



**Department of  
Education**  
*Carmen Fariña, Chancellor*

**Office of School Quality  
Division of Teaching and Learning**

# **Quality Review Report**

## **2014-2015**

**Collegiate Institute for Math and Science**

**High School X288**

**925 Astor Ave  
Bronx  
NY 10469**

**Principal: Fredrick Nelson**

**Date of review: March 12, 2015  
Lead Reviewer: Elena Rovalino**

## The School Context

Collegiate Institute for Math and Science is a high school with 695 students from grade 9 through grade 12. The school population comprises 34% Black, 46% Hispanic, 9% White, and 10% Asian students. The student body includes 4% English language learners and 18% special education students. Boys account for 56% of the students enrolled and girls account for 44%. The average attendance rate for the school year 2013-2014 was 88.0%.

## School Quality Criteria

<b>Instructional Core</b>		
<i>To what extent does the school...</i>	<b>Area of:</b>	<b>Rating:</b>
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	<b>Additional Findings</b>	<b>Developing</b>
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	<b>Focus</b>	<b>Developing</b>
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	<b>Additional Findings</b>	<b>Proficient</b>
<b>School Culture</b>		
<i>To what extent does the school...</i>	<b>Area of:</b>	<b>Rating:</b>
3.4 Establish a culture for learning that communicates high expectations to staff, students, and families, and provide supports to achieve those expectations	<b>Celebration</b>	<b>Well Developed</b>
<b>Systems for Improvement</b>		
<i>To what extent does the school...</i>	<b>Area of:</b>	<b>Rating:</b>
4.2 Engage in structured professional collaborations on teams using an inquiry approach that promotes shared leadership and focuses on improved student learning	<b>Additional Findings</b>	<b>Proficient</b>

## Area of Celebration

<b>Quality Indicator:</b>	<b>3.4 High Expectations</b>	<b>Rating:</b>	<b>Well Developed</b>
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### Findings

The entire school community, including students, has a clear and coherent understanding of expectations connected to a path to college and career. School leaders consistently communicate high expectations to teachers and provide training to support the rigor of the Danielson Framework.

### Impact

As a result, a culture of mutual accountability has been established around a shared commitment that supports student progress toward college readiness expectations.

### Supporting Evidence

- Parents and students agree that the school has set high expectations for students in their path to college and careers. Additionally, they have a clear understanding of the expectations at this school of taking four years of science and four years of math, and at least one advanced placement course out of the eight that the school offers. They indicate that the rigor of these courses is preparing them for the next level. Students also shared that the partnership with colleges allows them to take college level courses such as criminal justice, psychology, and sociology. Counselors and teacher mentors are assigned to provide guidance and support to students, focusing on at-risk students, so that they are all ready for the next level. Students take ownership of their educational experience by having a voice in the selection of courses and academic programs in which they enroll.
- Observations reviewed demonstrate clear expectations and opportunities for professional development in and out of school, such as Math for America and the a2i program with New Visions. Teachers are held accountable through a series of frequent observations focused on the rigor of the Danielson Framework for Teaching as administrators analyze these observations. Observations are seen as opportunities to focus their training on specific areas of the Danielson Framework such as questioning techniques and student engagement. Much of this weekly training is planned and delivered during teacher team meetings. Teachers hold each other accountable for their own professional growth, and they have created a support network as they prepare the application to join Math for America as early career fellows or master teacher fellows.
- In partnership with a Community Based Organization, College Bound, the school invites and partners with families to complete FAFSA forms, learn about the college process, provide college trips for students and their families, and prepare and tutor students to pass all Regents exams with 80 or above. Students with disabilities are supported to reach high academic levels. A new IEP Coordinator and dedicated staff members work individually with students providing them actionable feedback on assignments that they are struggling with targeting areas that support skills needed to pass Regents exams. In addition, this year the school has added a Special Education Support Service Program (SETTS) to support student academic growth. Currently, twelve students are expected to earn a Regents diploma and an additional three students are expected to earn an advanced Regents diploma in June. There is a common understanding among parents, students and staff that the goal is for students to earn an advanced Regents diploma. Currently, 35% of students in this senior class are already on track to receive an advanced Regents diploma.

## Area of Focus

**Quality Indicator:**

**1.2 Pedagogy**

**Rating:**

**Developing**

### Findings

Teaching practices are beginning to reflect a set of beliefs about how students learn best. However, teaching strategies inconsistently provide multiple entry points for all students.

### Impact

Inconsistent teaching strategies lead to uneven demonstration of higher-order thinking skills.

### Supporting Evidence

- With new leadership in place, the school has come together to reflect on how students learn best and agrees as a school community that students learn best through a variety of means. One such mean is through intellectually engaging discussions that make student thinking visible. In many classrooms visited, students were on task and engaged in discussion. In an English language class for example, students were using the New York City Assessment Common Core Rubric to evaluate two sample essays, then they evaluated their own essays, in groups engaged in discussion, and challenged each other as they determined the elements of a text-based argument. However, in some classes there were missed opportunities to engage students in intellectual discussion and higher-order thinking. For example, in an algebra class where the aim was forming quadratic equations, the teacher asked students to discuss with their neighbor if the vertex is on the Y access. Most students did not engage with a partner and then the teacher called on students to raise their hand to answer the question.
- In a global history class, the lesson was teacher-centered and teacher-directed. Students worked out of a handout titled and answered the first seven questions as a quiz and as a do now. The teacher then called on students to answer the questions. The lack of differentiated entry points left some students unable to gain access to the lesson and to engage in discussion in order to demonstrate their learning. The school's goal to have student thinking visible was not evident. In contrast, in a United States history class, students were working in groups discussing three questions that they each developed on how WWII affected the people of the United States. Group members than discussed the three questions and helped each other create one strong question, and then collectively the group created one question that they will use as a writing prompt for their research paper.
- In a science class where there were a number of students with disabilities, the lab lesson was the same for all students. They received the same handout with no differentiation done throughout the lab except for a differentiated exit slip teacher planned to give at the end of the lab with the questions: 1. Mild: Explain the process of fertilization 2. Medium: Explain the purpose of the placenta 3. Spicy: Explain what happens to the zygote during the first semester. Strategies for differentiating and scaffolding the work were not yet evident.

