

Quality Review Report 2012-2013

Brooklyn Academy of Science and the Environment

High School 547

**883 CLASSON AVENUE
BROOKLYN
NY, 11225**

Principal: VERONICA PETERSON

**Dates of review: Feb 11 - 12, 2013
Lead Reviewer: Karen Watts**

Part 1: The school context

Information about the school

Brooklyn Academy of Science and the Environment (BASE) is a high School with 471 students from grade 9 through grade 12. The school population comprises 80% Black, 14% Hispanic, 2% White, and 4% Asian students. The student body includes 7% English language learners and 12% special education students. Boys account for 54% of the students enrolled and girls account for 46%. The average attendance rate for the school year 2011 - 2012 was 89.0%.

Overall Evaluation

This school is proficient.

What the school does well

- The school's comprehensive Common Core aligned curricula, including thematic courses in the sciences, engage students in rigorous academic tasks that promote the development of their college level skills. (1.1)
 - The school offers four years of study in all four-core subjects that exceeds State graduation requirements in math and science to further develop students' higher order thinking skills. The curriculum, aligned to the Common Core Learning Standards (CCLS), focuses this year on the school's identification of reading complex text and writing argumentatively across content areas as key standards. Additionally, in English language arts (ELA) classes there is an emphasis on the development of listening and speaking skills. The CCLS aligned units in math that focus on reasoning with equations and inequalities and congruency in geometry, are implemented through modeling, construction of viable arguments, and the critique of the math reasoning of others in all math lessons. Writing projects are cross-curricular resulting in Modern Language Association (MLA) research papers with an environmental science focus in ninth grade and a United States History focus in eleventh grade. Rigorous course offerings range from Regents' level/CCLS aligned algebra I accelerated curriculum called the Agile Mind, to advanced placement (AP) biology, calculus, English literature and English composition, two foreign language sequence of courses in French and Spanish, and a wide range of science thematic courses that include geology, conceptual physics and a three years of science research in collaboration with Brooklyn's College's GK-12 program. The school also offers Kaplan and Ivy Key Scholastic Achievement Test (SAT) and Preliminary Scholastic Aptitude Test (PSAT) preparation. As a result, students enter Intel science competitions and the school has produced Posse and Gates Millennium Scholars. The curriculum adequately prepares students for the rigors of college especially for science majors and as a result an increasing number of students who are college and career ready graduate from the school and enter competitive private, State or City colleges.
- Teachers deliver instruction that reflects the school's belief that students learn best in student-centered environments where they are given choices and encouraged to think critically leading to improvements in their academic achievement. (1.2)
 - The school supports its belief in student-centered environments through the delivery of instruction via the workshop model where teachers model or provide models or exemplary samples for students to use as a basis of their work. All teachers use the Topic Sentence, Introduction of Evidence, Evidence and Discussion of Evidence (TIED) structure that establishes a common format for writing across disciplines and provides students with a way to organize their thoughts and ensure that they incorporate evidence into the body paragraphs of their essays. School leaders and teachers have embraced the Citywide Instructional Expectations (CIE) and the principles associated with the Universal Design for Learning (UDL), have digested them so that they can make sense, and thus provide multiple entry points to the curriculum and appropriate differentiation to meet students' learning needs. Elements include the use of a graphic organizer to scaffold problem solving by means of a four-quadrant protocol whereby each quadrant is representative of either the problem, the student's solution, the steps that the student used, and the review of a peer. Instruction is individualized to meet student needs and students are referred to additional supports or provided with additional instruction until they understand a concept or

demonstrate the skill. Teachers received professional development in concept mapping, and have embraced it as a way to help students make connects to other areas of study within the curriculum or across curricula. Students are taught to annotate text even in math, thus increasing students' comprehension of varied texts. Teachers use Webb's Depth of Knowledge chart to ensure that students participate in rigorous academic tasks that promote strategic thinking and extensions of thinking so that students are called upon to analyze and synthesize information from multiple texts. Teachers engage students in problem solving tasks in math and ask students to make claims and write arguments in ELA, social studies and science. Teachers provide time for students to think-pair-share to provide opportunities to cite evidence and details from texts as they are discussed. Thus, instructional practices have resulted in improvements in students' learning leading to a 15% increase in students' credit accumulation in the tenth and eleventh grades.

- School leaders and faculty provide strong youth development, guidance, and academic supports that create a safe, nurturing, and college going culture and a learning environment conducive to academic success for all. (1.4)
 - Students remain with the same guidance counselor for four years who through their open door policy are able to provide on-going assistance to students on their transcripts, credit accumulation, and help with developing academic and personal behaviors to support success in school. The school develops a college going culture beginning at orientation held at the Brooklyn Botanical Gardens where upperclassmen who act as BASE ambassadors run sessions to inform the freshmen of the school's expectations and in particular those around college awareness and readiness, This work continues throughout the students' stay at BASE through ongoing informational nights. To build community, students attend grade-level retreats and they participate in team building exercises, town halls, and college readiness programs. Margaret Place, a safe place at the school for students to speak confidentially with a counselor, also provides workshops on relationship abuse and provides resources to promote anti-violence and anti-bullying, and address lesbian, gay, bisexual and transgender (LGBT) community concerns. Students participate in Men of Strength and Women of Strength leadership development programs that promote students' responsibility for their lives. Talk About It, a program that allows students to confidentially report bullying, enables school personnel to address relevant issues. To further support academic achievement, in addition to ongoing help, the school offers tutoring on Super Wednesdays, where students attend three sessions of tutoring after an early dismissal. The school's gender only classes support minority males in the Expanded Success Initiative (ESI) and provide individual graduation plans to ensure that all students are progressing to high school graduation in four years. Halls are clear and quiet as a direct result of the skillful work of three deans and of teachers standing at their classroom doors to welcome students in during passing, thus creating a safe environment that supports students' academic success.
- School leaders use the results from cycles of observations to design and implement professional development (PD) to improve teacher practice. . (4.1)
 - As part of the Teachers' Effectiveness Program (TEP), teachers receive initial PD in the Danielson Framework for Teaching, overview of all of the competencies and expectations around teachers' self-assessment, goal setting, and periodic conversations with school leaders. Teacher development starts with a self-assessment relative to the Danielson Framework for Teaching and teachers identify their strengths and areas for growth. This is followed with each teacher creating a development plan of

