



**Department of
Education**
Carmen Fariña, Chancellor

Office of School Quality
Division of Teaching and Learning

Quality Review Report

2014-2015

The Bronx Center for Science and Mathematics

High School X260

**1363 Fulton Avenue
Bronx
NY 10456**

Principal: Edward Tom

**Date of review: April 27, 2015
Reviewer: Joan Prince**

The School Context

The Bronx Center for Science and Math is a high school with 457 students from grade 9 through grade 12. The school population comprises 26% Black, 67% Hispanic, 1% White, and 6% Asian students. The student body includes 4% English language learners and 16% special education students. Boys account for 48% of the students enrolled and girls account for 52%. The average attendance rate for the school year 2013-2014 was 91.0%.

School Quality Criteria

Instructional Core		
<i>To what extent does the school...</i>	Area of:	Rating:
1.1 Ensure engaging, rigorous, and coherent curricula in all subjects, accessible for a variety of learners and aligned to Common Core Learning Standards and/or content standards	Celebration	Well Developed
1.2 Develop teacher pedagogy from a coherent set of beliefs about how students learn best that is informed by the instructional shifts and Danielson Framework for Teaching, aligned to the curricula, engaging, and meets the needs of all learners so that all students produce meaningful work products	Additional Findings	Well Developed
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	Additional Findings	Well Developed
School Culture		
<i>To what extent does the school...</i>	Area of:	Rating:
3.4 Establish a culture for learning that communicates high expectations to staff, students, and families, and provide supports to achieve those expectations	Additional Findings	Well Developed
Systems for Improvement		
<i>To what extent does the school...</i>	Area of:	Rating:
4.2 Engage in structured professional collaborations on teams using an inquiry approach that promotes shared leadership and focuses on improved student learning	Focus	Well Developed

Area of Celebration

Quality Indicator:

1.1 Curriculum

Rating:

Well Developed

Findings

The school's curricula are strategically aligned to content and Common Core Learning Standards as well as instructional shifts. Rigorous habits leading to career and college readiness and higher-order skills are emphasized across grades and subject areas and for all learners.

Impact

Purposeful decisions to align curricula to Common Core Learning Standards result in school-wide curricular coherence. Engaging curricula and tasks provide all learners, including English Language Learners and students with disabilities, with access to rigorous academic tasks that are embedded across grades and subjects.

Supporting Evidence

- The school's curricula across content areas are coherently developed through a backward planning process that uses Common Core aligned performance based assessment task rubrics as starting points. The curricula is demanding, and the backward mapping from college readiness expectations leading to the design of rigorous academic tasks that yield high level work products was obvious in all classroom visits. For example, in a grade 12 English lesson plan, the teacher noted that students would read the article, *Let's Beat Up the Poor*, and would write an essay in which they cited from the text to support their claim while comparing it to a previously read poem *Paying It Forward*. The lesson plan included a discussion on the consequences of morale roles in society, and learning targets were embedded into the lesson plan along with check-ins with students.
- All content area curricula documents across grade levels and for all learners highlight the strategic integration of the instructional shifts. English and social studies plans evidenced a focus on text based conversations and writing from sources. For example, the grade 11 United States History lesson plan expected students to use academic language to describe the path that the United States took to World War II, and how isolationism slowly transitioned to global involvement.
- Common Core Learning Standards found in curricula material include integrating multiple sources of information presented in diverse media or formats, evaluating the credibility and accuracy of each, and creating interpretive and responsive texts to demonstrate knowledge and sophisticated understanding of the connections between life and the literary work. The math curricula include a focus of translating quantitative information into visuals or words. For example, a grade 10 Algebra lesson plan noted that students were expected to diagram a value problem, and complete questions while applying rules for diagramming using the SMARTboard.

Area of Focus

Quality Indicator:	4.2 Teacher teams and leadership development	Rating:	Well Developed
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Findings

The vast majority of teachers are engaged in inquiry-based structured professional collaborations. The principal has implemented a distributed leadership structure.

