Quality Review Report

2019-2020

Brooklyn Science and Engineering Academy
Junior High-Intermediate-Middle 18K763
5404 Tilden Avenue
Brooklyn
NY 11203

Principal: Angela Defilippis

Dates of Review:
February 12, 2020 - February 13, 2020

Lead Reviewer: Deborah Glauner
The Quality Review Report

The Quality Review is a two-day school visit by an experienced educator. During the review, the reviewer visits classrooms, talks with parents, students, teachers, and school leaders and uses a rubric to evaluate how well the school is organized to support student achievement.

The Quality Review Report provides a rating for all ten indicators of the Quality Review Rubric in three categories: Instructional Core, School Culture, and Systems for Improvement. One indicator is identified as the Area of Celebration to highlight an area in which the school does well to support student learning and achievement. One indicator is identified as the Area of Focus to highlight an area the school should work on to support student learning and achievement. The remaining indicators are identified as Additional Finding. This report presents written findings, impact, and site-specific supporting evidence for six indicators.

Information about the School

Brooklyn Science and Engineering Academy serves students in grade 6 through grade 8. You will find information about this school, including enrollment, attendance, student demographics, and data regarding academic performance, at http://schools.nyc.gov/Accountability/tools/report/default.htm.

School Quality Ratings

### Instructional Core

<table>
<thead>
<tr>
<th>To what extent does the school...</th>
<th>Area</th>
<th>Rating</th>
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</thead>
<tbody>
<tr>
<td>1.1 Ensure engaging, rigorous, and coherent curricula in all subjects, accessible for a variety of learners and aligned to State standards and/or content standards</td>
<td>Additional Finding</td>
<td>Well Developed</td>
</tr>
<tr>
<td>1.2 Develop teacher pedagogy from a coherent set of beliefs about how students learn best that is informed by State standards and the Danielson Framework for Teaching, aligned to the curricula, engaging, and meets the needs of all learners so that all students produce meaningful work products</td>
<td>Area of Focus</td>
<td>Well Developed</td>
</tr>
<tr>
<td>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</td>
<td>Additional Finding</td>
<td>Well Developed</td>
</tr>
</tbody>
</table>
School Quality Ratings continued

### School Culture

<table>
<thead>
<tr>
<th>To what extent does the school...</th>
<th>Area</th>
<th>Rating</th>
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</thead>
<tbody>
<tr>
<td>1.4 Maintain a culture of mutual trust and positive attitudes that supports the academic and personal growth of students and adults</td>
<td>Area of Celebration</td>
<td>Well Developed</td>
</tr>
<tr>
<td>3.4 Establish a culture for learning that communicates high expectations to staff, students, and families, and provide supports to achieve those expectations</td>
<td>Additional Finding</td>
<td>Well Developed</td>
</tr>
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</table>

### Systems for Improvement

<table>
<thead>
<tr>
<th>To what extent does the school...</th>
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<th>Rating</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.3 Make strategic organizational decisions to support the school’s instructional goals and meet student learning needs, as evidenced by meaningful student work products</td>
<td>Additional Finding</td>
<td>Well Developed</td>
</tr>
<tr>
<td>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</td>
<td>Additional Finding</td>
<td>Well Developed</td>
</tr>
<tr>
<td>4.1 Observe teachers using the Danielson Framework for Teaching along with the analysis of learning outcomes to elevate schoolwide instructional practices and implement strategies that promote professional growth and reflection</td>
<td>Additional Finding</td>
<td>Well Developed</td>
</tr>
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<td>4.2 Engage in structured professional collaborations on teams using an inquiry approach that promotes shared leadership and focuses on improved student learning</td>
<td>Additional Finding</td>
<td>Well Developed</td>
</tr>
<tr>
<td>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 State standards</td>
<td>Additional Finding</td>
<td>Well Developed</td>
</tr>
</tbody>
</table>
Area of Celebration

| Quality Indicator: | 1.4 Positive Learning Environment | Rating: Well Developed |

Findings

A supportive and extended family culture is evident throughout the school. There is a nurturing and personal learning climate with effective social and emotional structures in place through community building activities and restorative circles.

Impact

Students are adopting effective academic and personal behaviors through strategic supports including professional learning (PL) for families and staff as well as guidance and advisement supports.