three focused goals and identifying steps from prescribed lists against which to measure implementation of each goal. Teachers also identify potential challenges or concerns and a date against which each goal will be attained. Teachers participate in a periodic review of their goals and seek to implement new goals to move their practice forward. School leaders follow this planning phase with frequent rounds of partial and full period observations and use the data gathered to focus in on the areas of designing coherent instruction, using questioning and discussion techniques and using assessment in instruction, and to design targeted PD. Additionally, teachers receive feedback from the Common Core Liaisons who visit the school weekly as part of the TEP, departmental lead teachers and from each other. The frequent and timely feedback on their instruction followed by PD to develop areas in need of improvement result in improvements in teacher practice across the school positively impacting students' learning.

What the school needs to improve

- Enhance the use of the school's resources to structure teacher time to allow for more frequent collaboration to strengthen instructional coherence and further increase students' achievement. (1.3)
 - BASE was founded in partnership with both the nearby Brooklyn Botanical Gardens and Prospect Park and is referred to as a three-campus school as students take classes at the Gardens and at the Park enabling access to their science and environmental instructional resources. The school's long-standing partnership with Brooklyn College has sustained its science research curriculum as the college provides mentors that support the development of science research skills and academic growth of students. In addition, the principal has developed a writing center to support the school wide goal around writing using the funds from ESI, provides funds for tutoring, hired an assistant principal for guidance and safety, and schedules time for teacher teams to meet only on Wednesday afternoons for an extended period of time. Consequently, the infrequency of sufficient structured teacher time for collaboration hinders ongoing analysis of students' work, delaying and limiting teachers' feedback on students' learning and hindering suitable timely adjustments to instructional practices to fully meet all students' needs leading to higher levels of student work products.
- Expand practices to include routine use of assessments during a lesson that provide immediate feedback about student learning so teachers make timely adjustments to instruction to meet students' needs and improve learning. (2.2)
 - The school creates its own interim assessments that are given five times each school year and are formatted to the culminating State or national exams. The school has implemented a grading policy that is locked in Skedula, the school's electronic grading system, and provides the framework for providing feedback to students. After an exam, teachers provide global and specific feedback to students thus allowing them time to revise their work for better grades. Teachers conduct error-coding analyses on their interim exams and ascertain curriculum areas that have to be retaught. They diagnose students in ninth grade with a writing sample and the math performance series to inform planning and use many formative assessments including quizzes, essays and exit slips, and summative assessments including projects, presentations and full period exams to assess implementation of the curriculum. Teachers check for student understanding by circulating around the room and encourage self- and peer-assessment with the use of rubrics. However, the school has not yet developed formalized structures to ensure that teachers use feedback on

student learning during the lesson to make timely adjustments to meet students' "in-the-moment" learning needs.

Part 3: School Quality Criteria 2012-2013

School name: Brooklyn Academy of Science and the Environment	UD	D	P	WD			
Overall QR Score			X				
Instructional Core							
<i>To what extent does the school regularly...</i>	UD	D	P	WD			
1.1 Design engaging, rigorous, and coherent curricula, including the arts, physical and health education, for a variety of learners and aligned to key State standards?				X			
1.2 Develop teacher pedagogy from a coherent set of beliefs about how students learn best that is informed by a research-based, common teaching framework and is aligned to curricula, engaging and meets the needs of all learners so that all students produce meaningful work products?			X				
2.2 Align assessments to curricula, use on-going assessment and grading practices, and analyze information on student learning outcomes to adjust instructional decisions at the team and classroom levels?			X				
School Culture							
<i>To what extent does the school...</i>	UD	D	P	WD			
1.4 Maintain a culture of mutual trust and positive attitudes that support the academic and personal growth of students and adults?				X			
3.4 Establish a culture for learning that communicates high expectations to staff, students and families, and provide supports to achieve them?			X				
Systems for Improvement							
<i>To what extent does the school...</i>	UD	D	P	WD			
1.3 Make strategic organizational decisions to support the school's instructional goals and meet students' learning needs as evidenced by meaningful student work products?			X				
3.1 Establish a coherent vision of school improvement that is reflected in a short list of focused, data-based goals that are tracked for progress and are understood and supported by the entire school community?			X				
4.1 Use the observation of classroom teaching with a research-based, common teaching framework and the analysis of learning outcomes to elevate school-wide instructional practices and implement strategies that promote professional growth and reflection, with a special focus on new teachers?			X				
4.2 Engage in structured professional collaborations on teams using an inquiry approach that promotes shared leadership and focuses on improved student learning?			X				
5.1 Evaluate the quality of school-level decisions, making adjustments as needed to increase the coherence of policies and practices across the school, with particular attention to the CCLS?			X				
Quality Review Scoring Key							
UD	Underdeveloped	D	Developing	P	Proficient	WD	Well Developed