Impact

The work of teacher teams has resulted in school-wide instructional coherence, strengthened teacher instructional capacity, and improved student progress. Shared leadership provides a means for teachers to have input on key decisions about curricula and practice.

Supporting Evidence

- All departments have common meeting times that are used to discuss practice with peers and make timely adjustment to the curriculum and instruction. Grade teams meet during lunch or after school. Teachers stated that they have the opportunity to discuss both skills and strategies to improve lesson planning.
- Teacher collaboration is the driving force in the school. Teachers stated that they consistently share practices and protocols for English language development with the embedding of academic language along with content area aims in most lessons. Teachers are continuing to work to identify and plan for strategic groupings in class assignments across other subject areas. However, some teachers plan individually and then share out with the Teams.
- Teachers are focused on vertical alignment, student work, and their own practices to answer the question, “What do my students need to know, be able to do, and be able to explain, in order to produce graduation ready work?” Teachers stated that they are interested in expanding the work vertically, noting that they are becoming more informed about student needs. The ongoing work of this is grounded in the graduation portfolio rubrics for every core content area. For example, the math department team was observed in a discussion regarding how seniors might assume the role of teaching assistants, and a reflection on creating stronger math mentoring/tutoring relationships in class. Progress reports were examined, and additional mentoring support by teachers was planned for those students who were identified as in need of support. Teachers agreed that the collective efforts of teams have a direct impact on their approaches to instruction, teacher leadership, and student collaborations, which mirror the staff collaboration.

Additional Findings

Quality Indicator:

1.2 Pedagogy

Rating:

Well Developed

Findings

Across the vast majority of classrooms, teaching practices are informed by the Danielson Framework and are aligned to the school's curricula. Teachers provide high quality supports and extensions for all learners, including English language learners and students with disabilities.

Impact

Pedagogical consistency across classes reflects coherence around a set of beliefs regarding how students learn best. Students demonstrate high order thinking skills, and are appropriately engaged in challenging tasks.

Supporting Evidence

- The school's shared belief about how students learn best is founded on the premise that classroom opportunities must have consistent work in peer partnerships and groups. In a grade 11 English class, students were arranged in the Harkness Circle where students sat in a large circle facing each other to directly communicate. The topic was the question, "Money or Happiness?", based on *The Great Gatsby*. Students compared the Jazz Age with the present, and used other texts, such as *Echoes of the Jazz Age* to cite and inform their conversations, while the teachers recorded answers on the SMARTBoard. Students who were not comfortable speaking aloud had the opportunity to provide a written response to points made and to submit this to the teacher at the end of the period in order to earn points towards a participation grade. Students were also encouraged to call on students who had not yet responded. All students took notes as they listened to responses.
- Teachers stated that they have focused on Danielson Framework and alignment to the Common Core Learning Standards to establish engagement and higher order thinking skills into their lessons. Professional development opportunities examine courses of study, vertical and horizontal studies, and common departmental assessments are utilized and results analyzed to assess learning outcomes and inform instructional practices. Data sources that lead to groupings in classroom is consistently monitored. The classroom visits showed the transferring of responsibility from teachers to students for their learning and moving the pace of lessons to keep students alert, engaged, and interested.
- There was evidence of ability based tasks that were aligned to the same learning objectives. For example, in an Algebra class, student groups were using different problems on linear functions. All students checked in with the teacher and tools such as math manipulatives for kinesthetic learners were available, along with calculators, for students who struggle with computational skills.

Quality Indicator:	2.2 Assessment	Rating:	Well Developed
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Findings

Across the vast majority of classroom, teachers use or create assessments, rubrics, and grading policies that are aligned to the school's curricula and clearly highlight student progress toward mastery. Teachers' assessment practices consistently reflect the use of checks for understanding and student self-assessment.

Impact

Assessment practices provide actionable and meaningful feedback to students and teachers regarding student achievement. Teachers make effective adjustments to meet all students' learning needs and students are aware of their next learning steps.