Supporting Evidence

- Throughout classrooms, a warm and nurturing environment is apparent. Families and students spoke of feeling respected and welcome. All adults, including school leaders, greet students by name in the hallways and students respond warmly. Parents and students believe that school leaders and staff care deeply for the students and have high expectations for them. Parents and students spoke to having personal connections with school staff and that they felt they supported their children's achievement. For example, students shared work products and were eager to explain how the support they receive from their teachers helps them to be better students. Students also shared that they have several adults that they can go to if they need help, whether it involves academic or social-emotional support, and that this has helped them to build their confidence and their sense of belonging. As a result of this work, on the 2019 School Survey, 99 percent of families reported that they felt the principal works to create a sense of community.

- The school has structures in place to ensure that students’ social-emotional needs are met. School leadership, social workers, other support staff and teachers work as a team to support students’ social-emotional well-being through weekly restorative circles. This enables students to learn language and vocabulary cues to help them express their feelings, frustrations and learn how to complement each other. In meeting with students, students came prepared to facilitate a restorative circle, demonstrating ownership of the practice. In speaking of restorative circles, one student stated, "Circles give you a chance to gather your thoughts and to reflect on your life; we also work with our circle teacher to think about our behavior." Another student stated, "Before circles, I didn't really trust people and I only spoke to my friends. It made me open up and talk to people more often." Because of restorative circles and the supportive relationship students have with the circle teachers, along with approaches to discipline including mediation and re-entry circles, the school has seen a decrease in Level Four and Level Five infractions as measured by the Online Occurrence Reporting System from seven incidents from September 2019 to January 2019 to two incidents in the same period during the current year.

Teachers and guidance staff attend, turnkey and facilitate various workshops to support and partner with parents to support social-emotional and academic achievement. Families are offered workshops on critical areas like managing challenging behaviors, intervention programs to support academics, and on college access. Families spoke to feeling welcome at the school and to being invited into classrooms to learn next to their children, as well as to being given strategies to support their students at home. Staff, students, and families spoke of the Town Halls that students participate in regularly and of an interschool competition called Class Cup, which involves celebrating progress, as well as success in developing academic and personal behaviors. Students and families spoke to these structures as celebrating and promoting attendance, increases in math and reading levels, as well as helping to prepare students for the next level. Teachers are supported in building their skill sets through professional development (PD), with 76 percent of staff having completed training in restorative circles.
Findings

Across the vast majority of classrooms, teaching practices reflect a coherent set of beliefs that students learn best when supported with making real-world connections, targeted scaffolds, and strategic small groups. Instruction strategically provides multiple entry points and high quality supports.

Impact

While teaching practices reflect school beliefs, there was an occasional missed opportunity to further student learning with extensions. All learners, including Multi-Lingual Learners (MLLs) and students with disabilities, are engaged in challenging tasks and demonstrate higher-order thinking.

Supporting Evidence

- In a grade-seven social studies class examining if the United States Constitution protected all human rights and freedoms as it was intended, students were supported in making the connection between current legislation around immigration and thinking critically about the intent of the original writers. In a grade-six math lesson on understanding how integers and rational numbers are represented in the real world, students engaged in activities designed to support their understanding of the mathematical concept while applying it to banking in the form of debit and credit as well as to climate science with looking at negative temperatures. Similarly, a grade-eight English Language Arts (ELA) class analyzed a poem to support students in making real-world connections to their own lives around themes of perseverance, hope, and dreams. As a result of these real-world applications, students were able to articulate an understanding of how their learning connects to their lives.

- In a grade-eight science lab with an Integrated Co-Taught (ICT) class students were grouped in strategic partnerships based on the previous day’s formative assessment. During the lesson, teachers provided targeted groups with guiding questions to support access to the task. Similarly, in a grade-six ELA class, following a formative assessment of the opening activity, students demonstrating a need for support were pulled into a small group for an additional close reading while other students worked in their groups to complete the task. In a grade-six humanities class, students were grouped to work collaboratively on analyzing texts connected to a Socratic Seminar on belief systems in the Eastern Hemisphere. Texts were leveled to support access to the curriculum for all learners, including students with disabilities and MLLs; however, two small groups of students would have benefitted from a high-quality extension, as they were finished with their tasks before their classmates. Teachers and school leaders reported using common planning to collaborate on strategic grouping and targeted resources that align with the school’s articulated beliefs on how students learn best.

