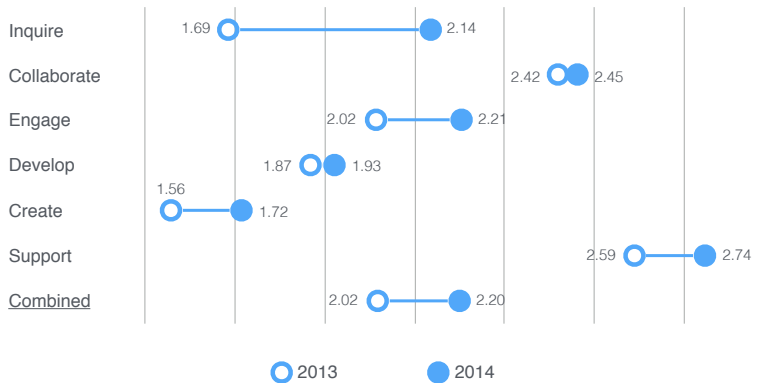
## Impact on Professional Development

During the course of the project, COBALT conducted a number of teacher self-assessment surveys, classroom observations and focus groups, seeking to gauge the efficacy of COBALT’s professional development (PD) component.

Particularly effective were the PD workshops conducted with the participation of the Guild’s Teaching Artists (TAs). All surveyed teachers agreed that the PD workshops increased their ability to implement OBL in their classroom; that they were structured in a way that suited the teacher’s style; and made them feel excited to continue using OBL in their classroom. Also, the vast majority of teachers also agreed that the PD added to the development of their teaching practice during that school year and 78% of participating teachers went on to integrate COBALT strategies into their teaching independent of their TA.

The table below presents the findings of a locally developed observation form used to study the implementation of the COBALT curriculum. For each segment, the evaluators rated the extent to which the teacher demonstrated proficiency in each of the six dimensions of instructional quality: Inquire, Collaborate, Engage, Develop, Create, Support. Improvement was observed across the board, with significant improvement on the Inquire dimension, which includes the use of inquiry to foster discovery and learning.

Table 1. Classroom Observation Results



## Teacher PD Survey Findings (2013 and 2014)

**90%** Professional development provided by COBALT enhanced teaching skills.

**81%** Collaboration with the COBALT teaching artists has enhanced teaching knowledge and skills in opera-based instruction.

**84%** Better teacher overall due to working with teaching artist.

## COBALT Teacher Survey (Year 4) Impact on Academics

**86%** agreed that OBL had a positive impact on students’ writing skills.

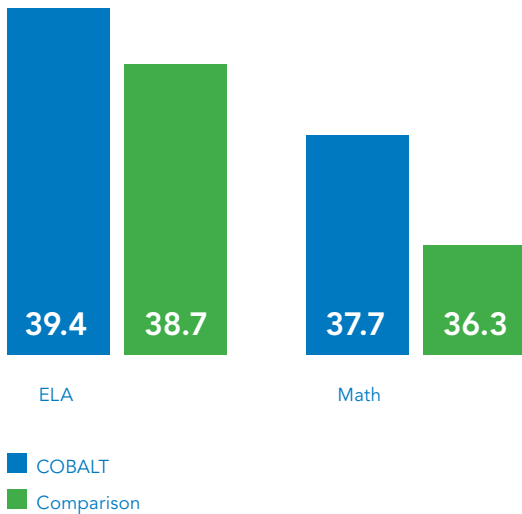
**78%** mostly agreed or strongly agreed that OBL had a positive impact on students’ oral expression.

**67%** mostly agreed or strongly agreed that OBL had a positive impact on students’ students’ ELA skills.

## Impact on Math and ELA

For students who were in Kindergarten through 2nd grade across two school years (2012–13 and 2013–14) Children’s Progress Academic Assessment by Northwest Evaluation Associates (CPAA) was used to measure language arts literacy and mathematics learning. CPAA is an internet-based, computer-adaptive formative assessment and reporting program that served as the project’s assessment of student English Language Assessment (ELA) and math achievement in the lower grades. Results are explained in Table 2.

Table 2. CPAA Mean Score Improvement Pre-(2013) and Post-(2014)