Supporting Evidence

- Teachers use systems to monitor progress through data analysis of formative and summative assessments to provide meaningful feedback to students and to guide adjustments to units and lessons. Teacher teams adjust curricula based on diagnostics of incoming students, and use teacher developed assessments, standardized test result and previous grades to make informed assessments and decisions about student learning outcomes. Teacher teams create unit plans and lesson plans (with support from the New Visions network staff) that are fully aligned with the school's curricula and embedded with assessments and rubrics. Students often create their own rubrics. For example, in the integrated co-teaching class visited, students created their own lesson with rubrics. Teachers develop scaffolds, such as graphic organizers and word/sentence prompts, to better support struggling learners and students with disabilities and English language learners.
- Teachers reported that targeted instruction across all subject areas is grounded in the application of rubrics for student work, and the use of on-going checks for understanding to support the development of skills and next steps to reach greater achievement. Students were able to articulate their progress towards graduation, and their goals for careers or college. A student shared that he learns through the teacher feedback on rubrics and now knows he needs to write stronger conclusions. Students affirmed that teachers model how to use the rubrics to support stronger writing on informational or argumentative paragraphs. Students stated that they also journal in math, and that peers and teachers check their work, helping them learn from their mistakes. As a result of ongoing checking for understanding and actionable feedback, students are achieving mastery levels.
- Each student has a spread sheet that tracks progress towards graduation. Students take mock regents exams, which are offered after school and through Saturday tutoring. Teachers use the resulting data to adjust curricula and lessons to focus on targeted skills. Teachers use culminating assessments and Regents data to assess mastery of units.
- Guidance personnel and teachers maintain close attention to the progress of students. Grade 9 is watched carefully to make sure that a smooth transition year is in place. Student progress is tracked, and each marking period's grades are checked. Students who are not performing well are targeted for mentoring and additional assistance.

Quality Indicator:	3.4 High Expectations	Rating:	Well Developed
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Findings

School leaders consistently communicate high expectations to the entire staff. A culture for learning is established that communicates and embeds high expectations for students.

Impact

All members of the school community are supported by a culture of mutual accountability for teaching and learning. Consistent and effective communication of high expectations coupled with effective guidance/advisement supports ensure that all students, including high needs subgroups, own their educational experience and attain college and career ready performance standards.

Supporting Evidence

- School leaders provide clear expectations for pedagogical and professional practice via verbal and written communication, team meetings and regular meetings with the principal. There is a culture of mutual trust and accountability throughout the school visible in hallways, classroom and offices. The high goals set forth by the principal and in the Comprehensive Educational Plan call for deliberate and consistent practices that strengthen and enhance the vision of the school. For example, SMARTboards and white boards are available in every classroom for effective use in conjunction with think/pair/share strategies, interim assessments, advisories, guidance and leadership meetings to look at the whole student.
- There are high academic and socio-emotional expectations, and students welcome the rigor and level of feedback received to continuously improve academically and socially. Students stated that they participate in 300 hours of community service, which they affirmed leads to a sense of responsibility. Students have internship opportunities at New York University Hospital, Bronx Botanical Gardens, 1199 Medical Union, and through New York City government officials who need volunteers or interns. There is an active student government that participates on the School Leadership Team and contributes to the goals of the school, where students have a strong voice regarding extra courses, college trips, and the senior trip. Students often present at college night for juniors and parents, informing them of the college application process, the SAT Exam, fees, financial files and graduation requirements. The school works with the *College Success Office Framework* to incorporate three essential components that complement the curricular strategies. These are: life skills, designed to promote self-efficacy, academic skills workshops created to assist students with the transition to college level work, and college financial guidance, where students are provided with information covering budgeting, financial literacy and management of scholarships and loans.
- Students affirmed that they understand their roles in the school community and feel empowered to make decisions about their future with parent and school support. Students are aware of the expectations and shared that they believe that they are being taught academic subjects as well as how to be a leader. All students interviewed shared that they expect to graduate on time and go on to college.