Teachers provide multiple entry points in the form of graphic organizers, manipulatives and discussion protocols. The school has a Nest program designed to support autistic students and teachers work to ensure that all students can access the lesson and participate in group and peer work. Across classrooms, teachers use a protocol called Chalk Talk to ensure that all students, including students who may struggle with expressive language, have time to think and share their ideas. Students respond to prompts on a shared document in writing before exchanging their ideas verbally. For example, in a grade-seven ICT math class on determining the sample space of a compound event, students circled to different stations to provide their thoughts, questions, and ideas on different problems. During this activity, targeted students had calculators, dry-erase boards and markers to color code and support their learning. In a grade-seven science class students shared their ideas on the likelihood of plants growing on Mars using a similar strategy. As a result of these scaffolds and multiple entry points, all students, including students with disabilities and MLLs, demonstrate higher-order thinking in their discussion and work products.
Additional Finding

Quality Indicator: 1.1 Curriculum
Rating: Well Developed

Findings

School leaders and faculty ensure that curricula are aligned to the State Standards and strategically integrate real-world connections, scaffolds, and higher-order tasks. Across grades and subjects, rigorous habits and higher-order skills are emphasized for all students, MLLs, and students with disabilities.

Impact

Strategic decisions promote college and career readiness, as well as ensure curricular coherence across grades and subjects. Rigorous habits and higher-order skills are embedded and supported so that all students, including students with disabilities and MLLs, must demonstrate their thinking.

Supporting Evidence

- A review of curriculum across grades and subjects demonstrates alignment to the State Standards as well as attention to the needs of varied learners. A grade-seven math unit on statistics and probability included accommodations and supports to meet the needs of sub-groups of students. Some scaffolds to support mastery include read-alouds for speaking and listening, frequent checks for understanding, graphic organizers, discussion protocols, and explicit modeling. In a lesson from the unit on determining the sample space of a compound event, both plans and practice showed scaffolds for students including color coding and graphic organizers, as well as a schoolwide discussion protocol called Chalk Talk. Similarly, a grade-seven science unit plan on matter and energy flow in organisms showed targeted support for sub-groups with language glossaries for MLLs as well as opportunities to demonstrate their understanding verbally or in writing along with exemplars as models and strategic grouping for students with disabilities. The unit also included extensions for students that had demonstrated mastery with additional readings connected to the unit. A review of curricula demonstrates similar attention to the needs of varied learners across the vast majority of plans.

- A review of lesson plans demonstrates tiered questioning designed to provide access for all learners, including students with disabilities and MLLs, into rigorous tasks that require all students to demonstrate their thinking. For example, a grade-eight ELA lesson plan on citing strong textual evidence to support a theme and analyzing how that evidence connects to the theme shows leveled questions designed to allow all learners to enter the task. Similarly, a grade-six ELA lesson plan shows leveled questions to support students in finding the strongest textual evidence to support their claim around the theme of a poem. Because of this alignment, teachers are able to plan to meet the needs of the varied learners in the classroom and have a clear trajectory for their progress.

- A review of student work shows higher-order skills embedded in a coherent way across grades and subjects. Student work samples show consistency across classrooms as to expectations for student work resulting from curricula. A grade-six ELA essay comparing a poem with a trade novel entails stating a clear claim and supporting the claim with relevant evidence and details. Through the writing process, students were given scaffolds and supports, such as color coding and graphic organizers, and feedback that would support them demonstrating their thinking. Similarly, a grade-eight task analyzing poems with a lens on the impact of war upon a family evidenced similar supports. Because of this curricular planning, all students, including MLLs and students with disabilities, have access to tasks and were able to demonstrate their thinking.
### Additional Finding

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<th>Quality Indicator</th>
<th>2.2 Assessment</th>
<th>Rating:</th>
<th>Well Developed</th>
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#### Findings

Across classrooms, teachers use and create content, rubrics, and checklists that are aligned to the curricula. Teachers consistently use questioning, conferring, student work, and discussions to check for understanding.