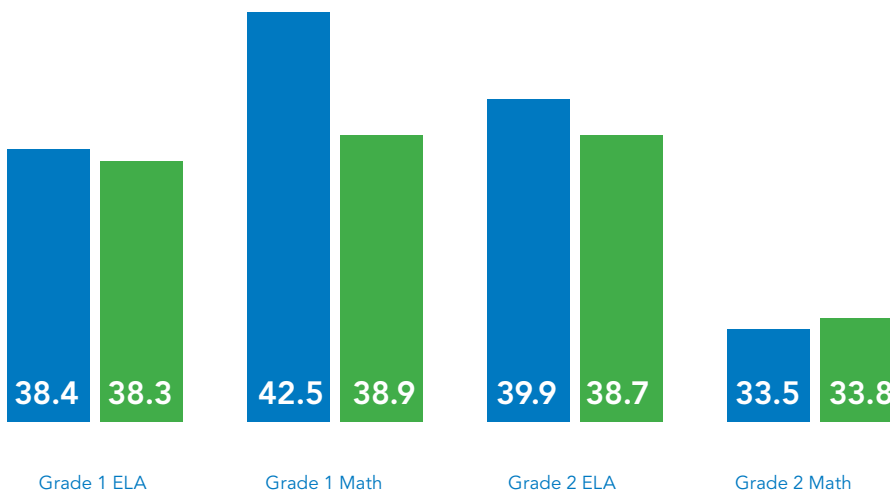

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*“I grew so much over the past three years. I feel confident I can replicate small opera scenes to enhance/enrich learning in my class.” —TEACHER AT PS 164.*

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The post-test mean CPAA ELA scores for treatment school students were 1.1% and 6.8% higher than comparison school mean scores in Grades 1 and 2, respectively, and the post-test mean CPAA Math score for treatment schools was 5.8% and 7.7% higher than comparison group students in Grades 1 and 2, respectively (Table 3).

Table 3. CPAA Mean Score Improvement BY Grade Pre-(2013) and Post-(2014)



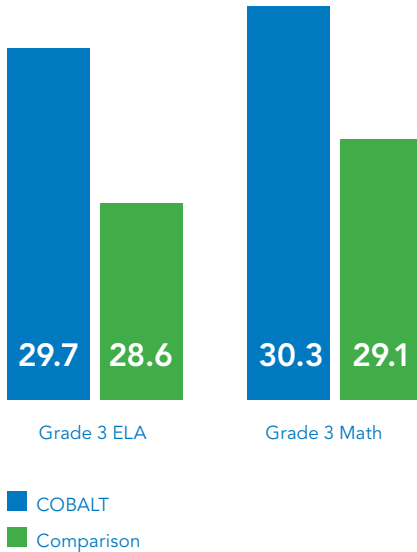
These findings also demonstrate an improvement for treatment schools over time. A statistically significant difference was observed among 1st grade students on the math sub-portion of the CPAA, where treatment school student gains significantly outpaced that of comparison school students at 3.9% as shown in Table 3.

One of the teacher’s surveyed explained, “Some of the students are using opera-based learning in all areas especially math for memorizing strategies.”

## NYS Standardized Achievement Tests

For students in grades 3-5, New York State Math and ELA standardized achievement test data were analyzed. Data analyzed and presented in Table 4 are from tests administered in spring 2013 and spring 2014 (comparison/ treatment). In response to the performance measure, which only examined post-test data (spring 2014), 3rd grade treatment school students had higher scores on the NYS ELA when compared to comparison school students in spring 2014. In grades 4 and 5 on the ELA and in Math, treatment school student results were inconclusive due to a change to the State Standardized testing model midway through the study.

Table 4. NYS ELA & Math Mean Scores Pre-(2013) and Post-(2014)




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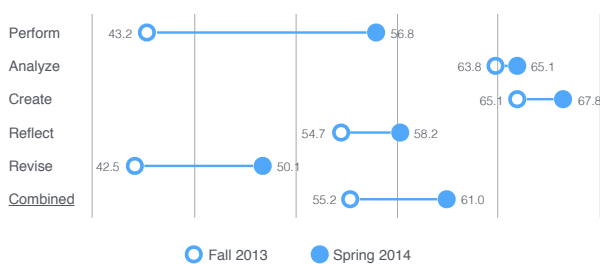
*“We created a music video to support a difficult math concept, subtraction with regrouping. We wrote lyrics, created dance, and applied staging to produce the video. All students participated and all did very well on their math test.” —YEAR 4 SURVEY*

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## Impact on Arts Learning and Music Skills

The COBALT Arts Assessment asked students to view a short clip of an opera, and respond to questions about what they saw, i.e., describe the characters, how they may be feeling, and what do the students see or hear to support their answers (Analyze). Students were then asked to write lyrics, describe an accompanying melody, and develop gestures as a response to what they observed in the video clip (Create). They then learned an operatic phrase and were asked to perform this phrase. During this process, students’ performances were rated using a locally developed scoring rubric and proctor scoring sheet aligned with the opera-based learning standards. Finally, students were provided the opportunity to “Reflect” on their performance, and “Revise” their performance based on that reflection. All aspects of the assessment were analyzed using the locally-developed Arts Assessment Rubric. The performance pieces were scored during the actual assessment, and the written responses were scored at a later time by the proctors.