## Additional Findings

<b>Quality Indicator:</b>	<b>1.1 Curriculum</b>	<b>Rating:</b>	<b>Developing</b>
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### Findings

Curricula and academic tasks inconsistently emphasize rigorous habits and higher-order thinking for all students. Curriculum planning is beginning to provide access to students, including English language learners and students with disabilities.

### Impact

Consequently, not all students are consistently engaged in a coherent and rigorous curricula.

### Supporting Evidence

- Teachers across content areas align curriculum to the Common Core Learning Standards. Some math and social studies teachers take part in the New Visions initiative on curriculum development. Teachers meet in content teams to review lessons and student work units of study, however lessons do not yet provide evidence of interdisciplinary planning in order to promote coherence across curriculum and instruction.
- Teachers use varied models of templates to plan their units and lessons. Some teachers use modules from EngageNY, others use the curriculum created by New Visions, while others create their own. For example, a New Visions global history and geography unit on classical civilizations challenges students with questions such as “What causes the declines of civilization?” and “What effect does geography have on the rise and fall of civilizations?” In one of the document-based questions, the lesson asks students to use the information on the document to compare and contrast the reasons for the fall of the Roman Empire and the Han Dynasty. While units like this push student thinking and provide rigorous content-based tasks, others lead to inconsistency in the emphasis of rigorous tasks and higher-order thinking skills.
- Planning reflects evidence of opportunities for diverse students to have access to the curriculum. For example, in a history unit on trade, the plan provides opportunities for students to learn the material through direct vocabulary instruction, visuals such as the use of maps, and videos such as the TED-Ed Video on the Silk Road.

<b>Quality Indicator:</b>	<b>2.2 Assessment</b>	<b>Rating:</b>	<b>Proficient</b>
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### **Findings**

Across classrooms, teachers use rubrics, and create common assessments that are aligned with the school's curriculum, and use the data to assess student progress.

### **Impact**

Assessment practices consistently support student progress through actionable feedback to students and teachers.

### **Supporting Evidence**

- Teachers work together to design and administer common assessments each marking period in order to determine student progress across content areas. For example, through the a2i initiative, math teachers have created common formative assessments in algebra and geometry in order to improve math Regents results. Data is then generated for the school and for the network, and teachers analyze their own data and make changes to their units in order to address the areas that need improvement.
- Teachers analyze assessment data regularly. Teachers review the item analysis after each Regents administration in order to identify strengths and weaknesses. This January, sophomores took the Global Regents and results yielded a 47% passing rate. Teachers are implementing strategies and interventions to close the gaps found in geographic settings, as the data has shown that to be an area of focus.
- Teachers provide students with actionable feedback on the work they produce. For example, in an English language arts class, students wrote essays on Greek mythology, students received feedback on the thesis statement, clarity and accuracy, evidence and analysis, organization and structure and editing and proof reading. Students then have an opportunity to reflect and answer a series of seven questions such as, "Which writing category did you score lowest in? Why do you think you scored low?" In a social studies class, students read George Orwell's book, *1984*, and wrote a journal as if they were a citizen of a totalitarian state. The teacher used a school-wide rubric to assess creativity, organization, setting, and focus on assigned topic.

<b>Quality Indicator:</b>	<b>4.2 Teacher teams and leadership development</b>	<b>Rating:</b>	<b>Proficient</b>
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### Findings

Teachers are engaged in structured professional collaborations that meet regularly and promote student learning. Teacher leaders are in place and a distributed leadership structure is evident.

### Impact

Professional collaborations have strengthened teacher instructional and leadership capacity and teacher-led decisions positively impact student learning.

### Supporting Evidence

- Common planning time is allocated for the five major areas, including English language arts, math, foreign language, science, math and social studies. Teams meet to analyze student work, conduct lesson studies, analyze assessment results, plan and revise curricula that is aligned to the Common Core, map out course calendars and create common assessments. For example, the social studies team observed was looking at three essays that students wrote on the Cold War. Teachers had an opportunity to read the essays, and discuss in pairs the questions, “What did you see? What questions does this work raise for you? What do you think the student is working on?” They discussed the implications for teaching and shared out strategies that will help students, such as creating graphic organizers and using a uniform outline process.
- Each department team has a leader who is responsible for meeting agendas and minutes, holding team members accountable, and leading discussions. Team leaders are given training on improving their leadership skills as they meet weekly with the administrators to discuss common struggles, give/receive feedback, and create new initiatives to support student-learning outcomes. They have a voice in the decision making process that impacts the development of teachers and the outcome of student academic progress. For example, this year teachers initiated intervisitations to focus on best practices and grow their pedagogical skills. Student progress is positively impacted by volunteer teacher mentor program that supports struggling students on a weekly basis through counseling, tutoring, collecting progress reports, contacting parents, and being a liaison between student and other teachers.
- A professional development team was created this year. This team consists of teachers from multiple subject areas and meets once a week after school. They analyze school-wide trends and data, reflect on teacher needs based on student data, and plan professional development workshops, instructional rounds, kid-talks and intervisitations. These teachers also facilitate professional development sessions twice monthly. The team has created sessions that led to the development of core beliefs, intervisitation among colleagues and external schools, as well as instructional rounds that focus on teacher practice and strategies implemented to support the instructional shifts.