#### Impact

Consistent use of rubric-aligned glows and grows provides students with actionable feedback on their performance. Teachers use formative and summative assessment data to plan targeted instruction and tasks and make effective adjustments that meet students' learning needs.

#### Supporting Evidence

- Across classrooms, a review of student work products evidences the use of rubrics to assess student learning and provide actionable feedback for students to use to revise and improve their work. For example, the first draft of a grade-eight writing task was evaluated using a standards-aligned writing rubric and feedback was provided for the student around strengthening their introduction and conclusion as well as focusing on relevant evidence. The same rubric was used for the published piece and provided feedback from the teacher with a glow on improving using connecting text details to support their ideas and additional next steps to support improving their introduction on future work. Similarly, a grade-seven math task on creating an equation from a word problem was assessed using a math rubric. The student was given feedback with a commendation on annotating the problem and provided with a grow to explain how they found the cost ratio of their equation. The student was then allowed to revise their work and was able to demonstrate mastery. Because of actionable and meaningful feedback, students and teachers have a clear portrait of student mastery.

- Across classrooms teachers use checks for understanding such as questioning, partner shares, conferring, and other formative assessments. For example, in a grade-eight ICT science class, the teacher elicited the steps for the experiment from a small group of students and asked them to explain the goal of the lab. In a grade-seven social studies lesson, students were asked to read Article 1, Section 9 of the Constitution and worked with a partner to come up with their own title for the section. As students shared their titles, the teacher gave immediate feedback to support student understanding of the main idea. In a grade-six self-contained math lesson, the teacher conferred with each student and asked questions designed to elicit evidence of understanding that students could share with their classmates. Additionally, the school uses a protocol across classrooms called Multiple-Choice Hold-Up where teachers pose multiple-choice questions and students hold up their responses on whiteboards or paper for the teacher to quickly assess. For example, in a grade-six ELA class, based on responses from the Multiple-Choice Hold-Up the teacher was able to pull a small group to work with on close reading. These assessment practices allow teachers to make effective adjustments to meet all students' learning needs.

During an interview, students spoke to feedback that they had received on their work and articulated how the feedback supported them in understanding their next steps. Students also spoke to how feedback received in one class had affected their work in other classes. Students spoke to reviewing the rubric prior to starting the task with one student stating, “Before we start a project teachers review the expectations, we review the Level 3 and 4 and that tells us what we need to do for the assignments.” Students also spoke to using the rubrics as they worked to self-assess their own progress. Students also spoke to applying the feedback across the curricula and using feedback to improve future work. As one student stated, “I was repeating myself in my writing. After my teacher told me that, I saw that I did it in other work in my classes as well so now I watch for that.” Because of ongoing feedback, students are aware of their own learning needs and next steps and make revisions that improve their work.
Additional Finding

| Quality Indicator: | 3.4 High Expectations | Rating: | Well Developed |

Findings

School leaders consistently communicate high expectations to staff and students and provide the supports needed to meet those expectations. The school's programs, such as restorative circles and an online grading system, support setting high expectations connected to college and career readiness.

Impact

A culture of mutual accountability, connected to the observation cycle, ensures that the school leaders and staff contribute to the establishment of high expectations, where all staff support students’ progress to graduation.

Supporting Evidence

- School leaders convey high expectations to the staff through a weekly newsletter, which outlines instructional and behavioral expectations connected to the Danielson Framework for Teaching, celebrations, school events, and professional resources. Leaders hold teachers accountable through formative classroom visits, with clear and consistent feedback around school priorities. Administration provides PL opportunities designed to grow teacher practice, including on- and off-site PL, intervisitation, coaching, and model lessons. Teachers reported playing an integral part in setting expectations. Several teachers spoke of collaborating to establish schoolwide shared expectations around student engagement following an analysis of data from the Learning Environment Survey and New York State (NYS) test scores. As a result, teachers, and school leaders have built a culture of mutual accountability, with ongoing meetings where all parties are expected to actively participate in a close analysis of student data and student work and to use that information to support student achievement.