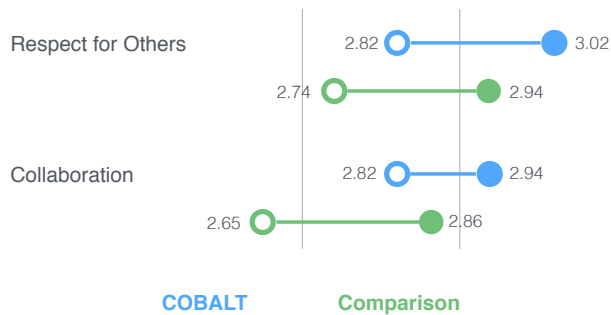
Table 5. Arts Assessment Mean Scores for Grade 3, 4, 5 Pre-(2013) and Post-(2014)



## Impact on Socio-Emotional Growth

Teachers reported on the social and emotional growth of students in their survey responses regarding student growth as a direct result of COBALT. These results are shown in Table 6. Some teachers expressed the importance of COBALT’s collaborative skill building as a means of helping students gain confidence in their participation in class and in working with other students on projects. Overall, many teachers explicitly expressed very simply that their students were thoroughly enjoying the experience of participating in this type of learning, and it improved their engagement and overall positive mood in class. This is also supported by the positive results on the classroom climate survey as noted later in this report.

Table 6. Socio-Emotional Learning: Mean Scores



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*“I am walking away with some very realistic, tangible ways to use OBL strategies that I’ve been exposed to in the past.”*

—TEACHER AT PS 15.

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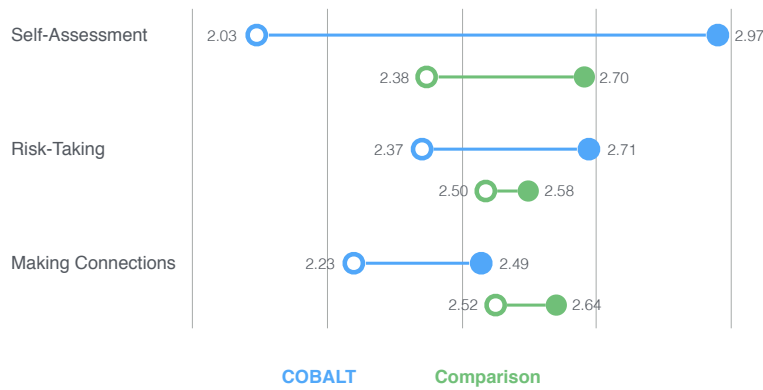


## Impact on Metacognitive Growth

Three domains of metacognitive learning were assessed by teachers—Self-Assessment, Risk-Taking, and Making Connections. Specifically, the Making Connections measure looked at the relationship between student growth in arts learning and its association with growth in ELA and Math achievement.

The results indicate that the treatment school students' degree of growth in Taking Risks was significantly higher than the comparison groups as shown in Table 7.

Table 7. Metacognitive Learning: Mean Scores



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*“Some of my students, especially those who do not show their best performance in academics look forward to engaging in COBALT so that their peers could see that they can learn as well.”*

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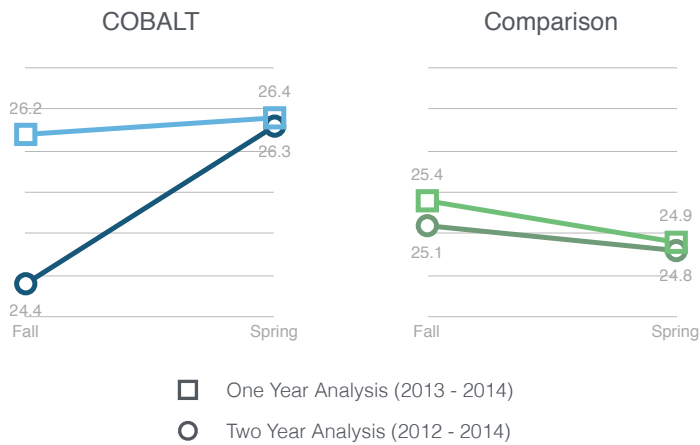


*“I think my students’ verbal skills have improved, and it is noticeable in all subject areas because of COBALT.”* --TEACHER AT PS 164

## Impact on Classroom and School Culture

Between October 2012 through May 2014 (two school years), the project carried out the pre- and post-test administrations of the Classroom Climate Inventory, Student Version (Developmental Studies Center, 2005) as part of the assessment of impact of COBALT implementation on classroom climate. The Inventory asks 13 questions about the climate of the classroom and asks students to agree “a lot”, “a little”, or “not at all.”

Table 8. Student Survey: Classroom Climate



COBALT students reported a significantly more positive classroom climate than that of the comparison schools (Final Year: 2013–14). The mean gains were even higher for treatment schools over comparison schools when analyzed across the two final years of the project (2012–14), suggesting that greater change may be observed when tracked across a longer period of time. These results are shown in Table 8.

## COBALT Teacher Classroom Culture Survey Findings

**62%** mostly agreed or strongly agreed that opera-based learning had a positive impact on the classroom culture.

**69%** agreed that students were better behaved on days when they were working on a lesson that implemented opera-based concepts and methods.



## Conclusion

During Year 4 of the project, residencies ran October 2013-March 2014 to address a scheduling challenge encountered in the previous year around state testing. To accommodate the testing and spring recess schedule, residencies were scheduled to end in March 2014 with weekly, instead of bi-weekly visits. This was preferable to principals and teachers and provided a more consistent, productive schedule for the teaching artist visits.

An ongoing challenge was the teacher reaction to documentation requirements of the program. Teachers found this aspect of implementation overwhelming, particularly how to incorporate the provided technology in their data collection. We streamlined the process for Year 4, created an online submission form to assist them in using the technology, and also allocated funds to have artists meet with teachers to help them use the technology in their data collection. This significantly eased the documentation collection.

Due to changes in curriculum to address the Common Core State Standards, teachers found that they were asked to use more scripted curriculum issued by their Principal. This presented a challenge in collecting teacher developed curriculum maps. However, teachers did incorporate opera into their scripted curricula. We tracked their use of these opera-based strategies through their documentation and reflections.

One of the salient lessons learned through the COBALT project was the need to emphasize strategies as opposed to curriculum in professional development. We learned that in order for teachers to feel comfortable and able to implement ideas and practices from COBALT it was important to stress that they could choose strategies from COBALT to implement as opposed to feeling compelled to replicate what the teaching artist was doing in the classroom. The emphasis on using strategies helped teachers use what they learned in professional development and, for many teachers, the strategies grew into larger, long-term projects using COBALT curriculum.

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*“COBALT allowed the quiet children to participate and not feel threatened.”*

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## Accomplishments/Future Areas of Development

As the Guild moves forward, the tools, strategies and rubrics created through this project have now become an integral part of the Guild's education programs. Our Students Compose Opera program now utilizes the arts analysis assessment at both the beginning and end of residencies to continue to measure the growth of students' arts skills. The arts rubric created through this project continues to serve as an effective way for teachers, teaching artists and Guild staff to evaluate both student and teacher work and participation. The re-development and enhancement of our teacher pre and post assessments have allowed us to get a clear picture of where teachers believe they are on the continuum of opera based teaching and learning and where they find them themselves following a residency. The data from these assessments and the discoveries made during the project in the field of Professional Development are now being implemented throughout our programs. We now are working to provide teachers with more choices and tools for exploring arts strategies through professional development.

As part of the COBALT project, the Guild created a set of Benchmarks and Standards (available at <https://sites.google.com/site/cobaltstandards/home>) we continue to look at programming in a way that allows us to make use of these tools and continue to make sure they are mapped onto the core curriculum standards. Finally, our COBALT standards for teaching and learning now guide the work we conduct throughout our arts residency programs.

This project was generously funded by:

The United States Department of Education



The Heckscher Foundation for Children

Emily Davie and Joseph S. Kornfeld Foundation

For more information regarding this project or the Guild's Education Programs, please contact Stuart Holt, Director of School Programs and Community Engagement at 212.769.7023 or [sholt@metguild.org](mailto:sholt@metguild.org).

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## PARTICIPANT SCHOOLS

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### TREATMENT SCHOOLS

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**PS 164 (Caesar Rodney School, Borough Park)** Student population: 536. Poverty Index: 0.78. Black or Hispanic Students: 59.4%. English Language Learners: 23.4%. Students with Individualized Education Plan (IEP): 22.4%.

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**PS 15 (Patrick F. Daly School, Red Hook)** Student population: 395. Poverty Index: 0.96. Black or Hispanic Students: 90.0%. English Language Learners: 7.5%. Students with IEP: 39.8%.

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**PS 81 (Thaddeus Stevens School, Bedford Stuyvesant)** Student population: 388. Poverty Index: 1.05. Black or Hispanic Students: 99.2%. English Language Learners: 9.3%. Students with IEP: 28%.

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### COMPARISON SCHOOLS

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**PS 48 (Mapleton School, Bensonhurst)** Student population: 624. Poverty Index: 0.60. Black or Hispanic Students: 22.5%. English Language Learners: 23.4%. Students with IEP: 14.5%.

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**P.S. 208 (Elsa Ebeling School, East Flatbush)** Student population: 478. Poverty Index: 0.65. Black or Hispanic Students: 95.4%. English Language Learners: 5.4%. Students with IEP: 14.9%.

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**P.S. 329 (Surfside School, Coney Island)** Student population: 450. Poverty Index: 0.94. Black or Hispanic Students: 89.9%. English Language Learners: 2.1%. Students with IEP: 19.4%.

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