- The principal holds the staff accountable for expectations by conducting cycles of teacher observations, including conferences, walkthroughs, and regular classroom visits. Observations support teachers in strengthening their instructional practice and building mutual accountability. School leaders meet with teachers individually and in teams to discuss assessment data, student work, and the adjustments they have made or will make based on student progress and student need. At these meetings, leaders also discuss targeted supports, peer support in the form of thought partners and intervisitations, provide teachers with resources, and foster mutual accountability. Because of these structures, teachers are reflective about their craft and receive targeted, ongoing support that further improves the quality of their practice.

- School leaders communicate clear high expectations for all students and provide support that ensures that all students, including high needs sub-groups, own their educational experience and are prepared for the next level. Students take leadership roles in weekly restorative circles where the school's expectations are shared, reinforced, and discussed. In addition, students are well versed in the use of the online grading platform and spoke to utilizing that tool to monitor their progress, to determine their next steps towards improving their work and to reach out to teachers to discuss their progress. The school provides grade-appropriate support to help students prepare for the next level. For example, sixth-graders focus on middle school expectations and acclimation to the school. Seventh-graders are supported in identifying their interests and researching high schools that would support their path. They also research the expectations for their top choice in terms of grades, attendance and behavior so they are aware of future expectations and how what they do now affects their opportunities later. In eighth grade, students and families are supported in making their high school choices with one-on-one meetings with the guidance counselor. As a result, students are prepared for the next level as evidenced by forty percent of students getting into their first choice of high schools and 72 percent getting offers from one of their top three choices. In addition, 49 percent of eighth-graders were accepted into screened schools.
**Additional Finding**

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<tr>
<th>Quality Indicator:</th>
<th>4.2 Teacher Teams and Leadership Development</th>
<th>Rating:</th>
<th>Well Developed</th>
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**Findings**

Teacher teams systematically analyze key elements of teacher practice, including unpacking the standards and developing shared instructional practices. Distributed leadership structures and collaborations support effective teacher leadership that supports student achievement.

**Impact**

Teamwork strengthens the instructional capacity of teachers and results in a shared understanding of the alignment between standards, curricula, and pedagogy. Teachers take on official and unofficial leadership roles that affect student learning across the school.

**Supporting Evidence**

- Teacher teams collaborate on unpacking the standards using a protocol that pinpoints what students need to know to master the standard as well as how they can best demonstrate, or show, their understanding. In an observed teacher content team meeting, school leaders and teachers collaborated to determine what the students needed to know to show mastery of expressions and equations, a mathematical standard. Teachers collaborate to create standards-aligned exemplars and problems for students to solve and identify how they will evaluate responses. They then work together to analyze student work and data to determine trends and common misconceptions and develop supports to re-teach the standard for targeted students. Teachers use a rubric to examine student work and the exemplar and to identify gaps in understanding with a lens on remediation. As a result of this work, there has been an increase for all students as measured by the NYS Math Exam, with 34 percent of students demonstrating proficiency in 2019, a nine percent increase from 2018.

- Teachers report that common collaboration time has resulted in improvements in pedagogy and has enhanced professional practices across grades and subjects, as teachers have time to share specific instructional strategies to improve student outcomes. Teachers report analyzing conference notes, benchmark and grade-level assessments, and formative assessments to determine if students are meeting learning targets, such as using academic vocabulary and building their ability to engage in word problems in mathematics. Scaffolds and supports for students with disabilities and MLLs have resulted in increased access to higher-level tasks as evidenced by student work products.

- School leaders promote distributed leadership practices through teacher team structures, mentors, peer collaborative and model teachers, membership in the School Leadership Team and through unofficial teacher leaders. During the meeting with teachers, it was reported that they played a key role in curricular decision making, lead initiatives for school environment improvement, participate in the hiring process, offer PD, and engage in intervisitation. Teachers contribute to increasing student achievement by implementing new initiatives, such as discussion protocols designed to support all learners in sharing their thoughts and ideas and restorative circles to support social-emotional well-being. In addition to informal collegial support through intervisitations and strategic teacher pairings, the school has two model teachers and two peer collaborative teachers that take on leadership roles with their respective content teams in the form of modeling, co-planning and inquiry facilitation, as well as meeting regularly as part of the Instructional Leadership Team. Because of the collaboration that results in strengthening instruction and building capacity, former eighth-grade students are prepared for high school as evidenced by the 2018-2019 School Quality Snapshot with 96 percent of the students earning the high school credits needed in ninth grade to be on track for graduation.